



**TAKACHI**

**2016-17  
ENCLOSURE  
CATALOG**

# **CASE BOX RACK & CUSTOM**

**TAKACHI ELECTRONICS ENCLOSURE CO., LTD.**

# TAKACHI STANDARD ENCLOSURES

**TAKACHI is a leading Japanese manufacturer of enclosures for a variety of applications.**

We provide high quality plastic, aluminium, and stainless steel enclosures for use in the electronic, industrial and various other fields worldwide. Our warehousing facility allows us to both keep inventory, and provide timely shipments upon order.



**X-RAY FLUORESCENCE SPECTROMETER**



**MEASURING INSTRUMENT**



**DATA HUB**





# CUSTOMIZED ENCLOSURE

**TAKACHI can be your "one stop shop" for your customization requirements.**

We provide value-added services, such as CNC machining, inkjet printing, and many more on our available range of enclosures.

Available from 1 unit onwards with a short lead-time, we can assist you with the creation of your original design.

CAD data can also be downloaded from our website for use in your design.



**CNC MACHINING on ALUMINIUM**



**CNC MACHINING on PLASTIC**



**PUNCHING PRESS**



# DIGITAL PRINTED OVERLAY



## 3 reasons for low initial costs

Reason 1



**Cutting process**



Avoiding the cost for cutting die manufacturing via our in-house cutting plotter.

Reason 2



**Printing process**



Saving the cost for print plates via utilization of our in-house digital inkjet printer.

Reason 3



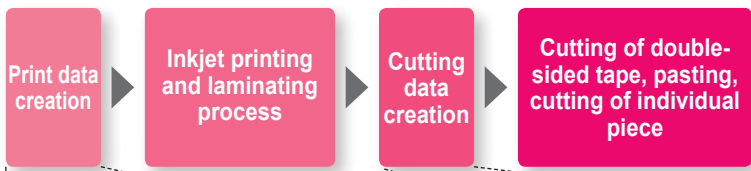
**Embossing process**



Reducing the cost for the embossing die via our new die manufacturing process.

## Comparison of current and previous manufacturing methods

Current



Previous





# PRODUCTION PROCESS



1. Inkjet printing on film



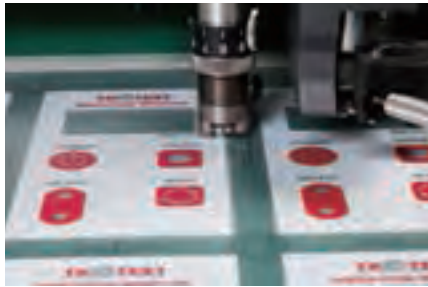
2. Laminating



3. Cutting double-sided tape



4. Sticking double-sided tape on printed film



5. Cutting the sheet to size



6. Embossing



7. Machining on enclosure



8. Sticking overlay sheet onto enclosure



9. Complete

# CUSTOMIZATION EXAMPLE

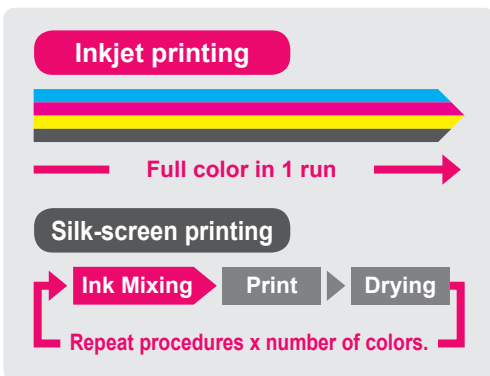




# INKJET PRINTING



Full color digitally designed image can be printed in 1 run.  
No cost difference regardless of the number of colors used.



**Low printing cost**  
Full color print possible  
in small quantities



# High quality printing of photo image and color gradation.

Print photo images in maximum 1,800 x 1,800 dpi quality.

Pictures, logos and unique designs with color gradation can be recreated in a high quality print.



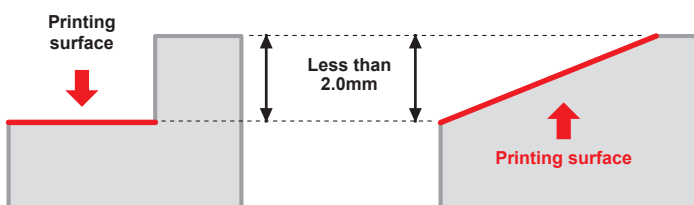
## Maximum printable enclosure size



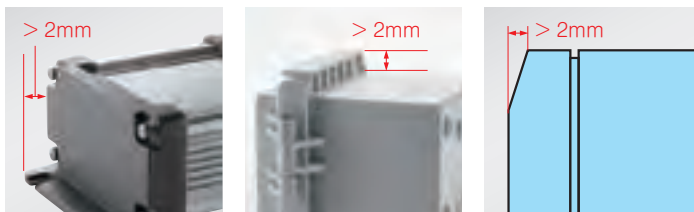
## Printable on surfaces with height differential

Printing is possible on recessed, sloped and rounded sections.

Gap difference is less than 2.0mm.



\*Not suitable if height difference is more than 2.0mm.



Printed example

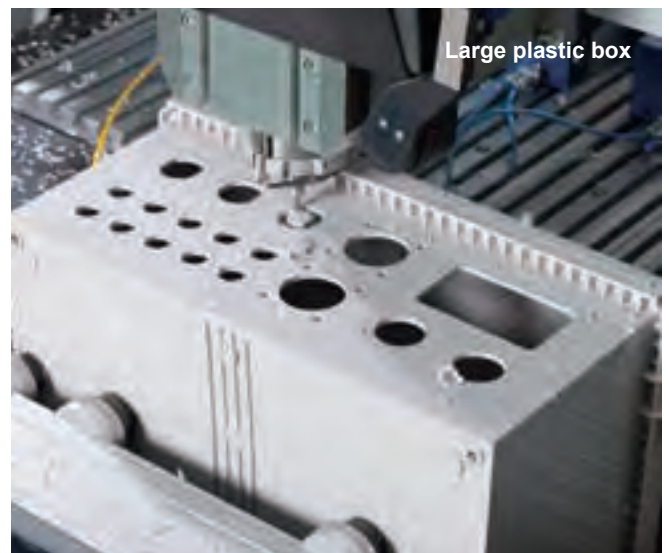
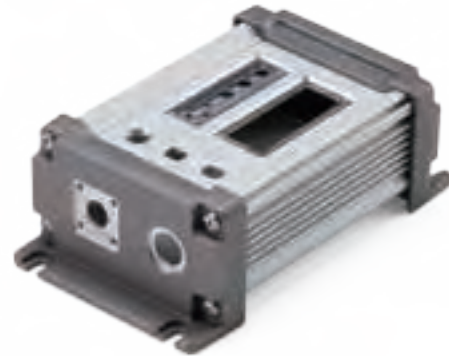


# CNC MACHINING

CNC milling is a form of computer controlled machining. Similar in operation to drilling and cutting, it is able to create various hole styles and shapes by using a rotating cutting tool to bore into the object.



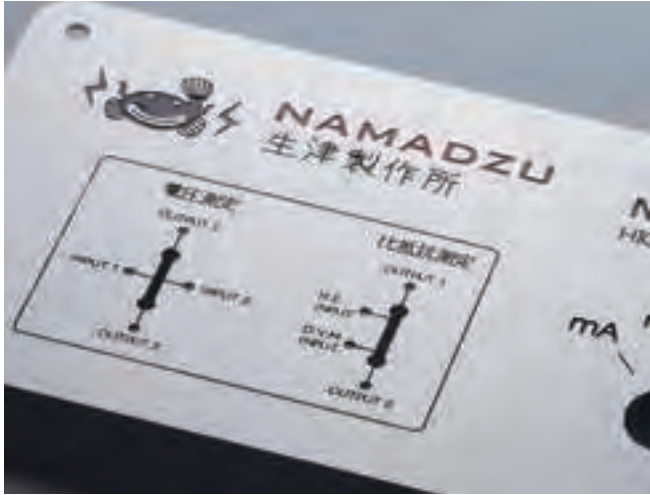
- Mainly used for plastic, aluminium die-cast, and aluminium extrusion material types.
- Able to perform milling for various shapes and sizes.
- Recommended for small quantity customization.





# ENGRAVING

By having the drill-head slightly milling the surface, the engraving of fine text or complex designs is able to be performed on a variety of surfaces, be it flat, curved, and so on. Suitable for small batch print, and/or simple lettering. Font shall be similar to VAG Rounded font type.

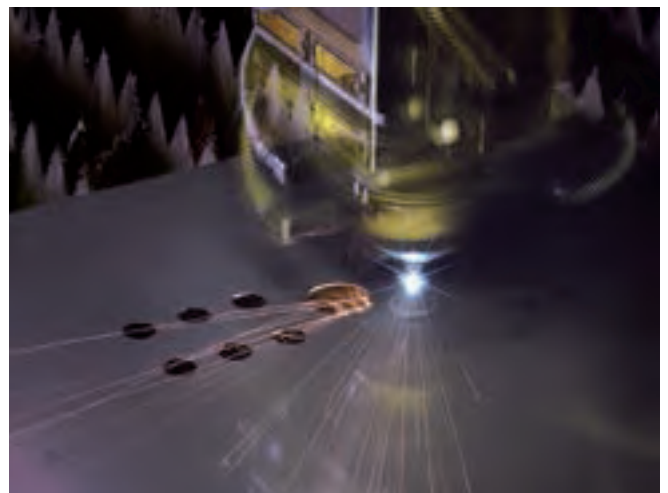


# PUNCHING PRESS



Mainly used for sheet metal. Quick processing speed enables it to be both time and cost efficient.

# LASER CUTTING



# PHOTO INDEX

## PLASTIC ENCLOSURE



IP67 HAND-HELD ENCLOSURE  
WH series P1-12



HAND-HELD CASE with SHOCK-PROOF SILICONE COVER  
LCT series P13-18, 25-42



HAND-HELD CASE with SILICONE COVER  
LCS series P13-14, 19-22, 25-42



HAND-HELD PLASTIC CASE  
LC series P13-14, 23-42



IP67 PORTABLE PLASTIC CASE  
WC series P43-48



PORTABLE PLASTIC CASE with SILICONE COVER  
CSS series P49-52, 55-58



PORTABLE PLASTIC CASE  
CS series P49-50, 53-58



PORTABLE PLASTIC CASE  
PS series P59-62



STRAP / KEY RING  
STPS • STP series / CR-20 series P63-64



IP67 NETWORK PLASTIC BOX  
WP series P65-76



NETWORK PLASTIC BOX  
PF series P77-88



FLANGED NETWORK PLASTIC BOX  
PFF series P89-96



PLASTIC ENCLOSURE with WALL MOUNTING FLANGE  
TWF series P97-104



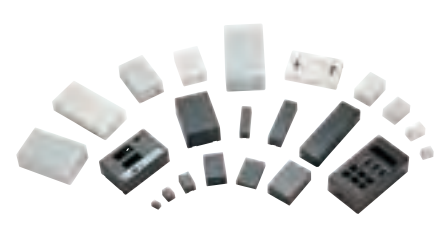
PLASTIC ENCLOSURE with SILICONE PROTECTOR  
TWS series P105-112, 118-122



MULTIPURPOSE PLASTIC ENCLOSURE  
TW series P105-106, 113-122



SNAP-IN BATTERY BOX  
LD • LDN series P122



COMPACT SNAP-IN PLASTIC CASE  
SW • SW-N • SW-T series P123-126



NETWORK PLASTIC CASE  
SU series P127-128



# PHOTO INDEX

## PLASTIC ENCLOSURE ACCESSORIES



SUSPENSION BRACKET  
WM series P129



NEODYMIUM MAGNET  
NMG series P130



BELT CLIP  
GDH • DK series P131



DIN-RAIL MOUNTING BASE  
DRA • DRT series P132



TAPPING STANDOFF  
TPS series P133



ADHESIVE STANDOFF  
T-600 • T-700 • ASR series P134



PCB MOUNT SCREW • TORX SCREW  
EM • MR series P135



LITHIUM BATTERY HOLDER  
CR2 • CR123A series P136

## EXTRUDED ALUMINIUM ENCLOSURE / HEAT-SINK ALUMINIUM ENCLOSURE



ALUMINIUM PANEL CASE with CORNER GUARD  
EXP series P137-140, 147, 149-152



ALUMINIUM EMC SHIELD CASE with CORNER GUARD  
EXPE series P137-138, 141-142, 147, 149-152



IP65 ALUMINIUM CASE with CORNER GUARD  
EXW series P137-138, 143-144, 148-152



EXTRUDED ALUMINIUM CASE  
EX series P137-138, 145-146, 149-152



MOBILE ENCLOSURE  
MX series P153-156, 159-161



ALUMINIUM MOBILE ENCLOSURE  
MXA series P153-154, 157-162



IP67 FLANGED ALUMINIUM ENCLOSURE  
AW series P163-170, 180



IP67 ALUMINIUM ENCLOSURE  
AWN series P163-164, 171-172, 175-180



IP67 ALUMINIUM ENCLOSURE with SILICONE PROTECTOR  
AWP series P163-164, 173-180

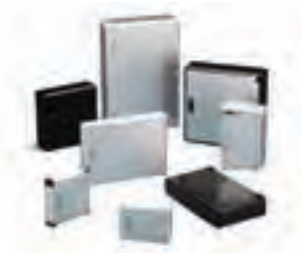


# PHOTO INDEX

## ALUMINIUM CONTROL BOX



ALUMINIUM CONTROL BOX  
FC series P181-188, 195-197, 199, 201-204



OPEN-CLOSING CONTROL BOX  
FCW series P181-182, 189-192, 195-204



CONTROL BOX with CARRYING HANDLE  
FCH series P181-182, 193-197, 199, 201-204

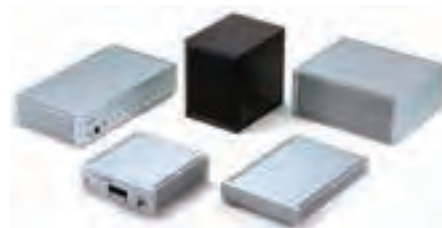
## HEAT-SINK ALUMINIUM ENCLOSURE



HEAT-SINK ALUMINIUM ENCLOSURE  
EXH series P137-138, 205-210



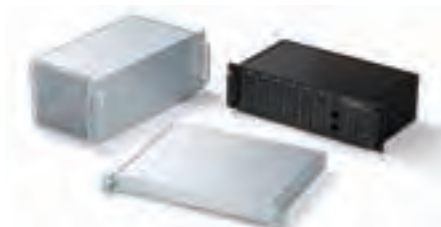
HEAT-SINK ALUMINIUM ENCLOSURE  
AWA series P211-216



HEAT-SINK ALUMINIUM ENCLOSURE  
HY series P217-220, 226



HEAT-SINK RACK MOUNTING ENCLOSURE  
HYR series P221-222, 225-226



HEAT-SINK RACK MOUNTING ENCLOSURE with HANDLE  
HYRH series P223-226



HEAT-SINK ALUMINIUM CASE  
HIT series P227-228



HEAT-SINK ALUMINIUM CASE  
HS series P229-230



HEAT-SINK ALUMINIUM CASE  
HEN series P231-232



SLOPED ENCLOSURE  
CF series P233-234

## ALUMINIUM DESK-TOP / RACK MOUNT ENCLOSURE



DESKTOP ENCLOSURE  
MS series P235-238, 249-252



DESKTOP ENCLOSURE with STAND HANDLE  
MSN series P239-242, 249-252



DESKTOP ENCLOSURE with CARRYING HANDLE  
MSY series P243-246, 249-252



RACK MOUNT ENCLOSURE  
MSR series P247-252



EIA RACK MOUNT ENCLOSURE  
ER series 253-254, 257



RACK MOUNT ENCLOSURE with HANDLE  
ERH series P255-257

# PHOTO INDEX

## ALUMINIUM RACK PANEL / CASE / CHASSIS



ALUMINIUM RACK PANEL  
AP series P258



UNIVERSAL ALUMINIUM CASE  
UC series P259-262



ALUMINIUM DESKTOP CHASSIS  
SRDSL series P263-264

## ALUMINIUM FEET



ALUMINIUM ISOLATION FEET  
AFS • AFM series P265-266



PLASTIC / ALUMINIUM FEET  
RS • TC series P267

## RUBBER FEET



RUBBER FEET  
TB • SJ-P series P268

## DIECAST ALUMINIUM BOX



DIECAST ALUMINIUM BOX  
TD series P269-270



IP67 DIECAST ALUMINIUM BOX  
BDN series P271-273



IP65 DIECAST ALUMINIUM JUNCTION BOX  
TMA series P274-276

## IP65 PLASTIC BOX



IP65 LATCH-HINGED PLASTIC BOX  
BCAP • BCPC series P277-280, 285-300



IP65 PLASTIC BOX with LOCK  
BCAK • BCPK series P277-278, 281-282, 285-300



IP65 PLASTIC BOX with OUTDOOR ROOF  
BCAR • BCPR series P277-278, 283-300



VENTILATION PARTS  
PMF • VSC • V • VF series P301-304



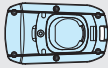
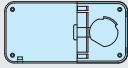
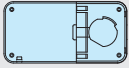




IP65 TERMINAL BLOCK JUNCTION BOX  
TMC series P305-307







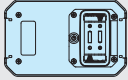
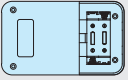
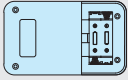
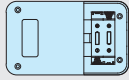
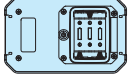
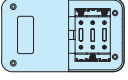
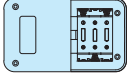
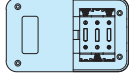
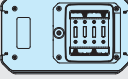


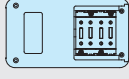
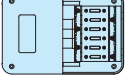
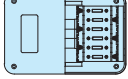
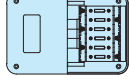
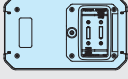

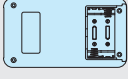
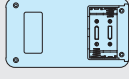
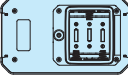

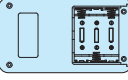
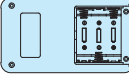

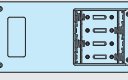
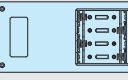
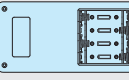
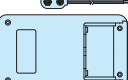
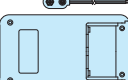
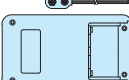
IP67-68 CABLE GLAND  
RM • RMW • AG • AGM series P308-314

# BUILT-IN BATTERY COMPARTMENT MODEL CHART

| Series<br>Battery Compartment | WC Series<br>Page 43 ~ 48   | CS Series<br>Page 53 ~ 56  | CSS Series<br>Page 51 ~ 52  |
|-------------------------------|---|--|---|
|                               |   |  IP67                                   |   |
| <b>CR2032 x 1</b>             | <br>WC72-15 (43×15.5×72)<br>WC90-15 (44.2×15.7×90) | <br>CS75 (35×12×75)<br>CS90 (45×12×90) | <br>CSS75 (38.6×15.5×78.6)<br>CSS90 (48.6×15.5×93.6) |
| <b>CR2032 x 2</b>             |   | <br>CS115 (63×12×115)                  | <br>CSS115 (67.1×16×119.1)                           |
| <b>AAA x 2</b>                |   |  |   |
| <b>AAA x 3</b>                |   |  |   |
| <b>AAA x 4</b>                |   |  |   |
| <b>AAA x 6</b>                |   |  |   |
| <b>AA x 2</b>                 |   |  |   |
| <b>AA x 3</b>                 |   |  |   |
| <b>AA x 4</b>                 |   |  |   |
| <b>9V x 1</b>                 |   |  |   |

■ Product shapes, numbers, and dimensions (W x H x D) are shown in the above chart.



| <b>WH Series</b><br>Page 1 ~ 12  | <b>LC Series</b><br>P23-40   | <b>LCS series</b><br>Page 19 ~ 22  | <b>LCT series</b><br>Page 15 ~ 18   |
|--|--|--|---|
|   |   |    |    |
|  |  |  |   |
|  |  |  |   |
|  <p>WH125-20-F2 (79×20×126)<br/>WH125-28-F2 (79×28×126)</p>   |  <p>LC115-F2 (69×19.5×115)<br/>LC115H-F2(69×28×115)</p>   |  <p>LCS115-F2 (74×24×120)<br/>LCS115H-F2 (74×32.5×120)</p>   |  <p>LCT115-F2 (76×28×121.9)<br/>LCT115H-F2 (76×36.5×121.9)</p>   |
|  <p>WH125-20-F3 (79×20×126)<br/>WH125-28-F3 (79×28×126)</p>   |  <p>LC115-F3 (69×19.5×115)<br/>LC115H-F3 (69×28×115)</p>  |  <p>LCS115-F3 (74×24×120)<br/>LCS115H-F3 (74×32.5×120)</p>   |  <p>LCT115-F3 (76×28×121.9)<br/>LCT115H-F3 (76×36.5×121.9)</p>   |
|  <p>WH145-20-F4 (88×20×146)</p>                             |  <p>LC135-F4 (76×27×135)<br/>LC135H-F4 (76×35×135)</p>  |  <p>LCS135-F4 (81×32×141)<br/>LCS135H-F4 (81×40×141)</p>   |  <p>LCT135-F4 (85×40×143.9)<br/>LCT135H-F4 (85×48×143.9)</p>   |
|  |  <p>LC145S-F6 (96×20×145)<br/>LC145-F6 (96×27×145)<br/>LC145H-F6(96×35×145)</p>   |  <p>LCS145S-F6 (101 x 25 x 151)<br/>LCS145-F6 (101 x 32 x 151)<br/>LCS145H-F6 (101 x 40 x 151)</p>   |  <p>LCT145S-F6 (105 x 33 x 153.9)<br/>LCT145-F6 (105 x 40 x 153.9)<br/>LCT145H-F (105 x 48 x 153.9)</p>  |
|  <p>WH145-25-M2 (88×25×146)<br/>WH145-33-M2 (88×33×146)</p> |  <p>LC115H-M2 (69×28×115)<br/>LC135-M2 (76×27×135)<br/>LC135H-M2 (76×35×135)<br/>LC145-M2 (96×27×145)<br/>LC145H-M2 (96×35×145)</p> |  <p>LCS115H-M2 (74×32.5×120)<br/>LCS135-M2 (81×32×141)<br/>LCS135H-M2 (81×40×141)<br/>LCS145-M2 (101 x 32 x 151)<br/>LCS145H-M2 (101 x 40 x 151)</p> |  <p>LCT115H-M2 (76×36.5×121.9)<br/>LCT135-M2 (85×40×143.9)<br/>LCT135H-M2 (85×48×143.9)<br/>LCT145-M2 (105 x 40 x 153.9)<br/>LCT145H-M2 (105 x 48 x 153.9)</p> |
|  <p>WH145-25-M3 (88×25×146)<br/>WH145-33-M3 (88×33×146)</p> |  <p>LC135-M3 (76×27×135)<br/>LC135H-M3 (76×35×135)</p>  |  <p>LCS135-M3 (81×32×141)<br/>LCS135H-M3 (81×40×141)</p>   |  <p>LCT135-M3(85×40×143.9)<br/>LCT135H-M3(85×48×143.9)</p>   |
|  <p>WH170-25-M4 (95×25×171)<br/>WH170-33-M4 (95×33×171)</p> |  <p>LC145-M4 (96×27×145)<br/>LC145H-M4 (96×35×145)<br/>LC165-M4 (80×27×165)<br/>LC165H-M4 (80×35×165)</p>                           |  <p>LCS145-M4 (101 x 32 x 151)<br/>LCS145H-M4 (101 x 40 x 151)<br/>LCS165-M4 (85 x 32 x 171)<br/>LCS165H-M4 (85 x 40 x 171)</p>                      |  <p>LCT145-M4 (105 x 40 x 153.9)<br/>LCT145H-M4 (105 x 48 x 153.9)<br/>LCT165-M4 (89 x 40 x 173.9)<br/>LCT165H-M4 (89 x 48 x 173.9)</p>                        |
|  |  <p>LC115H-9V (69×28×115)<br/>LC135-9V (76×27×135)<br/>LC135H-9V (76×35×135)</p>  |  <p>LCS115H-9V (74×32.5×120)<br/>LCS135-9V (81×32×141)<br/>LCS135H-9V (81×40×141)</p>  |  <p>LCT115H-9V (76×36.5×121.9)<br/>LCT135-9V (85×40×143.9)<br/>LCT135H-9V (85×48×143.9)</p>  |

\*Dimensions shown in LCS and LCT series are with silicone cover assembled.

# WH SERIES

## IP67 WATERPROOF HAND-HELD ENCLOSURE



● IEC60529 standard is a system for classifying the degrees of protection provided by the enclosures of electrical equipment, such as against dust and water.

**IP6x : No ingress of dust; complete protection against contact (dust tight).**  
**IPx7 : No ingress of water when submerged up to a depth of 1 meter for 30 minutes**

### High waterproof performance with a silicone gasket

High elasticity and good durability for maintaining waterproofing capability.  
Built-in insert nut use for great long lasting water protection even after frequent opening and closing.

Battery compartment is also waterproofed.  
AA x 2, AA x 3, and AAA x 4 battery compartment types are available.

### Side grip provides great protection

Elastic TPE grips provides for a more secured hold.

Side grips are designed to be on the sides and corners of the enclosure to minimize drop impact.



### Available in 10 different color combinations.



# APPLICATION EXAMPLE

Best suited for industrial measuring instrument, transceiver, controller, medical equipment and so on.



## How to make waterproof buttons and switches

Please utilize a waterproof membrane keypad or membrane switch.

Note that the waterproof performance will be lost by drilling/milling holes or cutouts for buttons or switches on waterproof enclosures.



## How to make waterproof cable hole

Please use a cable gland from our available range of cable gland accessories.

Refer to page 308 ~ 314 for more information.



## Customization services available



Contact us with your drawings

E-mail: [sales@takachi-el.co.jp](mailto:sales@takachi-el.co.jp)





| Technical Data                       |
|--------------------------------------|
| Protection class: IP67               |
| Operating temperature: -10°C ~ +60°C |
| Recommended torque:                  |
| 0.2N · m ~ 0.3N · m                  |
| (2kgf · cm ~ 3kgf · cm)              |



- Stylish and elegantly designed with chamfered edge construction.
- IP67 class enclosure.
- Manufactured from flame-resistant ABS UL94V-0.
- 4 different internal compartment types are available: AAA x 4, AA x 3, AA x 2, and no battery type. Battery compartments have positive (+) / negative (-) pole mark to prevent incorrect insertion.
- The TPE side grips are available in 5 unique colors, and functions as an anti-slip grip pad and drop impact protection.

Components

| No. | Part name                             | Pcs   | Material                | Color / Finish                           |
|-----|---------------------------------------|-------|-------------------------|--|
| 1   | Top cover                             | 1     | ABS UL94V-0             | Off-white · Black                        |
| 2   | Bottom cover                          | 1     | ABS UL94V-0             | Off-white · Black                        |
| 3   | Battery cover (None for N-type)       | 1     | ABS UL94V-0             | Off-white · Black                        |
| 4   | Gasket                                | 1     | Silicone                | N · F2 · F3 · M4 type: Black             |
| 5   | O-ring (None for N-type)              | 1     | Silicone                | M2 type: Blue                            |
| 6   | Side grip                             | 2     | TPE                     | M3 · F4 type: Light gray                 |
| 7   | Battery cover screw (None for N-type) | 1     | Stainless steel M2.5-6  | Black · Light gray · Navy · Red · Yellow |
| 8   | Screw                                 | 6     | Stainless steel M2.5-10 | Unfinished                               |
| 9   | Battery contact (None for N-type)     | 1 set | Brass                   | Unfinished                               |
|     |                                       |       |                         | Nickel plated                            |

Accessories (Optional parts)



PCB mounting screw  
EM-2.3  
See page 135



Cable gland  
See page 308-314



Tapping standoff  
TPS series  
See page 133



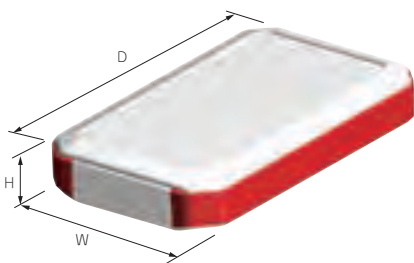
Neodymium magnet  
NMG series  
See page 130

Battery Compartment Types

| Type                | N<br>None | F2<br>AAA x 2 | F3<br>AAA x 3 | F4<br>AAA x 4 | M2<br>AA x 2 | M3<br>AA x 3 | M4<br>AA x 4 |
|---------------------|-----------|---------------|---------------|---------------|--------------|--------------|--------------|
| Battery compartment |           |               |               |               |              |              |              |

Color Type

|       |                              |                                   |                             |                            |                               |
|-------|------------------------------|-----------------------------------|-----------------------------|----------------------------|-------------------------------|
| Code  | <b>B B</b> Black / Black     | <b>B L</b> Black / Light gray     | <b>B N</b> Black / Navy     | <b>B R</b> Black / Red     | <b>B Y</b> Black / Yellow     |
| Color |                              |                                   |                             |                            |                               |
| Code  | <b>W B</b> Off-White / Black | <b>W L</b> Off-White / Light gray | <b>W N</b> Off-White / Navy | <b>W R</b> Off-White / Red | <b>W Y</b> Off-White / Yellow |
| Color |                              |                                   |                             |                            |                               |



Product no. / Dimensions

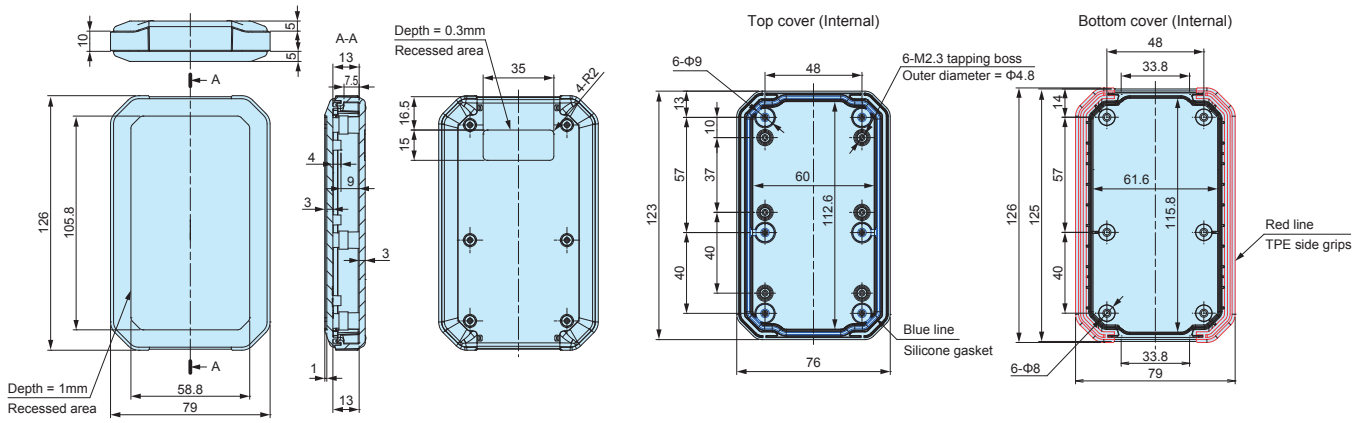
■ Please suffix color code at the end of the product number.

| Product no.                | W  | H  | D   | Battery compartment | Weight (g) |
|----------------------------|----|----|-----|---------------------|------------|
| <b>NEW</b> WH125-20-N -□□  | 79 | 20 | 126 | None                | 101.0      |
| <b>NEW</b> WH125-20-F2 -□□ | 79 | 20 | 126 | AAA x 2             | 102.0      |
| <b>NEW</b> WH125-20-F3 -□□ | 79 | 20 | 126 | AAA x 3             | 109.0      |
| <b>NEW</b> WH125-28-N -□□  | 79 | 28 | 126 | None                | 119.0      |
| <b>NEW</b> WH125-28-F2 -□□ | 79 | 28 | 126 | AAA x 2             | 121.0      |
| <b>NEW</b> WH125-28-F3 -□□ | 79 | 28 | 126 | AAA x 3             | 127.0      |
| WH145-20-N -□□             | 88 | 20 | 146 | None                | 125.5      |
| WH145-20-F4 -□□            | 88 | 20 | 146 | AAA x 4             | 129.5      |
| WH145-25-N -□□             | 88 | 25 | 146 | None                | 137.5      |
| WH145-25-M2 -□□            | 88 | 25 | 146 | AA x 2              | 161.5      |
| WH145-25-M3 -□□            | 88 | 25 | 146 | AA x 3              | 159.5      |
| WH145-33-N -□□             | 88 | 33 | 146 | None                | 162.0      |
| WH145-33-M2 -□□            | 88 | 33 | 146 | AA x 2              | 180.5      |
| WH145-33-M3 -□□            | 88 | 33 | 146 | AA x 3              | 181.5      |
| <b>NEW</b> WH170-25-N -□□  | 95 | 25 | 171 | None                | 169.0      |
| <b>NEW</b> WH170-25-M4 -□□ | 95 | 25 | 171 | AA x 4              | 195.0      |
| <b>NEW</b> WH170-33-N -□□  | 95 | 33 | 171 | None                | 191.0      |
| <b>NEW</b> WH170-33-M4 -□□ | 95 | 33 | 171 | AA x 4              | 220.0      |

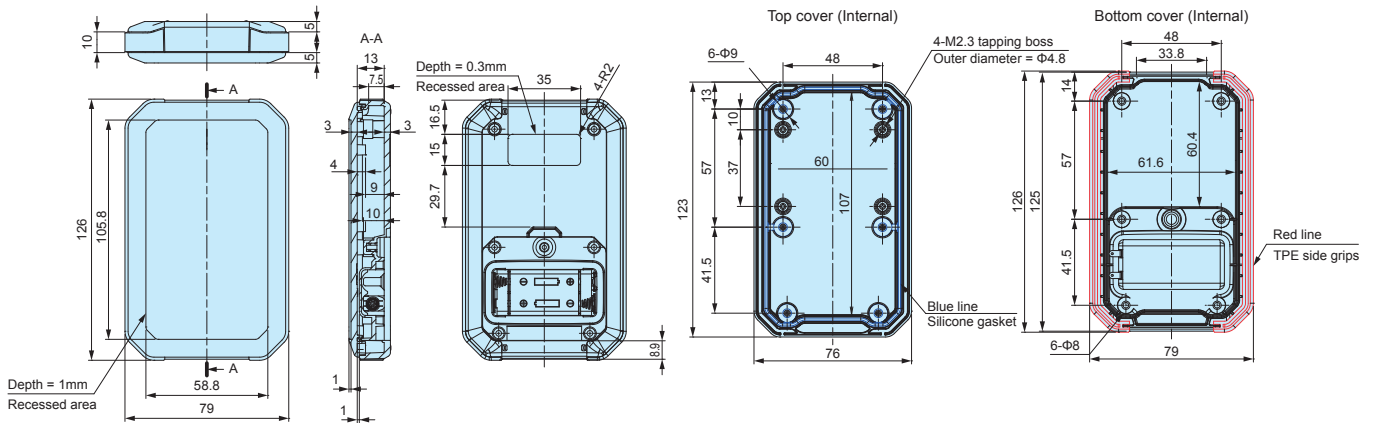
WH dimensions

■ DXF/DWG/PDF drawings available on our website.

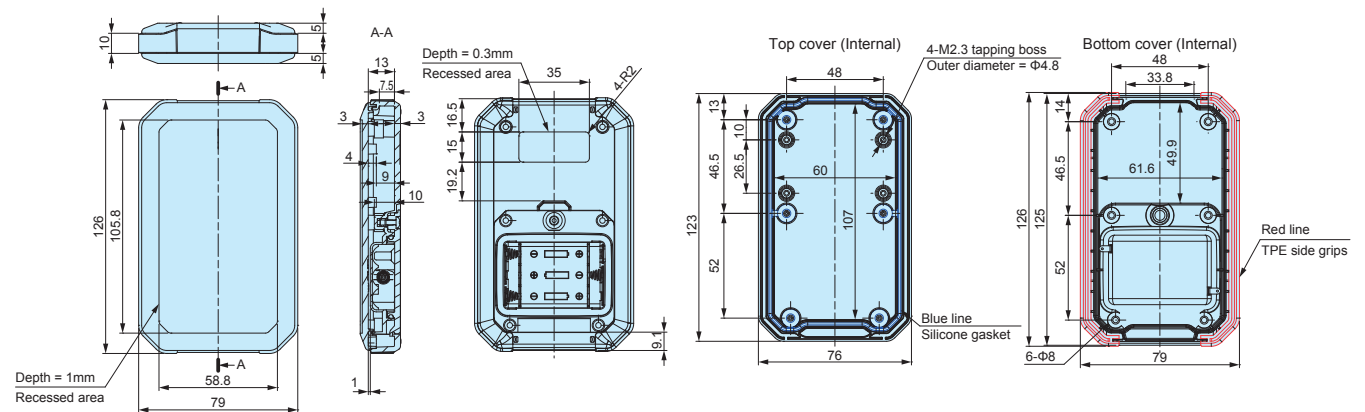
WH125-20-N



WH125-20-F2

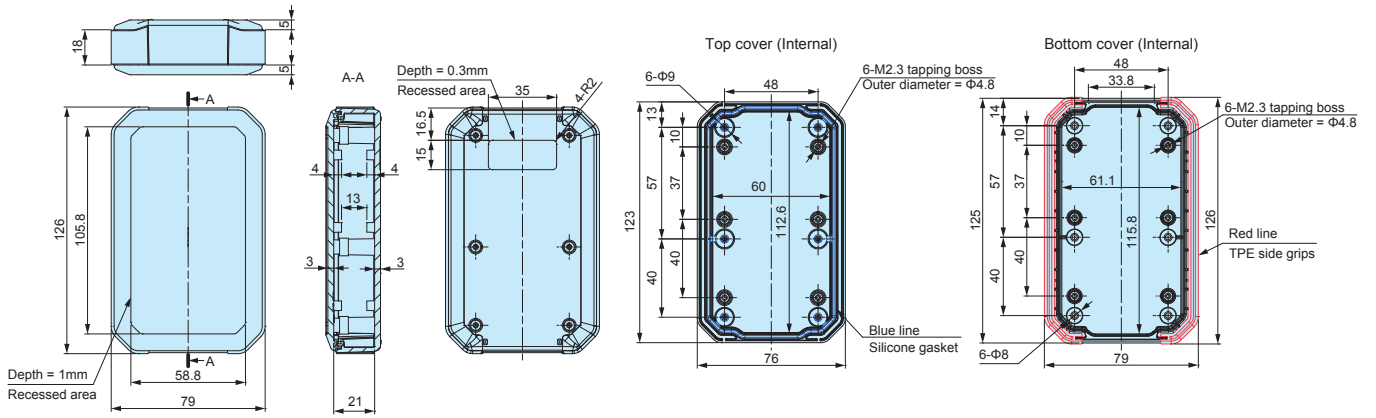


WH125-20-F3

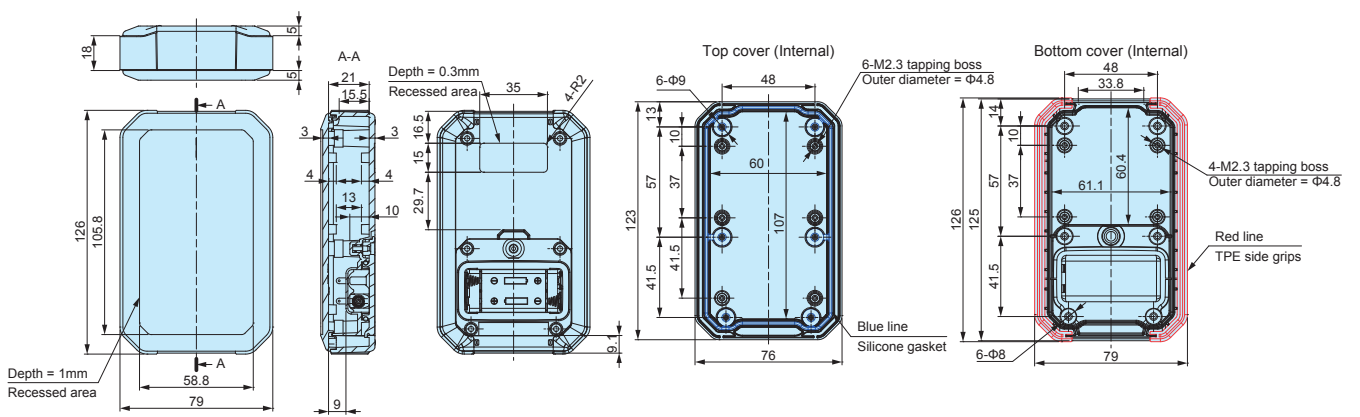




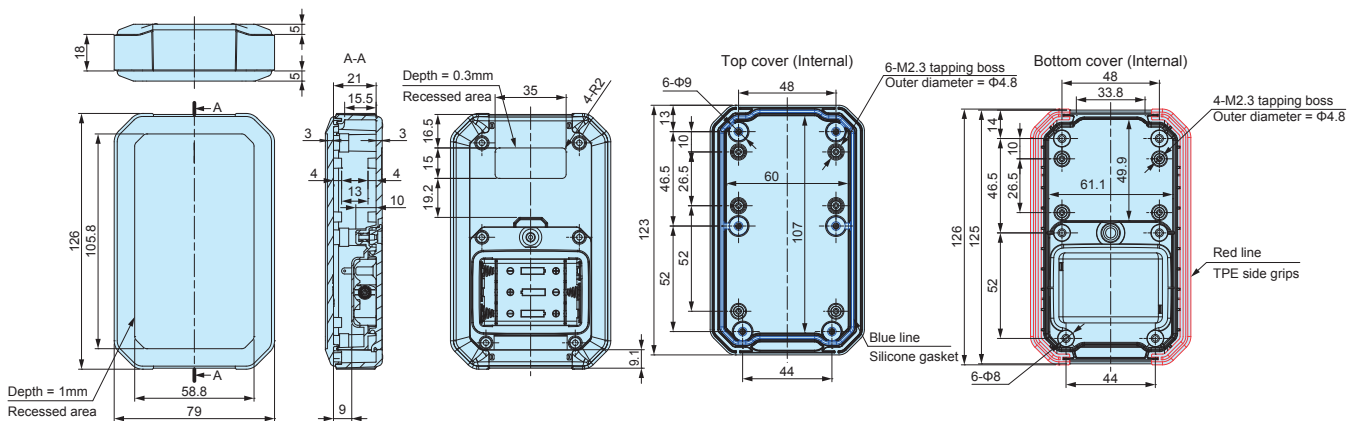
WH125-28-N



WH125-28-F2



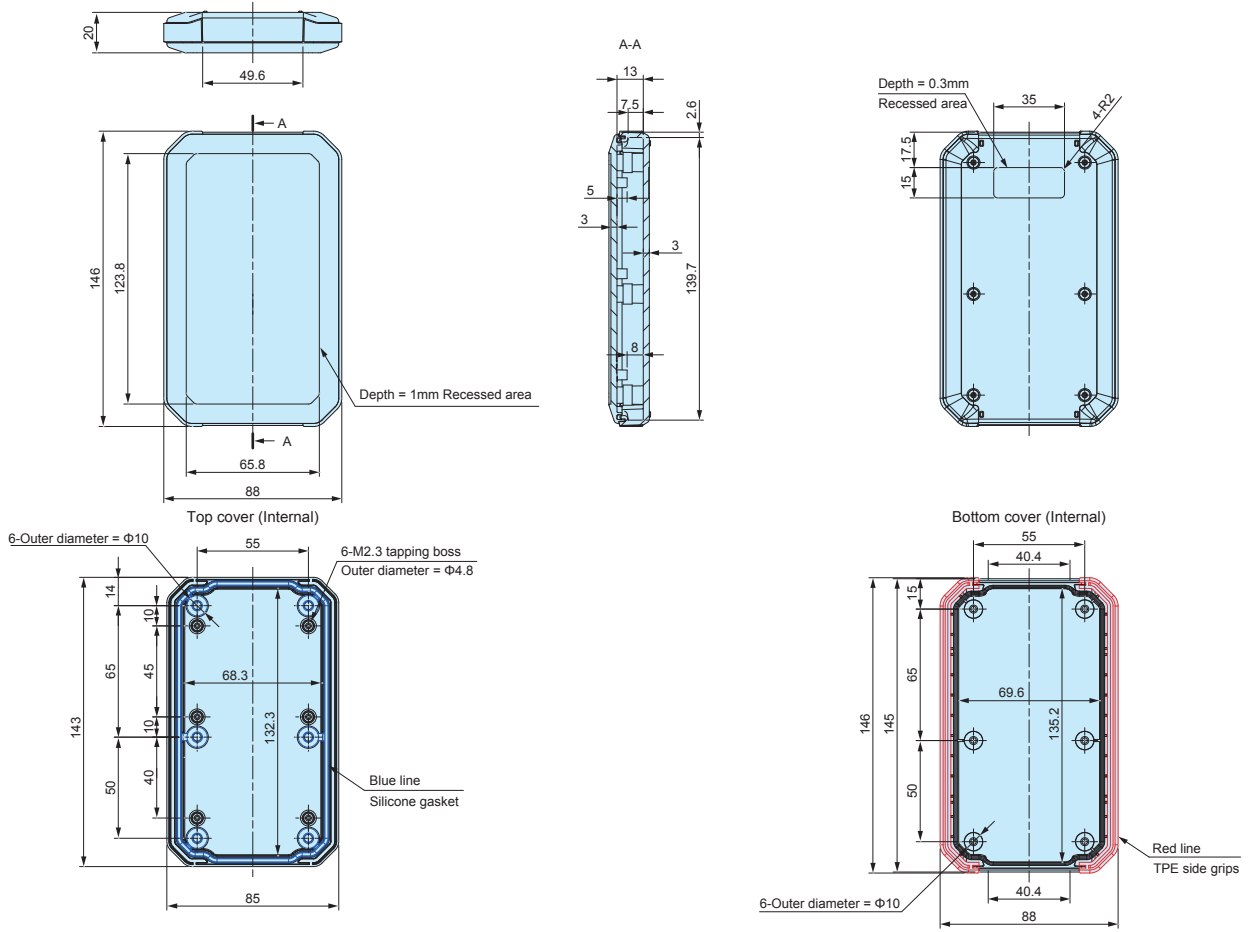
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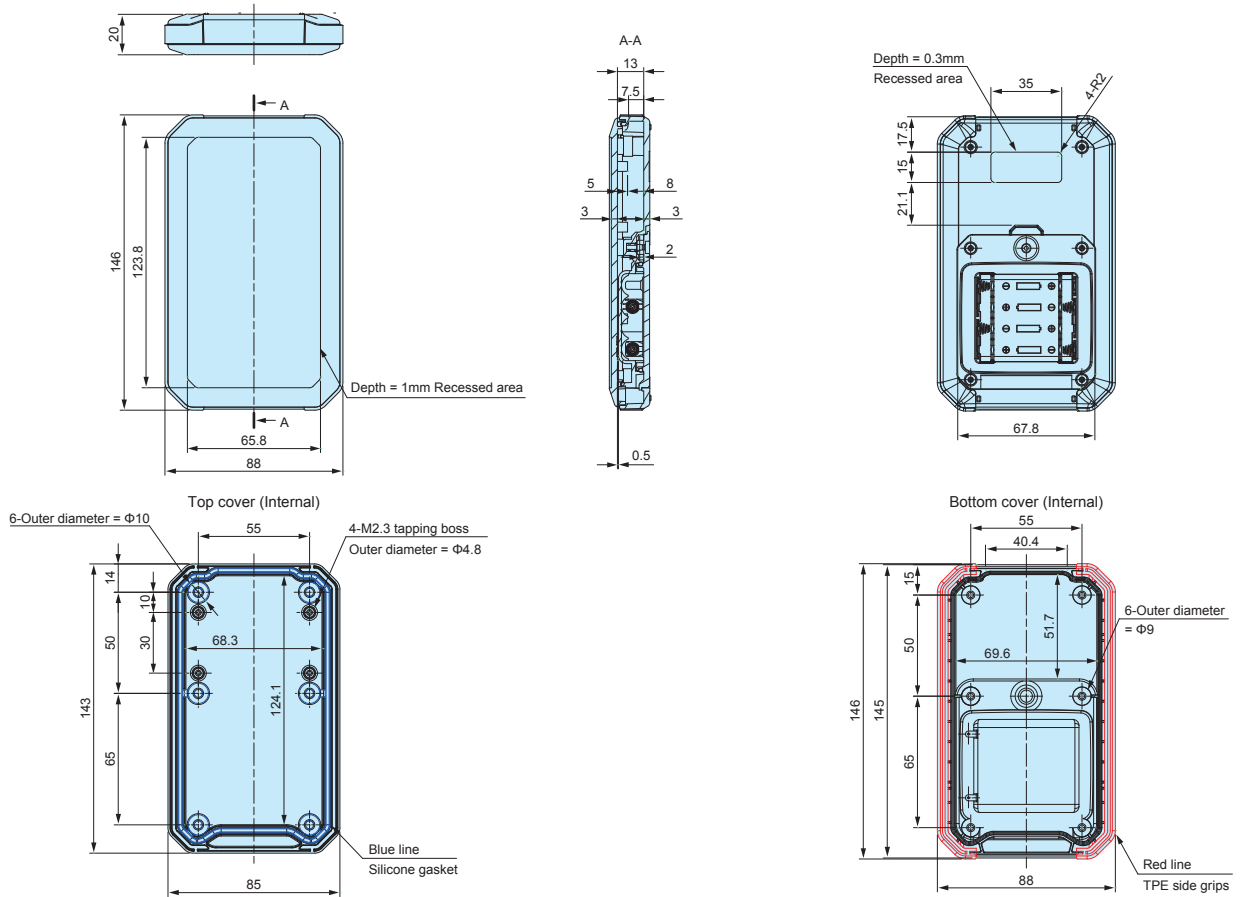
WH dimensions

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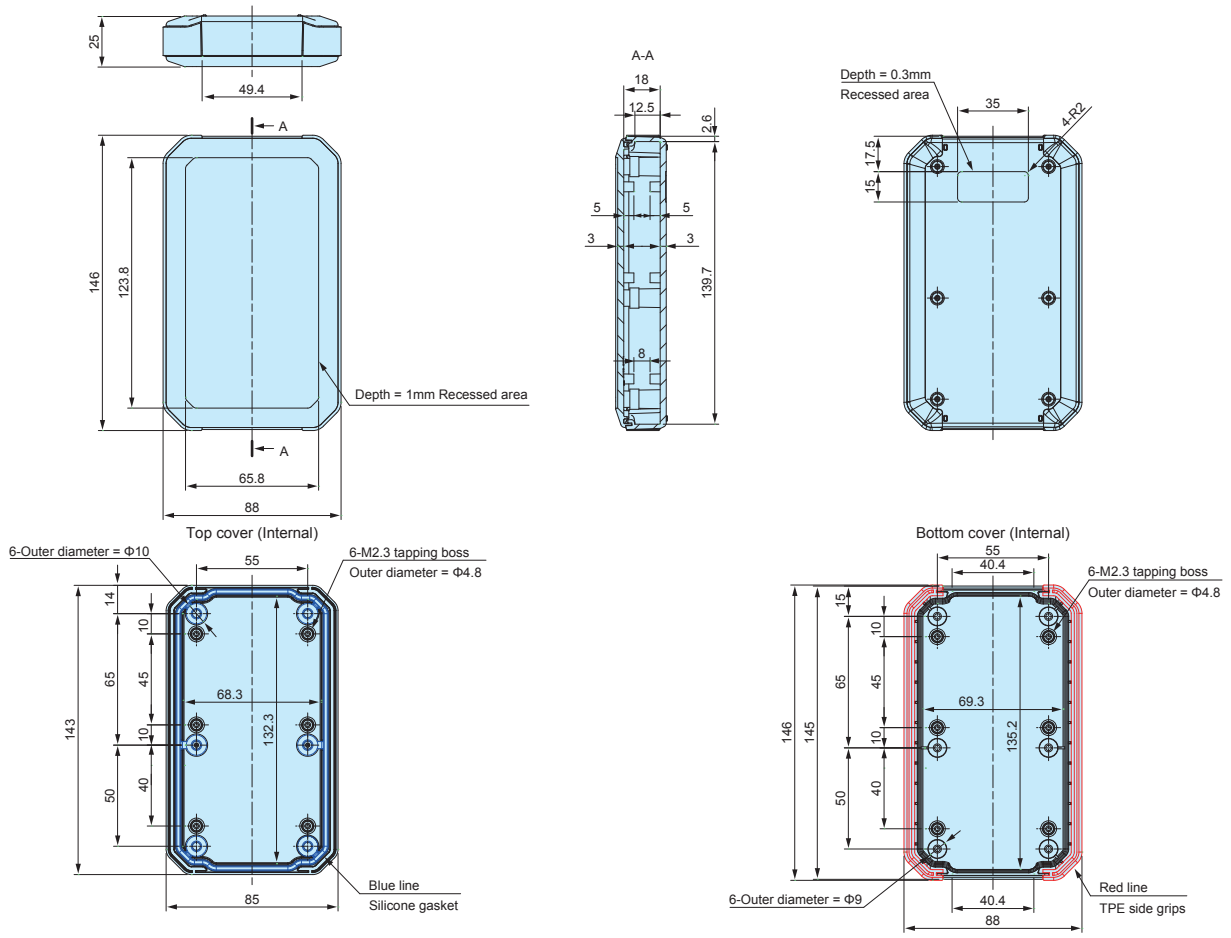
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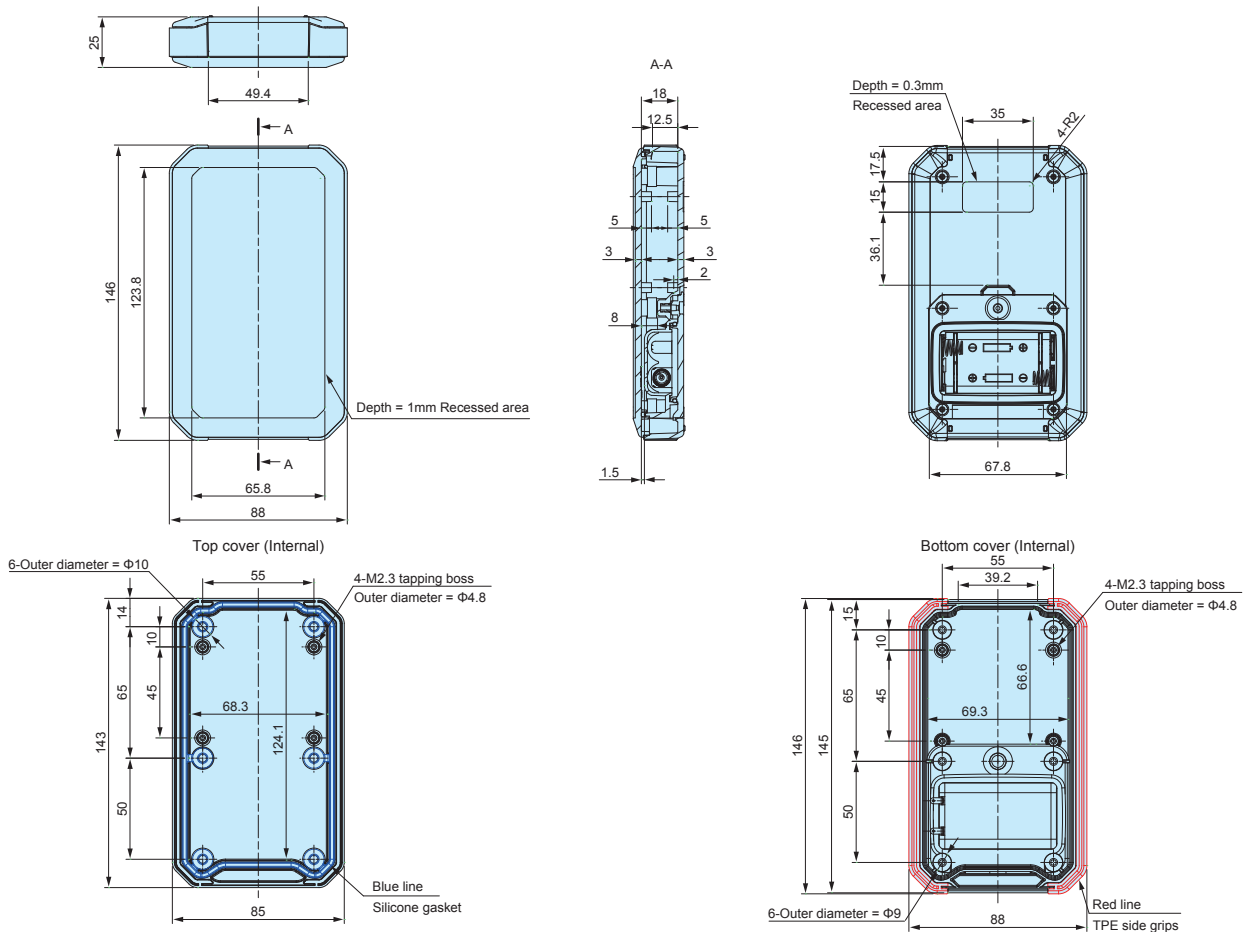
WH145-20-F4



WH145-25-N



WH145-25-M2

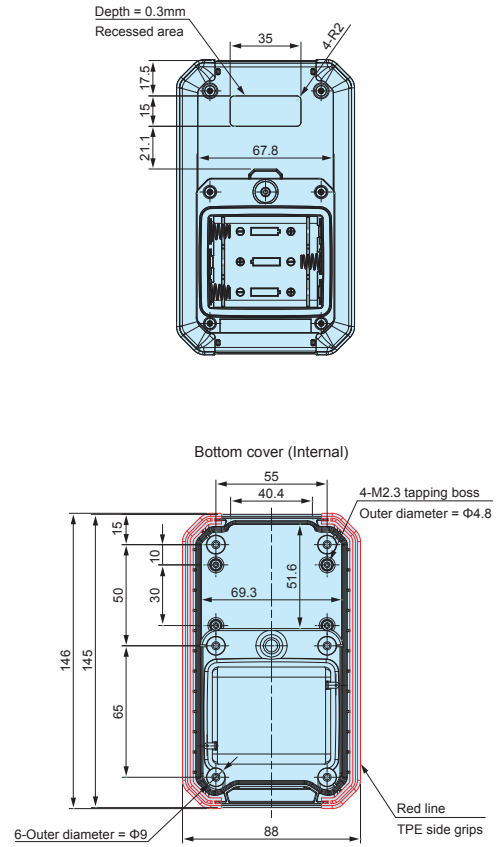
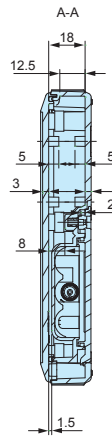
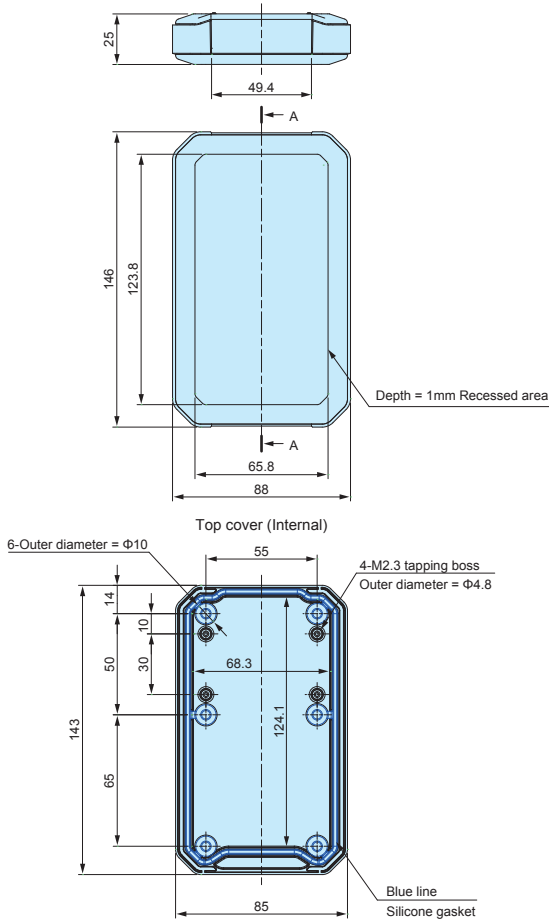




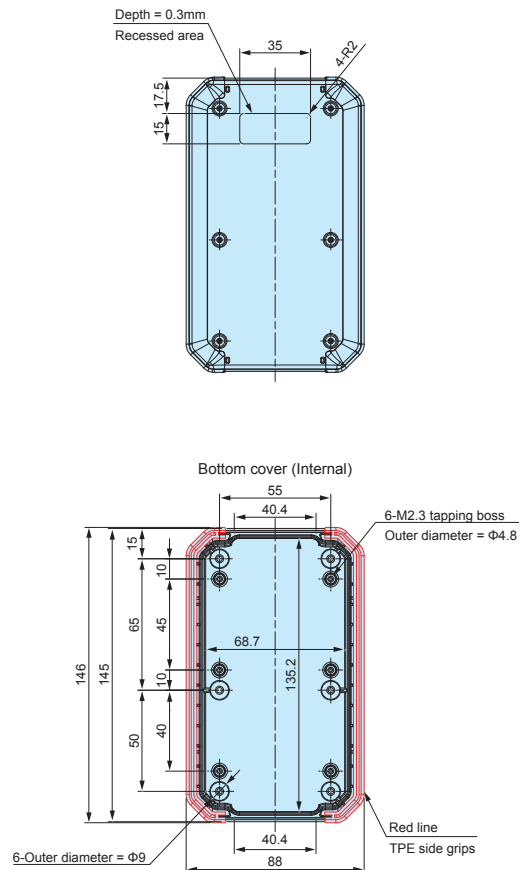
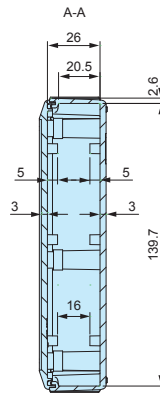
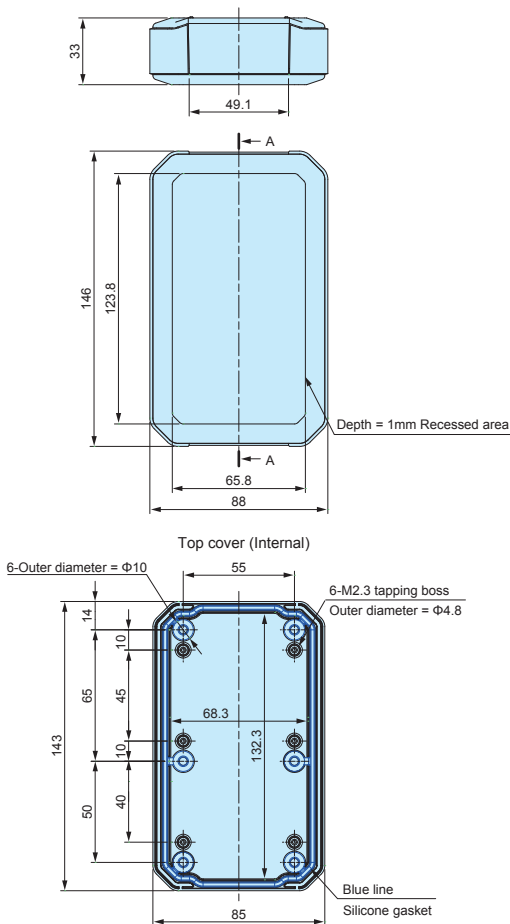
WH dimensions

DXF/DWG/PDF drawings available on our website.

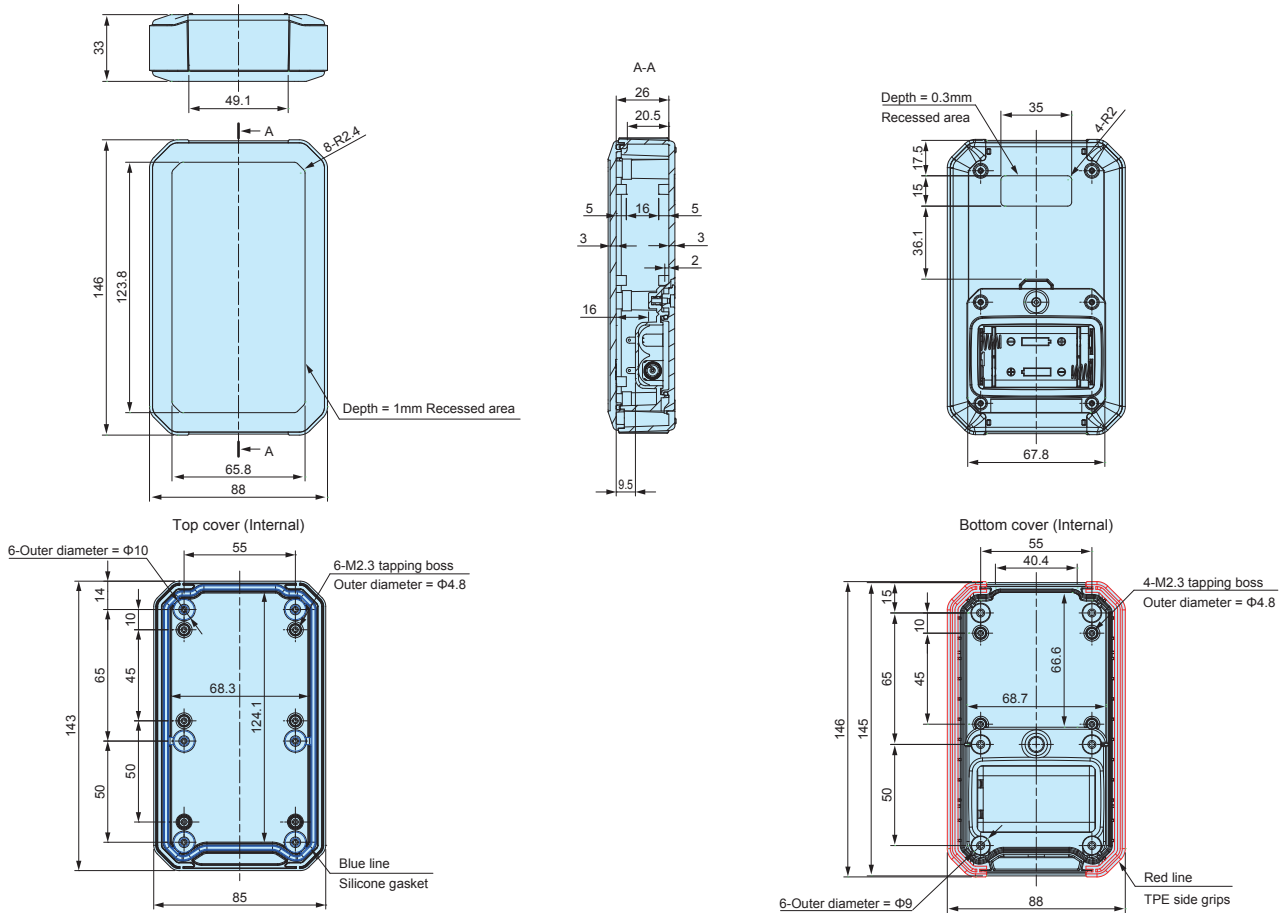
WH145-25-M3



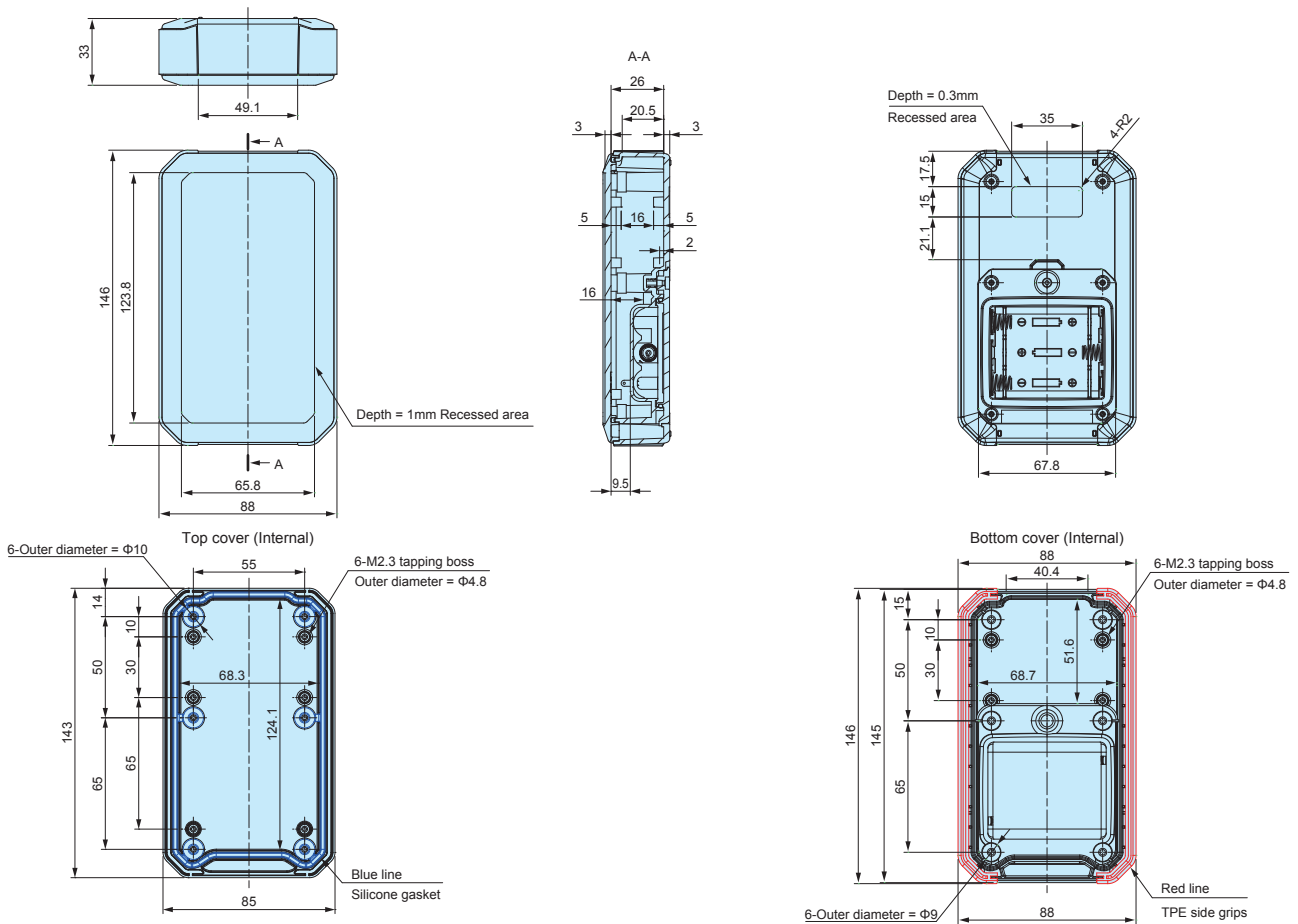
WH145-33-N



WH145-33-M2



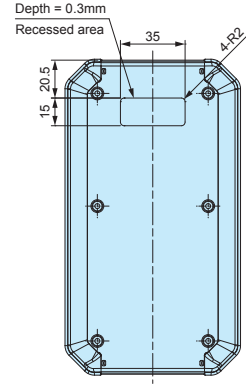
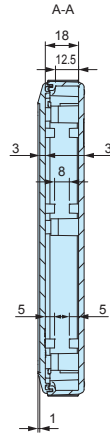
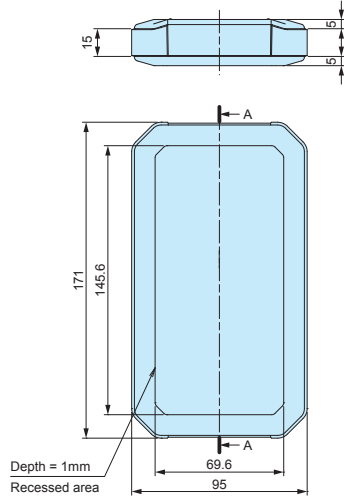
WH145-33-M3



WH dimensions

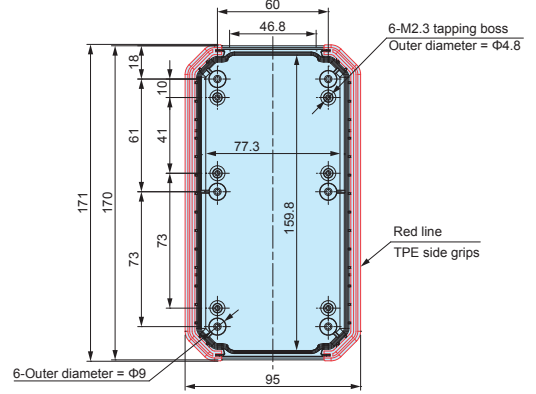
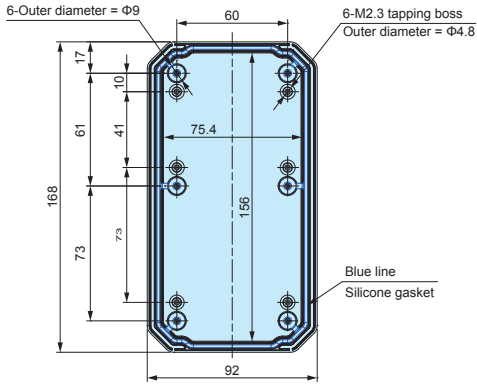
■ DXF/DWG/PDF drawings available on our website.

WH170-25-N

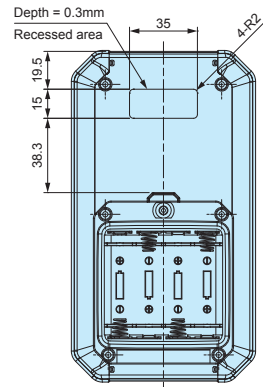
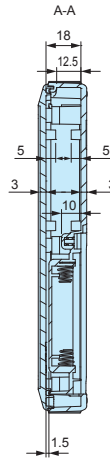
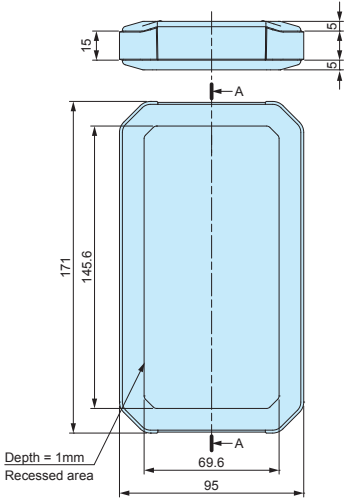


Top cover (Internal)

Bottom cover (Internal)

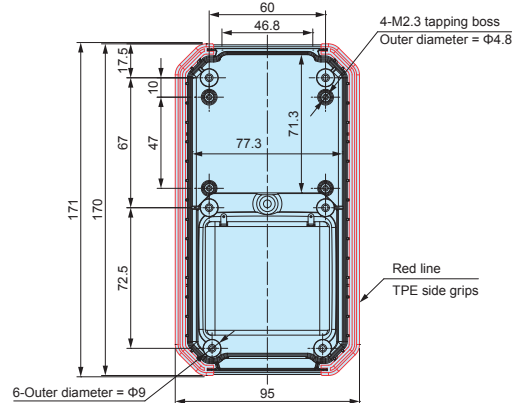
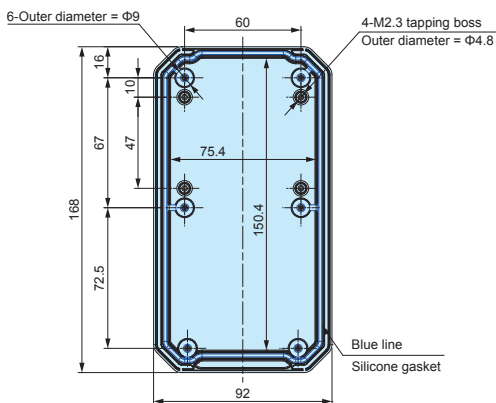


WH170-25-M4



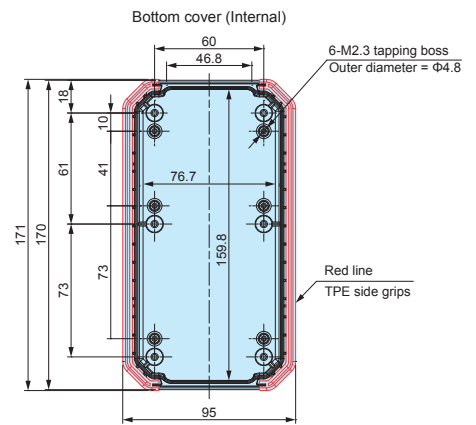
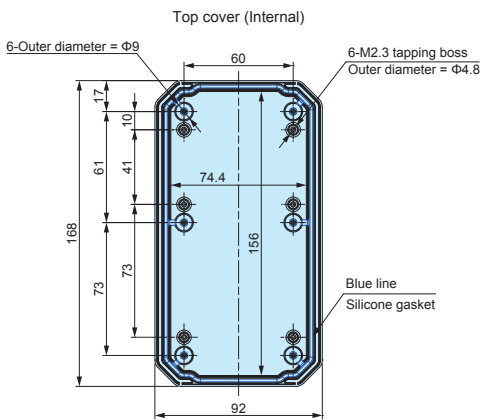
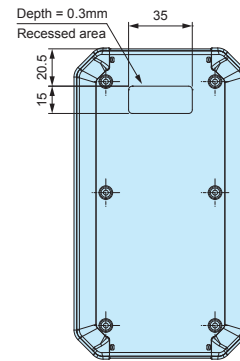
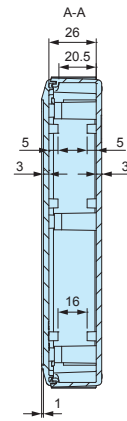
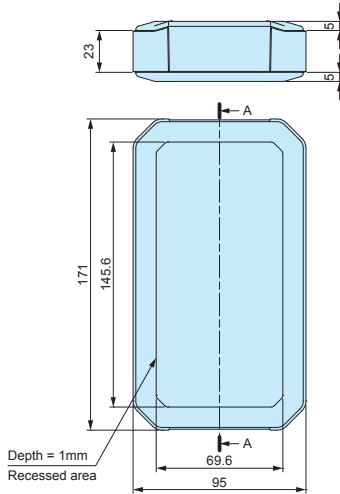
Top cover (Internal)

Bottom cover (Internal)

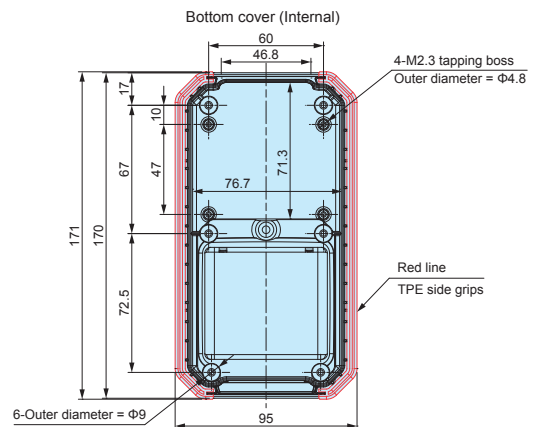
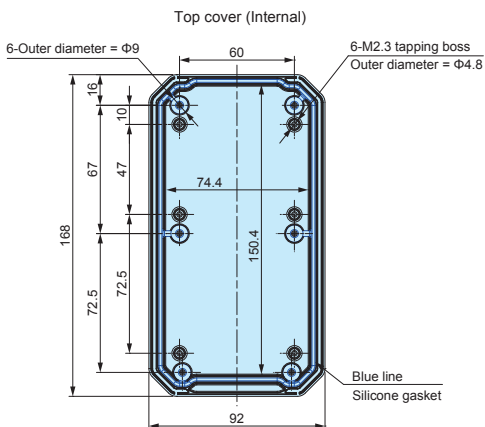
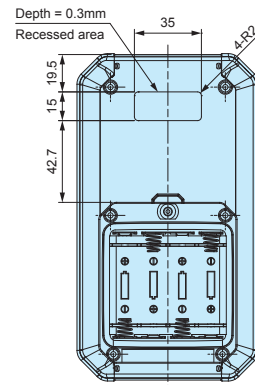
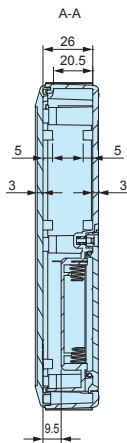
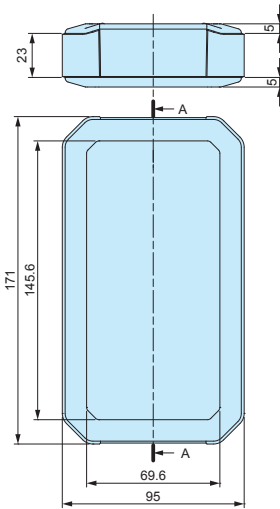




WH170-33-N



WH170-33-M4



# LCT·LCS·LC HAND-HELD PLASTIC CASE

Hand-held case suitable for industrial measuring equipments, wireless communication devices and medical equipments.

8 different sizes and 9 different battery compartment types are available for LC plastic case.

LCS series comes with 7 silicone cover colors for selection.

LCT series is selectable in 5 different rugged shock-proof silicone cover colors.

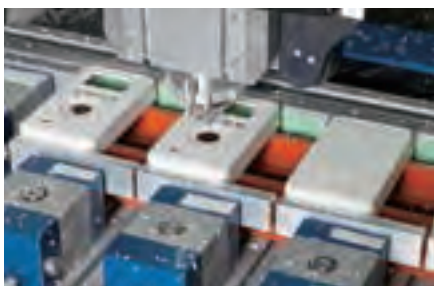
## LCT Plastic case with shock-proof silicone cover



## LCS Plastic case with silicone cover



# CUSTOMIZATION



Machining



Custom cut on silicone cover



Custom color, custom shaped silicone cover



Digital printed overlay



# APPLICATION EXAMPLE

## MINI SURVEY METER

Spectrometer using CsI(Tl) scintillation detector. To achieve energy compensated by the latest electronic circuits, the dose rate is displayed in the range from 0.001 $\mu$ Sv/h to 20 $\mu$ Sv/h. It has USB communication function as standard. Dose rate changes can shown as graph on PC by using a dedicated application. The clear display uses an organic EL display (Model TC200S).

Product by Techno AP (Japan)  
 Website : [techno-ap.com](http://techno-ap.com)



## RF SCOPE

Arrow7 Corporation (Japan)  
 Website : [arrow7.co.jp](http://arrow7.co.jp)



## SATELLITE FINDER



Product by NEO-Electronics (France)  
 Website : [neo-electronics.fr](http://neo-electronics.fr)

## WIRELESS VOLTAGE PROBE

Product by Enertronics GmbH (Switzerland)  
 Website : [enertronics.ch](http://enertronics.ch)



## PORTABLE ANEMOMETER



Product by FieldPro (Japan)  
 Website : [fieldpro.jp](http://fieldpro.jp)

## HYPERHIDROSIS TREATMENT DEVICE

In hyperhidrosis treatment, iontophoresis is used to reduce the function of the sweat glands due to the effects of electric current, which causes protein coagulation.

Product by Merebit s.r.o. (Czech Republic)  
 Website : [merebit.com](http://merebit.com)





**Technical Data**

Protection class: IP40  
Operating temperature: -10°C ~ +60°C

- Plastic case with shock-proof silicone cover. Protects the device from various impact.
- Manufactured with flame-resistant ABS UL94V-0 material. Selectable from a range of battery compartment types.
- Positive (+) / Negative (-) pole marks are incised on the inside of the battery compartments.
- Suitable for measuring instruments, test devices, wireless communication devices, medical devices and so on.

Battery compartment type

No battery compartment type



**Components**

| No. | Part name                      | Pcs   | Material            | Color / Finish                                 |
|-----|--------------------------------|-------|---------------------|--|
| 1   | Top cover                      | 1     | ABS UL94V-0         | Off-white • Dark gray                          |
| 2   | Bottom cover                   | 1     | ABS UL94V-0         | Off-white • Dark gray                          |
| 3   | Panel                          | 1     | ABS UL94V-0         | Off-white • Dark gray                          |
| 4   | Self tapping screws            | 4     | Steel M2.6          | Nickel plated • Black trivalent chromate       |
| 5   | Battery cover                  | 1     | ABS UL94V-0         | Off-white • Dark gray                          |
| 6   | Battery contact • Battery snap | 1 set | Brass • Brass : PVC | Nickel plated • Nickel plated : Black          |
| 7   | Silicone cover                 | 1     | Silicone            | Orange • Green • Navy • Dark gray • Light gray |

**Accessories (Optional parts)**



PCB mounting screw  
EM-2.3  
See page 135



TORX screw  
MR series  
See page 135



Key ring  
CR-20  
See page 64



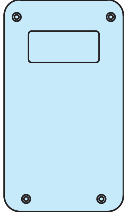
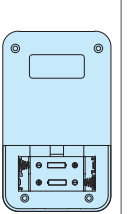
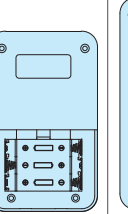
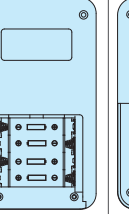
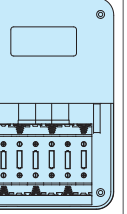
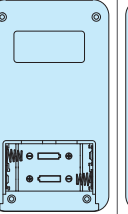
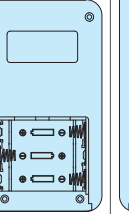
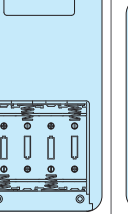
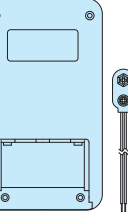
Strap  
STP series  
See page 64











Tapping standoff  
TPS series  
See page 133



Battery Compartment Type

| Type                | N<br>None   | F2<br>AAA x 2   | F3<br>AAA x 3   | F4<br>AAA x 4   | F6<br>AAA x 6   | M2<br>AA x 2   | M3<br>AA x 3  | M4<br>AA x 4  | 9V<br>9V x 1  |
|---------------------|---|---|---|---|---|--|---|---|---|
| Battery compartment |  |  |  |  |  |  |  |  |  |

Color Type

|       |  |  |  |  |  |
|-------|--|--|--|--|--|
| Code  | D O Dark gray / Orange   | D G Dark gray / Green  | D N Dark gray / Navy   | D D Dark gray / Dark gray  | D L Dark gray / Light gray   |
| Color |   |   |   |   |   |
| Code  | W O Off-white / Orange   | W G Off-white / Green  | W N Off-white / Navy   | W D Off-white / Dark gray  | W L Off-white / Light gray   |
| Color |  |  |  |  |  |

Product no. / Dimensions

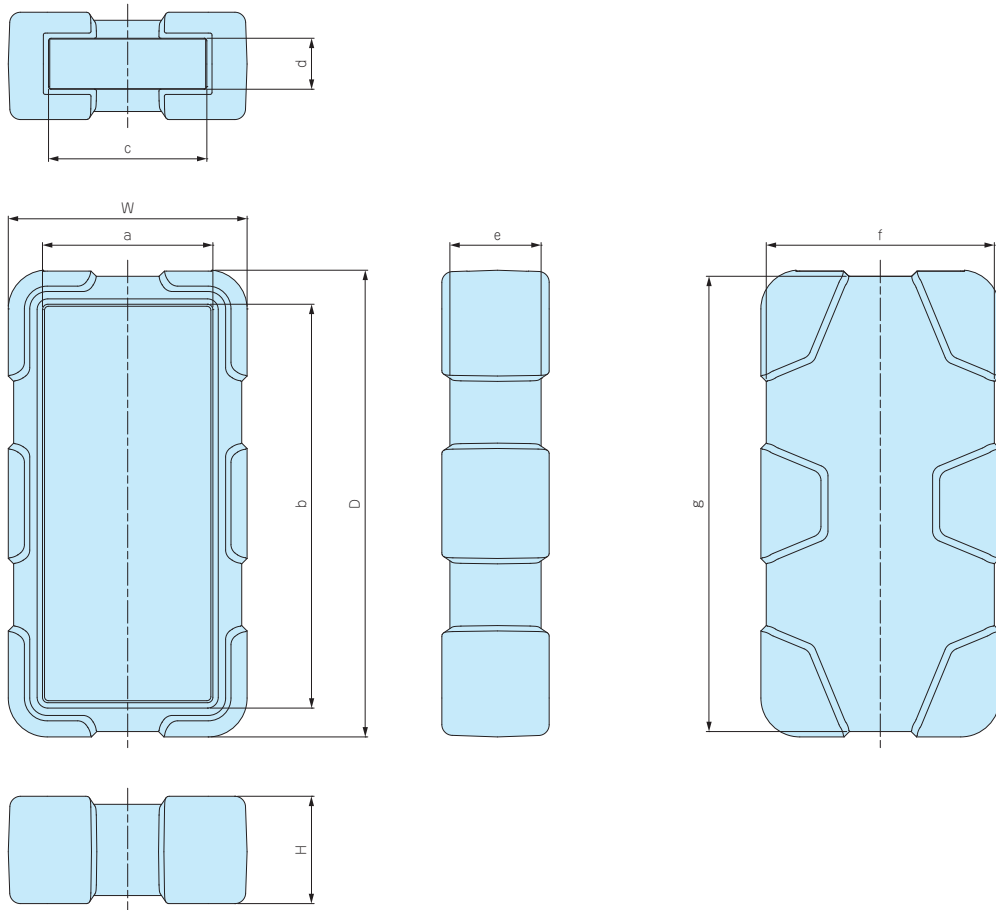
■ Please suffix color code at the end of the product number.

| Product no.               | W       | H        | D          | Battery compartment | Weight (g) |
|---------------------------|---------|----------|------------|---------------------|------------|
| LCT115 -N -□□             | 76(69)  | 28(19.5) | 121.9(115) | None                | 123.5      |
| LCT115 -F2 -□□            | 76(69)  | 28(19.5) | 121.9(115) | AAA x 2             | 128        |
| LCT115 -F3 -□□            | 76(69)  | 28(19.5) | 121.9(115) | AAA x 3             | 130        |
| LCT115H-N -□□             | 76(69)  | 36.5(28) | 121.9(115) | None                | 141        |
| LCT115H-F2 -□□            | 76(69)  | 36.5(28) | 121.9(115) | AAA x 2             | 145.5      |
| LCT115H-F3 -□□            | 76(69)  | 36.5(28) | 121.9(115) | AAA x 3             | 147        |
| LCT115H-M2 -□□            | 76(69)  | 36.5(28) | 121.9(115) | AA x 2              | 149.5      |
| LCT115H-9V -□□            | 76(69)  | 36.5(28) | 121.9(115) | 9V x 1              | 149        |
| LCT135 -N -□□             | 85(76)  | 40(27)   | 143.9(135) | None                | 210.5      |
| LCT135 -F4 -□□            | 85(76)  | 40(27)   | 143.9(135) | AAA x 4             | 225.5      |
| LCT135 -M2 -□□            | 85(76)  | 40(27)   | 143.9(135) | AA x 2              | 223.5      |
| LCT135 -M3 -□□            | 85(76)  | 40(27)   | 143.9(135) | AA x 3              | 229        |
| LCT135 -9V -□□            | 85(76)  | 40(27)   | 143.9(135) | 9V x 1              | 227        |
| LCT135H-N -□□             | 85(76)  | 48(35)   | 143.9(135) | None                | 231.5      |
| LCT135H-F4 -□□            | 85(76)  | 48(35)   | 143.9(135) | AAA x 4             | 246        |
| LCT135H-M2 -□□            | 85(76)  | 48(35)   | 143.9(135) | AA x 2              | 245        |
| LCT135H-M3 -□□            | 85(76)  | 48(35)   | 143.9(135) | AA x 3              | 250        |
| LCT135H-9V -□□            | 85(76)  | 48(35)   | 143.9(135) | 9V x 1              | 247.5      |
| <b>NEW</b> LCT145S-N -□□  | 105(96) | 33(20)   | 153.9(145) | None                | 239.1      |
| <b>NEW</b> LCT145S-F6 -□□ | 105(96) | 33(20)   | 153.9(145) | AAA x 6             | 259.1      |
| <b>NEW</b> LCT145 -N -□□  | 105(96) | 40(27)   | 153.9(145) | None                | 258.5      |
| <b>NEW</b> LCT145 -F6 -□□ | 105(96) | 40(27)   | 153.9(145) | AAA x 6             | 278.5      |
| <b>NEW</b> LCT145 -M2 -□□ | 105(96) | 40(27)   | 153.9(145) | AA x 2              | 272.5      |
| <b>NEW</b> LCT145 -M4 -□□ | 105(96) | 40(27)   | 153.9(145) | AA x 4              | 279.5      |
| <b>NEW</b> LCT145H-N -□□  | 105(96) | 48(35)   | 153.9(145) | None                | 282        |
| <b>NEW</b> LCT145H-F6 -□□ | 105(96) | 48(35)   | 153.9(145) | AAA x 6             | 302.5      |
| <b>NEW</b> LCT145H-M2 -□□ | 105(96) | 48(35)   | 153.9(145) | AA x 2              | 296        |
| <b>NEW</b> LCT145H-M4 -□□ | 105(96) | 48(35)   | 153.9(145) | AA x 4              | 303        |
| LCT165 -N -□□             | 89(80)  | 40(27)   | 173.9(165) | None                | 263.5      |
| LCT165 -M4 -□□            | 89(80)  | 40(27)   | 173.9(165) | AA x 4              | 283        |
| LCT165H-N -□□             | 89(80)  | 48(35)   | 173.9(165) | None                | 286        |
| LCT165H-M4 -□□            | 89(80)  | 48(35)   | 173.9(165) | AA x 4              | 305        |

■ ( ) value = enclosure dimension.

Silicone cover dimensions

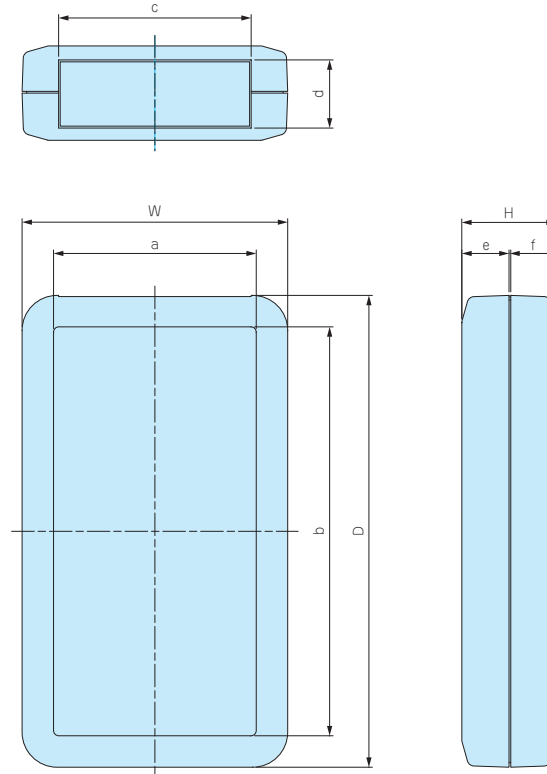
■ Refer to page 25 ~ 40 for detailed internal enclosure dimensions.



| Product no.                | W   | H    | D     | a    | b     | c    | d    | e    | f   | g     |
|----------------------------|-----|------|-------|------|-------|------|------|------|-----|-------|
| LCT115 -N -□□              | 76  | 28   | 121.9 | 55.5 | 101.5 | 48.3 | 12   | 24   | 72  | 117.8 |
| LCT115 -F2 -□□             | 76  | 28   | 121.9 | 55.5 | 101.5 | 48.3 | 12   | 24   | 72  | 117.8 |
| LCT115 -F3 -□□             | 76  | 28   | 121.9 | 55.5 | 101.5 | 48.3 | 12   | 24   | 72  | 117.8 |
| LCT115H -N -□□             | 76  | 36.5 | 121.9 | 55.5 | 101.5 | 48.3 | 20.5 | 32.5 | 72  | 117.8 |
| LCT115H -F2 -□□            | 76  | 36.5 | 121.9 | 55.5 | 101.5 | 48.3 | 20.5 | 32.5 | 72  | 117.8 |
| LCT115H -F3 -□□            | 76  | 36.5 | 121.9 | 55.5 | 101.5 | 48.3 | 20.5 | 32.5 | 72  | 117.8 |
| LCT115H -M2 -□□            | 76  | 36.5 | 121.9 | 55.5 | 101.5 | 48.3 | 20.5 | 32.5 | 72  | 117.8 |
| LCT115H -9V -□□            | 76  | 36.5 | 121.9 | 55.5 | 101.5 | 48.3 | 20.5 | 32.5 | 72  | 117.8 |
| LCT135 -N -□□              | 85  | 40   | 143.9 | 59.5 | 118.5 | 55   | 19   | 34   | 81  | 139.7 |
| LCT135 -F4 -□□             | 85  | 40   | 143.9 | 59.5 | 118.5 | 55   | 19   | 34   | 81  | 139.7 |
| LCT135 -M2 -□□             | 85  | 40   | 143.9 | 59.5 | 118.5 | 55   | 19   | 34   | 81  | 139.7 |
| LCT135 -M3 -□□             | 85  | 40   | 143.9 | 59.5 | 118.5 | 55   | 19   | 34   | 81  | 139.7 |
| LCT135 -9V -□□             | 85  | 40   | 143.9 | 59.5 | 118.5 | 55   | 19   | 34   | 81  | 139.7 |
| LCT135H -N -□□             | 85  | 48   | 143.9 | 59.5 | 118.5 | 55   | 27   | 42   | 81  | 139.7 |
| LCT135H -F4 -□□            | 85  | 48   | 143.9 | 59.5 | 118.5 | 55   | 27   | 42   | 81  | 139.7 |
| LCT135H -M2 -□□            | 85  | 48   | 143.9 | 59.5 | 118.5 | 55   | 27   | 42   | 81  | 139.7 |
| LCT135H -M3 -□□            | 85  | 48   | 143.9 | 59.5 | 118.5 | 55   | 27   | 42   | 81  | 139.7 |
| LCT135H -9V -□□            | 85  | 48   | 143.9 | 59.5 | 118.5 | 55   | 27   | 42   | 81  | 139.7 |
| <b>NEW</b> LCT145S -N -□□  | 105 | 33   | 153.9 | 76.5 | 125.5 | 71   | 12   | 27   | 101 | 149.7 |
| <b>NEW</b> LCT145S -F6 -□□ | 105 | 33   | 153.9 | 76.5 | 125.5 | 71   | 12   | 27   | 101 | 149.7 |
| <b>NEW</b> LCT145 -N -□□   | 105 | 40   | 153.9 | 76.5 | 125.5 | 71   | 19   | 34   | 101 | 149.7 |
| <b>NEW</b> LCT145 -F6 -□□  | 105 | 40   | 153.9 | 76.5 | 125.5 | 71   | 19   | 34   | 101 | 149.7 |
| <b>NEW</b> LCT145 -M2 -□□  | 105 | 40   | 153.9 | 76.5 | 125.5 | 71   | 19   | 34   | 101 | 149.7 |
| <b>NEW</b> LCT145 -M4 -□□  | 105 | 40   | 153.9 | 76.5 | 125.5 | 71   | 19   | 34   | 101 | 149.7 |
| <b>NEW</b> LCT145H -N -□□  | 105 | 48   | 153.9 | 76.5 | 125.5 | 71   | 27   | 42   | 101 | 149.7 |
| <b>NEW</b> LCT145H -F6 -□□ | 105 | 48   | 153.9 | 76.5 | 125.5 | 71   | 27   | 42   | 101 | 149.7 |
| <b>NEW</b> LCT145H -M2 -□□ | 105 | 48   | 153.9 | 76.5 | 125.5 | 71   | 27   | 42   | 101 | 149.7 |
| <b>NEW</b> LCT145H -M4 -□□ | 105 | 48   | 153.9 | 76.5 | 125.5 | 71   | 27   | 42   | 101 | 149.7 |
| LCT165 -N -□□              | 89  | 40   | 173.9 | 63.5 | 148.5 | 59   | 19   | 34   | 85  | 169.7 |
| LCT165 -M4 -□□             | 89  | 40   | 173.9 | 63.5 | 148.5 | 59   | 19   | 34   | 85  | 169.7 |
| LCT165H -N -□□             | 89  | 48   | 173.9 | 63.5 | 148.5 | 59   | 27   | 42   | 85  | 169.7 |
| LCT165H -M4 -□□            | 89  | 48   | 173.9 | 63.5 | 148.5 | 59   | 27   | 42   | 85  | 169.7 |

Enclosure dimensions

■ Refer to page 25 ~ 40 for detailed internal enclosure dimensions.



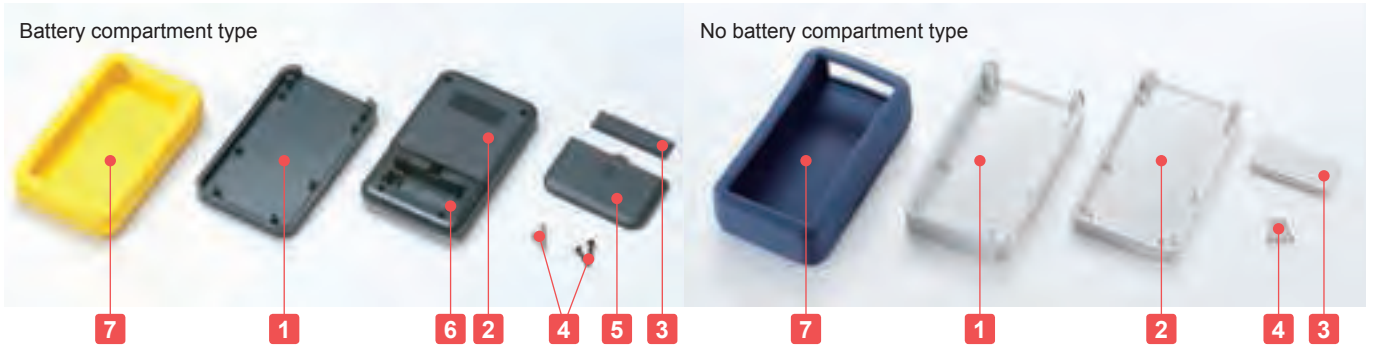
■ Please suffix color code at the end of the product number.

| Product no.               | W  | H    | D   | a  | b   | c    | d    | e    | f  | Battery compartment |
|---------------------------|----|------|-----|----|-----|------|------|------|----|---------------------|
| LCT115 -N -□□             | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | None                |
| LCT115 -F2 -□□            | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | AAA x 2             |
| LCT115 -F3 -□□            | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | AAA x 3             |
| LCT115H-N -□□             | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | None                |
| LCT115H-F2 -□□            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AAA x 2             |
| LCT115H-F3 -□□            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AAA x 3             |
| LCT115H-M2-□□             | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AA x 2              |
| LCT115H-9V-□□             | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | 9V x 1              |
| LCT135 -N -□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | None                |
| LCT135 -F4 -□□            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AAA x 4             |
| LCT135 -M2-□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AA x 2              |
| LCT135 -M3-□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AA x 3              |
| LCT135 -9V-□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | 9V x 1              |
| LCT135H-N -□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | None                |
| LCT135H-F4 -□□            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AAA x 4             |
| LCT135H-M2-□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AA x 2              |
| LCT135H-M3-□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AA x 3              |
| LCT135H-9V-□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | 9V x 1              |
| <b>NEW</b> LCT145S-N -□□  | 96 | 20   | 145 | 75 | 124 | 71.1 | 12.5 | 7.5  | 12 | None                |
| <b>NEW</b> LCT145S-F6 -□□ | 96 | 20   | 145 | 75 | 124 | 71.1 | 12.5 | 7.5  | 12 | AAA x 6             |
| <b>NEW</b> LCT145 -N -□□  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | None                |
| <b>NEW</b> LCT145 -F6 -□□ | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AAA x 6             |
| <b>NEW</b> LCT145 -M2-□□  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AA x 2              |
| <b>NEW</b> LCT145 -M4-□□  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AA x 4              |
| <b>NEW</b> LCT145H-N -□□  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | None                |
| <b>NEW</b> LCT145H-F6 -□□ | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AAA x 6             |
| <b>NEW</b> LCT145H-M2-□□  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AA x 2              |
| <b>NEW</b> LCT145H-M4-□□  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AA x 4              |
| LCT165 -N -□□             | 80 | 27   | 165 | 62 | 147 | 59.1 | 19.5 | 13.5 | 13 | None                |
| LCT165 -M4-□□             | 80 | 27   | 165 | 62 | 147 | 59.1 | 19.5 | 13.5 | 13 | AA x 4              |
| LCT165H-N -□□             | 80 | 35   | 165 | 62 | 147 | 59.1 | 27.5 | 21.5 | 13 | None                |
| LCT165H-M4-□□             | 80 | 35   | 165 | 62 | 147 | 59.1 | 27.5 | 21.5 | 13 | AA x 4              |



| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |

- Plastic case with silicone cover providing not only comfortable and anti-slip grip, but also protection from drop impact.
- Manufactured with flame-resistant ABS UL94V-0. Several battery compartment types are available.
- Positive (+) / negative (-) pole mark are incused on the inside of the battery compartments.
- Suitable for measuring instruments, test devices, wireless communication devices, medical devices and so on.



Components

| No. | Part name                      | Pcs   | Material           | Color / Finish  |
|-----|--------------------------------|-------|--------------------|---|
| 1   | Top cover                      | 1     | ABS UL94V-0        | Off-white • Dark gray                                       |
| 2   | Bottom cover                   | 1     | ABS UL94V-0        | Off-white • Dark gray                                       |
| 3   | Panel                          | 1     | ABS UL94V-0        | Off-white • Dark gray                                       |
| 4   | Self tapping screw             | 4     | Steel M2.6         | Nickel plated • Black trivalent chromate                    |
| 5   | Battery cover                  | 1     | ABS UL94V-0        | Off-white • Dark gray                                       |
| 6   | Battery contact • Battery snap | 1 set | Bras • Brass : PVC | Nickel plated • Nickel plated : Black                       |
| 7   | Silicone cover                 | 1     | Silicone           | Red • Yellow • Green • Blue • Navy • Light gray • Dark gray |

Accessories (Optional parts)



PCB mounting screw  
EM-2.3  
See page 135

TORX screw  
MR series  
See page 135

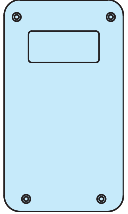
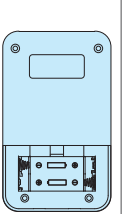
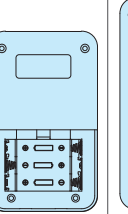
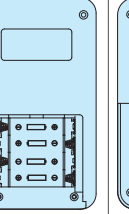
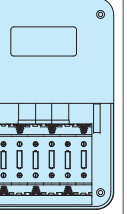
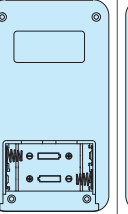
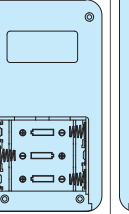
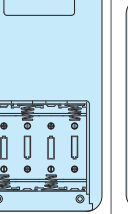
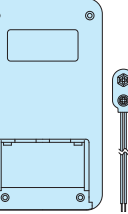
Key ring  
CR-20  
See page 64

Strap  
STP series  
See page 64

Tapping standoff  
TPS series  
See page 133



Battery Compartment Type

| Type                | N<br>None   | F2<br>AAA x 2   | F3<br>AAA x 3   | F4<br>AAA x 4   | F6<br>AAA x 6   | M2<br>AA x 2   | M3<br>AA x 3  | M4<br>AA x 4  | 9V<br>9V x 1  |
|---------------------|---|---|---|---|---|--|---|---|---|
| Battery compartment |  |  |  |  |  |  |  |  |  |

Color Type

| Code  | D/R Dark gray / Red  | D/Y Dark gray / Yellow   | D/G Dark gray / Green  | D/B Dark gray / Blue   | D/N Dark gray / Navy  | D/D Dark gray / Dark gray  | D/L Dark gray / Light gray   |
|-------|--|--|--|--|---|--|--|
| Color |   |   |   |   |   |   |   |
| Code  | W/R Off-white / Red  | W/Y Off-white / Yellow   | W/G Off-white / Green  | W/B Off-white / Blue   | W/N Off-white / Navy  | W/D Off-white / Dark gray  | W/L Off-white / Light gray   |
| Color |  |  |  |  |  |  |  |

Product no. / Dimensions

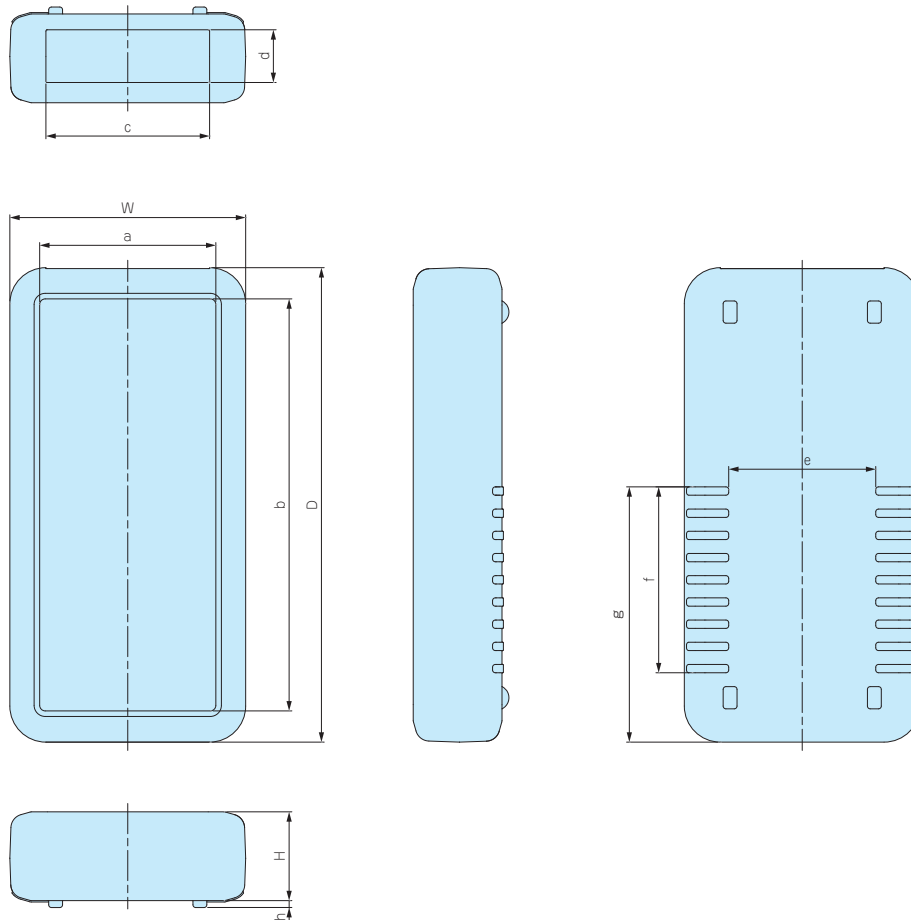
■ Please suffix color code at the end of the product number.

| Product no.               | W       | H        | D        | Battery compartment | Weight (g) |
|---------------------------|---------|----------|----------|---------------------|------------|
| LCS115 -N -□□             | 74(69)  | 24(19.5) | 120(115) | None                | 113        |
| LCS115 -F2 -□□            | 74(69)  | 24(19.5) | 120(115) | AAA x 2             | 117.5      |
| LCS115 -F3 -□□            | 74(69)  | 24(19.5) | 120(115) | AAA x 3             | 119.5      |
| LCS115H-N -□□             | 74(69)  | 32.5(28) | 120(115) | None                | 130        |
| LCS115H-F2 -□□            | 74(69)  | 32.5(28) | 120(115) | AAA x 2             | 134.5      |
| LCS115H-F3 -□□            | 74(69)  | 32.5(28) | 120(115) | AAA x 3             | 136        |
| LCS115H-M2-□□             | 74(69)  | 32.5(28) | 120(115) | AA x 2              | 138.5      |
| LCS115H-9V-□□             | 74(69)  | 32.5(28) | 120(115) | 9V x 1              | 138        |
| LCS135 -N -□□             | 81(76)  | 32(27)   | 141(135) | None                | 165        |
| LCS135 -F4 -□□            | 81(76)  | 32(27)   | 141(135) | AAA x 4             | 180        |
| LCS135 -M2-□□             | 81(76)  | 32(27)   | 141(135) | AA x 2              | 178        |
| LCS135 -M3-□□             | 81(76)  | 32(27)   | 141(135) | AA x 3              | 183.5      |
| LCS135 -9V-□□             | 81(76)  | 32(27)   | 141(135) | 9V x 1              | 181.5      |
| LCS135H-N -□□             | 81(76)  | 40(35)   | 141(135) | None                | 183        |
| LCS135H-F4 -□□            | 81(76)  | 40(35)   | 141(135) | AAA x 4             | 197.5      |
| LCS135H-M2-□□             | 81(76)  | 40(35)   | 141(135) | AA x 2              | 196.5      |
| LCS135H-M3-□□             | 81(76)  | 40(35)   | 141(135) | AA x 3              | 201.5      |
| LCS135H-9V-□□             | 81(76)  | 40(35)   | 141(135) | 9V x 1              | 199        |
| <b>NEW</b> LCS145S-N -□□  | 101(96) | 25(20)   | 151(145) | None                | 183.4      |
| <b>NEW</b> LCS145S-F6 -□□ | 101(96) | 25(20)   | 151(145) | AAA x 6             | 203.4      |
| <b>NEW</b> LCS145 -N -□□  | 101(96) | 32(27)   | 151(145) | None                | 202        |
| <b>NEW</b> LCS145 -F6 -□□ | 101(96) | 32(27)   | 151(145) | AAA x 6             | 222        |
| <b>NEW</b> LCS145 -M2-□□  | 101(96) | 32(27)   | 151(145) | AA x 2              | 216        |
| <b>NEW</b> LCS145 -M4-□□  | 101(96) | 32(27)   | 151(145) | AA x 4              | 223        |
| <b>NEW</b> LCS145H-N -□□  | 101(96) | 40(35)   | 151(145) | None                | 224        |
| <b>NEW</b> LCS145H-F6 -□□ | 101(96) | 40(35)   | 151(145) | AAA x 6             | 244.5      |
| <b>NEW</b> LCS145H-M2-□□  | 101(96) | 40(35)   | 151(145) | AA x 2              | 238        |
| <b>NEW</b> LCS145H-M4-□□  | 101(96) | 40(35)   | 151(145) | AA x 4              | 245        |
| LCS165 -N -□□             | 85(80)  | 32(27)   | 171(165) | None                | 203        |
| LCS165 -M4-□□             | 85(80)  | 32(27)   | 171(165) | AA x 4              | 222.5      |
| LCS165H-N -□□             | 85(80)  | 40(35)   | 171(165) | None                | 220.5      |
| LCS165H-M4-□□             | 85(80)  | 40(35)   | 171(165) | AA x 4              | 239.5      |

■ ( ) value = enclosure dimension.

Silicone cover dimensions

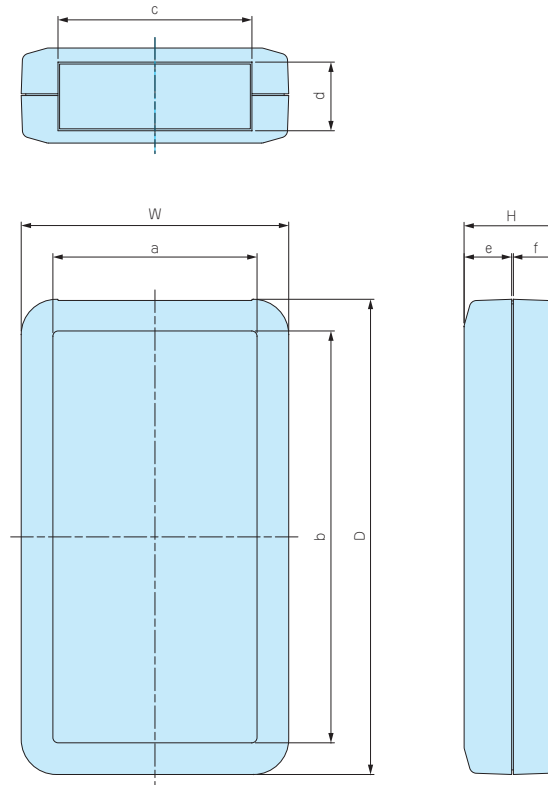
■ Refer to page 25 ~ 40 for detailed inner enclosure dimensions.



| Product no.    | W   | H    | D   | a    | b     | c    | d    | e  | f    | g    | h   |
|----------------|-----|------|-----|------|-------|------|------|----|------|------|-----|
| LCS115 -N -□□  | 74  | 24   | 120 | 55.5 | 101.5 | 48.3 | 12   | 46 | 44.5 | 60.5 | 2   |
| LCS115 -F2 -□□ | 74  | 24   | 120 | 55.5 | 101.5 | 48.3 | 12   | 46 | 44.5 | 60.5 | 2   |
| LCS115 -F3 -□□ | 74  | 24   | 120 | 55.5 | 101.5 | 48.3 | 12   | 46 | 44.5 | 60.5 | 2   |
| LCS115H-N -□□  | 74  | 32.5 | 120 | 55.5 | 101.5 | 48.3 | 20.5 | 46 | 44.5 | 60.5 | 2   |
| LCS115H-F2 -□□ | 74  | 32.5 | 120 | 55.5 | 101.5 | 48.3 | 20.5 | 46 | 44.5 | 60.5 | 2   |
| LCS115H-F3 -□□ | 74  | 32.5 | 120 | 55.5 | 101.5 | 48.3 | 20.5 | 46 | 44.5 | 60.5 | 2   |
| LCS115H-M2 -□□ | 74  | 32.5 | 120 | 55.5 | 101.5 | 48.3 | 20.5 | 46 | 44.5 | 60.5 | 2   |
| LCS115H-9V -□□ | 74  | 32.5 | 120 | 55.5 | 101.5 | 48.3 | 20.5 | 46 | 44.5 | 60.5 | 2   |
| LCS135 -N -□□  | 81  | 32   | 141 | 59.5 | 118.5 | 55   | 19   | 53 | 59   | 79   | 2.5 |
| LCS135 -F4 -□□ | 81  | 32   | 141 | 59.5 | 118.5 | 55   | 19   | 53 | 59   | 79   | 2.5 |
| LCS135 -M2 -□□ | 81  | 32   | 141 | 59.5 | 118.5 | 55   | 19   | 53 | 59   | 79   | 2.5 |
| LCS135 -M3 -□□ | 81  | 32   | 141 | 59.5 | 118.5 | 55   | 19   | 53 | 59   | 79   | 2.5 |
| LCS135 -9V -□□ | 81  | 32   | 141 | 59.5 | 118.5 | 55   | 19   | 53 | 59   | 79   | 2.5 |
| LCS135H-N -□□  | 81  | 40   | 141 | 59.5 | 118.5 | 55   | 27   | 53 | 59   | 79   | 2.5 |
| LCS135H-F4 -□□ | 81  | 40   | 141 | 59.5 | 118.5 | 55   | 27   | 53 | 59   | 79   | 2.5 |
| LCS135H-M2 -□□ | 81  | 40   | 141 | 59.5 | 118.5 | 55   | 27   | 53 | 59   | 79   | 2.5 |
| LCS135H-M3 -□□ | 81  | 40   | 141 | 59.5 | 118.5 | 55   | 27   | 53 | 59   | 79   | 2.5 |
| LCS135H-9V -□□ | 81  | 40   | 141 | 59.5 | 118.5 | 55   | 27   | 53 | 59   | 79   | 2.5 |
| LCS145S-N -□□  | 101 | 25   | 151 | 76.5 | 125.5 | 71   | 12   | 71 | 59   | 81   | 2.5 |
| LCS145S-F6 -□□ | 101 | 25   | 151 | 76.5 | 125.5 | 71   | 12   | 71 | 59   | 81   | 2.5 |
| LCS145 -N -□□  | 101 | 32   | 151 | 76.5 | 125.5 | 71   | 19   | 71 | 59   | 81   | 2.5 |
| LCS145 -F6 -□□ | 101 | 32   | 151 | 76.5 | 125.5 | 71   | 19   | 71 | 59   | 81   | 2.5 |
| LCS145 -M2 -□□ | 101 | 32   | 151 | 76.5 | 125.5 | 71   | 19   | 71 | 59   | 81   | 2.5 |
| LCS145 -M4 -□□ | 101 | 32   | 151 | 76.5 | 125.5 | 71   | 19   | 71 | 59   | 81   | 2.5 |
| LCS145H-N -□□  | 101 | 40   | 151 | 76.5 | 125.5 | 71   | 27   | 71 | 59   | 81   | 2.5 |
| LCS145H-F6 -□□ | 101 | 40   | 151 | 76.5 | 125.5 | 71   | 27   | 71 | 59   | 81   | 2.5 |
| LCS145H-M2 -□□ | 101 | 40   | 151 | 76.5 | 125.5 | 71   | 27   | 71 | 59   | 81   | 2.5 |
| LCS145H-M4 -□□ | 101 | 40   | 151 | 76.5 | 125.5 | 71   | 27   | 71 | 59   | 81   | 2.5 |
| LCS165 -N -□□  | 85  | 32   | 171 | 63.5 | 148.5 | 59   | 19   | 53 | 67   | 92   | 2.5 |
| LCS165 -M4 -□□ | 85  | 32   | 171 | 63.5 | 148.5 | 59   | 19   | 53 | 67   | 92   | 2.5 |
| LCS165H-N -□□  | 85  | 40   | 171 | 63.5 | 148.5 | 59   | 27   | 53 | 67   | 92   | 2.5 |
| LCS165H-M4 -□□ | 85  | 40   | 171 | 63.5 | 148.5 | 59   | 27   | 53 | 67   | 92   | 2.5 |

Enclosure dimensions

■ Refer to page 25 ~ 40 for detailed inner enclosure dimensions.



■ Please suffix color code at the end of the product number.

| Product no.               | W  | H    | D   | a  | b   | c    | d    | e    | f  | Battery compartment |
|---------------------------|----|------|-----|----|-----|------|------|------|----|---------------------|
| LCS115 -N -□□             | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | None                |
| LCS115 -F2 -□□            | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | AAA x 2             |
| LCS115 -F3 -□□            | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | AAA x 3             |
| LCS115H-N -□□             | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | None                |
| LCS115H-F2 -□□            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AAA x 2             |
| LCS115H-F3 -□□            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AAA x 3             |
| LCS115H-M2-□□             | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AA x 2              |
| LCS115H-9V -□□            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | 9V x 1              |
| LCS135 -N -□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | None                |
| LCS135 -F4 -□□            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AAA x 4             |
| LCS135 -M2-□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AA x 2              |
| LCS135 -M3-□□             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AA x 3              |
| LCS135 -9V -□□            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | 9V x 1              |
| LCS135H-N -□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | None                |
| LCS135H-F4 -□□            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AAA x 4             |
| LCS135H-M2-□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AA x 2              |
| LCS135H-M3-□□             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AA x 3              |
| LCS135H-9V -□□            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | 9V x 1              |
| <b>NEW</b> LCS145S-N -□□  | 96 | 20   | 145 | 75 | 124 | 71.1 | 12.5 | 7.5  | 12 | None                |
| <b>NEW</b> LCS145S-F6 -□□ | 96 | 20   | 145 | 75 | 124 | 71.1 | 12.5 | 7.5  | 12 | AAA x 6             |
| <b>NEW</b> LCS145 -N -□□  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | None                |
| <b>NEW</b> LCS145 -F6 -□□ | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AAA x 6             |
| <b>NEW</b> LCS145 -M2-□□  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AA x 2              |
| <b>NEW</b> LCS145 -M4-□□  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AA x 4              |
| <b>NEW</b> LCS145H-N -□□  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | None                |
| <b>NEW</b> LCS145H-F6 -□□ | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AAA x 6             |
| <b>NEW</b> LCS145H-M2-□□  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AA x 2              |
| <b>NEW</b> LCS145H-M4-□□  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AA x 4              |
| LCS165 -N -□□             | 80 | 27   | 165 | 62 | 147 | 59.1 | 19.5 | 13.5 | 13 | None                |
| LCS165 -M4-□□             | 80 | 27   | 165 | 62 | 147 | 59.1 | 19.5 | 13.5 | 13 | AA x 4              |
| LCS165H-N -□□             | 80 | 35   | 165 | 62 | 147 | 59.1 | 27.5 | 21.5 | 13 | None                |
| LCS165H-M4-□□             | 80 | 35   | 165 | 62 | 147 | 59.1 | 27.5 | 21.5 | 13 | AA x 4              |

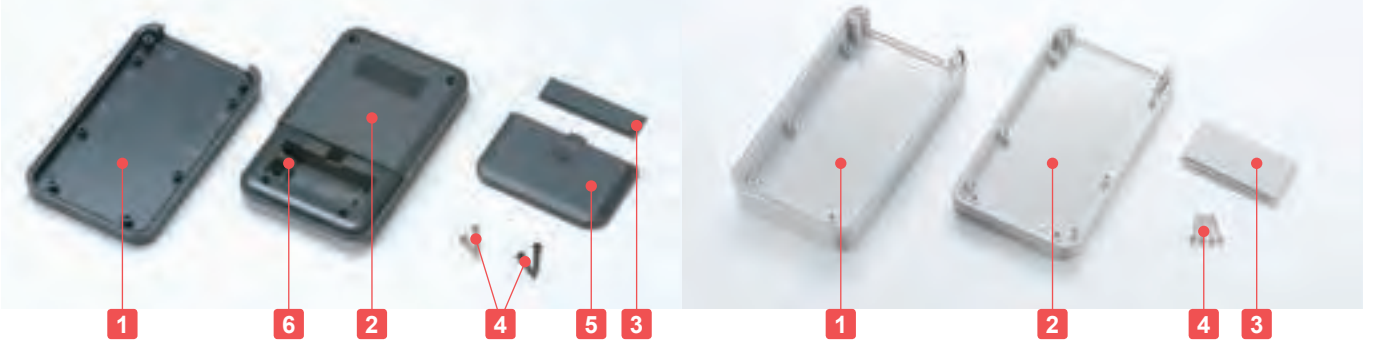


| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |

- Designed with beveled edges and rounded corners, and manufactured from flame-retardant ABS UL94V-0 material.
- Available in 9 different compartment types: AAx2, AAx3, AAx4, AAx2, AAx3, AAx4, AAx6, 9Vx1, and no battery compartment type.
- Positive (+) / negative (-) pole mark are incused within each battery compartment.
- Recommended to be used as measurement instruments, testing devices, wireless communication gadgets, medical equipment, and so on.

Battery compartment type

No battery compartment type



Components

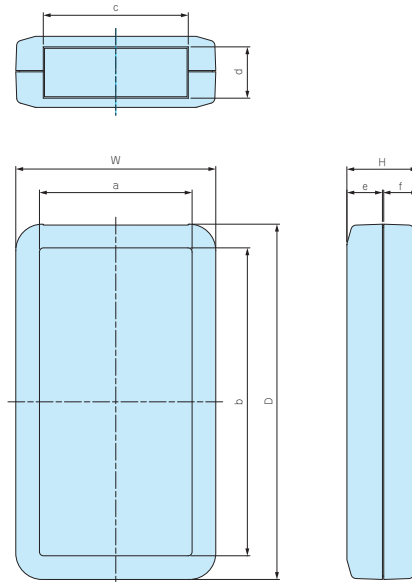
| No. | Part name                      | Pcs   | Material            | Color / Finish                           |
|-----|--------------------------------|-------|---------------------|--|
| 1   | Top cover                      | 1     | ABS UL94V-0         | Off-white • Dark gray                    |
| 2   | Bottom cover                   | 1     | ABS UL94V-0         | Off-white • Dark gray                    |
| 3   | Panel                          | 1     | ABS UL94V-0         | Off-white • Dark gray                    |
| 4   | Self tapping screw             | 4     | Steel M2.6          | Nickel plated • Black trivalent chromate |
| 5   | Battery cover                  | 1     | ABS UL94V-0         | Off-white • Dark gray                    |
| 6   | Battery contact • Battery snap | 1 set | Brass • Brass : PVC | Nickel plated • Nickel plated : Black    |

Accessories (Optional parts)

|   |   |   |   |   |   |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| PCB mounting screw<br>EM-2.3<br>See page 135  | TORX screw<br>MR series<br>See page 135   | Tapping standoff<br>TPS series<br>See page 133                                      | Wall suspension bracket<br>WM series<br>See page 129                                | Neodymium magnet<br>NMG series<br>See page 130  | Key ring / Strap<br>CR • STP series<br>See page 64                                    |



Refer to page 25~ 40 for detailed dimensions.



Battery Compartment Type

| Type                | N<br>None | F2<br>AAx2 | F3<br>AAx3 | F4<br>AAx4 | F6<br>AAx6 | M2<br>AAx2 | M3<br>AAx3 | M4<br>AAx4 | 9V<br>9Vx1 |
|---------------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|
| Battery compartment |           |            |            |            |            |            |            |            |            |

Product no. / Dimensions

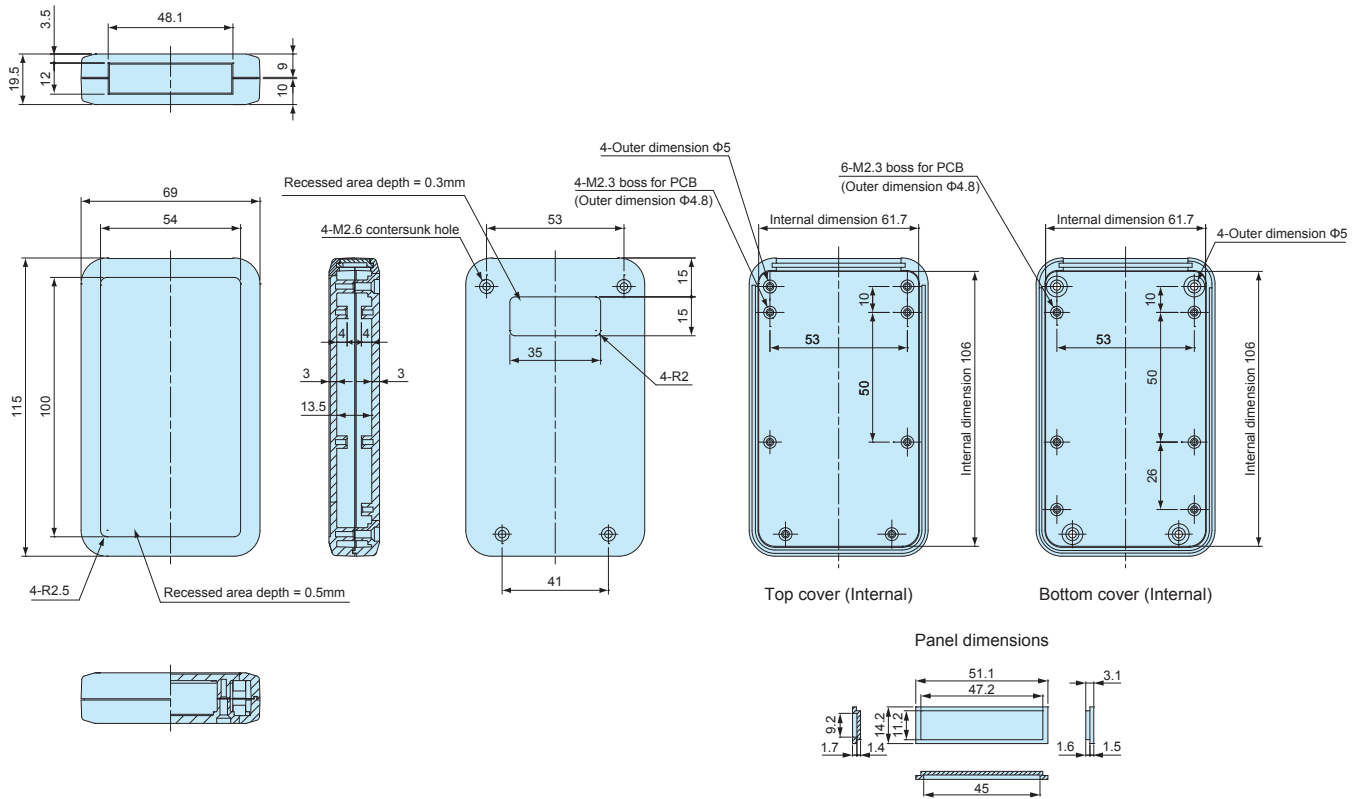
Please suffix color code at the end of the product number.

| Product no.             |                         | W  | H    | D   | a  | b   | c    | d    | e    | f  | Battery compartment | Weight (g) |
|-------------------------|-------------------------|----|------|-----|----|-----|------|------|------|----|---------------------|------------|
| ● Dark gray             | ● Off-white             |    |      |     |    |     |      |      |      |    |                     |            |
| LC115 -N -D             | LC115 -N -W             | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | None                | 70         |
| LC115 -F2 -D            | LC115 -F2 -W            | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | AAA x 2             | 74.5       |
| LC115 -F3 -D            | LC115 -F3 -W            | 69 | 19.5 | 115 | 54 | 100 | 48.1 | 12   | 10   | 9  | AAA x 3             | 76.5       |
| LC115H-N -D             | LC115H-N -W             | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | None                | 80         |
| LC115H-F2 -D            | LC115H-F2 -W            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AAA x 2             | 84.5       |
| LC115H-F3 -D            | LC115H-F3 -W            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AAA x 3             | 86         |
| LC115H-M2 -D            | LC115H-M2 -W            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | AA x 2              | 88.5       |
| LC115H-9V -D            | LC115H-9V -W            | 69 | 28   | 115 | 54 | 100 | 48.1 | 20.5 | 18.5 | 9  | 9V x 1              | 88         |
| LC135 -N -D             | LC135 -N -W             | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | None                | 95         |
| LC135 -F4 -D            | LC135 -F4 -W            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AAA x 4             | 110        |
| LC135 -M2 -D            | LC135 -M2 -W            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AA x 2              | 108        |
| LC135 -M3 -D            | LC135 -M3 -W            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | AA x 3              | 113.5      |
| LC135 -9V -D            | LC135 -9V -W            | 76 | 27   | 135 | 58 | 117 | 55.1 | 19.5 | 13.5 | 13 | 9V x 1              | 111.5      |
| LC135H-N -D             | LC135H-N -W             | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | None                | 107.5      |
| LC135H-F4 -D            | LC135H-F4 -W            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AAA x 4             | 122        |
| LC135H-M2 -D            | LC135H-M2 -W            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AA x 2              | 121        |
| LC135H-M3 -D            | LC135H-M3 -W            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | AA x 3              | 126        |
| LC135H-9V -D            | LC135H-9V -W            | 76 | 35   | 135 | 58 | 117 | 55.1 | 27.5 | 21.5 | 13 | 9V x 1              | 123.5      |
| <b>NEW</b> LC145S-N -D  | <b>NEW</b> LC145S-N -W  | 96 | 20   | 145 | 75 | 124 | 71.1 | 12.5 | 7.5  | 12 | None                | 110        |
| <b>NEW</b> LC145S-F6 -D | <b>NEW</b> LC145S-F6 -W | 96 | 20   | 145 | 75 | 124 | 71.1 | 12.5 | 7.5  | 12 | AAA x 6             | 130        |
| <b>NEW</b> LC145 -N -D  | <b>NEW</b> LC145 -N -W  | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | None                | 121        |
| <b>NEW</b> LC145 -F6 -D | <b>NEW</b> LC145 -F6 -W | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AAA x 6             | 141        |
| <b>NEW</b> LC145 -M2 -D | <b>NEW</b> LC145 -M2 -W | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AA x 2              | 135        |
| <b>NEW</b> LC145 -M4 -D | <b>NEW</b> LC145 -M4 -W | 96 | 27   | 145 | 75 | 124 | 71.1 | 19.5 | 14.5 | 12 | AA x 4              | 142        |
| <b>NEW</b> LC145H-N -D  | <b>NEW</b> LC145H-N -W  | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | None                | 135        |
| <b>NEW</b> LC145H-F6 -D | <b>NEW</b> LC145H-F6 -W | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AAA x 6             | 155.5      |
| <b>NEW</b> LC145H-M2 -D | <b>NEW</b> LC145H-M2 -W | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AA x 2              | 149        |
| <b>NEW</b> LC145H-M4 -D | <b>NEW</b> LC145H-M4 -W | 96 | 35   | 145 | 75 | 124 | 71.1 | 27.5 | 22.5 | 12 | AA x 4              | 156        |
| LC165 -N -D             | LC165 -N -W             | 80 | 27   | 165 | 62 | 147 | 59.1 | 19.5 | 13.5 | 13 | None                | 120.5      |
| LC165 -M4 -D            | LC165 -M4 -W            | 80 | 27   | 165 | 62 | 147 | 59.1 | 19.5 | 13.5 | 13 | AA x 4              | 140        |
| LC165H-N -D             | LC165H-N -W             | 80 | 35   | 165 | 62 | 147 | 59.1 | 27.5 | 21.5 | 13 | None                | 134.5      |
| LC165H-M4 -D            | LC165H-M4 -W            | 80 | 35   | 165 | 62 | 147 | 59.1 | 27.5 | 21.5 | 13 | AA x 4              | 153.5      |

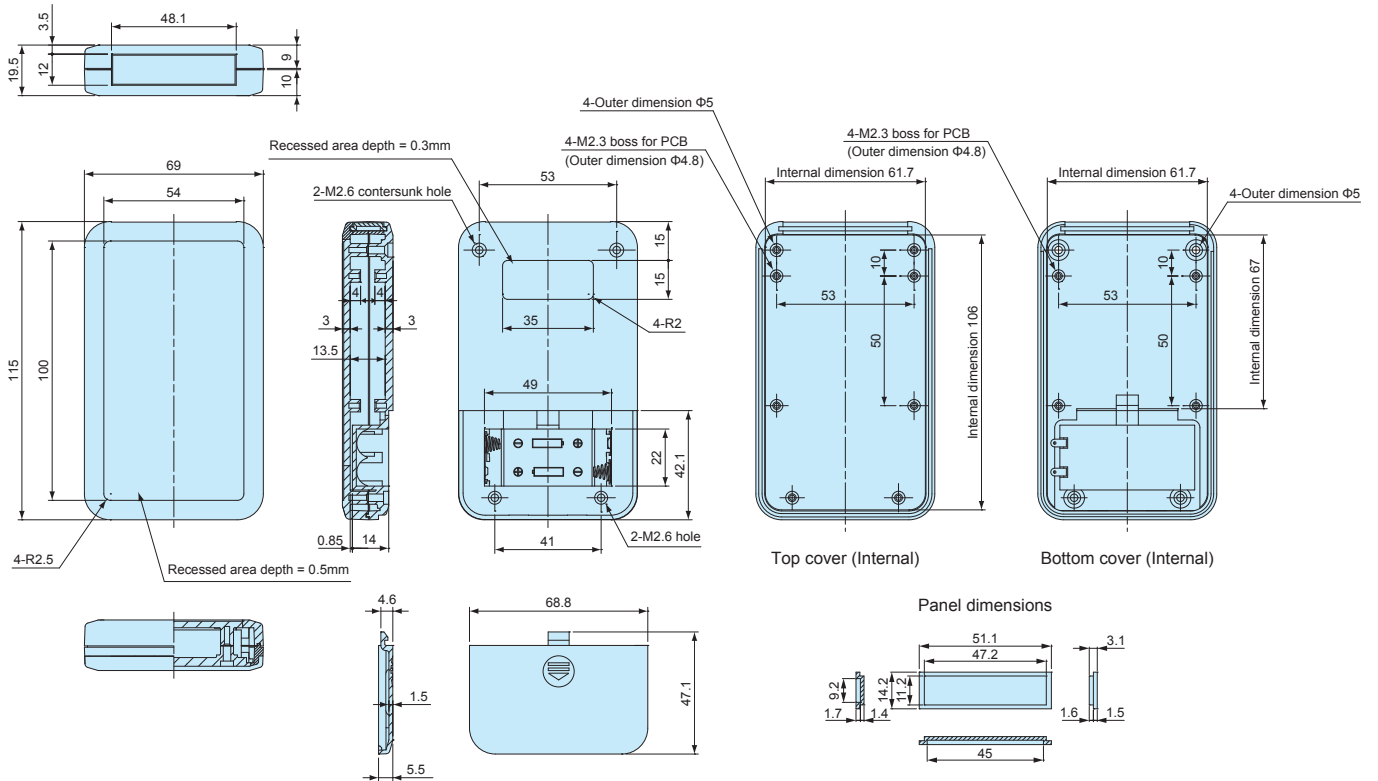
**LCT • LCS • LC dimensions**

■ DXF/DWG/PDF drawings available on our website.

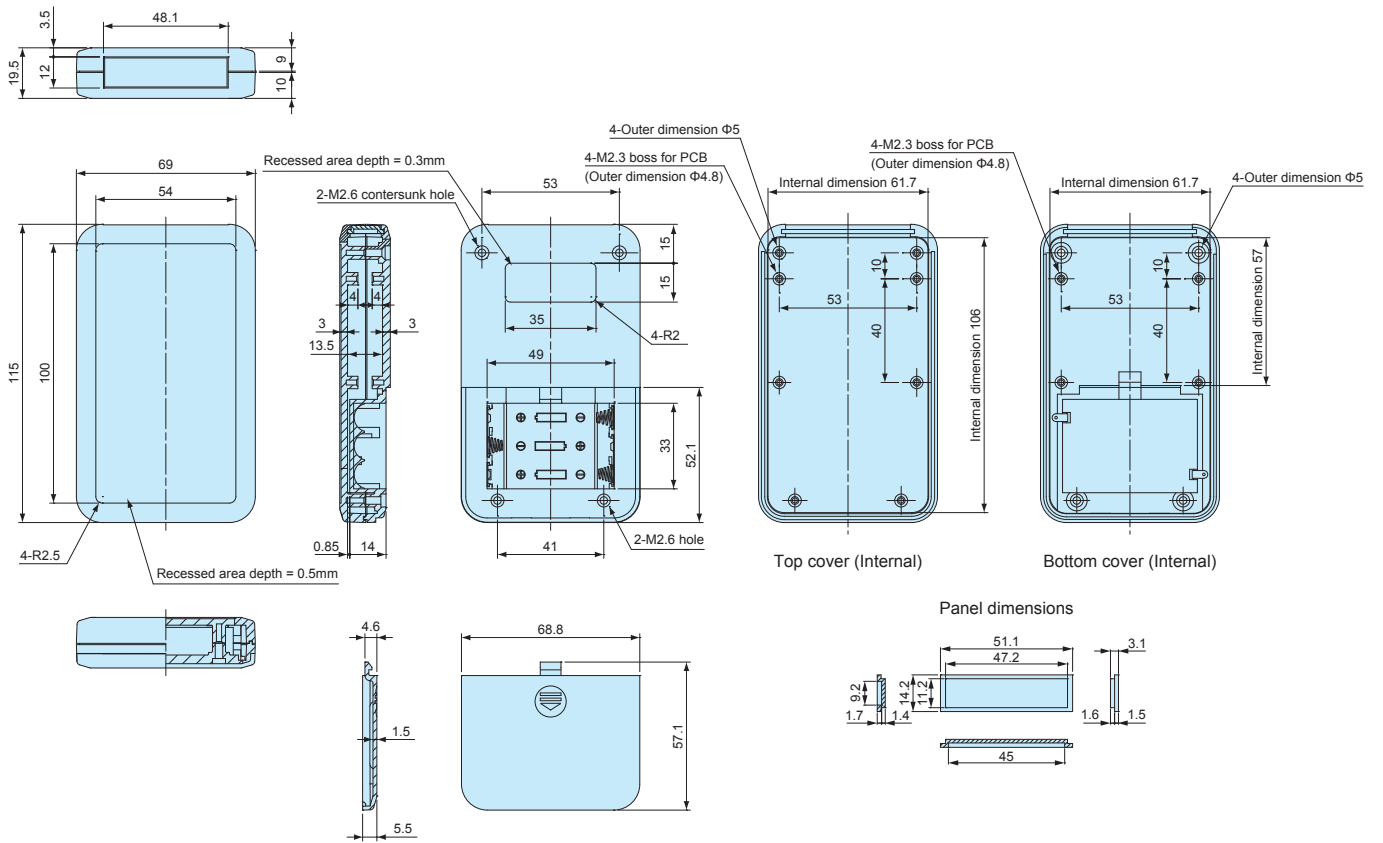
**LCT115-N / LCS115-N / LC115-N**



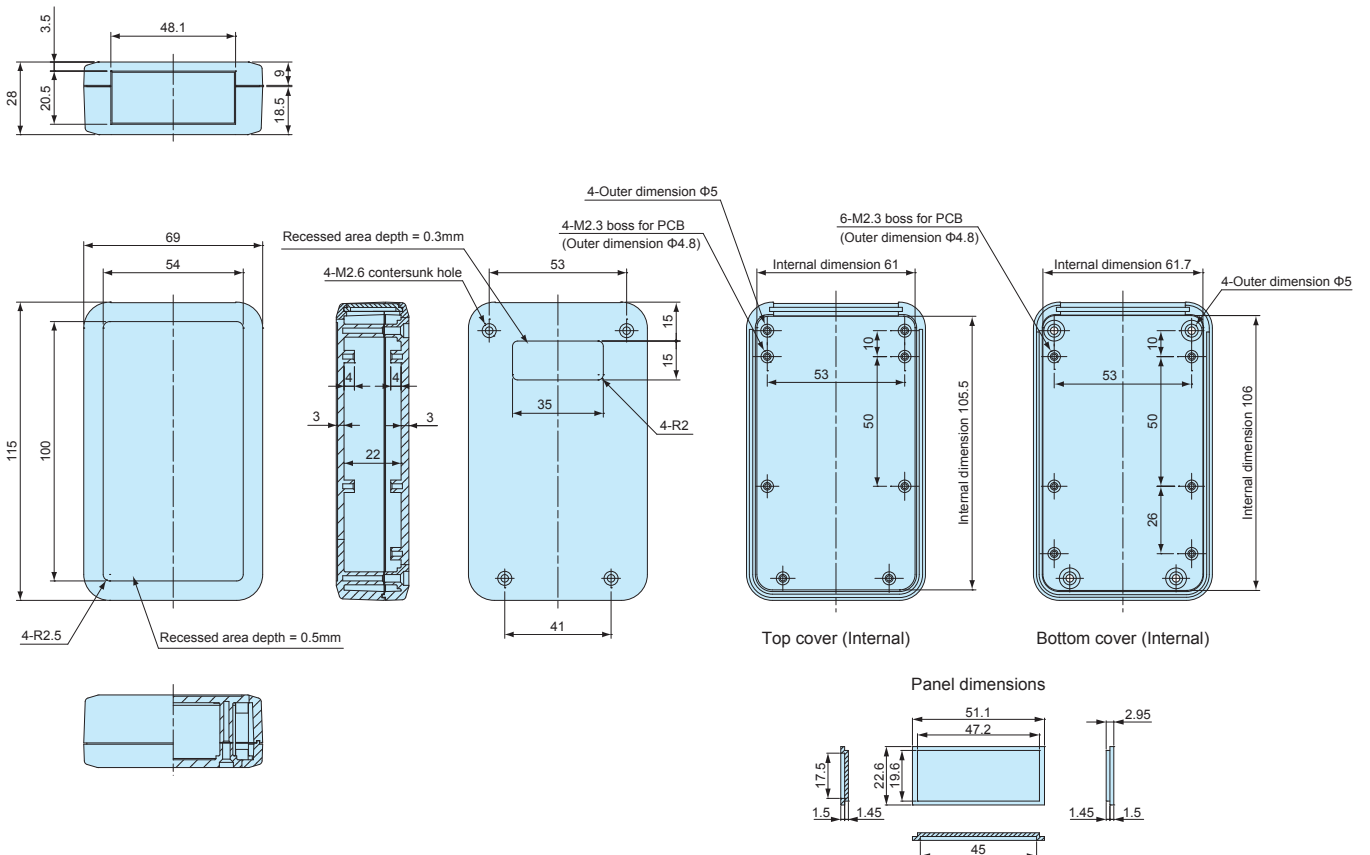
**LCT115-F2 / LCS115-F2 / LC115-F2**



LCT115-F3 / LCS115-F3 / LC115-F3



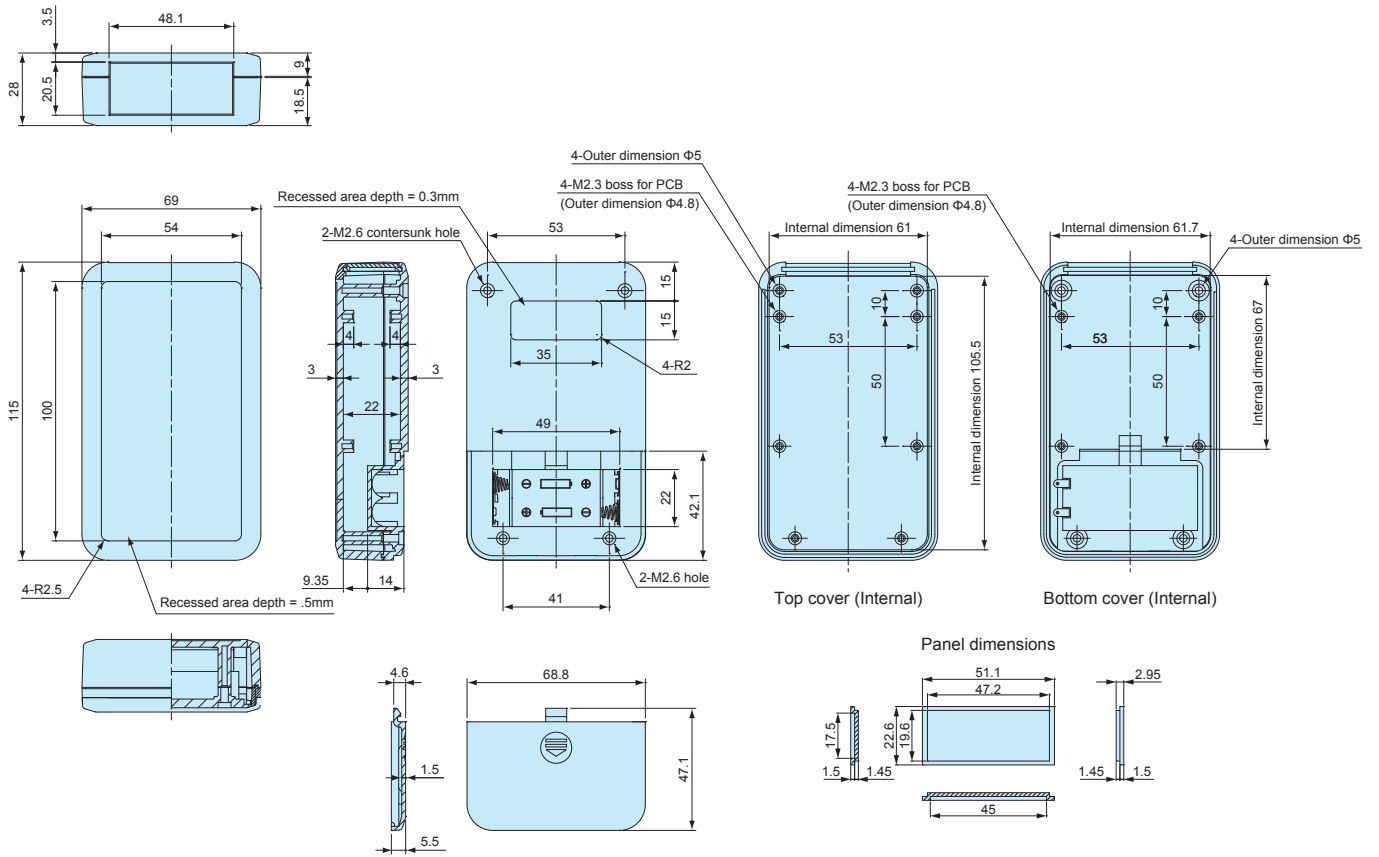
LCT115H-N / LCS115H-N / LC115H-N



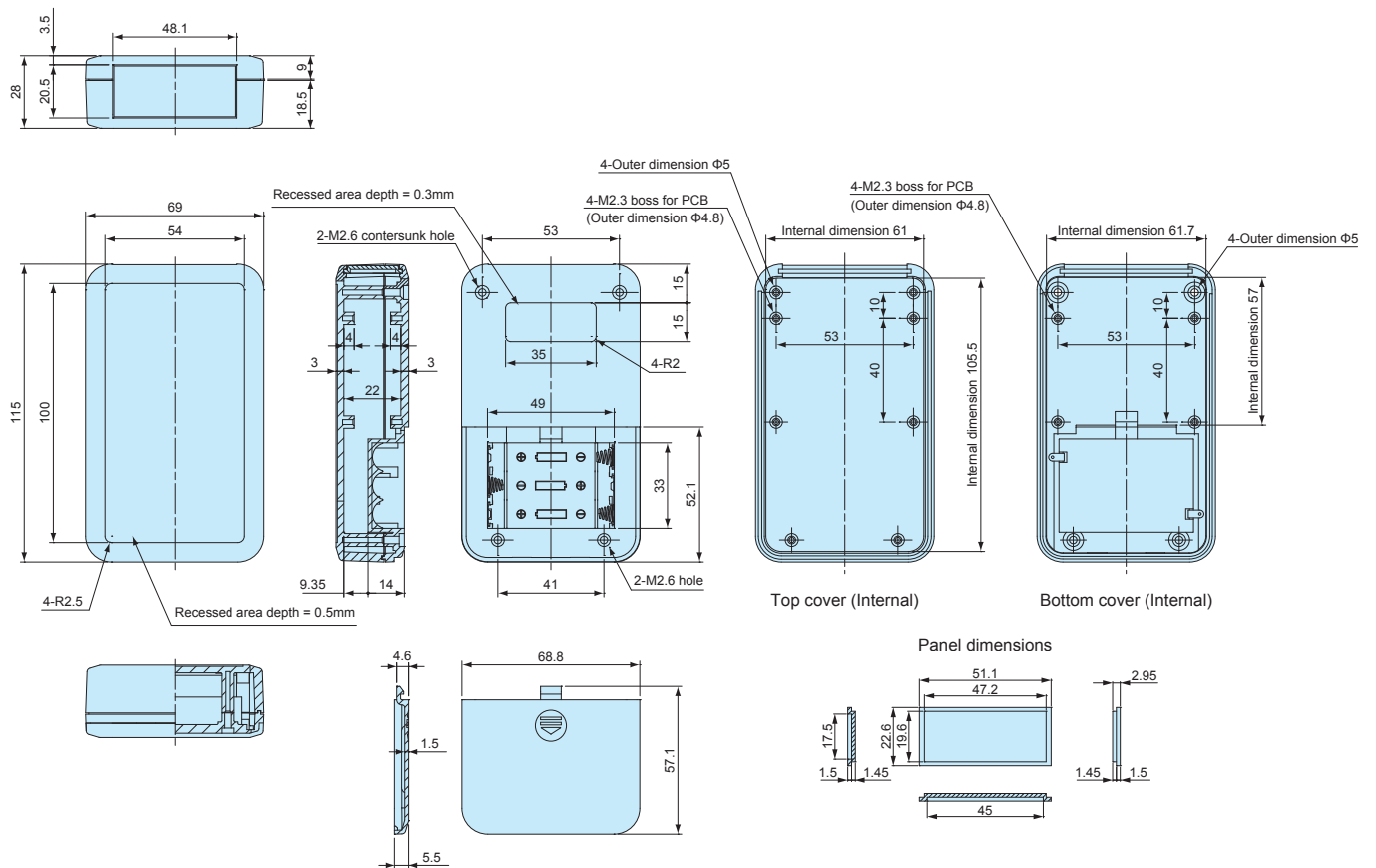
LCT • LCS • LC dimensions

■ DXF/DWG/PDF drawings available on our website.

LCT115H-F2 / LCS115H-F2 / LC115H-F2

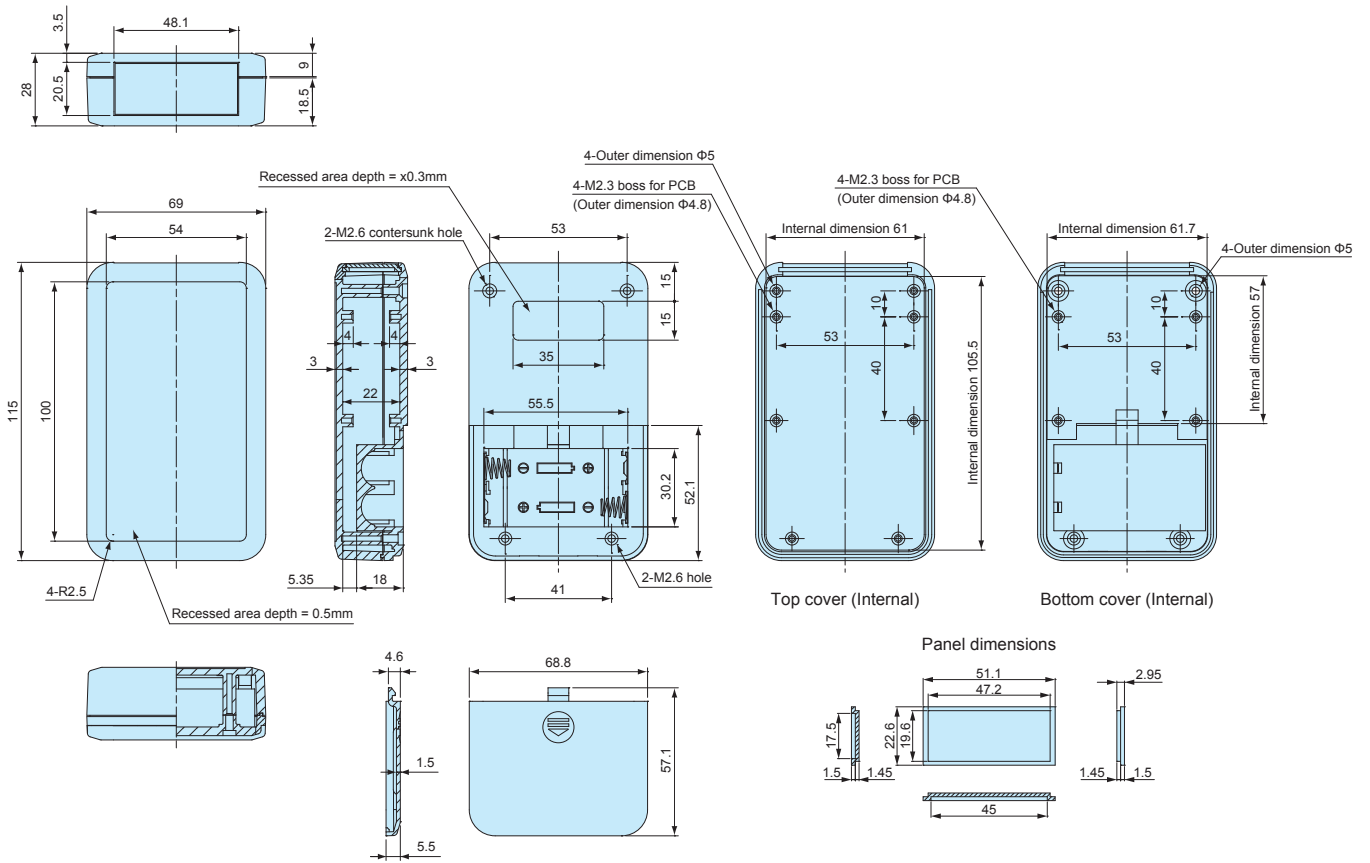


LCT115H-F3 / LCS115H-F3 / LC115H-F3

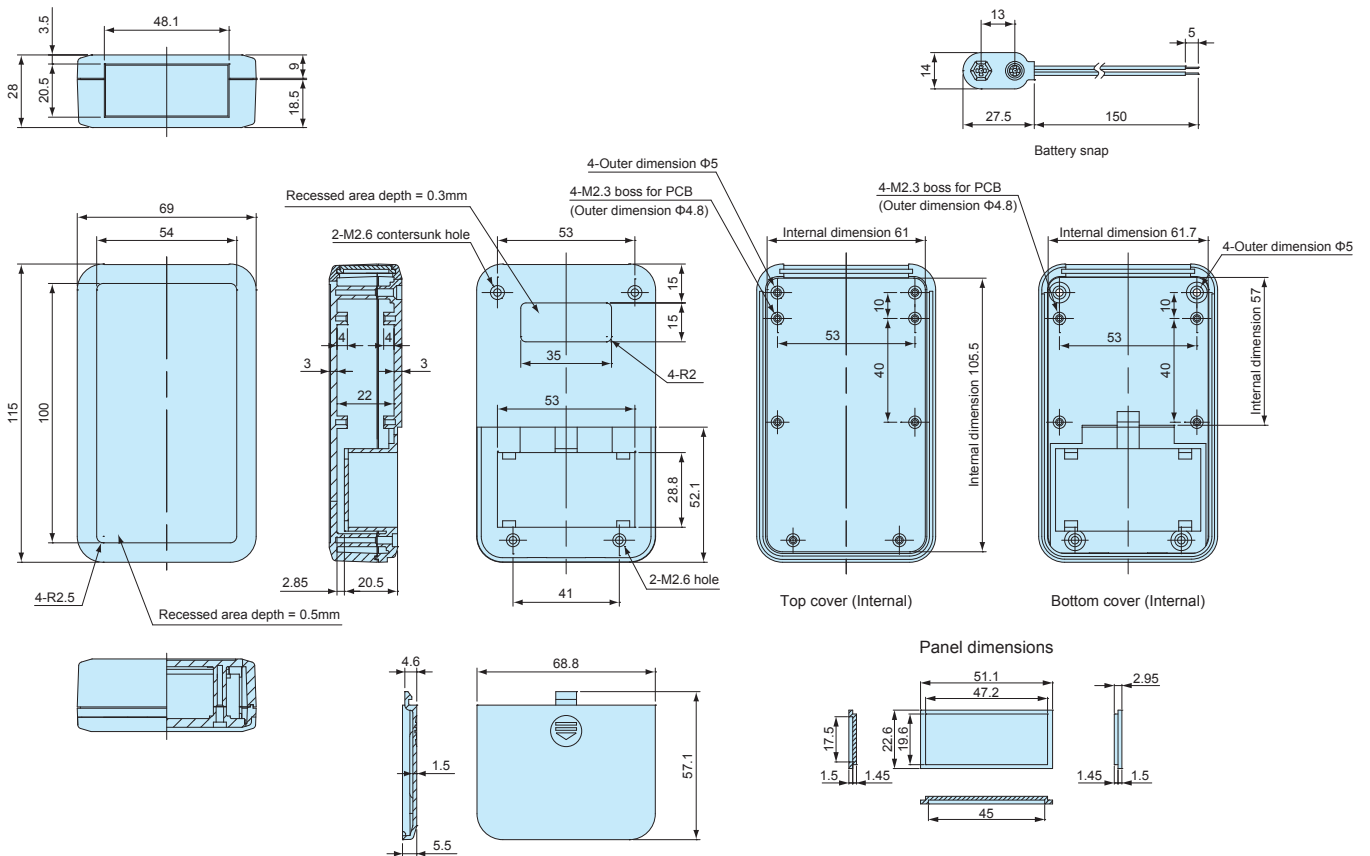




LCT115H-M2 / LCS115H-M2 / LC115H-M2



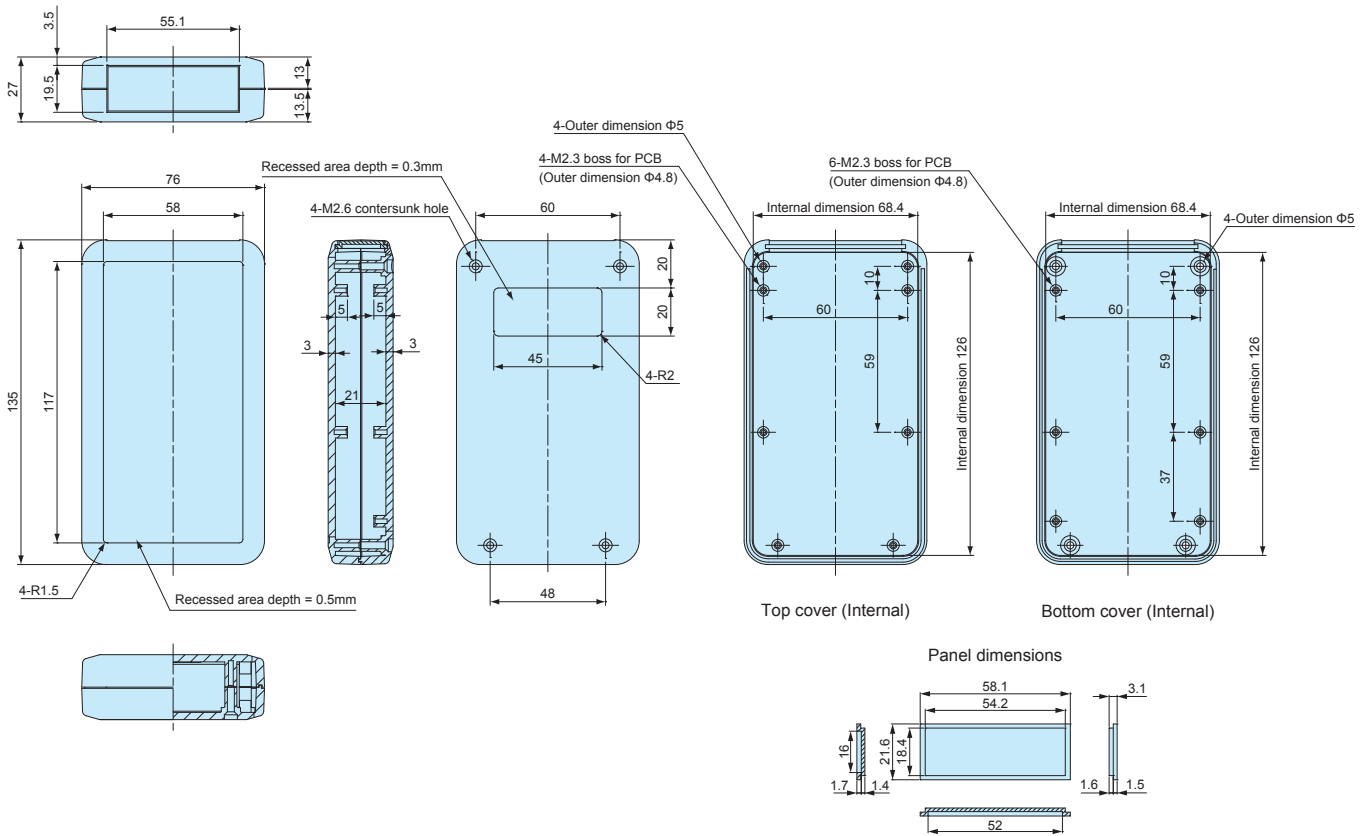
LCT115H-9V / LCS115H-9V / LC115H-9V



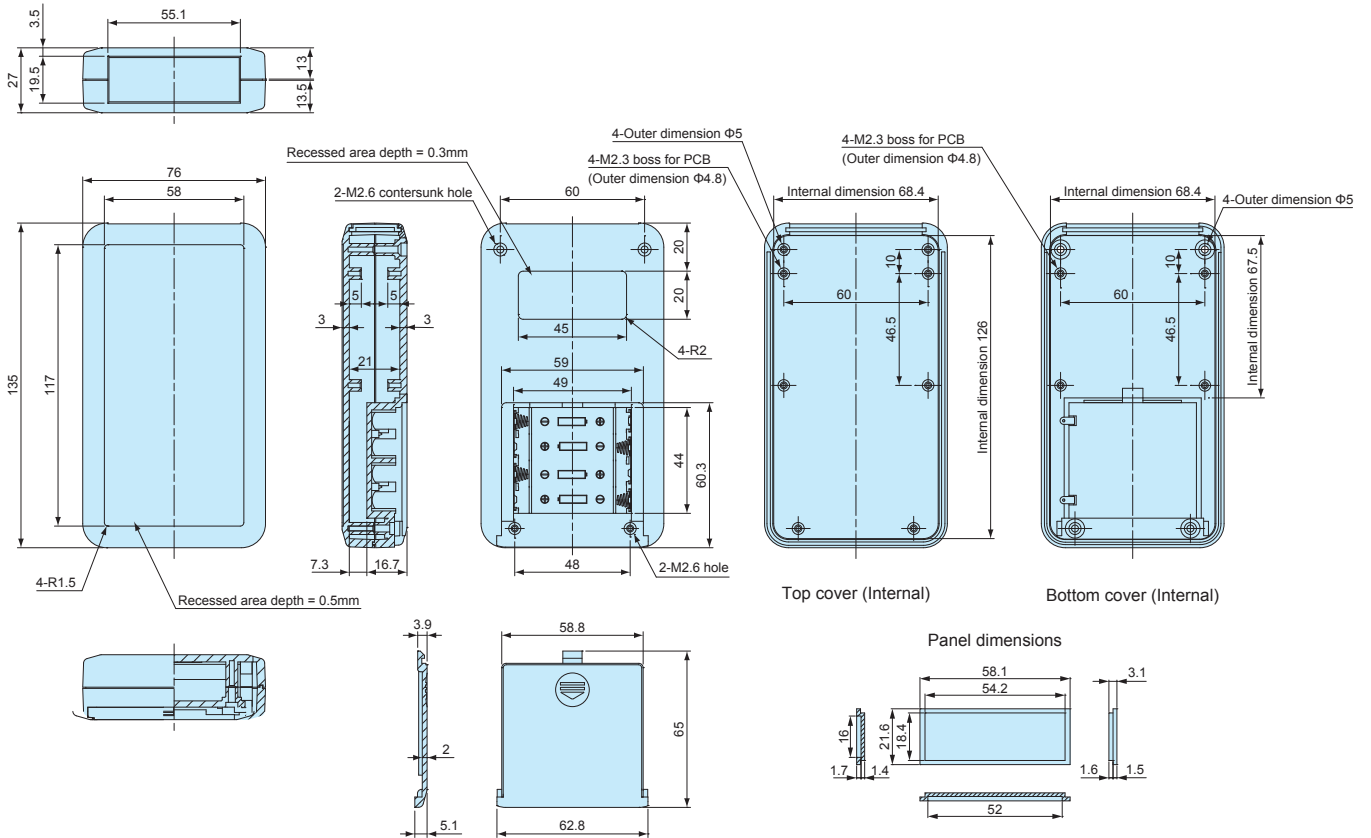
LCT • LCS • LC dimensions

DXF/DWG/PDF drawings available on our website.

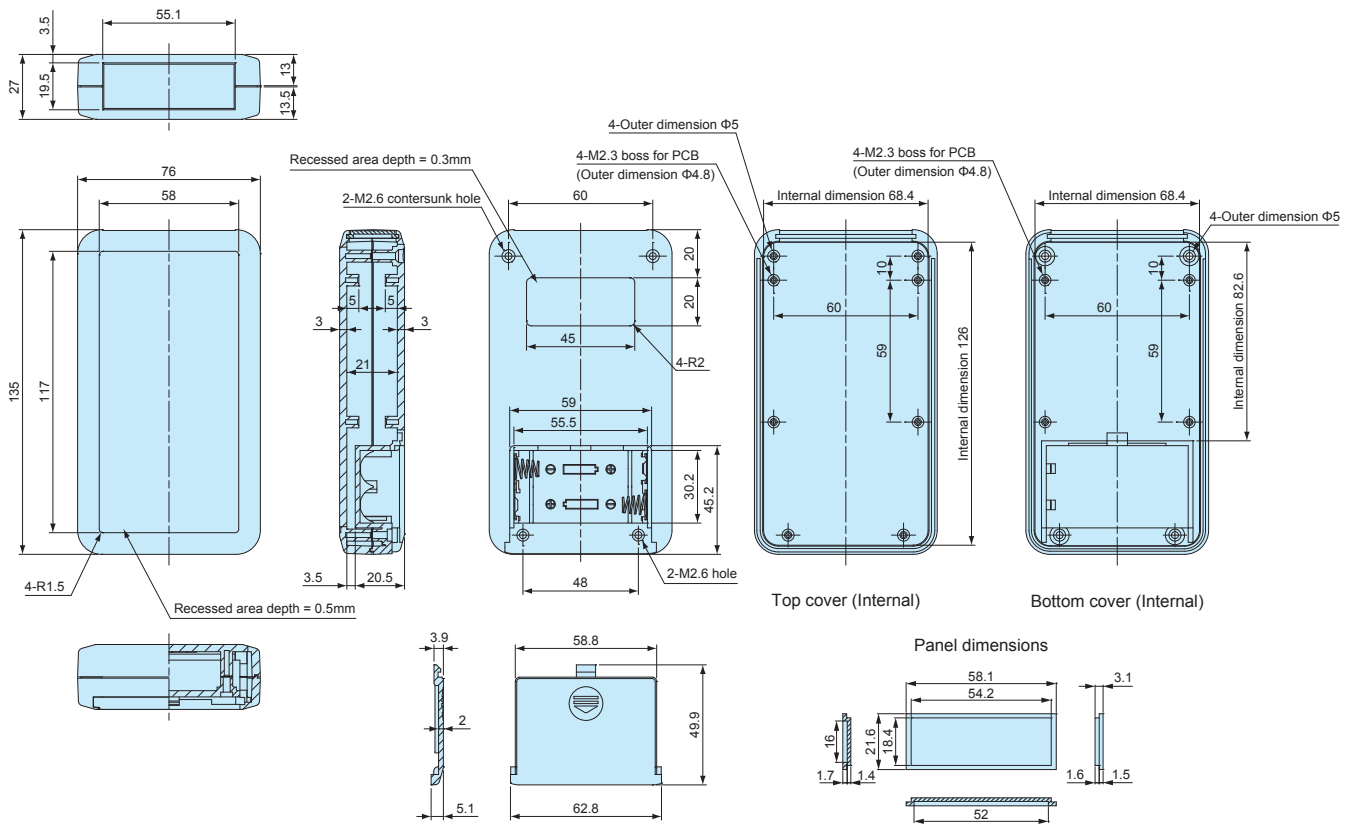
LCT135-N / LCS135-N / LC135-N



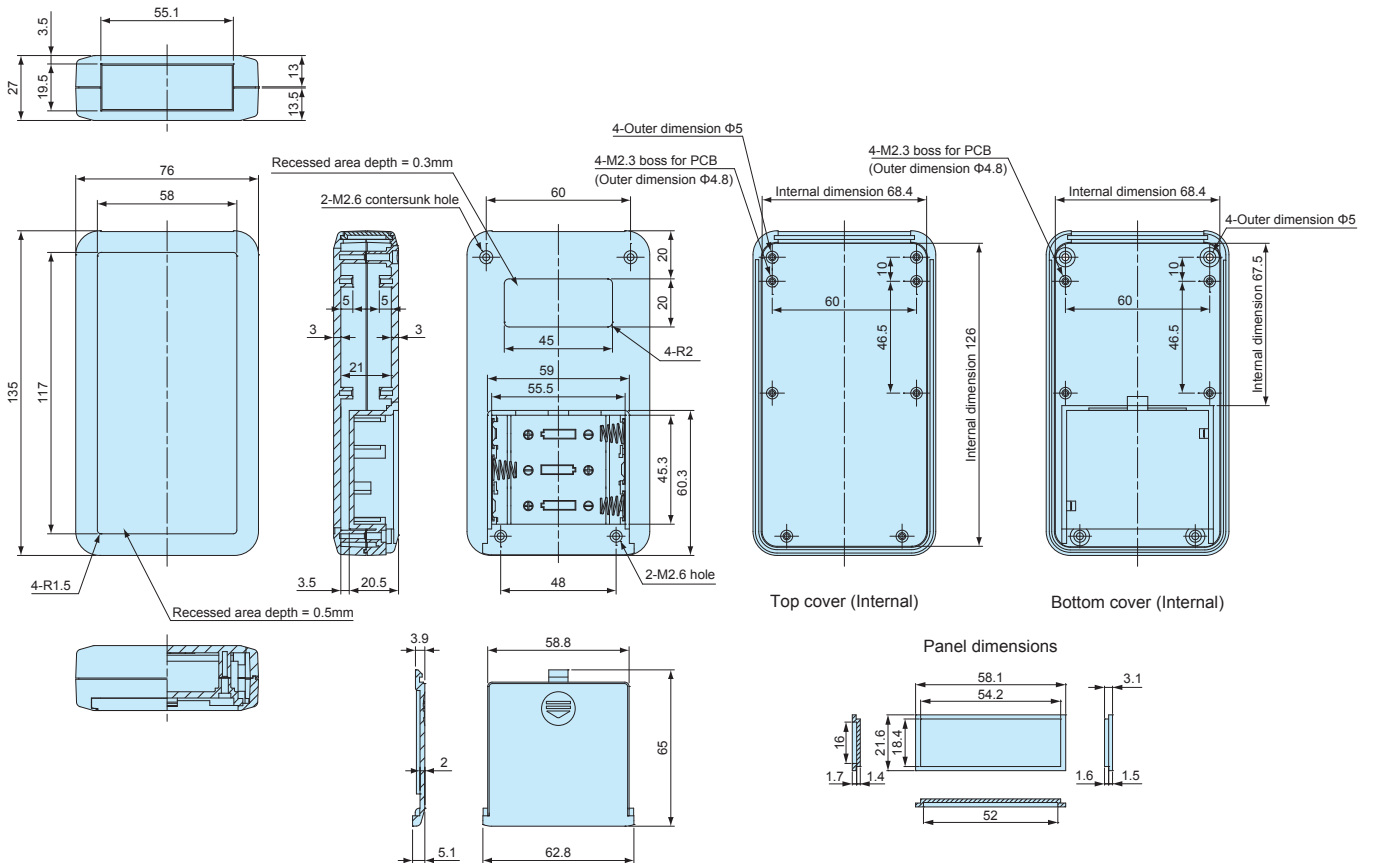
LCT135-F4 / LCS135-F4 / LC135-F4



LCT135-M2 / LCS135-M2 / LC135-M2



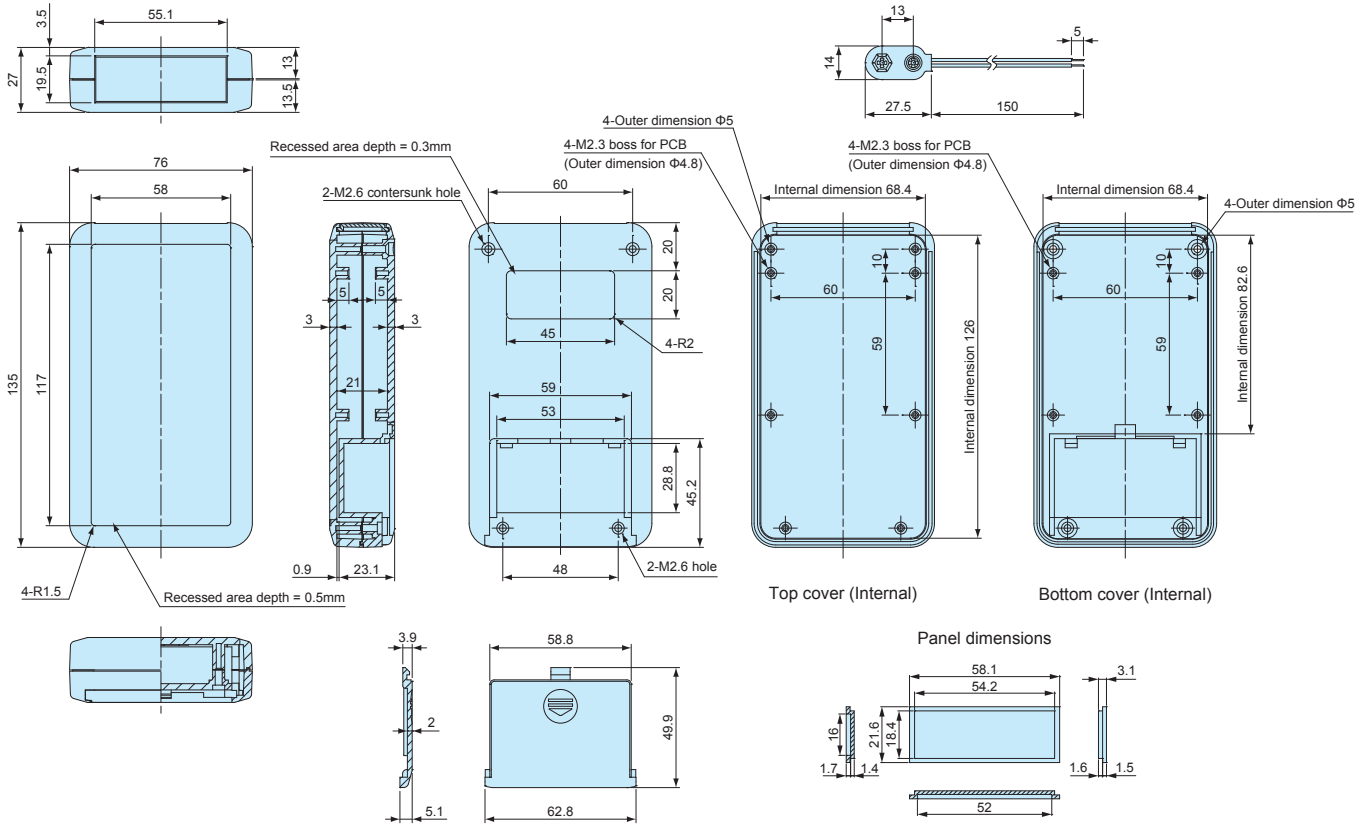
LCT135-M3 / LCS135-M3 / LC135-M3



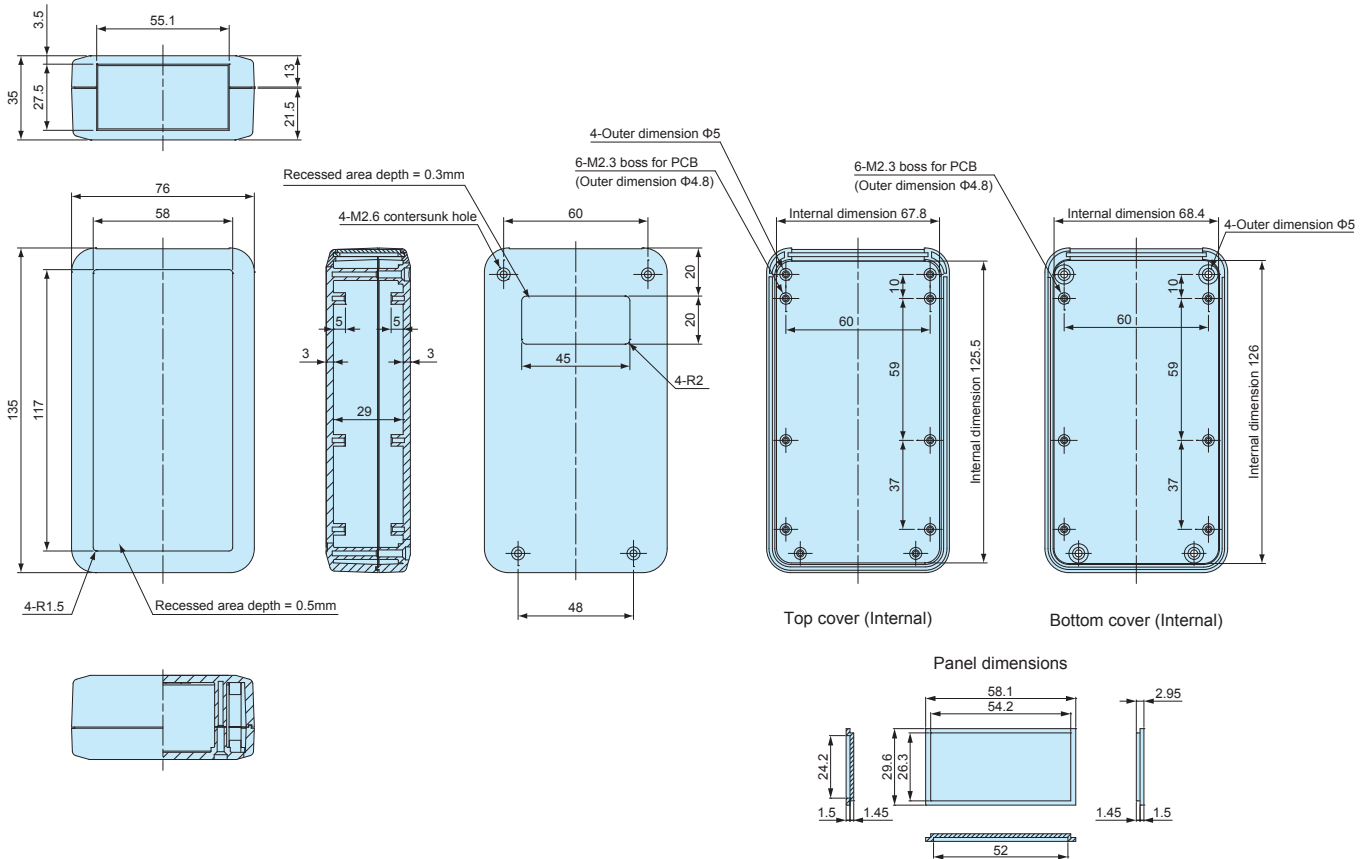
LCT • LCS • LC dimensions

■ DXF/DWG/PDF drawings available on our website.

LCT135-9V / LCS135-9V / LC135-9V

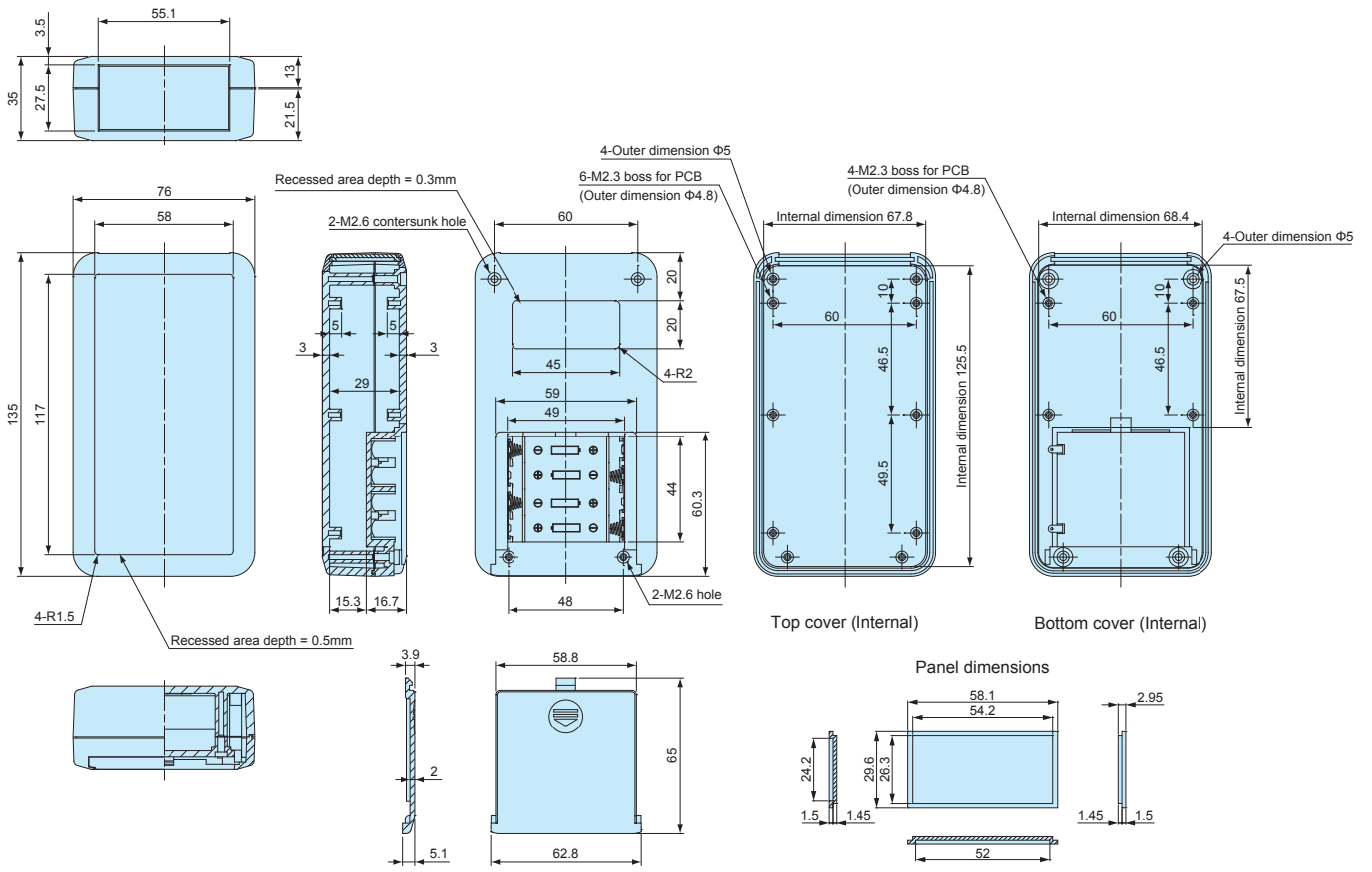


LCT135H-N / LCS135H-N / LC135H-N

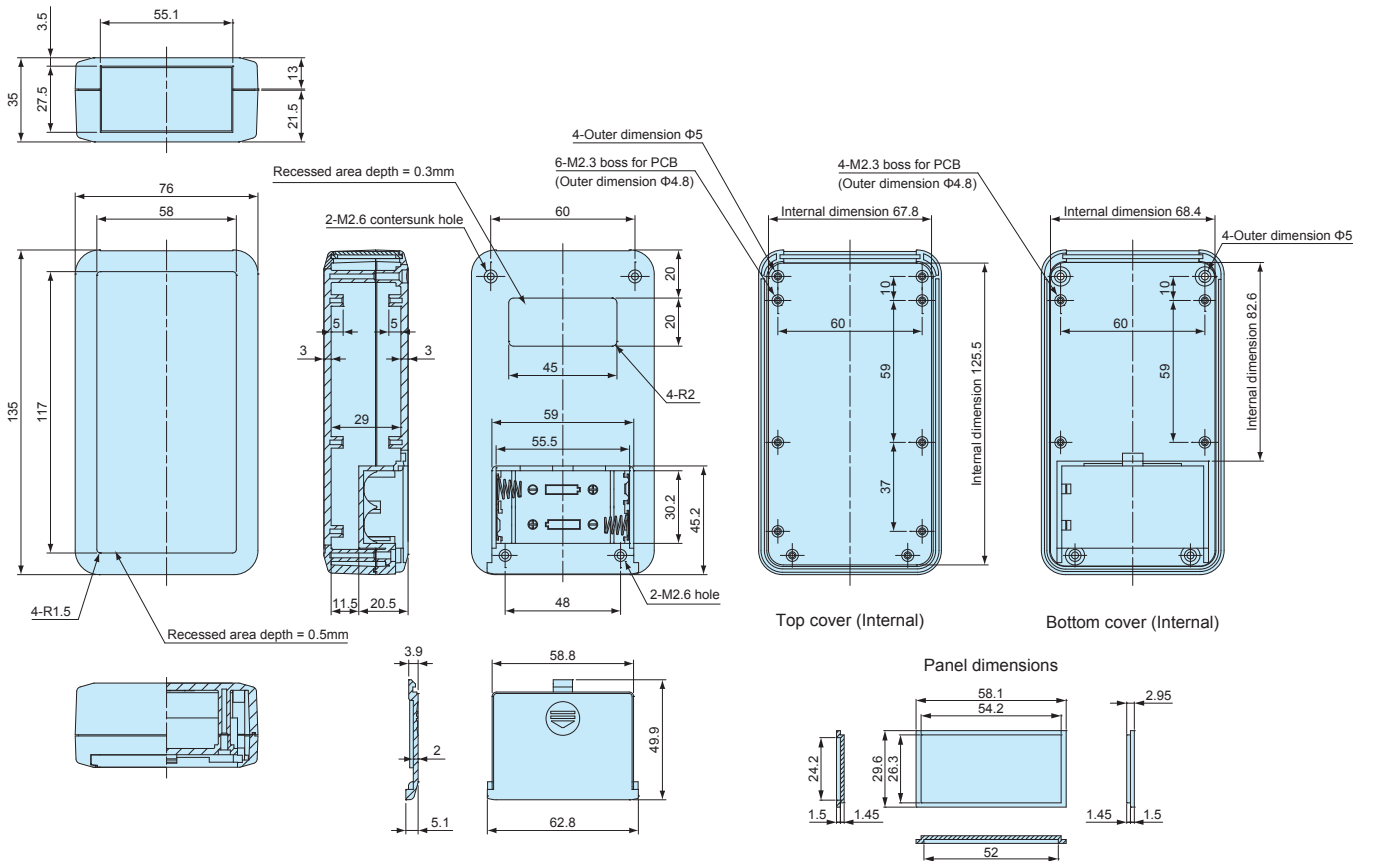




LCT135H-F4 / LCS135H-F4 / LC135H-F4



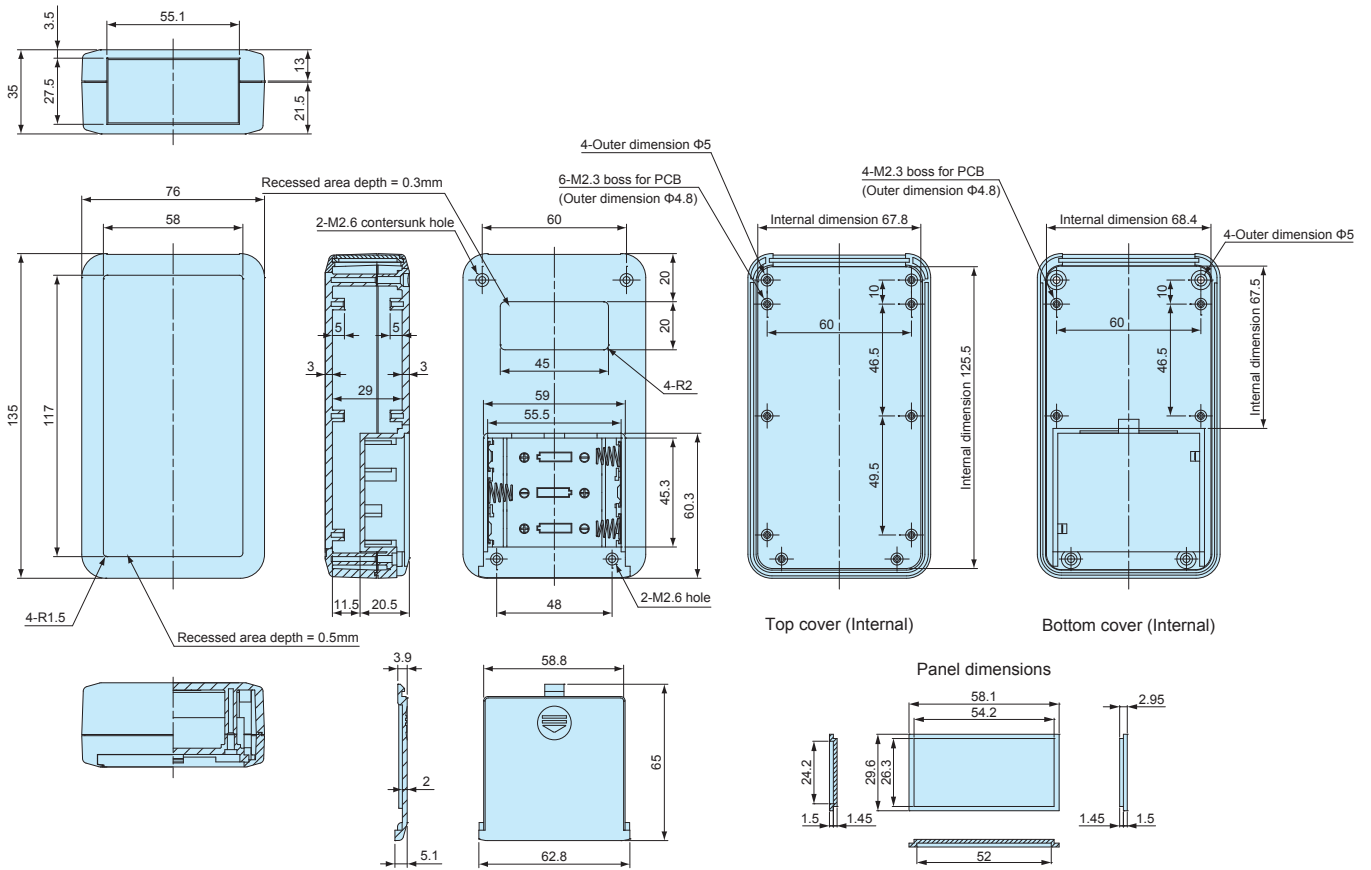
LCT135H-M2 / LCS135H-M2 / LC135H-M2



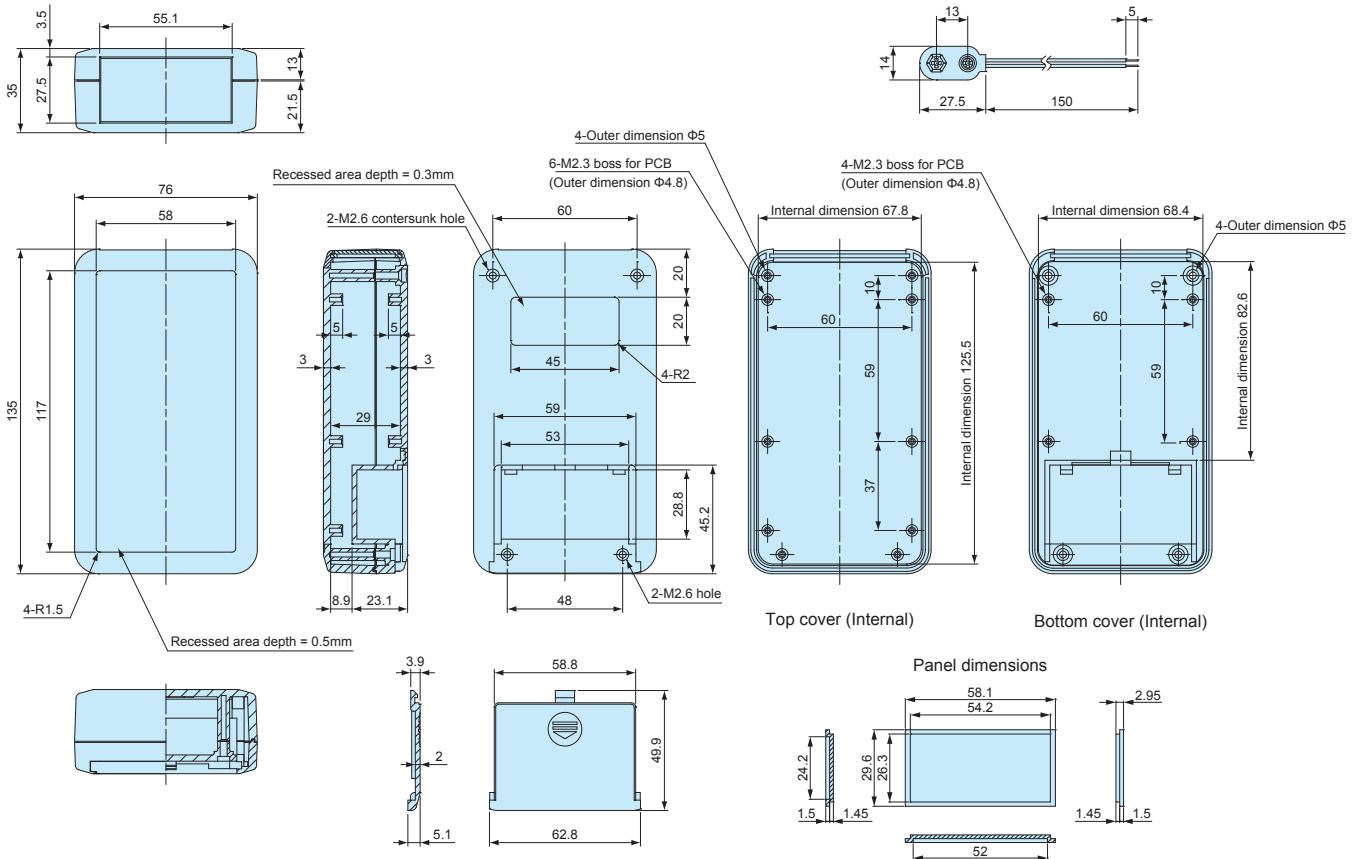
**LCT • LCS • LC dimensions**

■ DXF/DWG/PDF drawings available on our website.

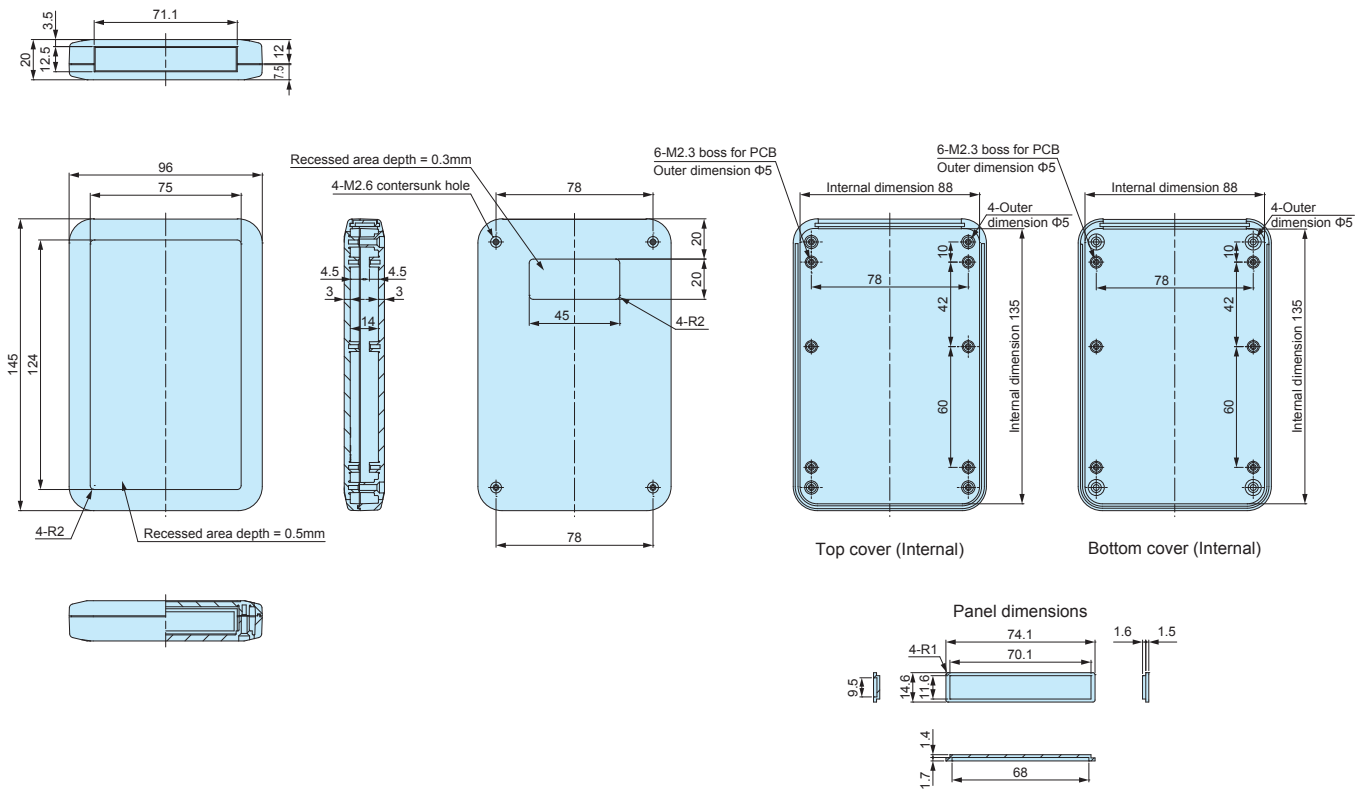
**LCT135H-M3 / LCS135H-M3 / LC135H-M3**



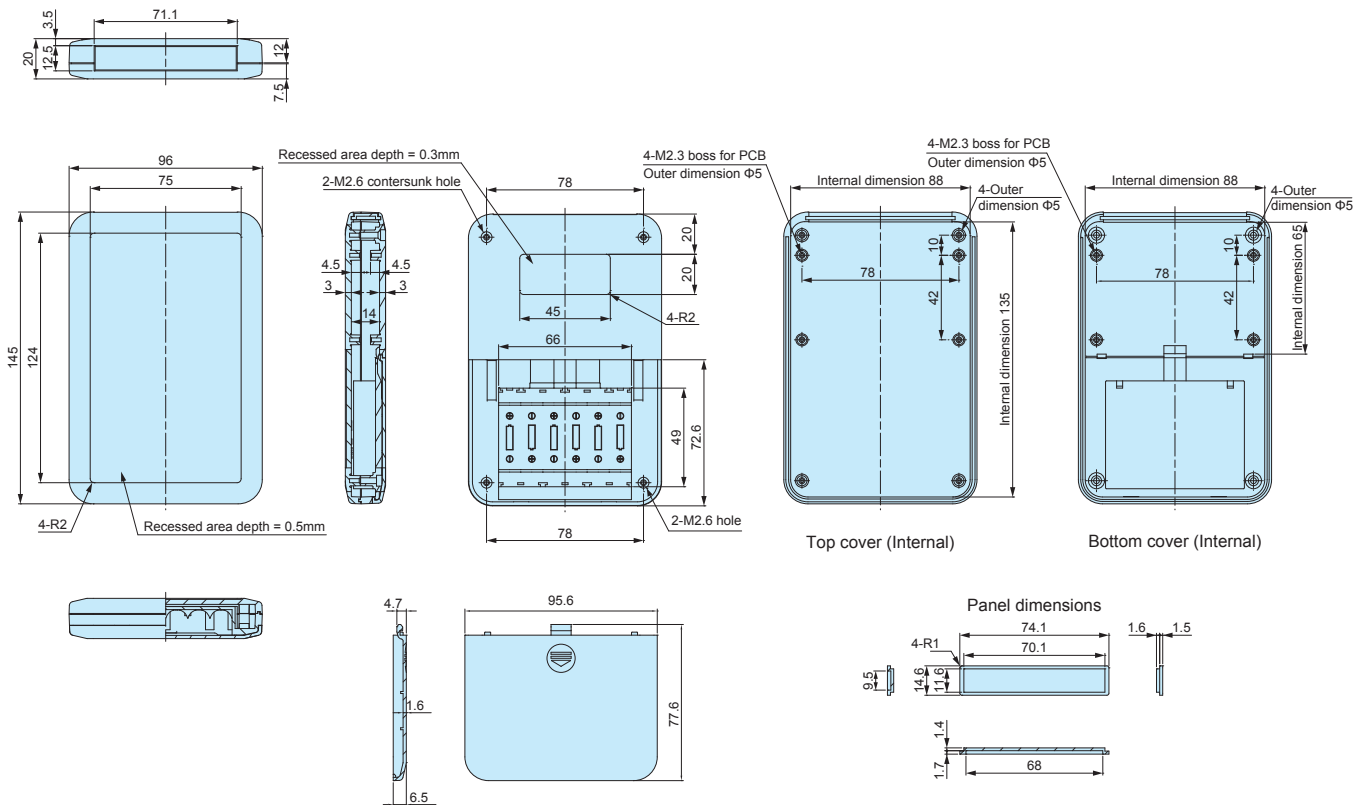
**LCT135H-9V / LCS135H-9V / LC135H-9V**



LCT145S-N / LCS145S-N / LC145S-N



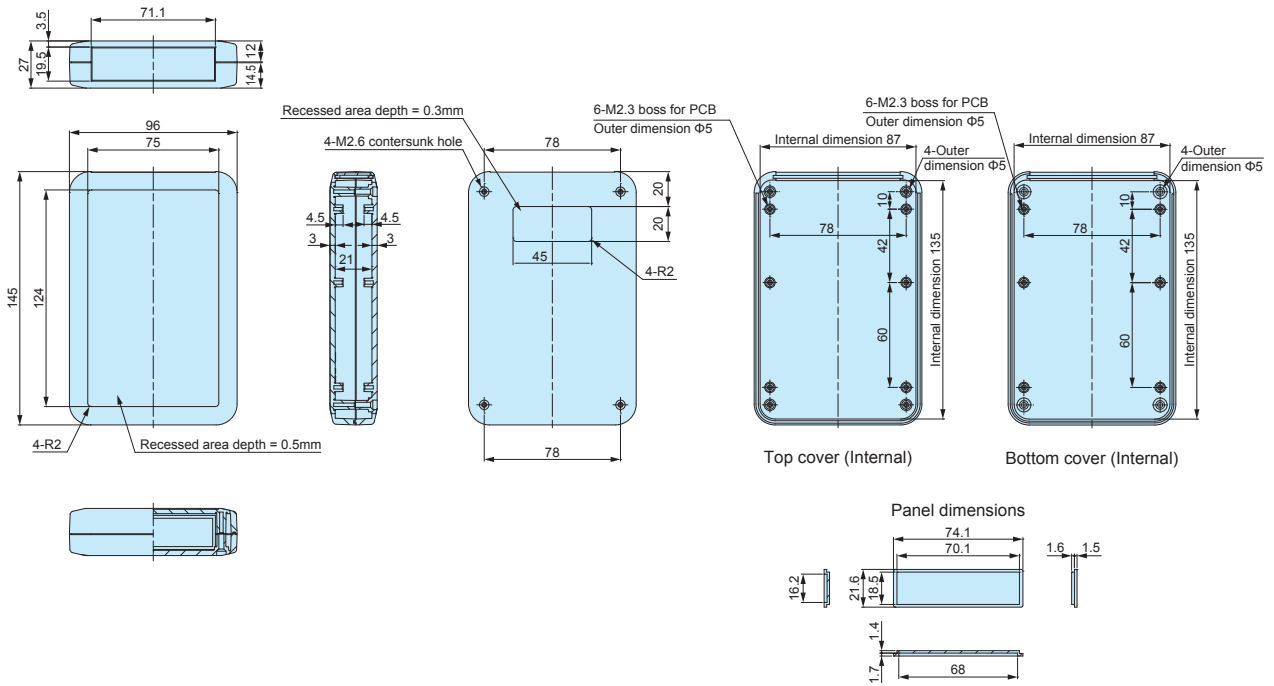
LCT145S-F6 / LCS145S-F6 / LC145S-F6



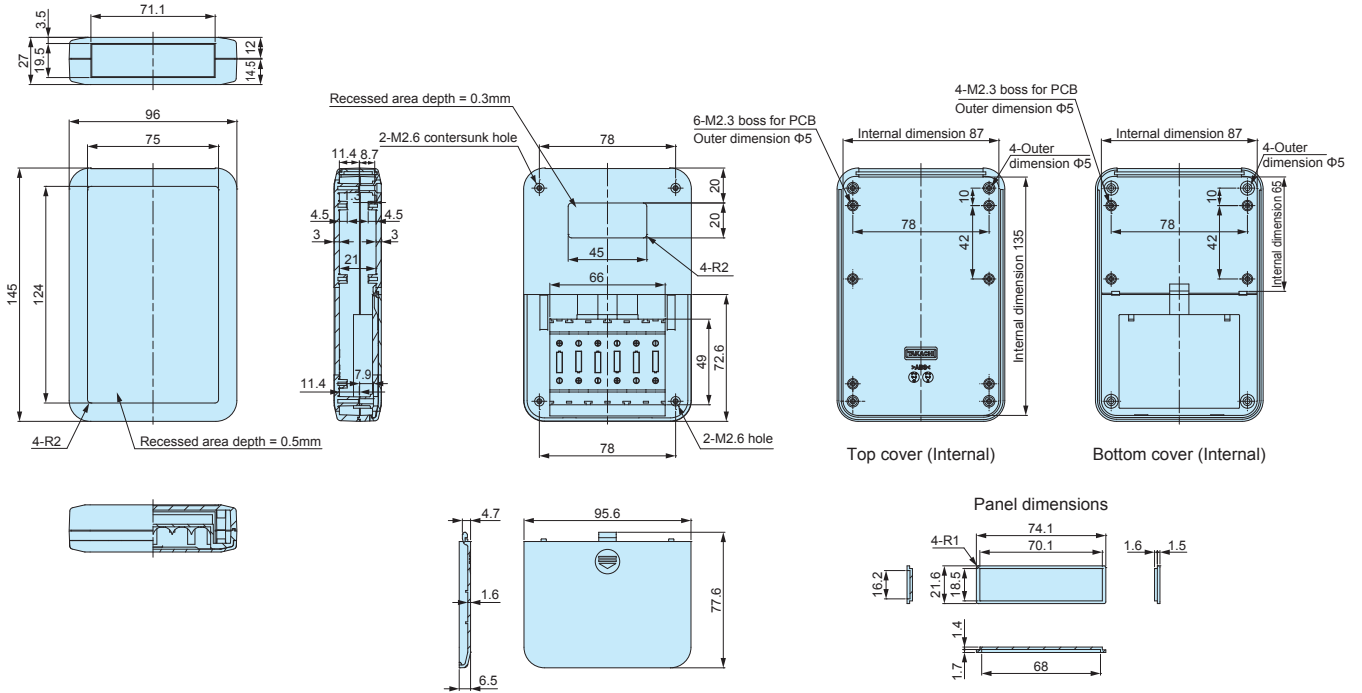
**LCT • LCS • LC dimensions**

■ DXF/DWG/PDF drawings available on our website.

**LCT145-N / LCS145-N / LC145-N**

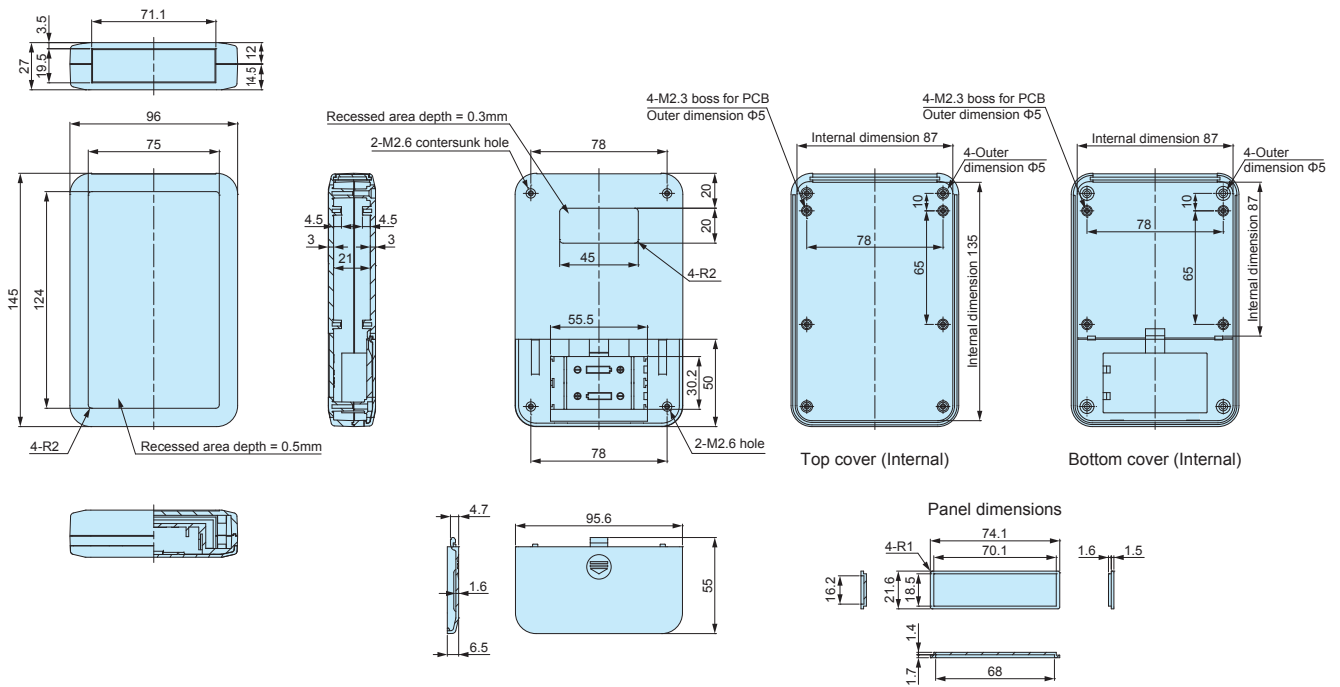


**LCT145-F6 / LCS145-F6 / LC145-F6**

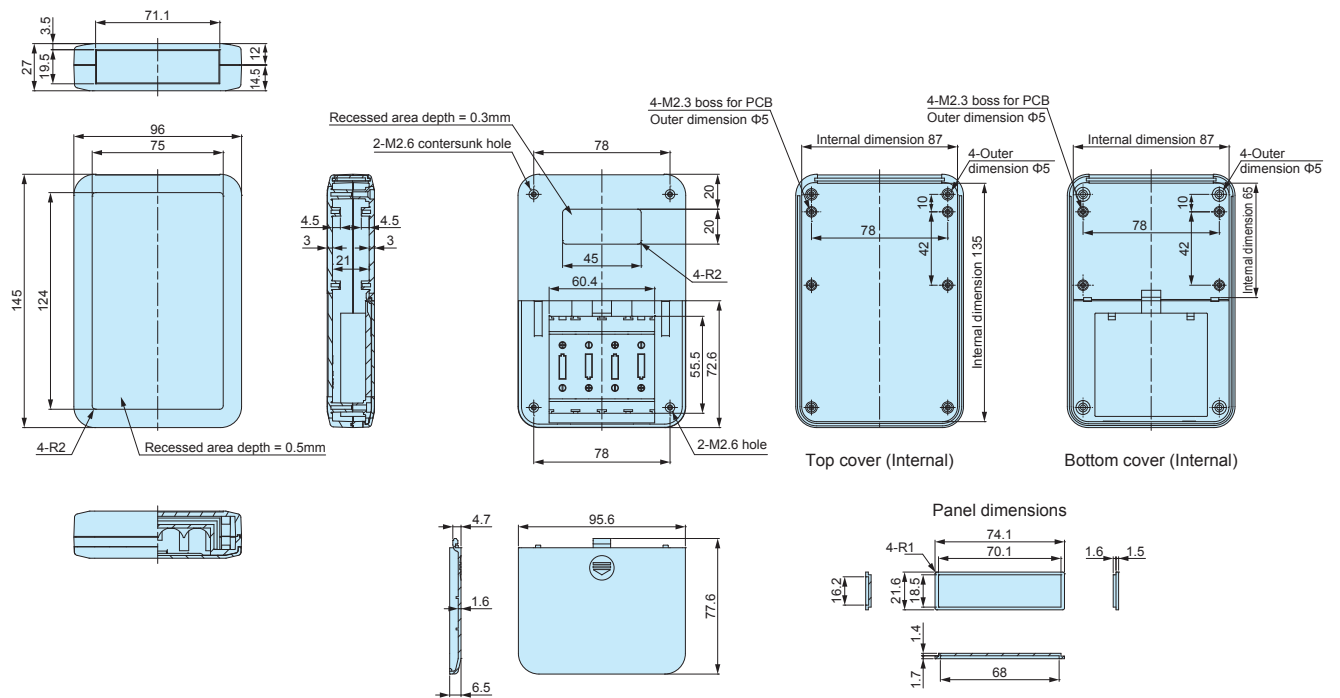




LCT145-M2 / LCS145-M2 / LC145-M2



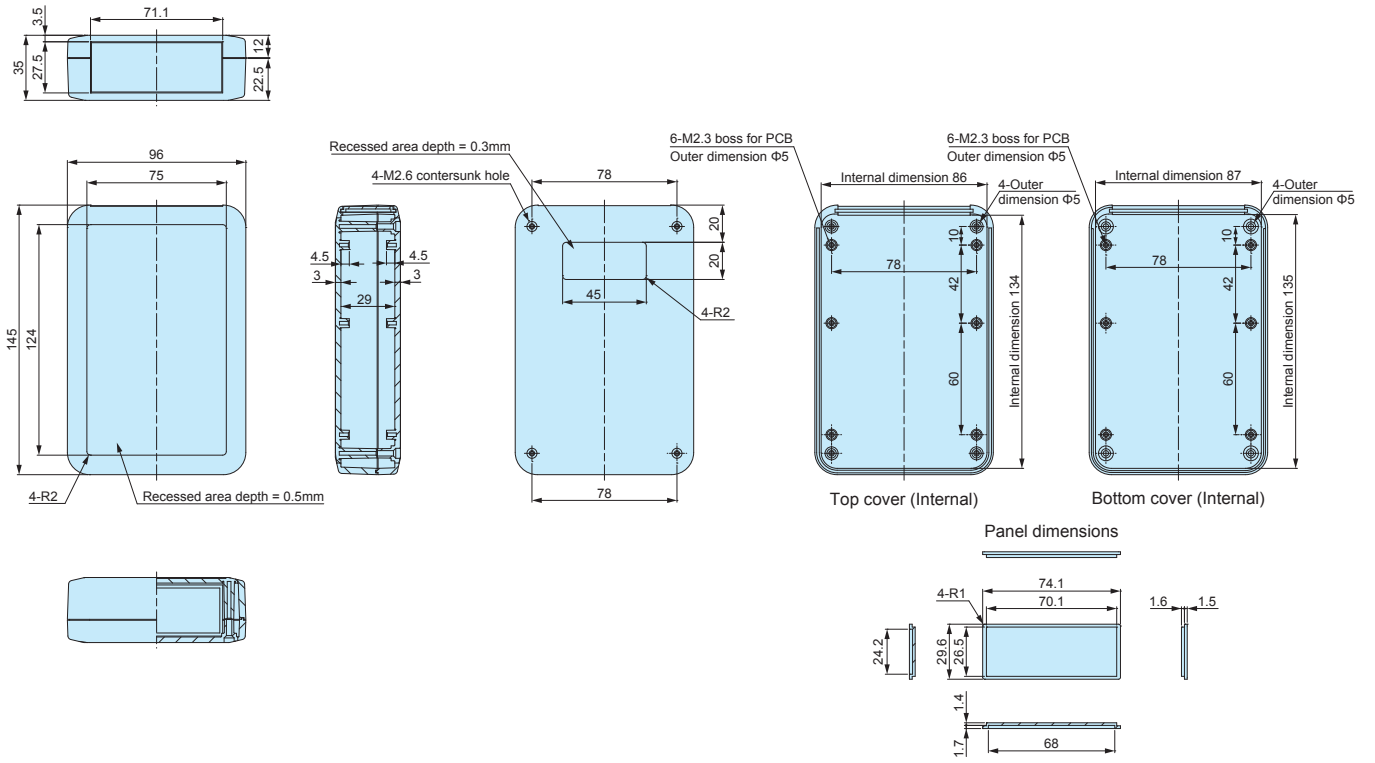
LCT145-M4 / LCS145-M4 / LC145-M4



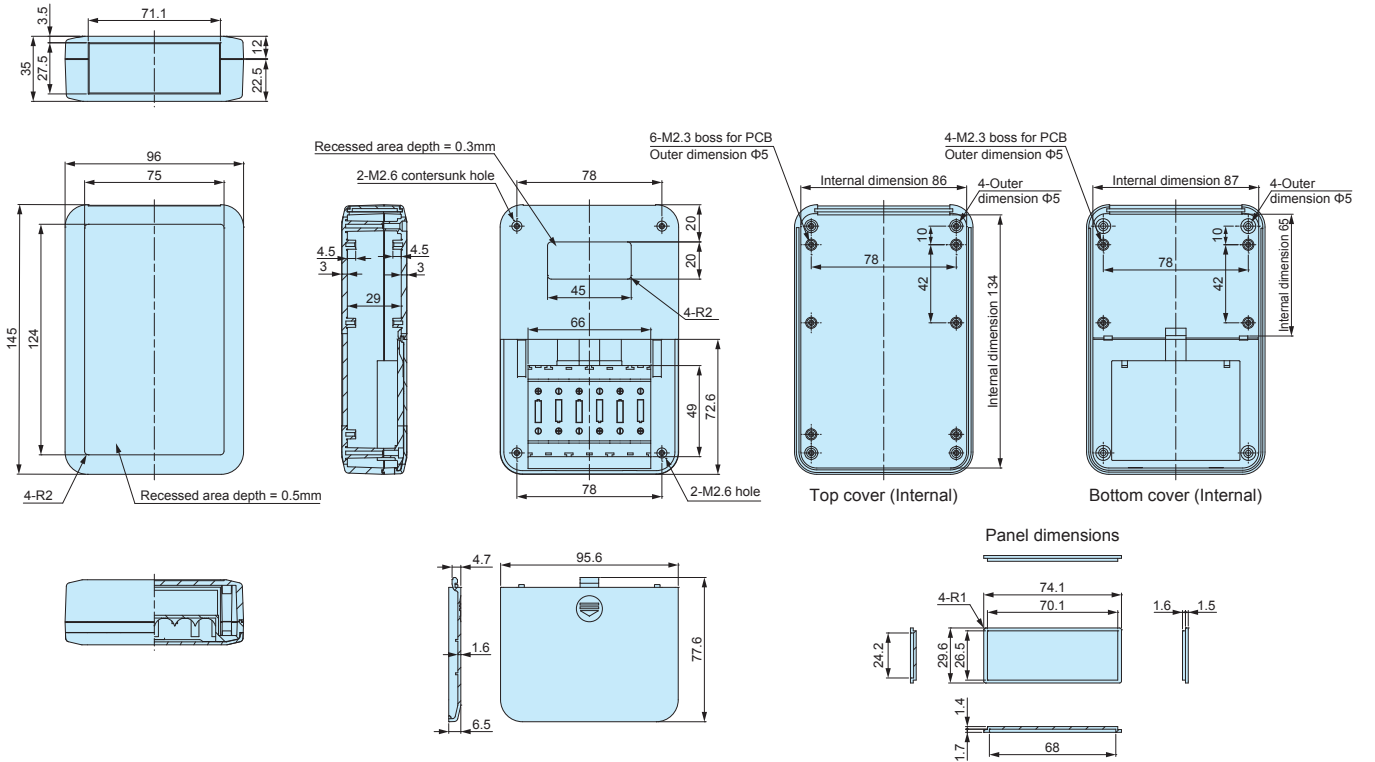
LCT • LCS • LC dimensions

■ DXF/DWG/PDF drawings available on our website.

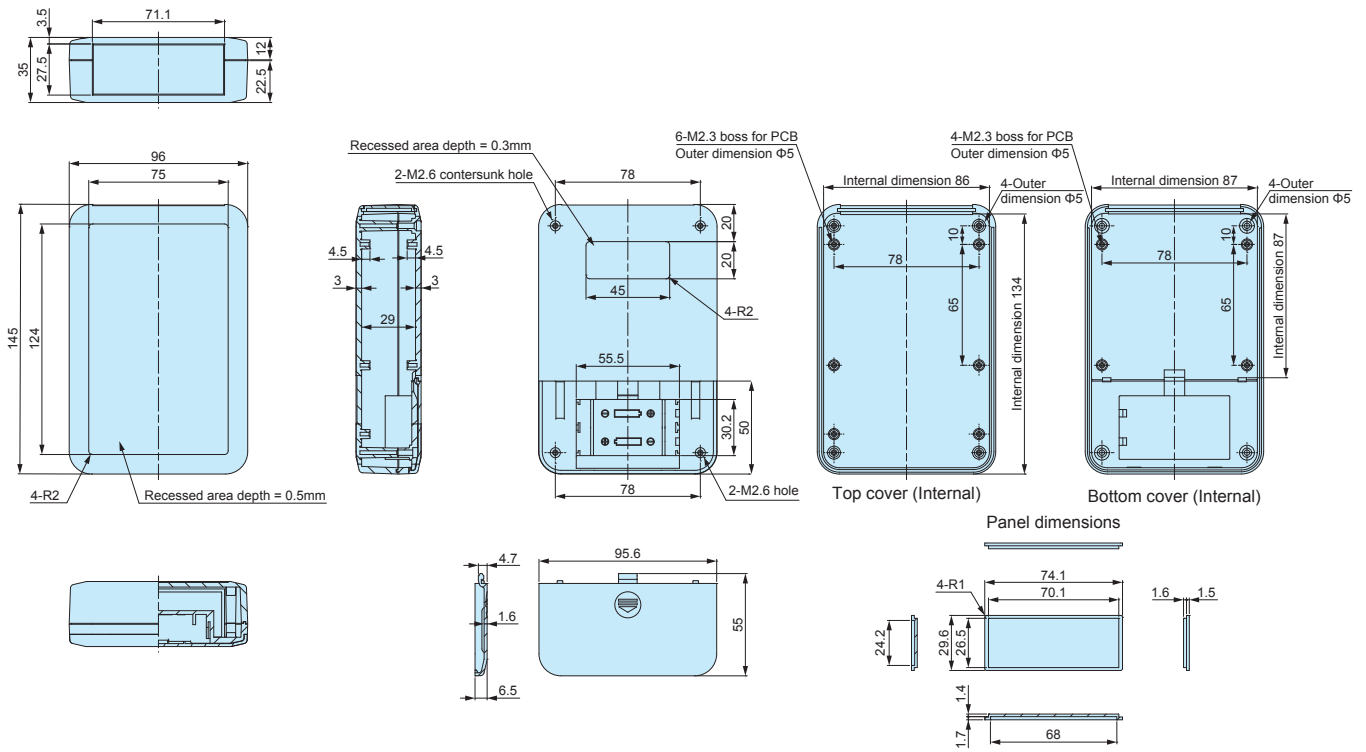
LCT145H-N / LCS145H-N / LC145H-N



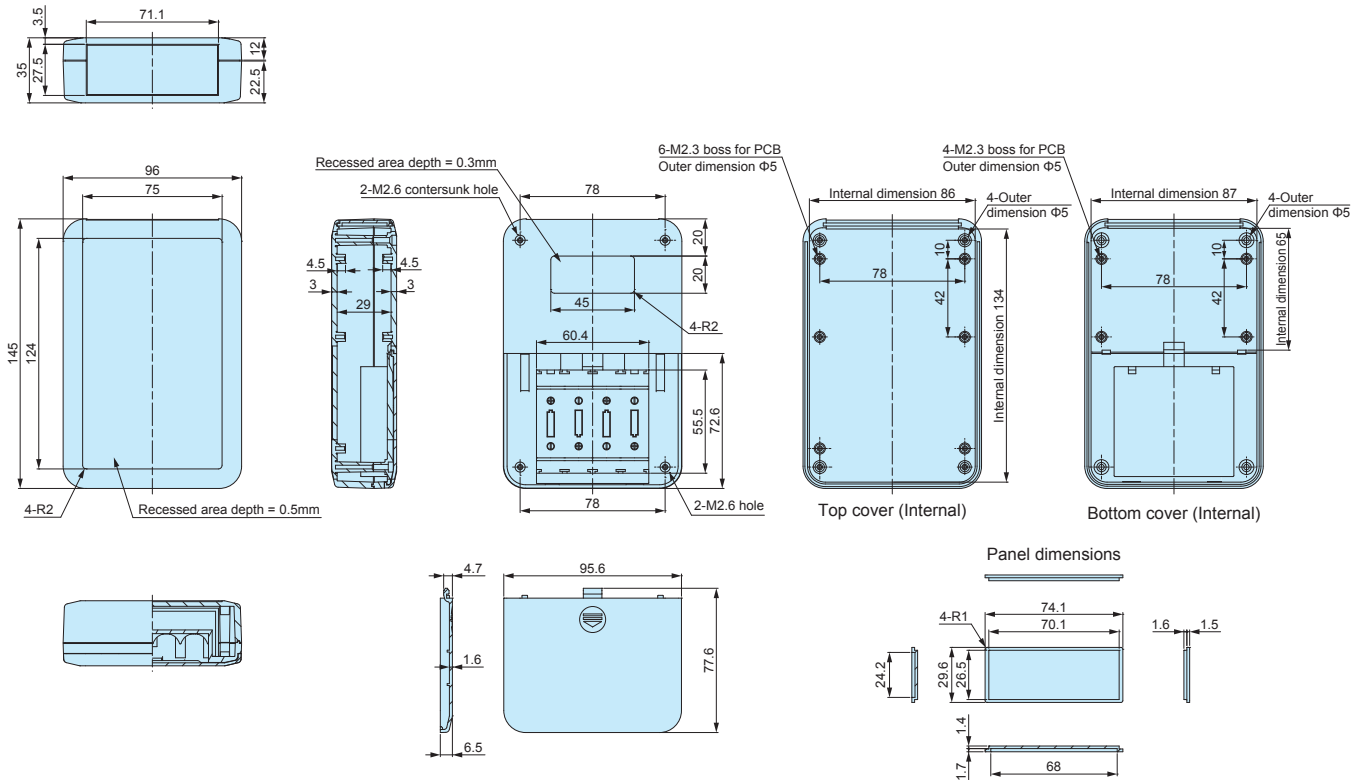
LCT145H-F6 / LCS145H-F6 / LC145H-F6



LCT145H-M2 / LCS145H-M2 / LC145H-M2



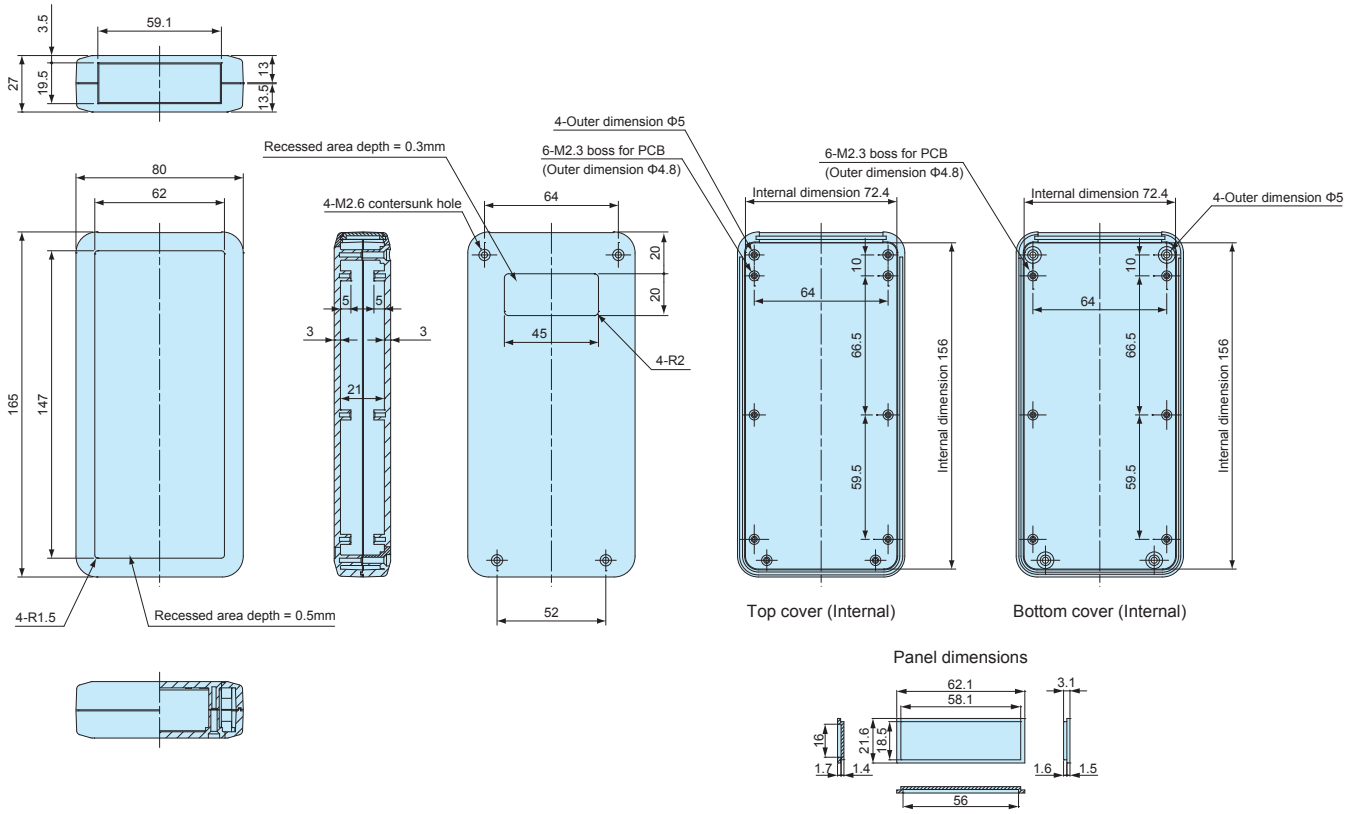
LCT145H-M4 / LCS145H-M4 / LC145H-M4



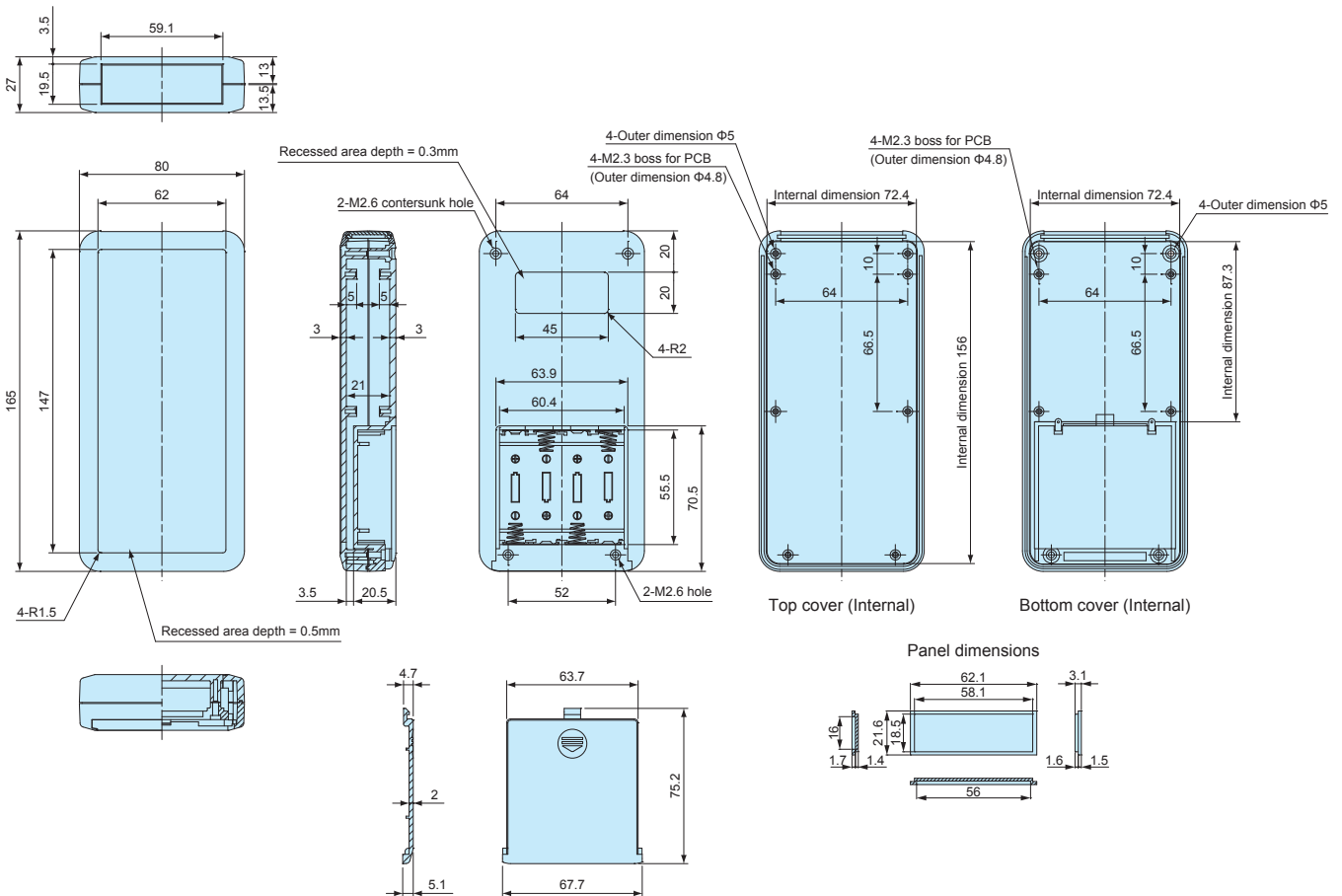
LCT • LCS • LC dimensions

■ DXF/DWG/PDF drawings available on our website.

LCT165-N / LCS165-N / LC165-N

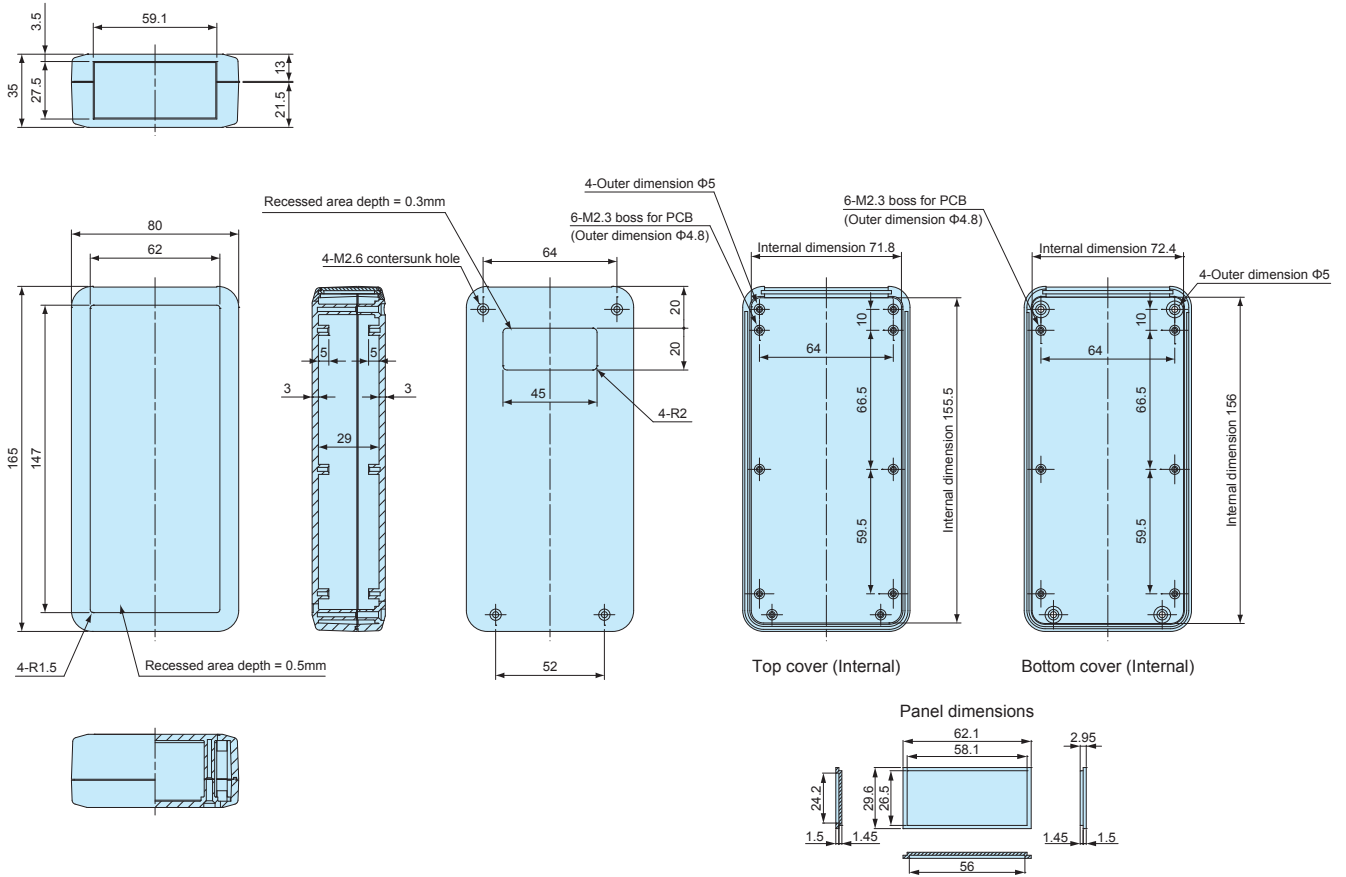


LCT165-M4 / LCS165-M4 / LC165-M4

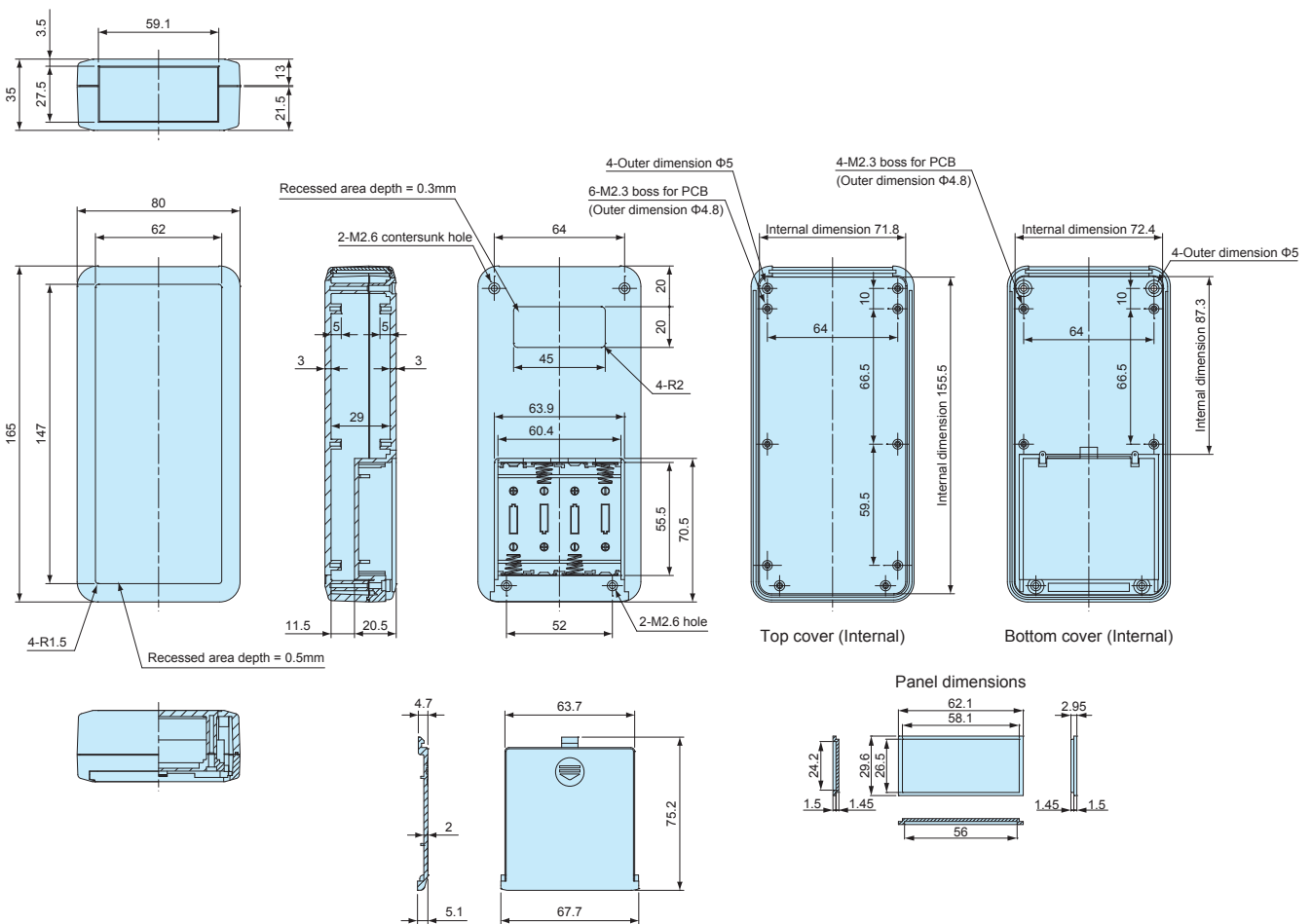




LCT165H-N / LCS165H-N / LC165H-N



LCT165H-M4 / LCS165H-M4 / LC165H-M4



# LCTP SERIES

# SHOCK-PROOF SILICONE COVER

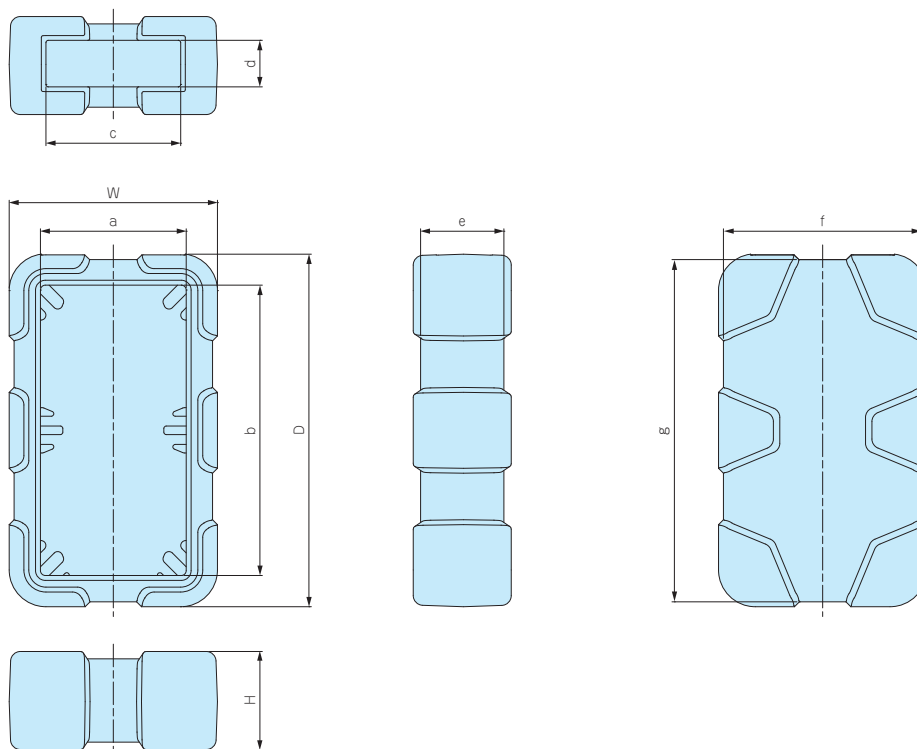


## Color Type

| Code  | Orange | Green | Navy | Dark gray | Light gray |
|-------|--------|-------|------|-----------|------------|
| Color |        |       |      |           |            |

- Shock-proof silicone cover for LC series. New sizes now available!
- Custom color is available from 500pcs per order batch. For custom color order, please specify **PANTONE** , RGB color number or provide your sample color.

DXF/DWG/PDF drawings available on our website.



## Components

| Part name      | Material | Color  |
|----------------|----------|--|
| Silicone cover | Silicone | Orange • Green • Navy • Dark gray • Light gray |

## Product no. / Dimensions

Please suffix color code at the end of the product number.

| Product no.           | W   | H    | D     | a    | b     | c    | d    | e    | f   | g     | Suitable case | Weight (g) |
|-----------------------|-----|------|-------|------|-------|------|------|------|-----|-------|---------------|------------|
| LCTP115 -□            | 76  | 28   | 121.9 | 55.5 | 101.5 | 48.3 | 12   | 24   | 72  | 117.8 | LC115         | 53.5       |
| LCTP115H-□            | 76  | 36.5 | 121.9 | 55.5 | 101.5 | 48.3 | 20.5 | 32.5 | 72  | 117.8 | LC115H        | 61         |
| LCTP135 -□            | 85  | 40   | 143.9 | 59.5 | 118.5 | 55   | 19   | 34   | 81  | 139.7 | LC135         | 115.5      |
| LCTP135H-□            | 85  | 48   | 143.9 | 59.5 | 118.5 | 55   | 27   | 42   | 81  | 139.6 | LC135H        | 124        |
| <b>NEW</b> LCTP145S-□ | 105 | 33   | 153.9 | 76.5 | 125.5 | 71   | 12   | 27   | 101 | 149.9 | LC145S        | 129.1      |
| <b>NEW</b> LCTP145 -□ | 105 | 40   | 153.9 | 76.5 | 125.5 | 71   | 19   | 34   | 101 | 149.7 | LC145         | 137.5      |
| <b>NEW</b> LCTP145H-□ | 105 | 48   | 153.9 | 76.5 | 125.5 | 71   | 27   | 42   | 101 | 149.7 | LC145H        | 147        |
| LCTP165 -□            | 89  | 40   | 173.9 | 63.5 | 148.5 | 59   | 19   | 34   | 85  | 169.7 | LC165         | 143        |
| LCTP165H-□            | 89  | 48   | 173.9 | 63.5 | 148.5 | 59   | 27   | 42   | 85  | 169.6 | LC165H        | 151.5      |



# LCSC SERIES

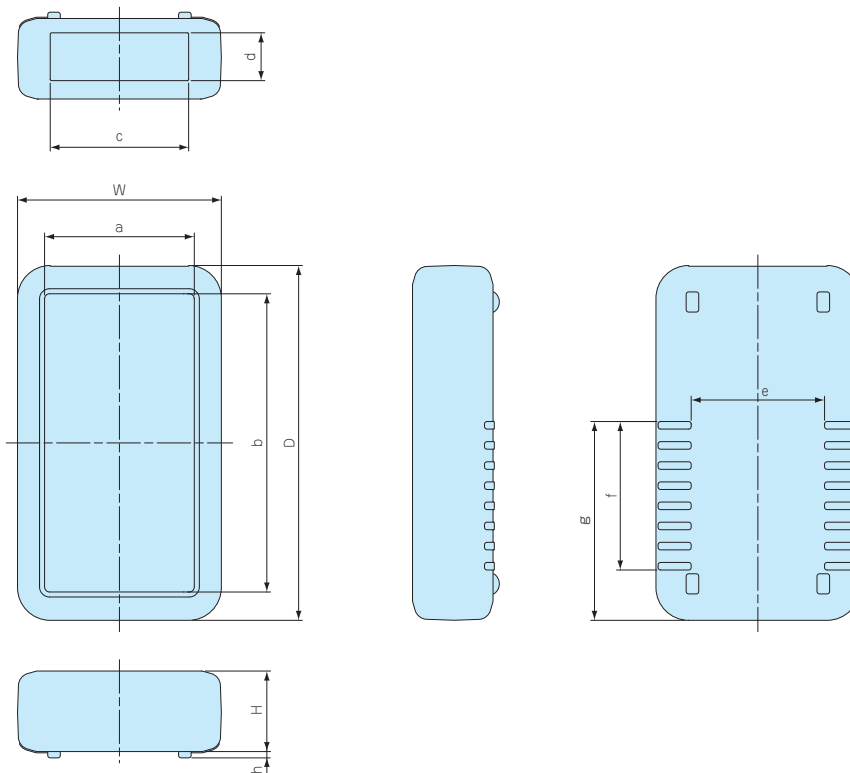
# SILICONE COVER

## Color Type

| Code  | R Red | Y Yellow | G Green | B Blue | N Navy | D Dark gray | L Light gray |
|-------|-------|----------|---------|--------|--------|-------------|--------------|
| Color |       |          |         |        |        |             |              |

- Silicone cover for LC Series. New sizes now available!
- Custom color is available from 500pcs per order batch. For custom color order, please specify **PANTONE** , RGB color number or provide your sample color.

■ DXF/DWG/PDF drawings available on our website.



## Components

| Part name      | Material | Color   |
|----------------|----------|---|
| Silicone cover | Silicone | Red • Yellow • Green • Blue • Navy • Dark gray • Light gray |

## Product no. / Dimensions

■ Please suffix color code at the end of the product number.

| Product no.           | W   | H    | D   | a    | b     | c    | d    | e  | f    | g    | h   | Suitable case | Weight (g) |
|-----------------------|-----|------|-----|------|-------|------|------|----|------|------|-----|---------------|------------|
| LCSC115 -□            | 74  | 24   | 120 | 55.5 | 101.5 | 48.3 | 12   | 46 | 44.5 | 60.5 | 2   | LC115         | 43         |
| LCSC115H-□            | 74  | 32.5 | 120 | 55.5 | 101.5 | 48.3 | 20.5 | 46 | 44.5 | 60.5 | 2   | LC115H        | 50         |
| LCSC135 -□            | 81  | 32   | 141 | 59.5 | 118.5 | 55   | 19   | 53 | 59   | 79   | 2.5 | LC135         | 70         |
| LCSC135H-□            | 81  | 40   | 141 | 59.5 | 118.5 | 55   | 27   | 53 | 59   | 79   | 2.5 | LC135H        | 75.5       |
| <b>NEW</b> LCSC145S-□ | 101 | 25   | 151 | 76.5 | 125.5 | 71   | 12   | 71 | 59   | 81   | 2.5 | LC145S        | 73.4       |
| <b>NEW</b> LCSC145 -□ | 101 | 32   | 151 | 76.5 | 125.5 | 71   | 19   | 71 | 59   | 81   | 2.5 | LC145         | 81         |
| <b>NEW</b> LCSC145H-□ | 101 | 40   | 151 | 76.5 | 125.5 | 71   | 27   | 71 | 59   | 81   | 2.5 | LC145H        | 89         |
| LCSC165 -□            | 85  | 32   | 171 | 63.5 | 148.5 | 59   | 19   | 53 | 67   | 92   | 2.5 | LC165         | 82.5       |
| LCSC165H-□            | 85  | 40   | 171 | 63.5 | 148.5 | 59   | 27   | 53 | 67   | 92   | 2.5 | LC165H        | 86         |

# IP67 PORTABLE CASE WC SERIES



● IEC60529 standard is a system for classifying the degrees of protection provided by the enclosures of electrical equipment, such as against dust and water.

**IP6x : No ingress of dust; complete protection against contact (dust tight).**  
**IPx7 : No ingress of water when submerged up to a depth of 1 meter for 30 minutes**

## High waterproof performance with both TPE and silicone gasket

ABS and TPE double-shot molded top & bottom covers allows for a good waterproof seal. The durable silicone gasket maintains the battery lid seal. Insert nut and screw allow the battery compartment to remain durable even after repeated opening/closing.



## Great protection by TPE sides

Side grips in TPE material provides a comfortable grip and protection against drop impact.



## 3 color combinations available





# APPLICATION EXAMPLE

Best for outdoor use as a remote control, RFID tag, compact GPS, wireless device, simplified measurement and so on.



We are able to manufacture embossed or standard overlay sheets with low initial costs.



Note that the waterproof performance will be lost by drilling/milling holes or cutouts for buttons or switches on waterproof enclosures. Use an IP rated overlay sheet or membrane keypad in order to allow the milled area to remain waterproof.



Customized digital print overlay can be ordered from just 1 sheet. Waterproof double-sided tape for overlay available.

- Advantage 1** Reduce initial cost with digital inkjet printing.
- Advantage 2** Reduce initial tooling cost for cutting die with digital cutting plotter.
- Advantage 3** Reduce initial tooling cost for embossing with in-house mold processing.
- Advantage 4** Shorter lead time made possible by having all production be in-house.

## A variety of customization services are available



Contact us with your drawings

E-mail: [sales@takachi-el.co.jp](mailto:sales@takachi-el.co.jp)

# WC SERIES

# IP67 PORTABLE PLASTIC CASE



- TPE side grip provides not only a comfortable grip, but also protects from drop impact.
- Suitable to be used as a remote controller, key fob, wireless device, RFID tag, and so on.
- Case with a CR2032 coin battery, and no battery compartment types are available.
- Available in 2 different sizes and battery compartment types, with 3 color variations.

| Technical Data                       |
|--------------------------------------|
| Protection class: IP67               |
| Operating temperature: -10°C ~ +50°C |
| Recommended torque: 0.06 ~ 0.08N • m |

WC72-15-N / WC90-15-N No battery compartment type

WC72-15-C / WC90-15-C Battery compartment type



## Components

| No. | Part name       | Pcs   | Material               | Color / Finish                                      |
|-----|-----------------|-------|------------------------|---|
| 1   | Top cover       | 1     | ABS UL94HB : Elastomer | Black : Black • Black : Marine • Black : Light gray |
| 2   | Bottom cover    | 1     | ABS UL94HB : Elastomer | Black : Black • Black : Marine • Black : Light gray |
| 3   | Battery lid     | 1     | ABS UL94HB             | Black • White                                       |
| 4   | Battery contact | 1 set | Stainless steel SUS304 | Nicked plated                                       |
| 5   | O-ring          | 1     | Silicone               | Black   |
| 6   | Screw           | 7     | Stainless steel SUS304 | Unfinished  |

## Accessories (Optional parts)



Exclusive PCB  
WCPB series  
See page 48



Strap  
STPS series  
See page 63



PCB mounting screw  
EM-1.6  
See page 105



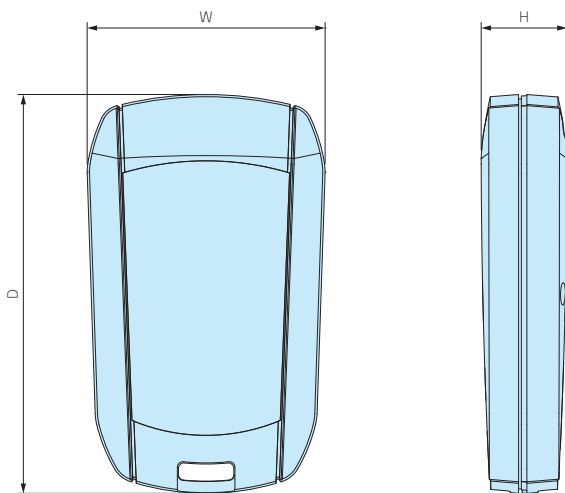
Neodymium magnet  
NMG series  
See page 130

# Coin battery contact installation step



■ Battery direction is incised on the inner side of the battery lid.

**CAUTION** Use caution when mounting battery contacts.



### Battery Compartment Types

| Type                | N    | C         |
|---------------------|------|-----------|
|                     | None | CR2032 x1 |
| Battery compartment |      |           |

### Color Type

| Code  | B B   | B M    | W L        |
|-------|-------|--------|------------|
| Body  | Black | Black  | White      |
| Grip  | Black | Marine | Light gray |
| Color |       |        |            |

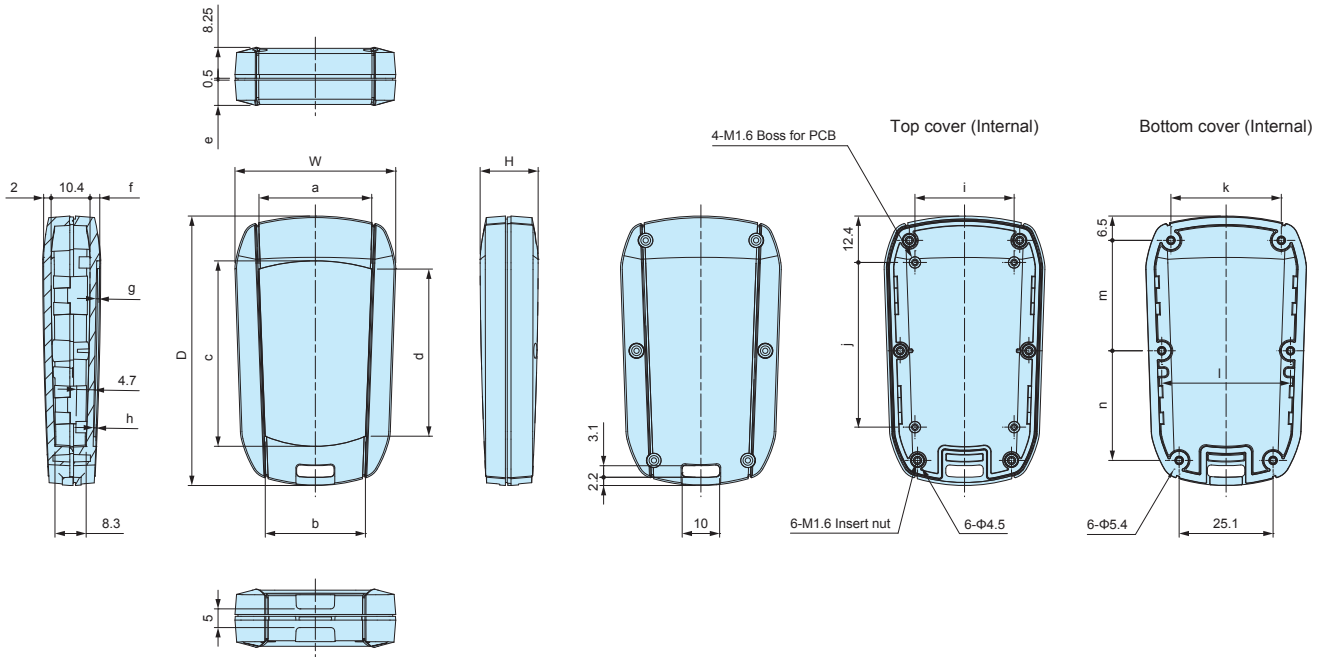
### Product no. / Dimensions

| Product no.  | W    | H    | D  | Battery compartment | Weight (g) |
|--------------|------|------|----|---------------------|------------|
| WC72-15-N-□□ | 43   | 15.5 | 72 | None                | 18.5       |
| WC72-15-C-□□ | 43   | 15.5 | 72 | CR2032 x1           | 22         |
| WC90-15-N-□□ | 44.2 | 15.7 | 90 | None                | 23         |
| WC90-15-C-□□ | 44.2 | 15.7 | 90 | CR2032 x1           | 26.5       |

**WC dimensions**

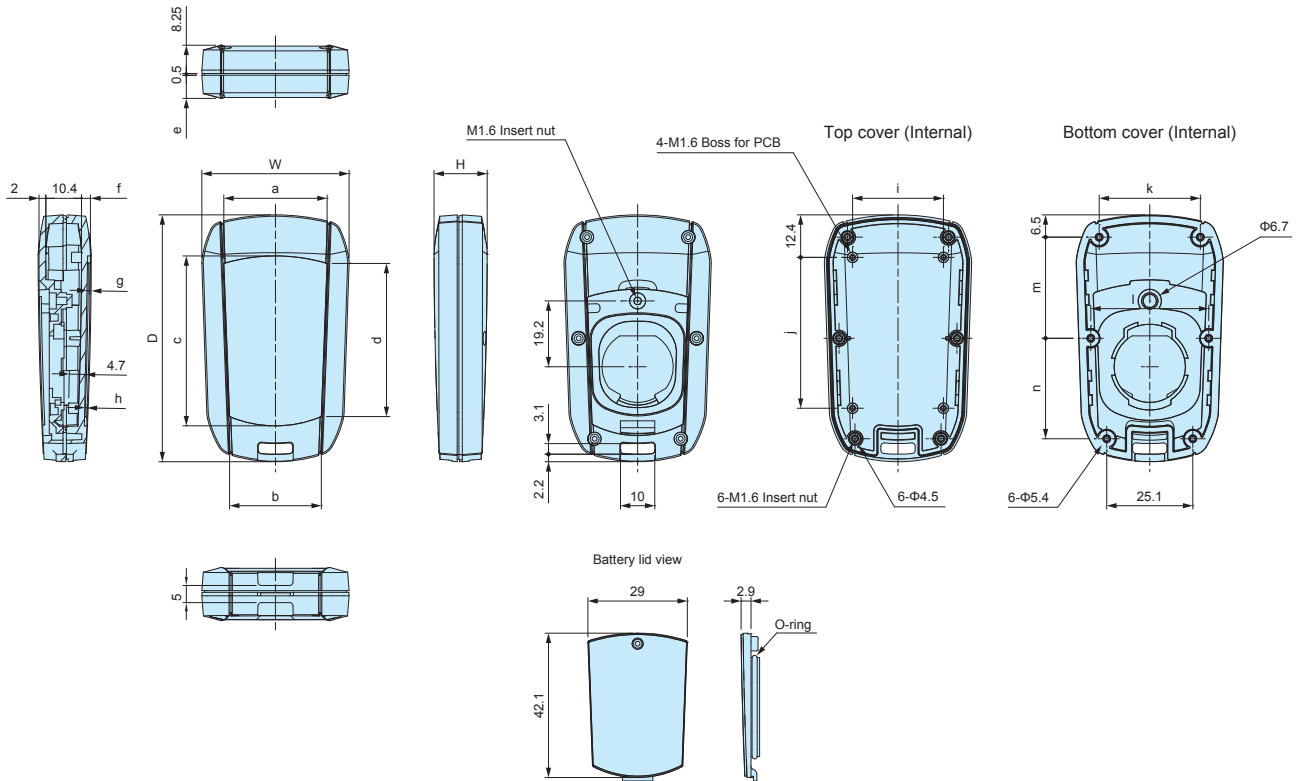
■ DXF/DWG/PDF drawings available on our website.

WC72-15-N / WC90-15-N



| Product no.  | W    | H    | D  | a    | b    | c    | d    | e    | f   | g   | h   | i    | j  | k    | l    | m    | n    |
|--------------|------|------|----|------|------|------|------|------|-----|-----|-----|------|----|------|------|------|------|
| WC72-15-N-□□ | 43   | 15.5 | 72 | 30.1 | 26.8 | 49.5 | 44.7 | 6.75 | 2.6 | 0.8 | 0.7 | 26.5 | 44 | 29.5 | 34.4 | 29.5 | 29.3 |
| WC90-15-N-□□ | 44.2 | 15.7 | 90 | 31.5 | 26.7 | 67.5 | 62.7 | 6.95 | 2.8 | 0.7 | 1   | 26.9 | 62 | 30.9 | 34.9 | 38.5 | 38.3 |

WC72-15-C / WC90-15-C



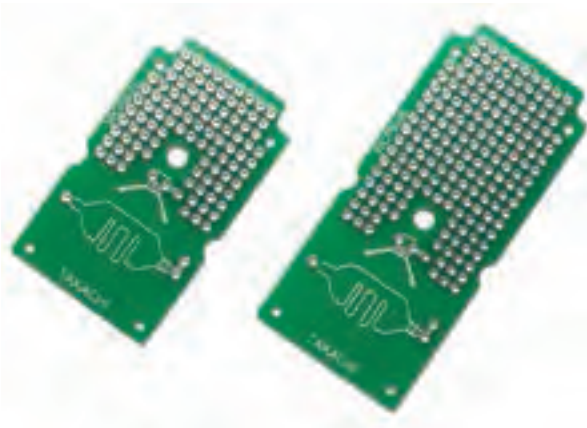
| Product no.  | W    | H    | D  | a    | b    | c    | d    | e    | f   | g   | h   | i    | j  | k    | l    | m    | n    |
|--------------|------|------|----|------|------|------|------|------|-----|-----|-----|------|----|------|------|------|------|
| WC72-15-C-□□ | 43   | 15.5 | 72 | 30.1 | 26.8 | 49.5 | 44.7 | 6.75 | 2.6 | 0.8 | 0.7 | 26.5 | 44 | 29.5 | 34.4 | 29.5 | 29.3 |
| WC90-15-C-□□ | 44.2 | 15.7 | 90 | 31.5 | 26.7 | 67.5 | 62.7 | 6.95 | 2.9 | 0.7 | 1   | 26.9 | 62 | 30.9 | 34.9 | 38.5 | 38.3 |



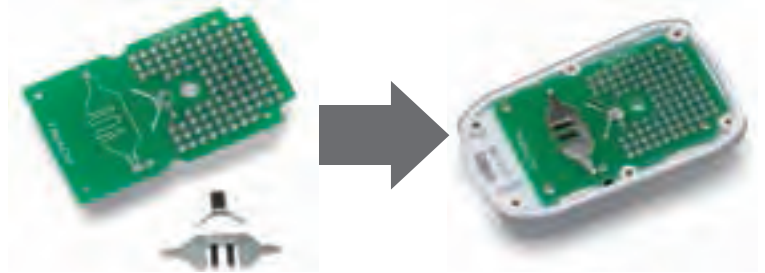
# WCPB SERIES

# EXCLUSIVE PCB for WC

- Exclusive PCB for WC series.
- Glass epoxy board (FR-4), through-holes on both sides, 2.54mm hole pitch.
- Designed with a battery contact hole. Battery contact position and direction are printed onto the pcb.

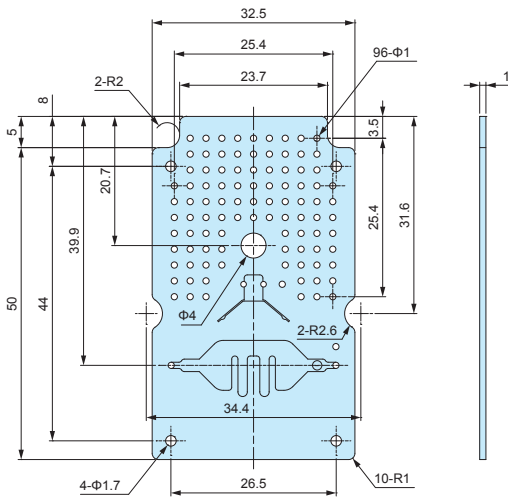


Please use battery contacts included with WC case.

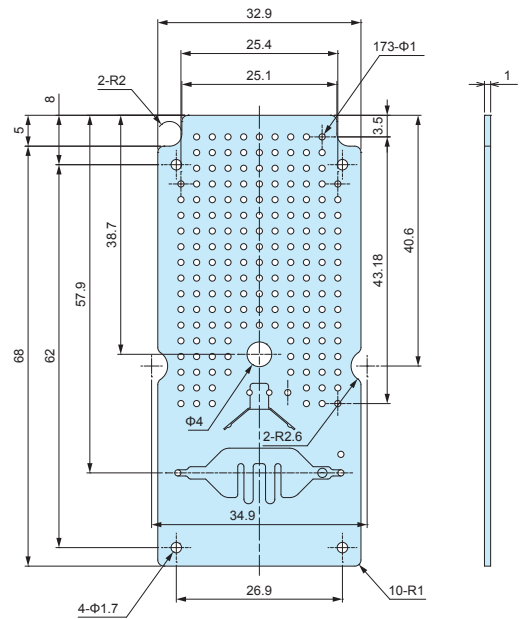


■ DXF/DWG/PDF drawings available on our website.

WCPB-72



WCPB-90



Note : Holes (4-Φ1.7) for PCB mounting bosses are un-soldered.

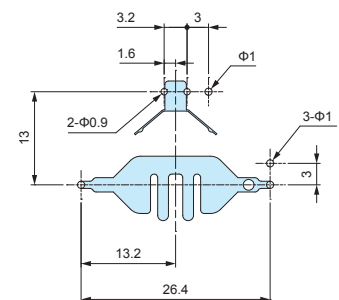
**Components**

| Part name | Pcs | Material                 | Color / Finish                                  |
|-----------|-----|--------------------------|---|
| PCB       | 1   | Glass epoxy (FR-4) t=1.0 | Through-hole • Lead-free solder • Solder resist |
| Screw     | 4   | Steel M1.6               | Trivalent chromate                              |

**Product no. / Dimensions**

| Product no. | Suitable case |
|-------------|---------------|
| WCPB- 72    | WC72-15-C     |
| WCPB- 90    | WC90-15-C     |

Battery contact position details





# CSS • CS SERIES

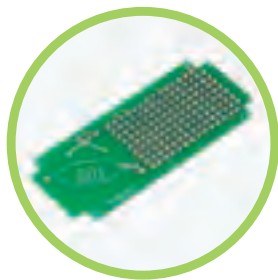
SMALL PLASTIC CASE WITH SILICONE COVER

Built-in CR2032 Coin Battery Compartment

Selectable in 3 sizes & 12 color combinations



Built-in CR2032  
battery compartment



Exclusive  
universal PCBs



Pink



Yellow



Black



Green



Blue



Light gray



6 Colors

# APPLICATION EXAMPLE

## MOTOR SPORT INFRARED LAPTIMER (BLUETOOTH 4.0 & ANDROID APPLICATION)



Product by General Mechatronics (Hungary)  
 Website : [generalmechatronics.com](http://generalmechatronics.com)



Enables the measurement of lap time, drag time and temperature.  
 Measuring result can be seen on your smart phone in log and graph via an Android application.

## G TRIP - TRIP SENSOR for RELAY TESTER

Product by Musashi Intech Inc (Japan)  
 Website : [musashi-in.co.jp](http://musashi-in.co.jp)



## WIRELESS ROMOTE CONTROL SWITCH

Product by Herutu Electronics Corporation (Japan)  
 Website : [musashi-in.co.jp](http://musashi-in.co.jp)



## HANDI QUILTER EASY-SET TENSION™ Kit

Product by Handi Quilter, Inc (USA)  
 Website : [handiquilter.com](http://handiquilter.com)



Customized digital printed overlay can be ordered from just 1 sheet.  
 Waterproof double-sided tape for overlay sheet available.



**Advantage 1**

Reduce initial cost with digital inkjet printing.

**Advantage 2**

Reduce initial tooling cost for cutting die with digital cutting plotter.

**Advantage 3**

Reduce initial tooling cost for embossing with in-house mold processing.

**Advantage 4**

Shorter lead time made possible by having all production be in-house.

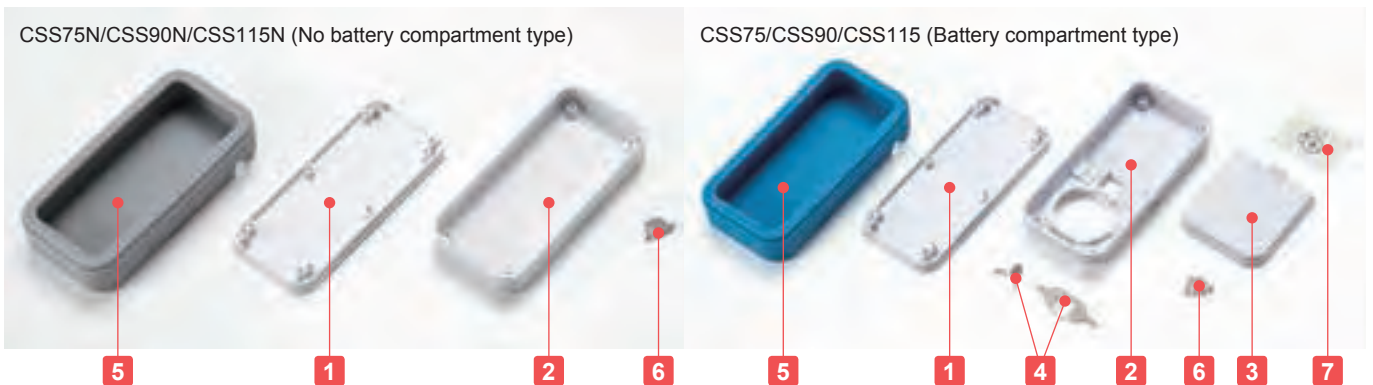
# CSS SERIES

# PORTABLE PLASTIC CASE with SILICONE COVER



| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |

- Small plastic case with silicone cover. Strong against drop impact while providing a secure grip.
- Smart phone sized CSS115 comes with 2 CR2032 battery compartment while smaller sized single battery and no battery compartment types are also available.
- Suitable for remote controller, wireless key fob, small tester/device and so on.
- Available in 3 sizes with 6 models and selectable in 12 different color combinations.
- 2 types of silicone cover available which have with (Open) and without (Closed) rectangular cutout on the front side.



### Components

| No. | Part name          | Pcs                   | Material        | Color / Finish                                    |
|-----|--------------------|-----------------------|-----------------|---|
| 1   | Top cover          | 1                     | ABS UL94HB      | White • Black                                     |
| 2   | Bottom cover       | 1                     | ABS UL94HB      | White • Black                                     |
| 3   | Battery cover      | 1                     | ABS UL94HB      | White • Black                                     |
| 4   | Battery contact    | 1 set / 2 set (CS115) | Stainless steel | Nickel plated                                     |
| 5   | Silicone cover     | 1                     | Silicone        | Pink • Yellow • Green • Cyan • Light gray • Black |
| 6   | Self tapping screw | 4                     | Steel M1.6      | Nickel plated • Black trivalent chromate          |
| 7   | CR2032 sticker     | 1                     | PP              | —   |

### Accessories (Optional parts)



Exclusive PCB  
CSPB series  
See page 58

Strap  
STPS series  
See page 63

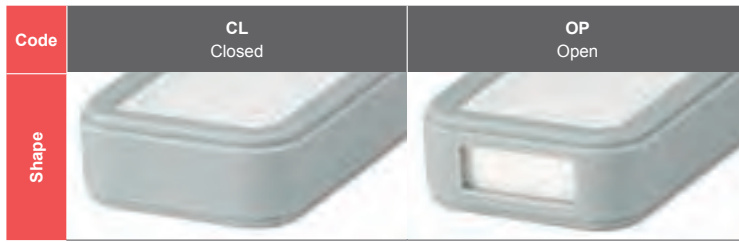
PCB mounting screw  
EM-1.6  
See page 135

TORX screw  
MR1.6-6S  
See page 135

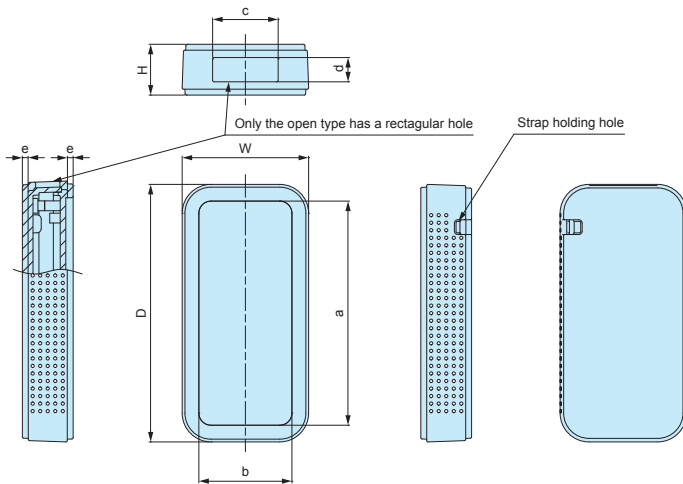
Neodymium magnet  
NMG series  
See page 130



Silicone Cover Type



Color Type



|                     |                         |                           |                     |
|---------------------|-------------------------|---------------------------|---------------------|
| Type                | None<br>CSS75N/90N/115N | CR2032 × 1<br>CSS75/CSS90 | R2032 × 2<br>CSS115 |
| Battery compartment |                         |                           |                     |

- DXF/DWG/PDF drawings available on our website.
- Refer to drawings on page 58 for suitable PCB dimensions and screw hole layout.

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

| Product no.   | W        | H        | D          | a     | b    | c  | d   | e    | Battery compartment | Weight (g) |
|---------------|----------|----------|------------|-------|------|----|-----|------|---------------------|------------|
| CSS 75N-CL-□□ | 38.6(35) | 15.5(12) | 78.6 (75)  | 68.4  | 28.4 | —  | —   | 1.75 | None                | 24         |
| CSS 75N-OP-□□ | 38.6(35) | 15.5(12) | 78.6 (75)  | 68.4  | 28.4 | 20 | 7.4 | 1.75 | None                | 24         |
| CSS 75 -CL-□□ | 38.6(35) | 15.5(12) | 78.6 (75)  | 68.4  | 28.4 | —  | —   | 1.75 | CR2032×1            | 25         |
| CSS 75 -OP-□□ | 38.6(35) | 15.5(12) | 78.6 (75)  | 68.4  | 28.4 | 20 | 7.4 | 1.75 | CR2032×1            | 25         |
| CSS 90N-CL-□□ | 48.6(45) | 15.5(12) | 93.6 (90)  | 82.4  | 37.4 | —  | —   | 1.75 | None                | 36         |
| CSS 90N-OP-□□ | 48.6(45) | 15.5(12) | 93.6 (90)  | 82.4  | 37.4 | 30 | 7.4 | 1.75 | None                | 35         |
| CSS 90 -CL-□□ | 48.6(45) | 15.5(12) | 93.6 (90)  | 82.4  | 37.4 | —  | —   | 1.75 | CR2032×1            | 38         |
| CSS 90 -OP-□□ | 48.6(45) | 15.5(12) | 93.6 (90)  | 82.4  | 37.4 | 30 | 7.4 | 1.75 | CR2032×1            | 37         |
| CSS115N-CL-□□ | 67.1(63) | 16 (12)  | 119.1(115) | 107.4 | 55.4 | —  | —   | 2    | None                | 62         |
| CSS115N-OP-□□ | 67.1(63) | 16 (12)  | 119.1(115) | 107.4 | 55.4 | 45 | 7.4 | 2    | None                | 61         |
| CSS115 -CL-□□ | 67.1(63) | 16 (12)  | 119.1(115) | 107.4 | 55.4 | —  | —   | 2    | CR2032×2            | 65         |
| CSS115 -OP-□□ | 67.1(63) | 16 (12)  | 119.1(115) | 107.4 | 55.4 | 45 | 7.4 | 2    | CR2032×2            | 64         |

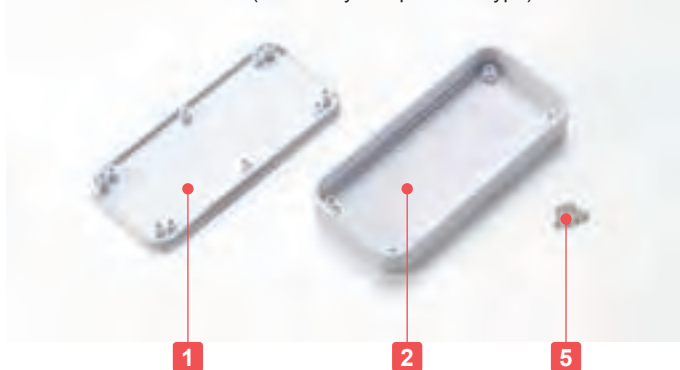
■ ( ) value = enclosure dimension.



- Easy replacement of batteries. Battery contact included in each case (except for N type).
- Suitable for remote controller, wireless key fob, or small tester/device, and so on.
- 3 sizes with 2 different color types available.

| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |

CS75N/CS90N/CS115N (No battery compartment type)









CS75/CS90/CS115 (Battery compartment type)



Components

| No. | Part name          | Pcs                   | Material        | Color / Finish                           |
|-----|--------------------|-----------------------|-----------------|--|
| 1   | Top cover          | 1                     | ABS UL94HB      | White • Black                            |
| 2   | Bottom cover       | 1                     | ABS UL94HB      | White • Black                            |
| 3   | Battery cover      | 1                     | ABS UL94HB      | White • Black                            |
| 4   | Battery contact    | 1 set / 2 set (CS115) | Stainless steel | Nickel plated                            |
| 5   | Self tapping screw | 4                     | Steel M1.6      | Nickel plated • Black trivalent chromate |
| 6   | CR2032 sticker     | 1                     | PP              | —  |

Accessories (Optional parts)

|   |   |   |  |   |   |
|---|---|---|--|---|---|
|  |  |  |  |  |  |
| Exclusive PCB<br>CSPB series<br>See page 58   | Strap<br>STPS series<br>See page 63   | PCB mounting screw<br>EM-1.6<br>See page 135  | TORX screw<br>MR1.6-6S<br>See page 135   | Wall suspension bracket<br>WM series<br>See page 129                                  | Neodymium magnet<br>NMG series<br>See page 130  |



# Coin battery contact installation instructions

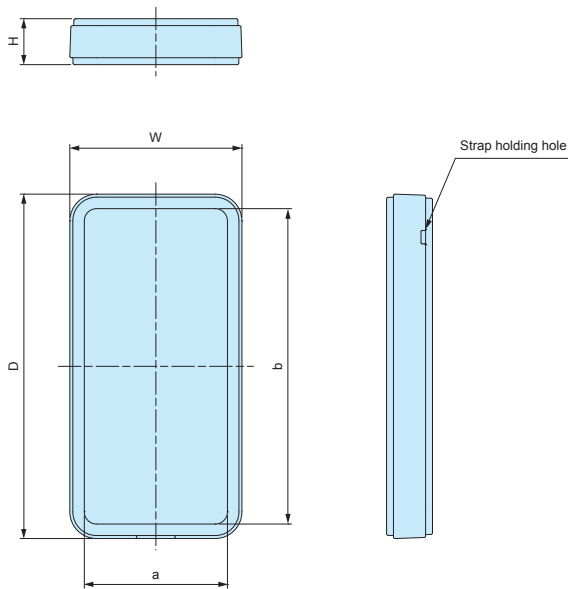


■ Exclusive PCB is available as an optional part. See page 58 for more details.  
Refer to drawings on page 58 for suitable PCB dimensions and screw hole layout.



Stick the CR2032 sticker on the backside of the battery cover to avoid incorrect placement of the battery.

**NOTE** Take caution of the mount position of the battery contact.



| Type                | None<br>CS75N/90N/115N | CR2032 × 1<br>CS75/CS90 | CR2032 × 2<br>CS115 |
|---------------------|------------------------|-------------------------|---------------------|
| Battery compartment |                        |                         |                     |

## Product no. / Dimensions

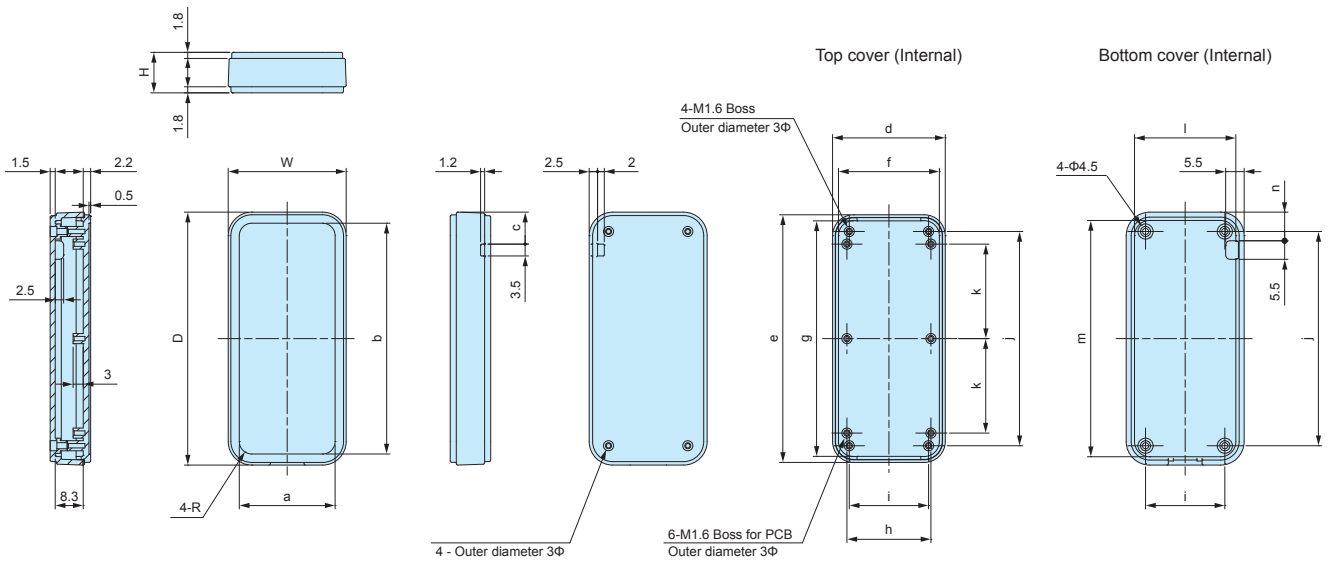
■ Please suffix color code at the end of the product number.

| Product no. |          | W  | H  | D   | a    | b     | Battery compartment | Weight (g) |
|-------------|----------|----|----|-----|------|-------|---------------------|------------|
| ● Black     | ● White  |    |    |     |      |       |                     |            |
| CS 75N-B    | CS 75N-W | 35 | 12 | 75  | 28.4 | 68.4  | None                | 12         |
| CS 75 -B    | CS 75 -W | 35 | 12 | 75  | 28.4 | 68.4  | CR2032 × 1          | 13         |
| CS 90N-B    | CS 90N-W | 45 | 12 | 90  | 37.4 | 82.4  | None                | 18         |
| CS 90 -B    | CS 90 -W | 45 | 12 | 90  | 37.4 | 82.4  | CR2032 × 1          | 20         |
| CS115N-B    | CS115N-W | 63 | 12 | 115 | 55.4 | 107.4 | None                | 30         |
| CS115 -B    | CS115 -W | 63 | 12 | 115 | 55.4 | 107.4 | CR2032 × 2          | 33         |

CSS • CS dimensions

DXF/DWG/PDF drawings available on our website.

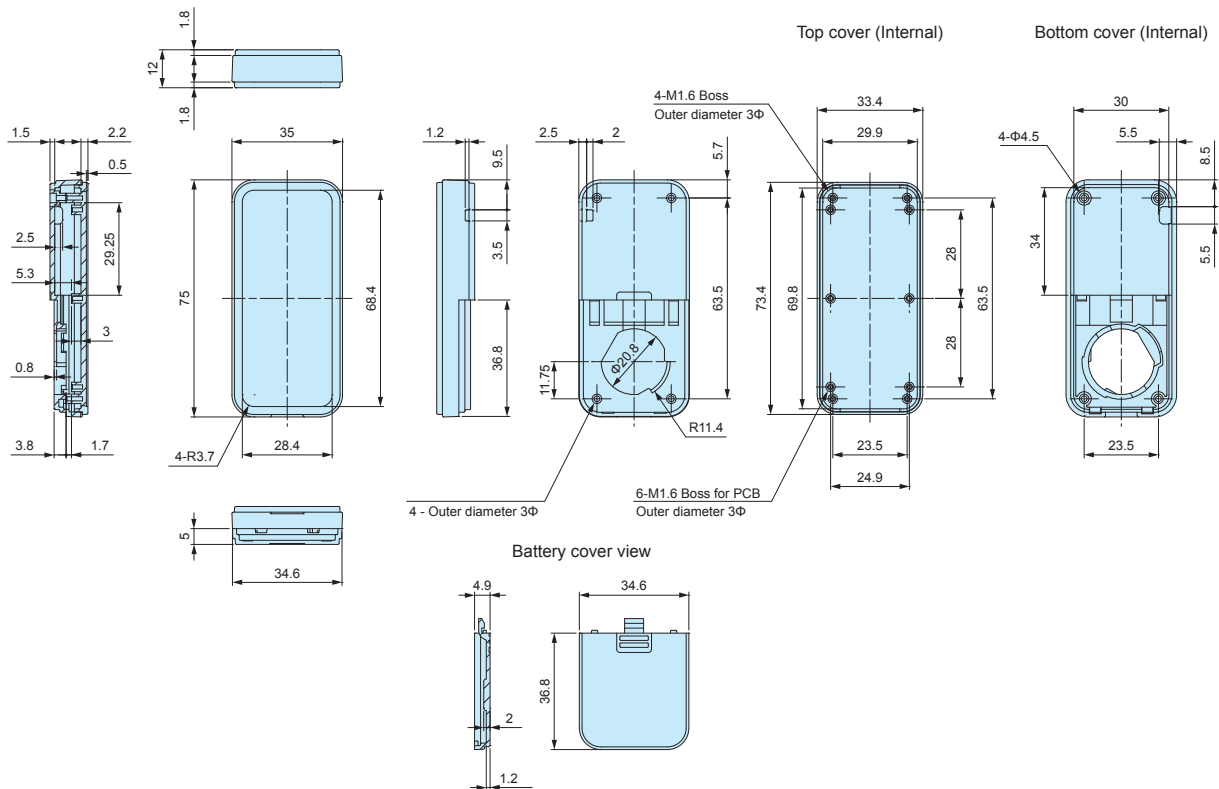
CS75N/CS90N/CS115N



| Product no. | W  | H  | D   | R   | a    | b     | c    | d    | e     | f    | g     | h    | i    | j     | k    | l  | m   | n   |
|-------------|----|----|-----|-----|------|-------|------|------|-------|------|-------|------|------|-------|------|----|-----|-----|
| CS75 N-□    | 35 | 12 | 75  | 3.7 | 28.4 | 68.4  | 9.5  | 33.4 | 73.4  | 29.9 | 69.8  | 24.9 | 23.5 | 63.5  | 28   | 30 | 70  | 8.5 |
| CS90 N-□    | 45 | 12 | 90  | 3.2 | 37.4 | 82.4  | 9.5  | 43.4 | 88.4  | 39.9 | 84.8  | 34.9 | 33.5 | 78.5  | 35.5 | 40 | 85  | 8.5 |
| CS115N-□    | 63 | 12 | 115 | 4.7 | 55.4 | 107.4 | 10.5 | 61.4 | 113.4 | 57.9 | 109.8 | 52.9 | 50.5 | 102.5 | 47.5 | 58 | 110 | 9.5 |

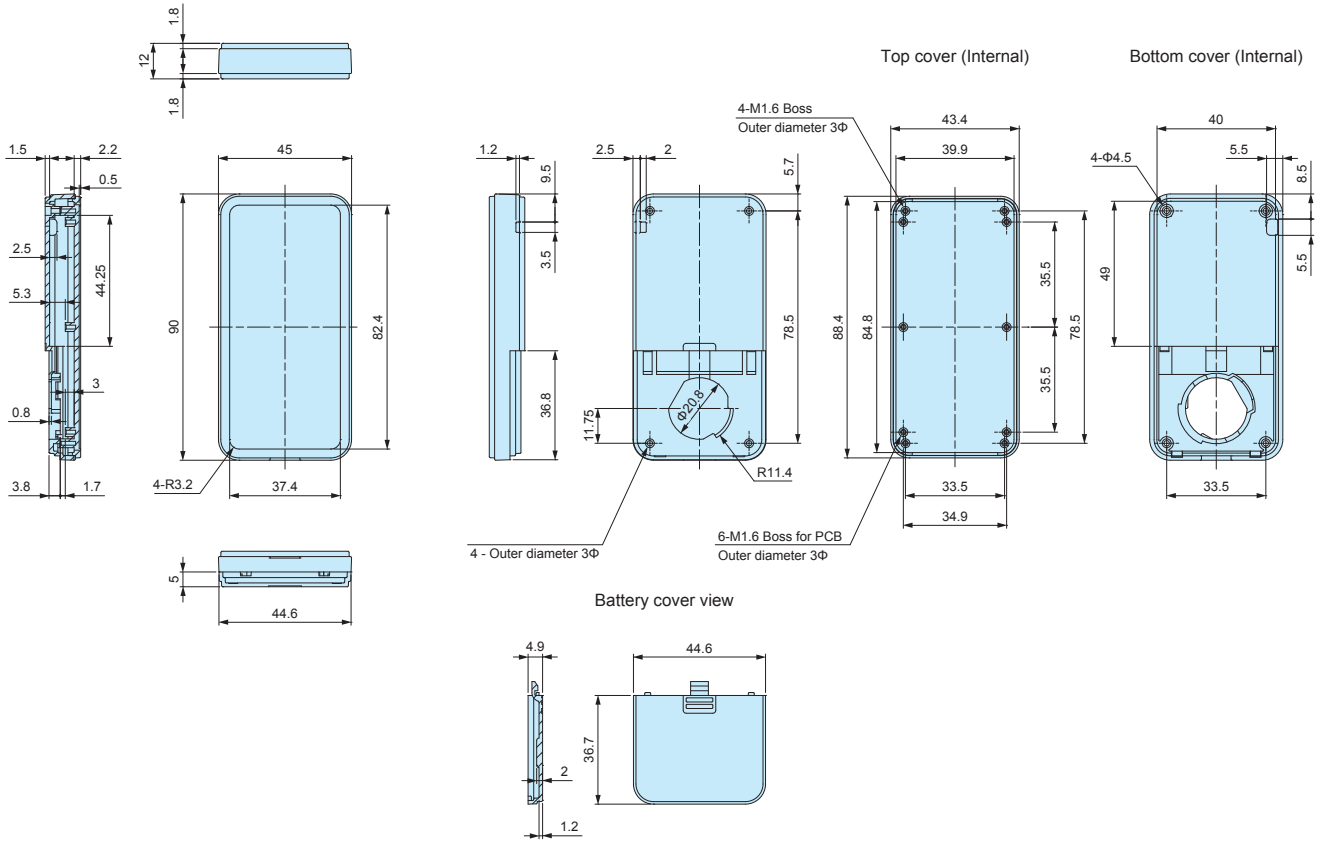
CS75

Refer to drawings on page 58 for suitable PCB dimension and screw hole layout.



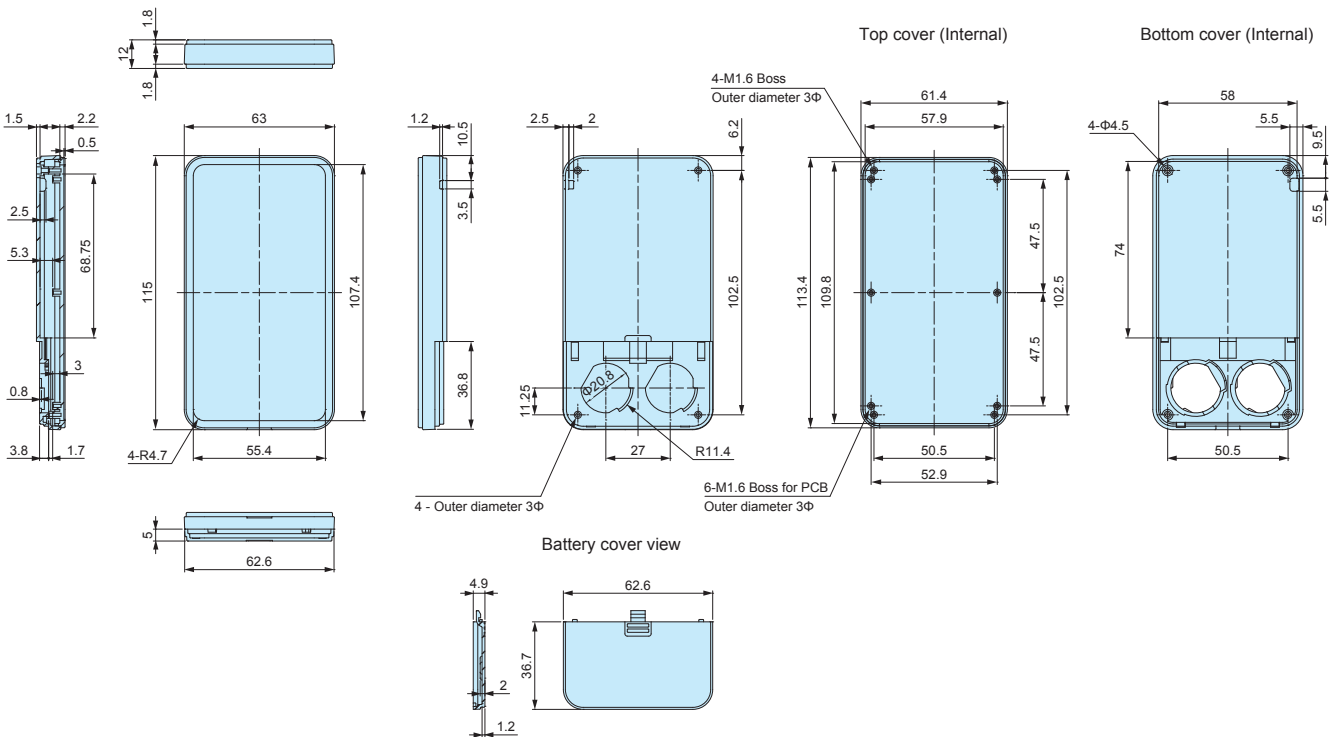
CS90

■ Refer to drawings on page 58 for suitable PCB dimension and screw hole layout.



CS115

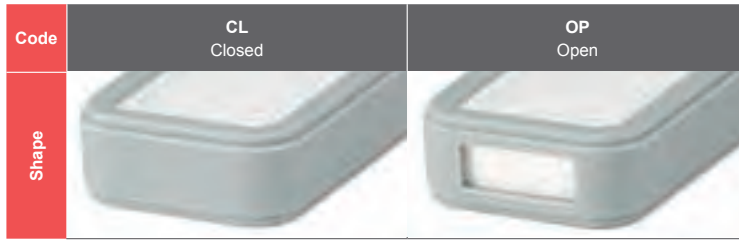
■ Refer to drawings on page 58 for suitable PCB dimension and screw hole layout.



# CSSC SERIES

# SILICONE COVER

### Silicone Cover Type



- 2 types of silicone cover which have with (Open) and without (Closed) rectangular cutout on the front side; selectable in 6 different colors.

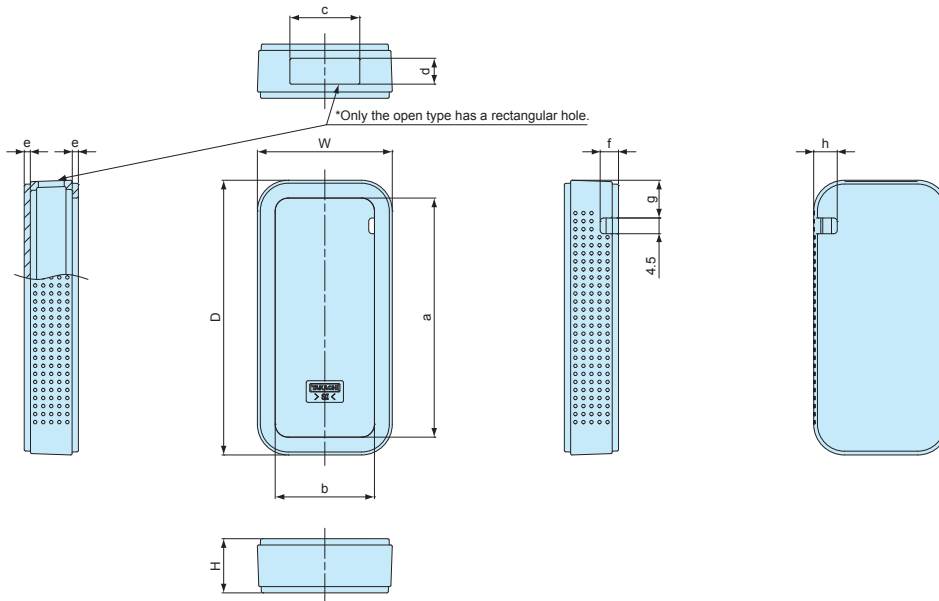
- Custom color is available from 1,000pcs per order batch.

For custom color order, please specify **PANTONE** , RGB color number, or provide your sample color.

### Color Type



- DXF/DWG/PDF drawings available on our website.



### Components

| Part name      | Material | Color   |
|----------------|----------|---|
| Silicone cover | Silicone | Pink • Yellow • Green • Cyan • Light gray • Black |

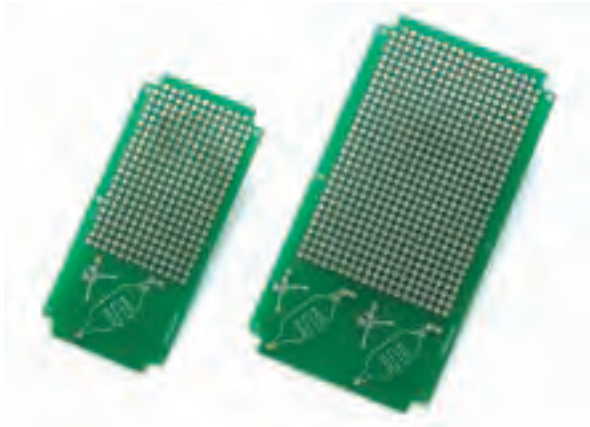
### Product no. / Dimensions

- Please suffix color code at the end of the product number.

| Product no.  | W    | H    | D     | a     | b    | c  | d   | e    | f    | g    | h   | Suitable case | Weight (g) |
|--------------|------|------|-------|-------|------|----|-----|------|------|------|-----|---------------|------------|
| CSSC 75-CL-□ | 38.6 | 15.5 | 78.6  | 68.4  | 28.4 | —  | —   | 1.75 | 5.25 | 10.8 | 6.7 | CS 75         | 12         |
| CSSC 75-OP-□ | 38.6 | 15.5 | 78.6  | 68.4  | 28.4 | 20 | 7.4 | 1.75 | 5.25 | 10.8 | 6.7 | CS 75         | 12         |
| CSSC 90-CL-□ | 48.6 | 15.5 | 93.6  | 82.4  | 37.4 | —  | —   | 1.75 | 5.25 | 10.8 | 6.7 | CS 90         | 18         |
| CSSC 90-OP-□ | 48.6 | 15.5 | 93.6  | 82.4  | 37.4 | 30 | 7.4 | 1.75 | 5.25 | 10.8 | 6.7 | CS 90         | 17         |
| CSSC115-CL-□ | 67.1 | 16   | 119.1 | 107.4 | 55.4 | —  | —   | 2    | 5.5  | 12.1 | 7   | CS115         | 32         |
| CSSC115-OP-□ | 67.1 | 16   | 119.1 | 107.4 | 55.4 | 45 | 7.4 | 2    | 5.5  | 12.1 | 7   | CS115         | 31         |

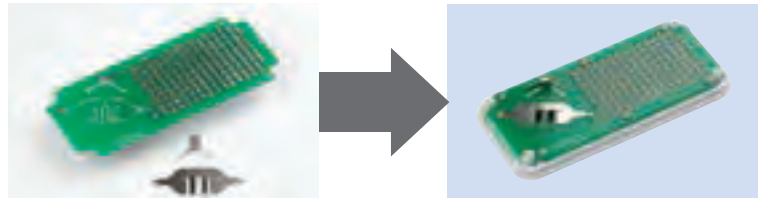
CSPB SERIES

EXCLUSIVE PCB for CS • CSS



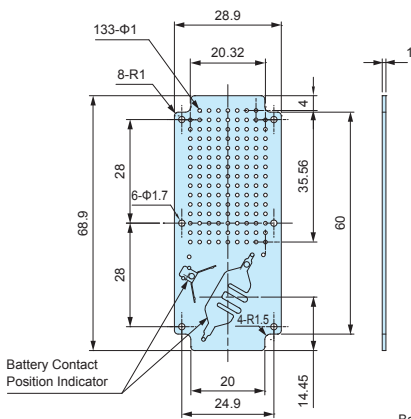
- Exclusive PCB for CS • CSS case.
- Glass epoxy board (FR-4), through-hole on both sides and 2.54mm hole distance.
- Prefabricated holes for battery contact use with CS • CSS case. The contact directions are printed on the PCB.

Soldering the battery contacts (included with each case) onto the PCB.

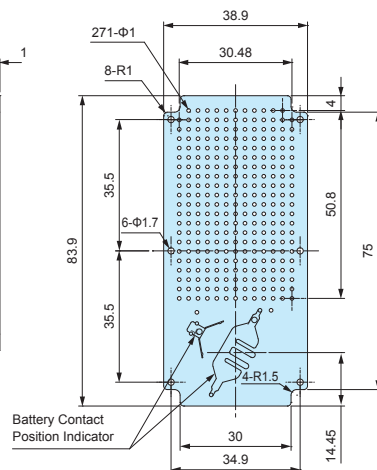


- DXF/DWG/PDF drawings available on our website.

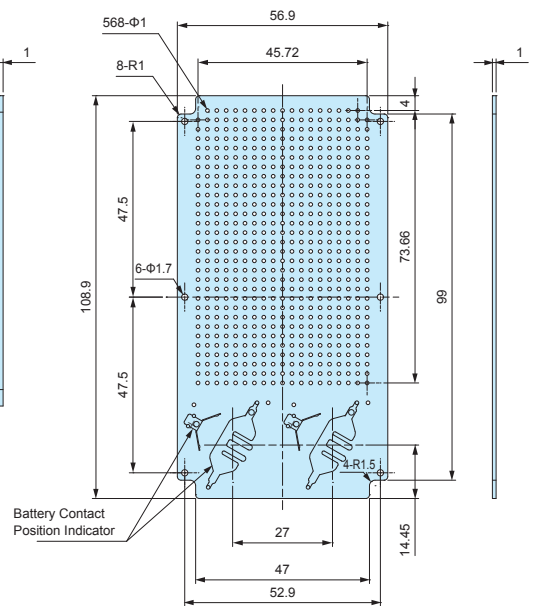
CSPB-75



CSPB-90



CSPB-115



Note : Holes (6-Φ1.7) for PCB mount bosses are un-soldered.

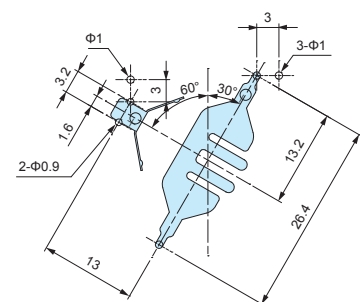
Components

| Part name          | Pcs | Material                 | Finish  |
|--------------------|-----|--------------------------|---|
| PCB                | 1   | Glass epoxy (FR-4) t=1.0 | Through-hole • Lead-free solder • Solder resist |
| Self tapping screw | 6   | Steel M1.6               | Trivalent chromate                              |

Product no.

| Product no. | Suitable case |
|-------------|---------------|
| CSPB- 75    | CS75, CSS75   |
| CSPB- 90    | CS90, CSS90   |
| CSPB-115    | CS115, CSS115 |

Battery Contact Position Indicator Details





# PS PORTABLE PLASTIC CASE

Suitable for wireless device, remote controller, key fob, and so on.

Round and larger sized type added for a total of 4 different sizes with 5 selectable colors.

## APPLICATION EXAMPLE

### PORTABLE RADIATION CHECKER AND MONITOR



Easy to use radiation level checker.



TAKACHI "BK-890" Coin battery holder is used.

Product by YAMAGATA Kyodo (Japan)

Website: [y-kyodo.jp](http://y-kyodo.jp)

### PORTABLE EMF PROTECTION DEVICE



Product by Blushield Inc. (New Zealand)

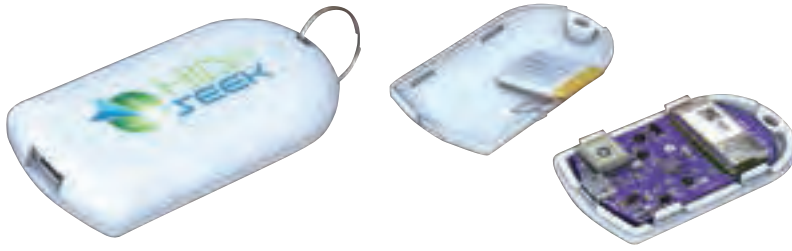
Website: [blushield-global.com](http://blushield-global.com)



## EXAMPLE of OVERLAY SHEET CUSTOMIZATION



**100% ARDUINO COMPATIBLE GPS on SIGFOX NETWORK TRACKER**



Product by HidnSeek (France)  
 Website: [hidnseek.fr](http://hidnseek.fr)



Finding your car in a large parking area.

Portable multi-sensor system equipped with widely accessible connectivity.  
 Utilized for tracking vehicles, parcels, monitoring of children, pets, and so on.

**PORTABLE MULTI-SENSOR SYSTEM**



Product by Axible Technologies (France)  
 Website: [axible-connects-for-you.com](http://axible-connects-for-you.com)

Multi-sensor system which detects motion, temperature, humidity and sound around, and sends warnings to an owner or 3rd parties via SMS, Twitter or Facebook when events such as home invasions or fire occurs.



**SIGFOX**

French company that builds wireless networks, ultra-narrow band (UNB), to connect low-energy objects such as electricity meters, smart-watches, and washing machines, which need to be continuously on and emitting small amounts of data. This wireless network technology which is aimed at the Internet of Things (IoT) is rolling out in the fields of housing, vehicle, transportation, logistic, smart city, healthcare, and so on.



| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |



- Simple snap-in case without screws.
- Comfortable shape and hold.
- New round-type PS-50 model, and large-sized PS-100 model are now available.
- 5 different colors are available for selection.
- Suitable for use as a wireless device, remote control, key fob etc.
- Designed with an easily accessible hole for strap attachment.

Components

| No. | Part name    | Material   | Color / Finish                        |
|-----|--------------|------------|---------------------------------------|
| 1   | Top cover    | ABS UL94HB | White • Black • Cobalt • Green • Pink |
| 2   | Bottom cover | ABS UL94HB | White • Black • Cobalt • Green • Pink |

Product no. / Dimensions

| Product no. |             |             |             |             | Dimensions |    |     | Weight (g) |
|-------------|-------------|-------------|-------------|-------------|------------|----|-----|------------|
| ● White     | ● Black     | ● Cobalt    | ● Green     | ● Pink      | W          | H  | D   |            |
| NEW PS- 50W | NEW PS- 50B | NEW PS- 50C | NEW PS- 50G | NEW PS- 50P | 50         | 14 | 50  | 9          |
| PS- 65W     | PS- 65B     | PS- 65C     | PS- 65G     | PS- 65P     | 35         | 11 | 65  | 9          |
| PS- 85W     | PS- 85B     | PS- 85C     | PS- 85G     | PS- 85P     | 48         | 15 | 85  | 20         |
| NEW PS-100W | NEW PS-100B | NEW PS-100C | NEW PS-100G | NEW PS-100P | 58         | 18 | 100 | 27         |

Accessories (Optional parts)



PCB mounting screw  
EM-1.6  
See page 135



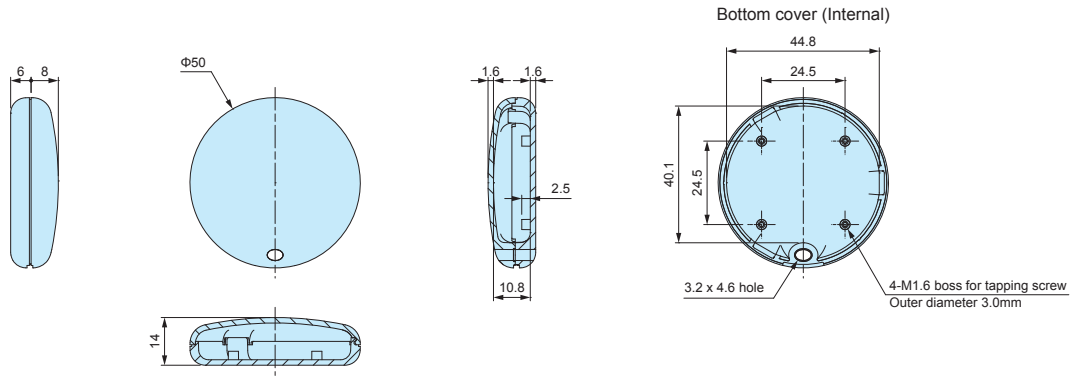
Strap  
STPS series  
See page 63



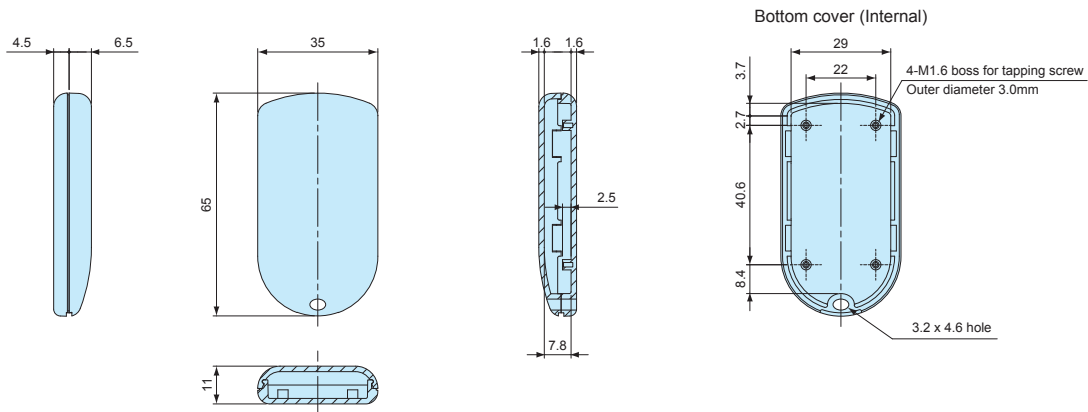
Neodymium magnet  
NMG series  
See page 130

PS dimensions

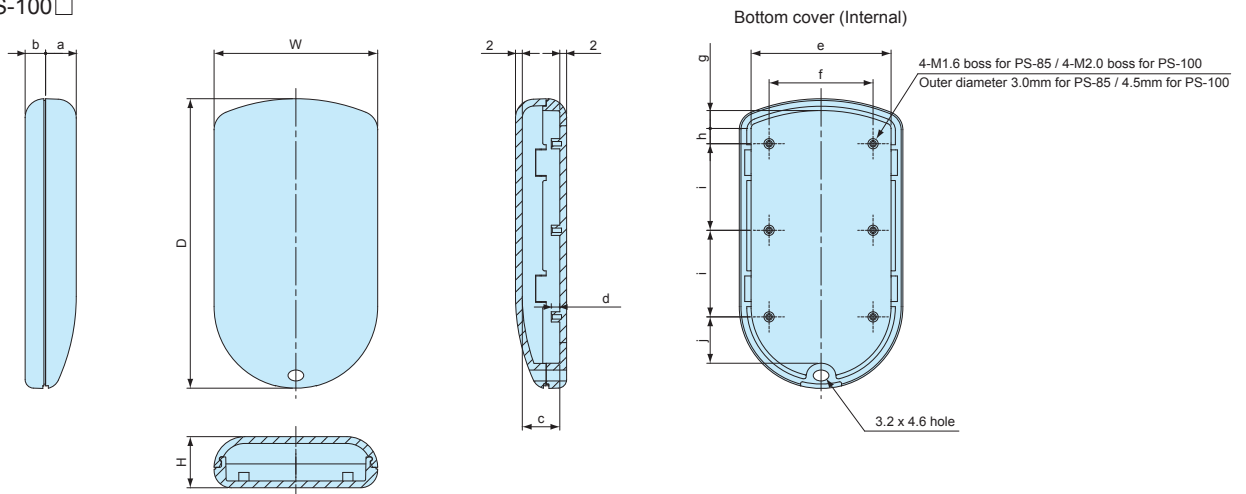
PS-50□



PS-65□

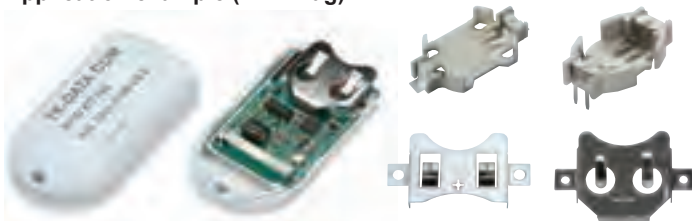


PS-85□ / PS-100□



| Product no. | W  | H  | D   | a    | b   | c  | d   | e    | f  | g   | h   | i    | j    |
|-------------|----|----|-----|------|-----|----|-----|------|----|-----|-----|------|------|
| PS- 85□     | 48 | 11 | 65  | 9    | 6   | 11 | 2.5 | 41.1 | 33 | 5.3 | 4.5 | 25.4 | 13.6 |
| PS-100□     | 58 | 18 | 100 | 11.5 | 6.5 | 14 | 4   | 51.2 | 40 | 6.4 | 4.2 | 29   | 20.4 |

Application example (RFID Tag)



■ A variety of suitable coin battery holders are available.  
See website for more details.

Suitable coin battery holder chart

| Suitable case | Coin battery holder product no.  |
|---------------|--|
| PS- 50□       | SMTU1220(G) / 1225 / 1632(G) / 2-2016 / 2032(G)<br>PB-621 • SMTM1632 / 2032<br>BK-879 / 5091 / 885 / 890 / 868 / 869 / 5067 / 888              |
| PS- 65□       | BK-879 / 5091 / 885 / 890 / 868 / 869 / 5067 / 888<br>PB621 • SMTM1632 / 2032  |
| PS- 85□       | PB621 • SMTM1632 / 2032<br>BK-879 / 5091 / 885 / 890 / 868 / 869 / 5067 / 888<br>SMTU1220(G) / 1225 / 1632(G) / 2-2016 / 2032(G) / 2430        |
| PS-100□       | PB621 • SMTM1632 / 2032<br>BK-879 / 5091 / 885 / 890 / 868 / 869 / 5067 / 888<br>SMTU1220(G) / 1225 / 1632(G) / 2-2016 / 2032(G) / 2430 / 2450 |



STPS SERIES

STRAP



Wrist strap (STPS-140P)



Neck strap (STPS-450Y)



- Colorful and sturdy straps best used with CSS, CS and PS series.
- Wrist and Neck straps are available in 6 unique colors.
- Neck strap comes with a quick-release joint, making removal or attachment quick and easy.



Color Type

| Code  | P Pink | Y Yellow | G Green | C Cyan | L Light gray | B Black |
|-------|--------|----------|---------|--------|--------------|---------|
| Color |        |          |         |        |              |         |

Components

| No. | Part name               | Material   | Color   |
|-----|-------------------------|------------|---|
| 1   | String                  | Polyester  | Black   |
| 2   | Strap                   | Polyester  | Pink • Yellow • Green • Cyan • Light gray • Black |
| 3   | Cap (wrist strap only)  | Nylon      | Black   |
| 4   | Clamp (neck strap only) | Elastomer  | Black   |
| 5   | Joint (neck strap only) | Polyacetal | Black   |

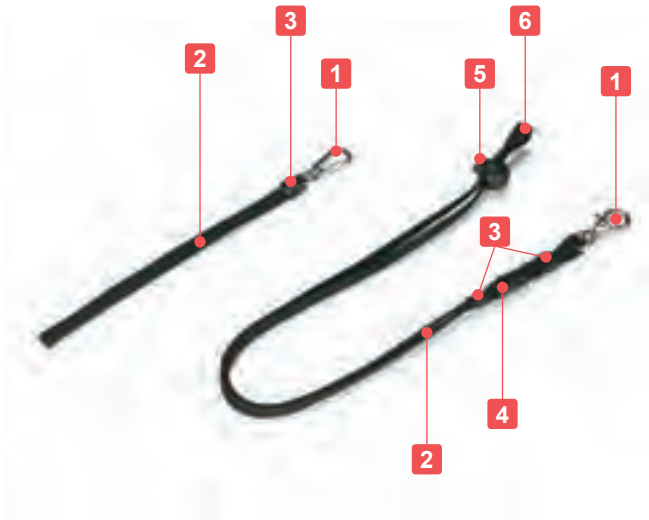
Product no. / Dimensions

| Product no. |           |           |           |            |           | Strap width | Strap length |
|-------------|-----------|-----------|-----------|------------|-----------|-------------|--------------|
| Pink        | Yellow    | Green     | Cyan      | Light gray | Black     |             |              |
| STPS-140P   | STPS-140Y | STPS-140G | STPS-140C | STPS-140L  | STPS-140B | 8           | 140          |
| STPS-450P   | STPS-450Y | STPS-450G | STPS-450C | STPS-450L  | STPS-450B | 10          | 450          |



STP SERIES

STRAP

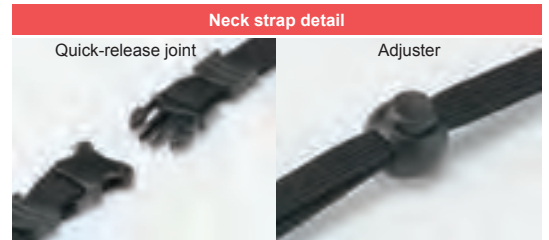


Wrist strap (STP-200)

Neck strap (STP-450)



- Strap with a metal hook
- Recommended to be used with CR key ring.



■ Only the neck strap has a joint and an adjuster.

Components

| No. | Part name                  | Pcs   | Material                 | Color / Finish |
|-----|----------------------------|-------|--------------------------|----------------|
| 1   | Metal hook                 | 1     | Diecast zinc & steel     | Nickel plated  |
| 2   | Strap                      | 1     | Nylon / Polyester        | Black          |
| 3   | Cap                        | 1 / 2 | Polyurethane / Elastomer | Black          |
| 4   | Joint (Neck strap only)    | 1     | Polyacetal               | Black          |
| 5   | Adjuster (Neck strap only) | 1     | Nylon                    | Black          |
| 6   | Clamp (Neck strap only)    | 1     | PE                       | Black          |

Product no. / Dimensions

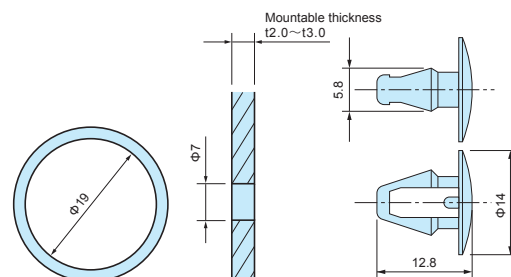
| Product no. | Strap width | Strap length | Strap material | Cap material     |
|-------------|-------------|--------------|----------------|------------------|
| STP-200     | 8           | 200          | Nylon          | Polyurethane x 1 |
| STP-450     | 10          | 450          | Polyester      | Elastomer x 2    |

CR-20

KEY RING



- Hole milling is required for case installation.



Components

| Part name   | Material     | Color / Finish |
|-------------|--------------|----------------|
| Ring        | SWRM 6 Steel | Nickel plated  |
| Insert clip | Nylon        | Black          |

Product no. / Dimensions

| Product no. | Ring Φ | Installation hole | Mounting thickness |
|-------------|--------|-------------------|--------------------|
| CR-20       | Φ19    | Φ7                | t2.0 ~ t3.0        |

# WP SERIES

## IP67 UV-PROTECT NETWORK PLASTIC BOX



● IEC60529 standard is a system for classifying the degrees of protection provided by the enclosures of electrical equipment, such as against dust and water.

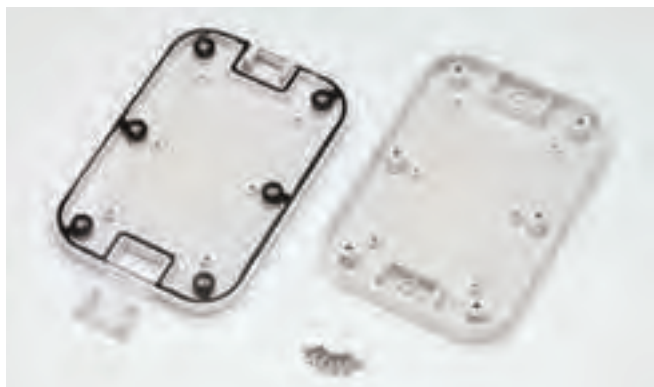
**IP6x : No ingress of dust; complete protection against contact (dust tight).**

**IPx7 : No ingress of water when submerged up to a depth of 1 meter for 30 minutes**

### Waterproofing ability by using silicone gasket

Highly elastic and durable silicone gasket allows for high waterproof ability.

The use of insert nuts allows the unit to retain its waterproofing ability even after multiple opening and closing.



### Weather-resistant ASA material

The white gray "G" type utilizes a UV resistant, durable ASA material. Recommended for outdoors usage as a communication device type equipment.



### Easy installation on walls and brackets

Easy mounting onto walls and brackets by opening the blind lids. A clean and sleek appearance can be maintained as screws are hidden away by the blind lids.



### Easy installation on electrical poles

By using a pole mount bracket accessory, it can be attached to poles with ease.



# APPLICATION EXAMPLE

WP series are used in products such as communication devices, controllers, measurement instruments, and so on.



## How to make waterproof buttons and switches

Please utilize a waterproof membrane keypad or membrane switch.

Note that the waterproof performance will be lost by drilling/milling holes or cutouts for buttons or switches on waterproof enclosures.

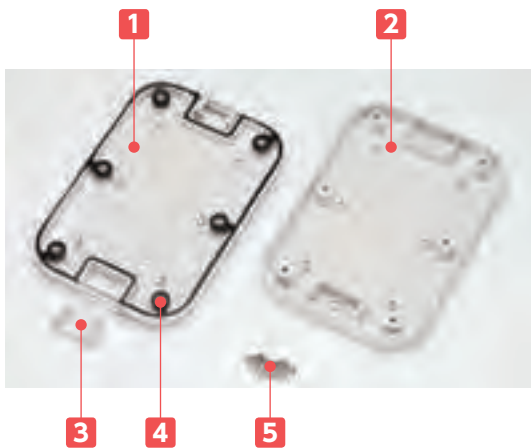


## How to make waterproof cable hole

Please utilize a cable gland from our available range of cable gland accessories.

Refer to page 308 ~ 314 for more information.





| Technical Data         |   |
|------------------------|---|
| Protection class:      | IP67                                    |
| Operating temperature: | ASA* -30°C ~ +60°C<br>ABS -10°C ~ +50°C |
| Recommended torque:    | 0.25N · m ~ 0.35N · m                   |

\*May become brittle and break under impact when temperature is lowered close to -30°C.

- IP67 protection class allows the unit to be used outdoors while protecting the internal components from dust and water.
- Available in 2 types: UV resistant ASA white gray color, and flame-resistant ABS charcoal gray color.
- Addition of 10 new sizes for a total of 16 different selectable sizes.
- Mount on walls or brackets by simply opening the blind lids.
- Pole mounting is possible via an optional pole mounting bracket accessory.

Components

| No. | Part name   | Pcs | Material / Color  |
|-----|-------------|-----|---|
| 1   | Top cover   | 1   | ASA UL94HB / White gray : Flame-resistant ABS UL94V-0 / Charcoal gray |
| 2   | Bottom base | 1   | ASA UL94HB / White gray : Flame-resistant ABS UL94V-0 / Charcoal gray |
| 3   | Blind lids  | 2   | ASA UL94HB / White gray : Flame-resistant ABS UL94V-0 / Charcoal gray |
| 4   | Gasket      | 1   | Silicone / Black  |
| 5   | Screw       | 4~6 | Stainless steel binding head screw / Unfinished                       |

Accessories (Optional parts)



Pole mount bracket  
WPMB series  
See page 75



PCB mounting screw  
EM series  
See page 135



TORX screws  
MR series  
See page 76, 135



Cable gland  
See page 308 ~ 314



Protective vent  
PMF series  
See page 301 ~ 302



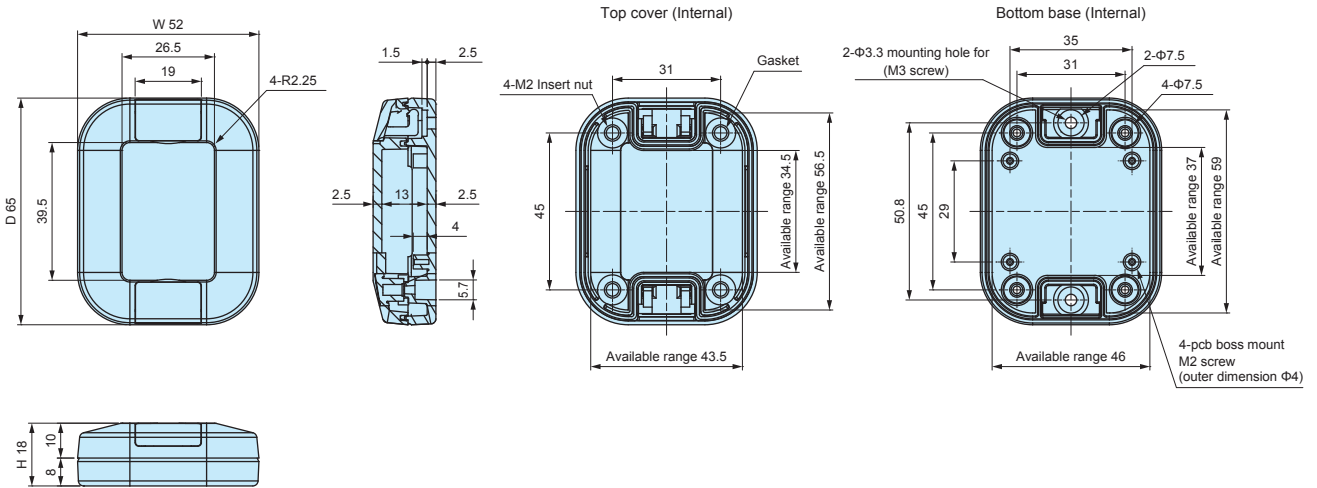
Product no. / Dimensions

| Product no.        |                       | Dimensions |            |     | Screw | Weight (g) |                |      |
|--------------------|-----------------------|------------|------------|-----|-------|------------|----------------|------|
| ● White gray (ASA) | ● Charcoal gray (ABS) | W          | D          | H   |       |            |                |      |
| <b>NEW</b>         | WP 5- 7-2G            | <b>NEW</b> | WP 5- 7-2C | 52  | 65    | 18         | M2-8 × 4pcs    | 31.5 |
| <b>NEW</b>         | WP 5- 7-3G            | <b>NEW</b> | WP 5- 7-3C | 52  | 65    | 27         | M2-8 × 4pcs    | 39.5 |
| <b>NEW</b>         | WP 6- 8-2G            | <b>NEW</b> | WP 6- 8-2C | 60  | 80    | 20         | M2-8 × 4pcs    | 41.5 |
| <b>NEW</b>         | WP 6- 8-3G            | <b>NEW</b> | WP 6- 8-3C | 60  | 80    | 30         | M2-8 × 4pcs    | 49   |
| <b>NEW</b>         | WP 8- 8-2G            | <b>NEW</b> | WP 8- 8-2C | 75  | 75    | 22         | M2.5-8 × 4pcs  | 57.5 |
| <b>NEW</b>         | WP 8- 8-4G            | <b>NEW</b> | WP 8- 8-4C | 75  | 75    | 35         | M2.5-16 × 4pcs | 88.5 |
| <b>NEW</b>         | WP 8-10-2G            | <b>NEW</b> | WP 8-10-2C | 75  | 100   | 22         | M2.5-8 × 4pcs  | 74   |
| <b>NEW</b>         | WP 8-10-4G            | <b>NEW</b> | WP 8-10-4C | 75  | 100   | 35         | M2.5-16 × 4pcs | 95   |
|                    | WP 9-13-3G            |            | WP 9-13-3C | 90  | 130   | 25         | M2.5-8 × 6pcs  | 113  |
|                    | WP 9-13-4G            |            | WP 9-13-4C | 90  | 130   | 40         | M2.5-16 × 6pcs | 141  |
|                    | WP10-10-3G            |            | WP10-10-3C | 100 | 100   | 25         | M2.5-8 × 4pcs  | 96   |
|                    | WP10-10-4G            |            | WP10-10-4C | 100 | 100   | 40         | M2.5-16 × 4pcs | 121  |
|                    | WP11-15-3G            |            | WP11-15-3C | 110 | 150   | 27         | M2.5-8 × 6pcs  | 153  |
|                    | WP11-15-4G            |            | WP11-15-4C | 110 | 150   | 40         | M2.5-16 × 6pcs | 181  |
| <b>NEW</b>         | WP13-18-3G            | <b>NEW</b> | WP13-18-3C | 130 | 175   | 30         | M2.5-8 × 6pcs  | 225  |
| <b>NEW</b>         | WP13-18-5G            | <b>NEW</b> | WP13-18-5C | 130 | 175   | 45         | M2.5-16 × 6pcs | 266  |

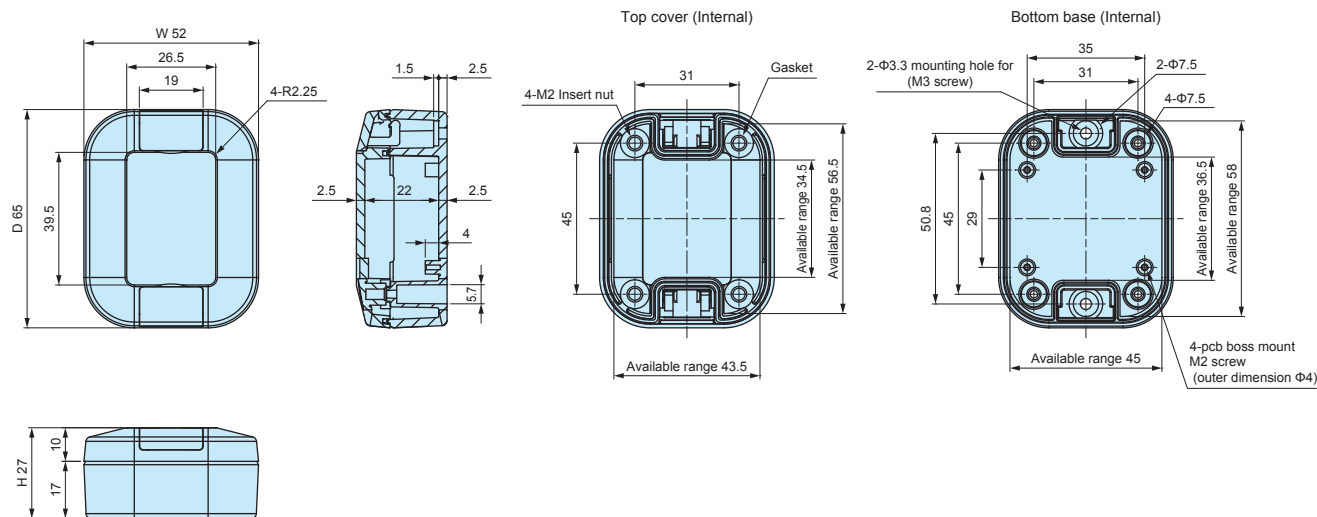
WP dimensions

■ DXF/DWG/PDF drawings available on our website.

WP5-7-2



WP5-7-3

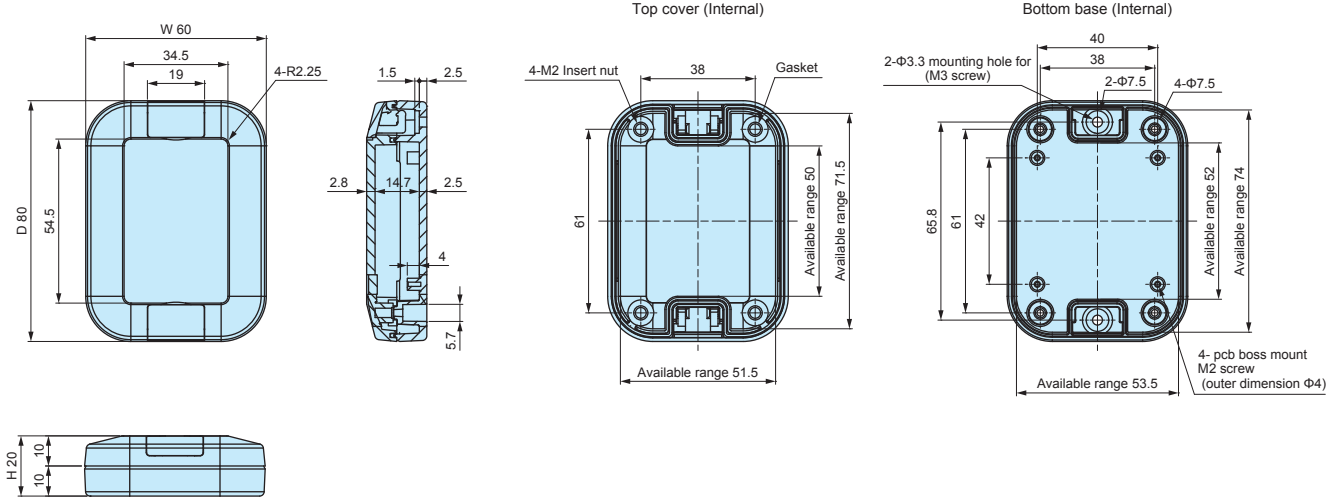




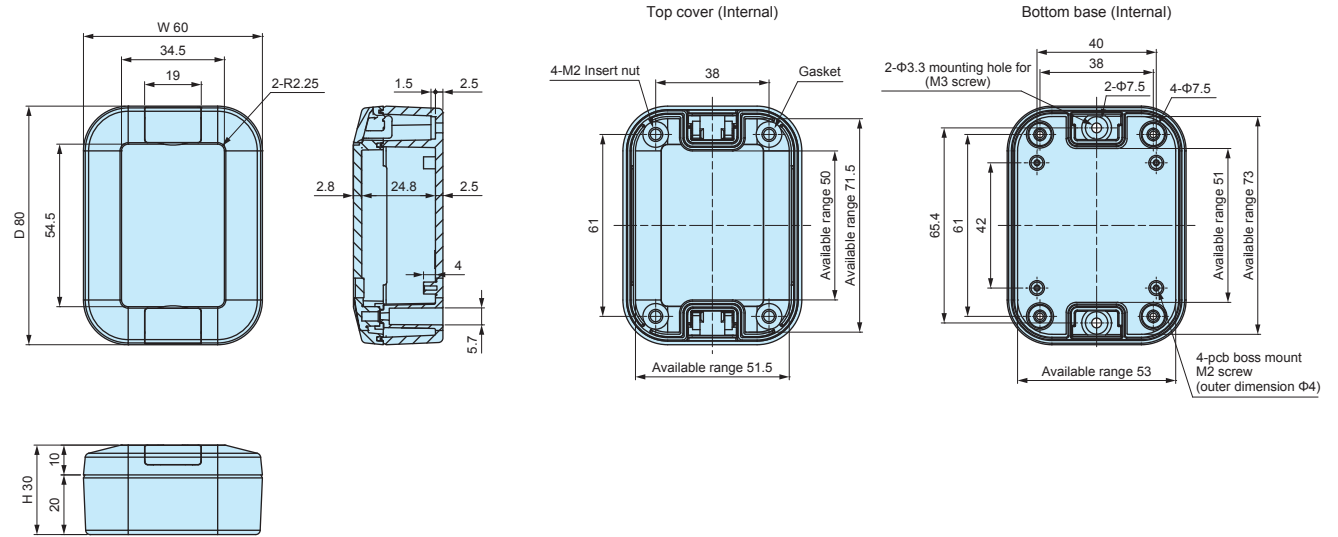
WP dimensions

■ DXF/DWG/PDF drawings available on our website.

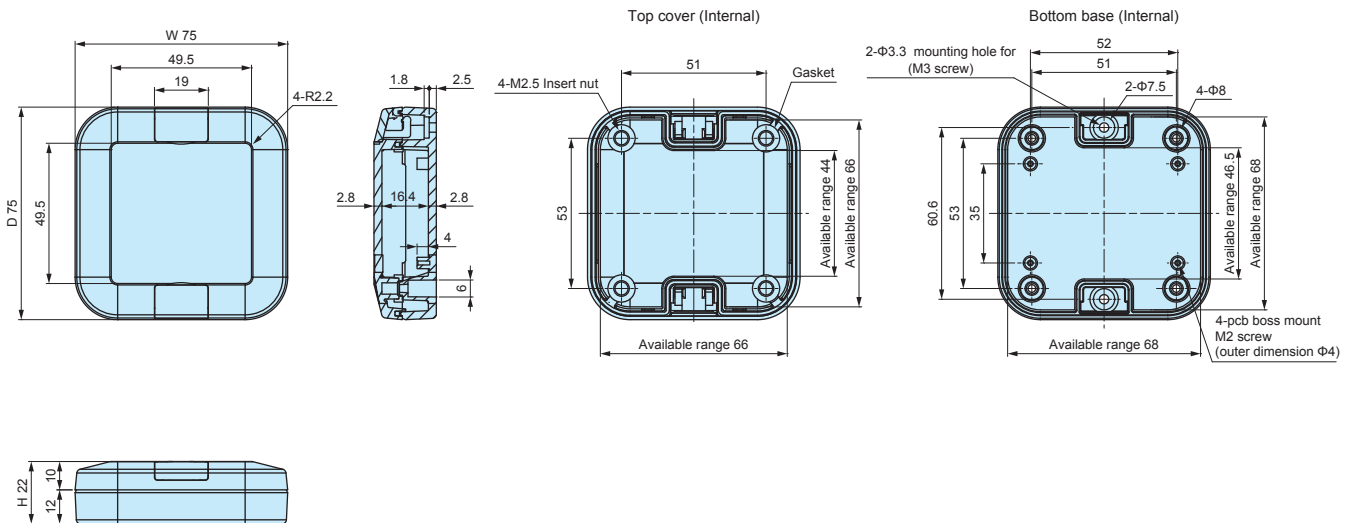
WP6-8-2



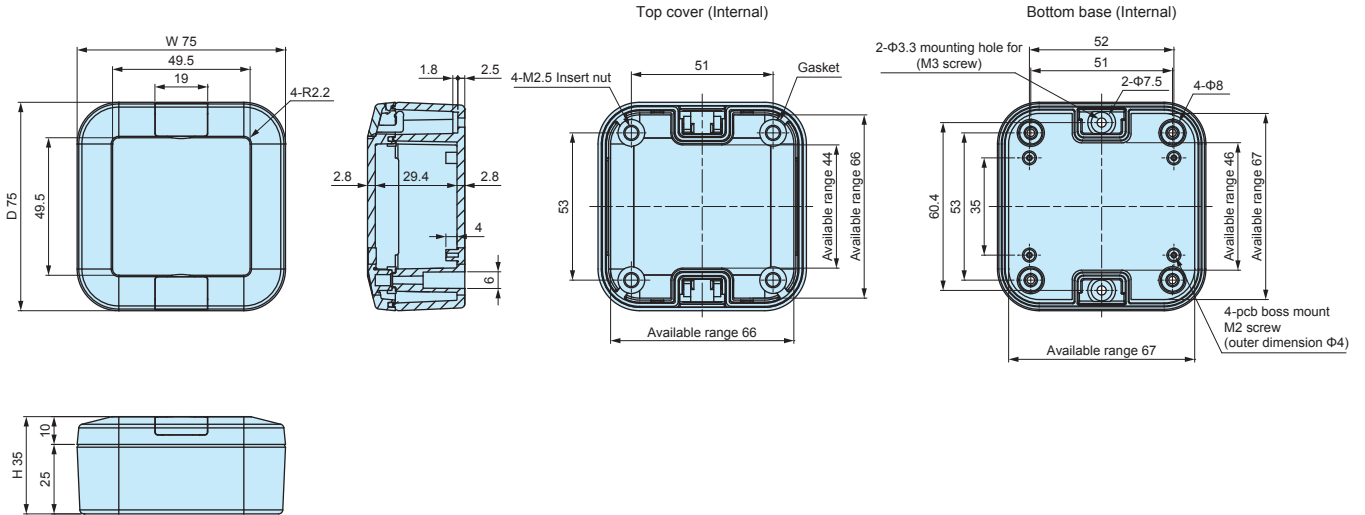
WP6-8-3



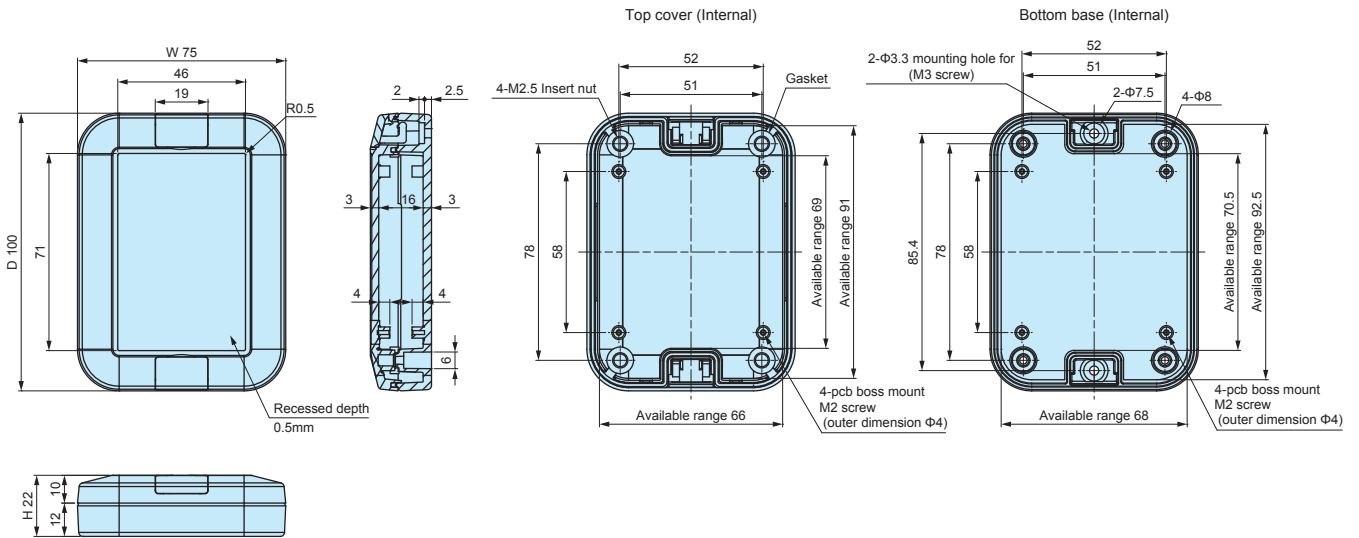
WP8-8-2



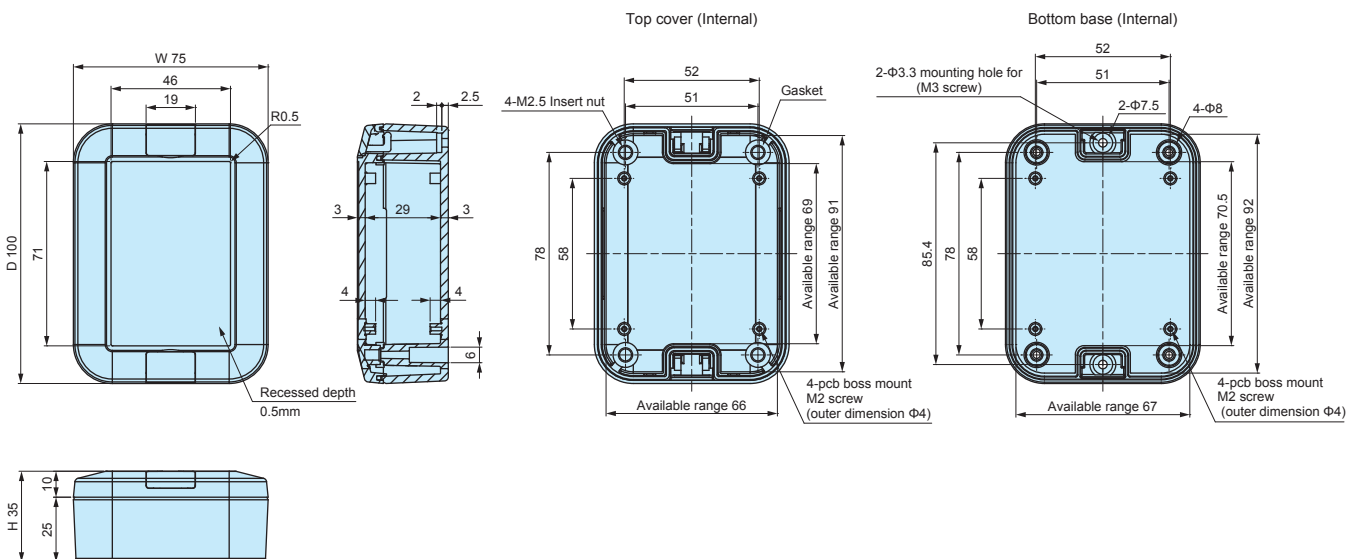
WP8-8-4



WP8-10-2



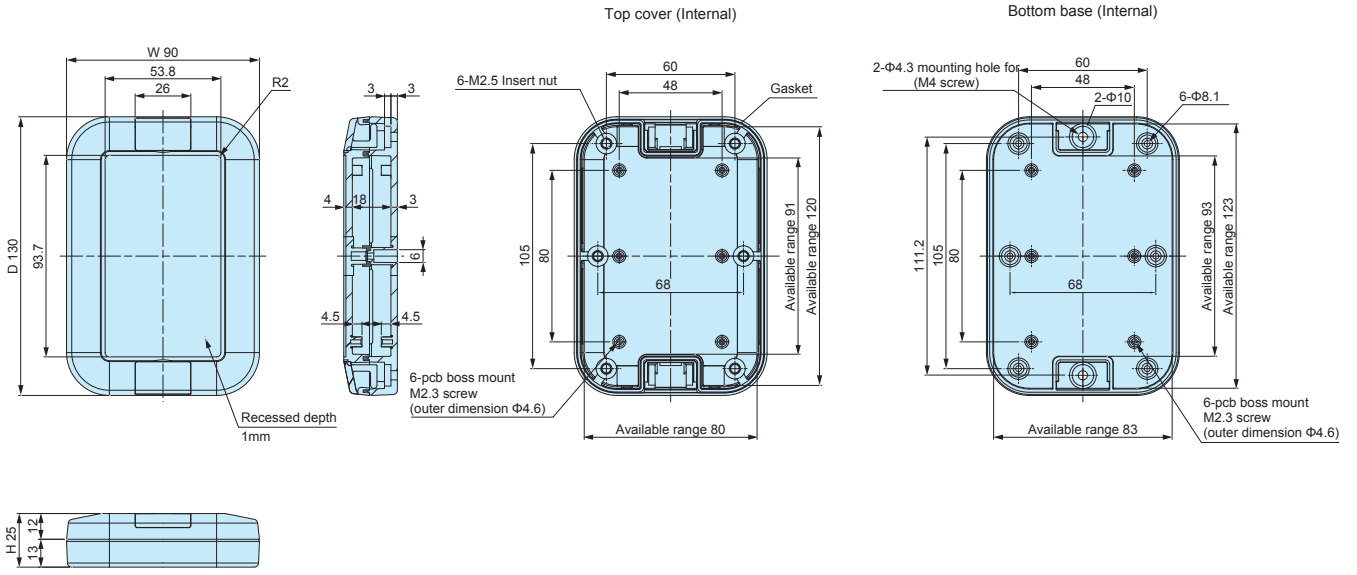
WP8-10-4



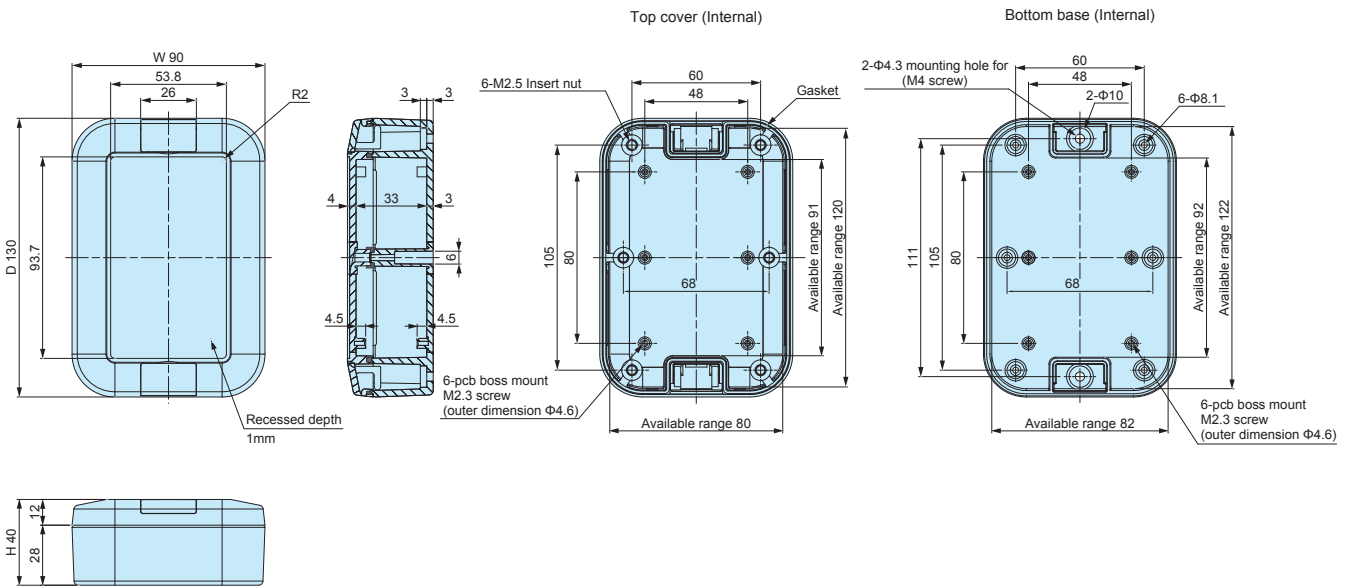
WP dimensions

DXF/DWG/PDF drawings available on our website.

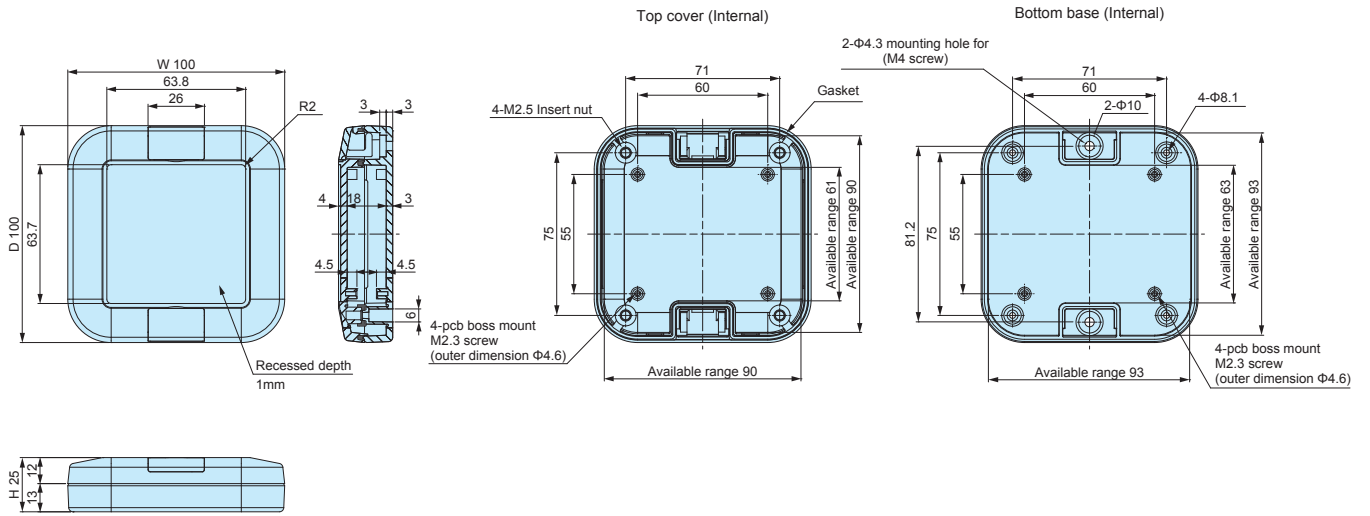
WP9-13-3



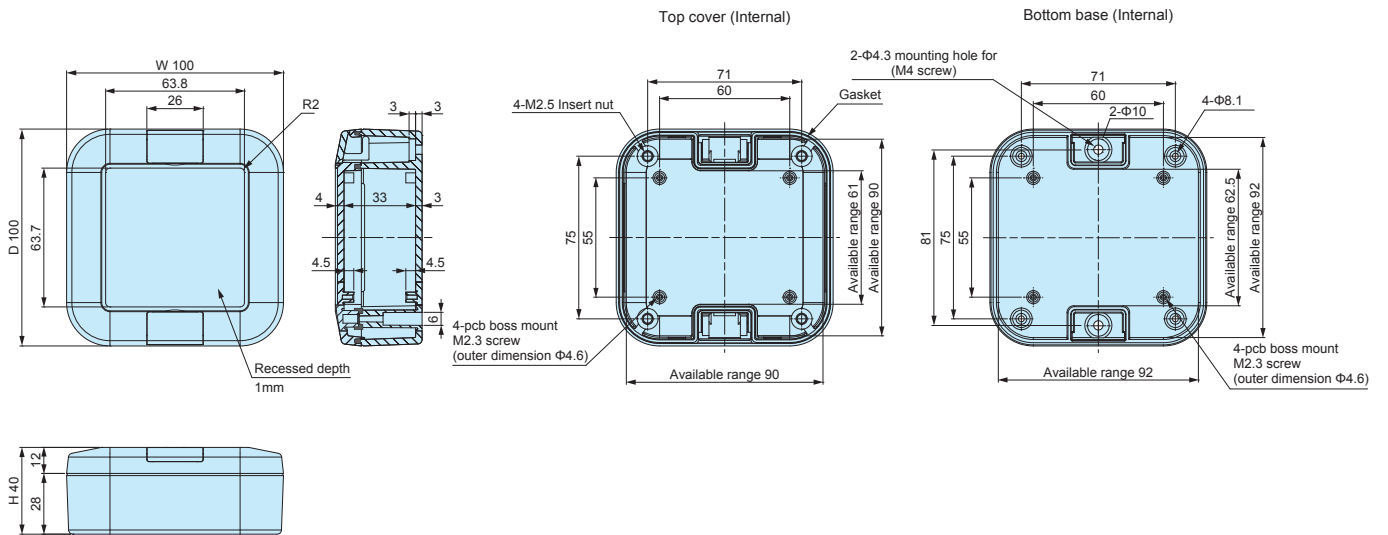
WP9-13-4



WP10-10-3



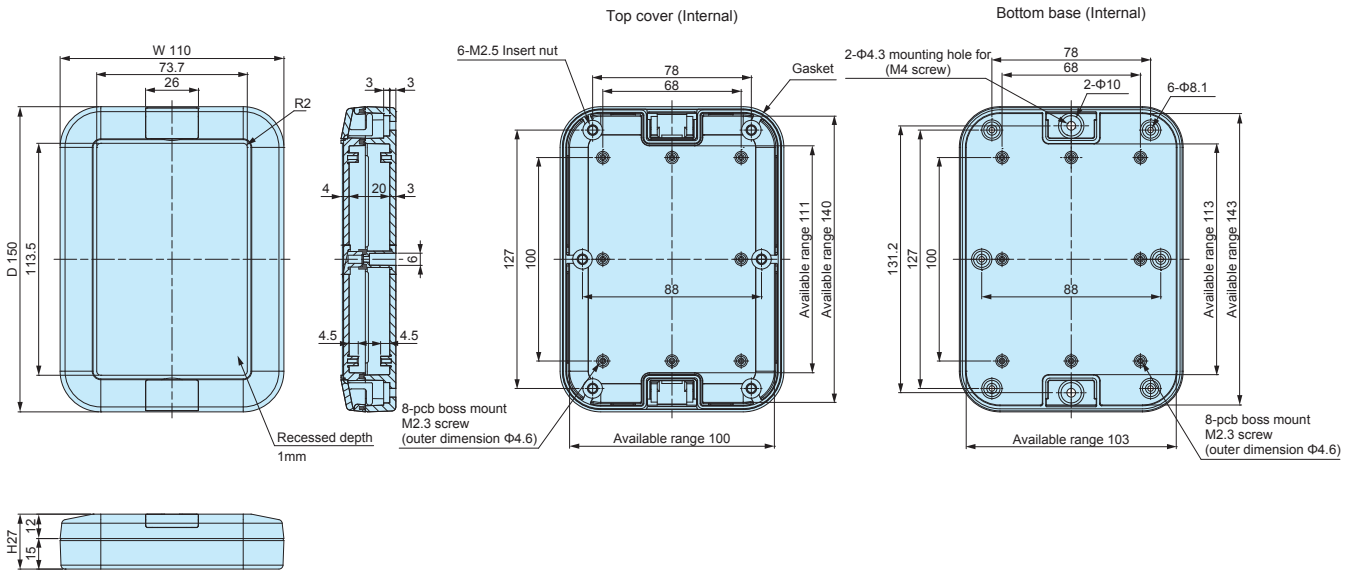
WP10-10-4



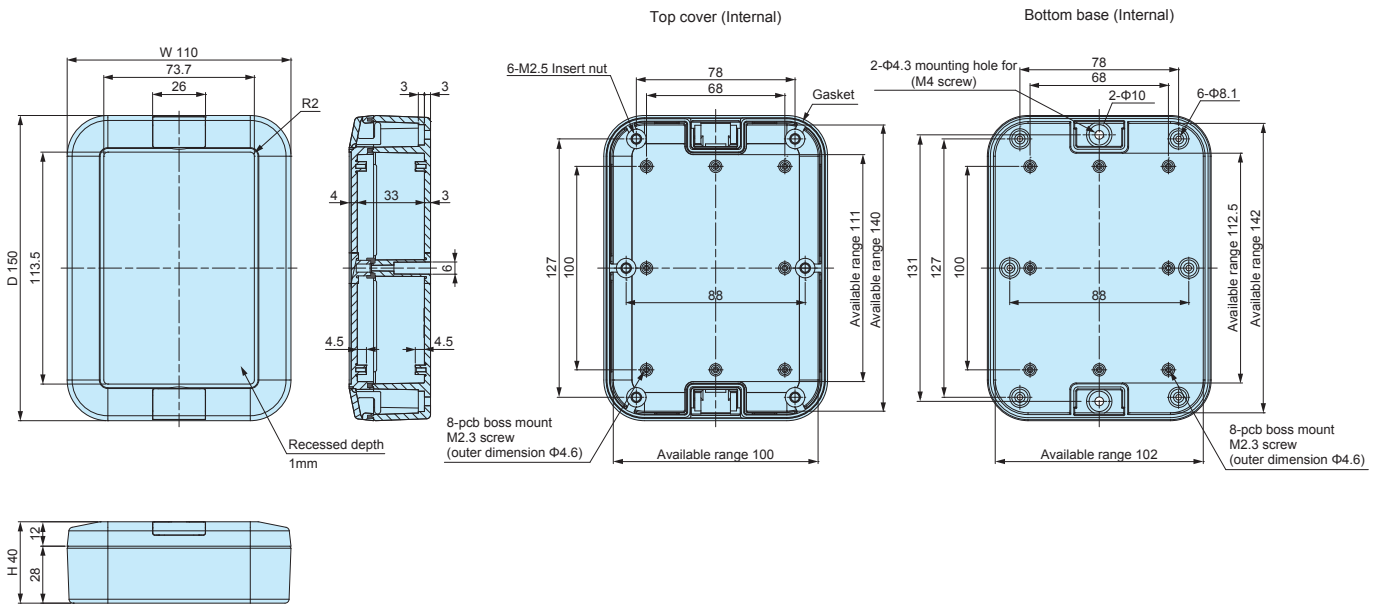
WP dimensions

DXF/DWG/PDF drawings available on our website.

WP11-15-3

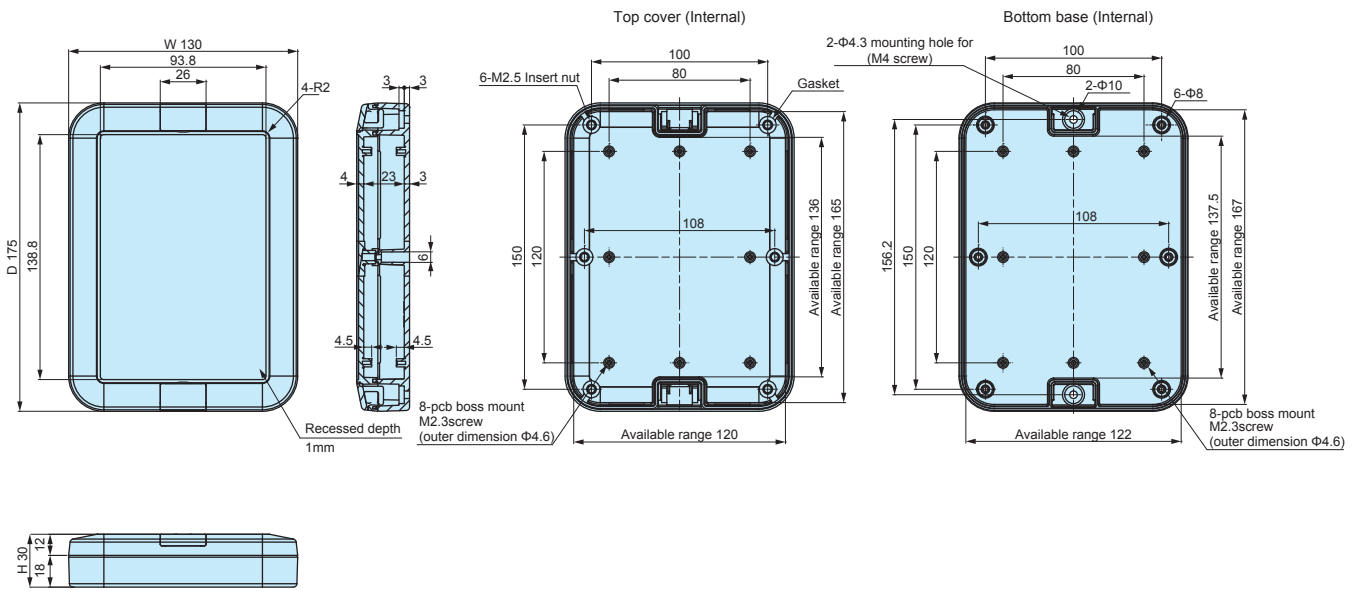


WP11-15-4

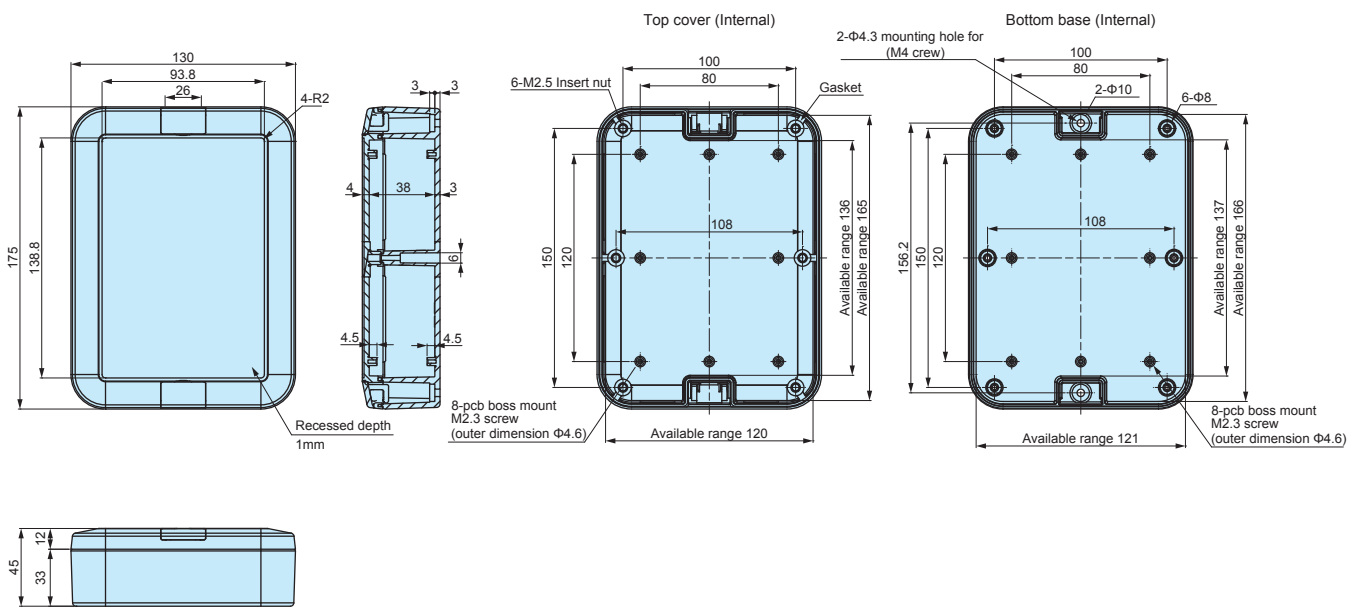




WP13-18-3



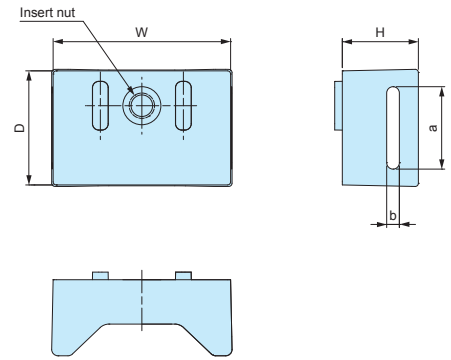
WP13-18-5



**WPMB SERIES**

**POLE MOUNT BRACKET**

← NEW SIZE →



- Pole mount bracket made from weather-resistant ASA material.
- Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its IP67 rating.
- Together with the WPMB series, the PKB series mounting belt enables the unit to be mounted onto the pole.
- DXF/DWG/PDF drawings available on our website.

**Product no. / Dimensions**

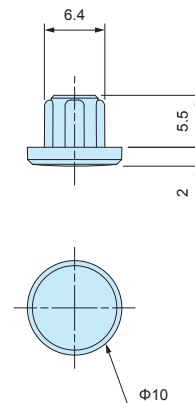
| Product no.  |             | Dimensions |    |     |    |     | Pack of  | Material   | Weight (g) | Screw                |
|--------------|-------------|------------|----|-----|----|-----|----------|------------|------------|----------------------|
| ● White gray | ● Dark gray | W          | D  | H   | a  | b   |          |            |            |                      |
| NEW WPMB-M3G | WPMB-M3D    | 18         | 14 | 9.5 | 11 | 1.5 | 2 (pair) | ASA UL94HB | 3          | Stainless Steel M3-6 |
| WPMB-M4G     | WPMB-M4D    | 28         | 18 | 12  | 13 | 2   | 2 (pair) | ASA UL94HB | 10         | Stainless Steel M3-6 |



**PFRF-M2.5D**

**RUBBER FEET**

★ ★ NEW



- Recommended to be used with the WP series as a desktop flat-type unit.
- No additional hole milling required as the rubber feet fits snugly into the screw holes.
- Made from elastomer material.
- Unavailable for use with WP5-7-2, 5-7-3, 6-8-2, and 6-8-3 models.

**Product no. / Dimensions**

| Product no. | Pack of | Material         | Color     |
|-------------|---------|------------------|-----------|
| PFRF-M2.5D  | 4       | Elastomer UL94HB | Dark gray |

MR SERIES

TORX SCREW for WP



Head type (with pin)



pin

- Recommended to be used for tamper resistance, or for an elegant look and feel.
- Requires the use of a specialized screwdriver.
- Unavailable for use with WP5-7-2, 5-7-3, 6-8-2, and 6-8-3 models.

Product no. / Dimensions

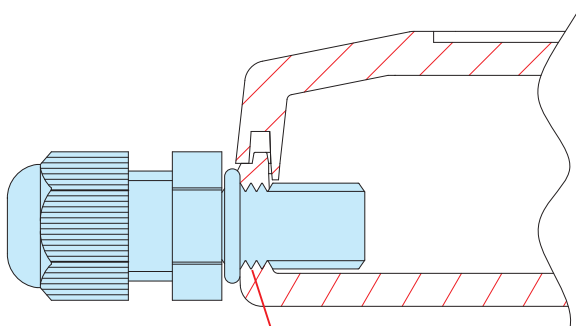
| Product no. | Dimensions |    | TORX head no. | Pack of | Material        | Finish     | Suitable enclosures                                     |
|-------------|------------|----|---------------|---------|-----------------|------------|---|
|             | M          | L  |               |         |                 |            |   |
| MR2.5-8ST   | 2.5        | 8  | T8 (with pin) | 20      | Stainless steel | Unfinished | WP8-8-2 • 8-10-2 • 9-13-3 • 10-10-3 • 11-15-3 • 13-18-3 |
| MR2.5-16ST  | 2.5        | 16 | T8 (with pin) | 20      | Stainless steel | Unfinished | WP8-8-4 • 8-10-4 • 9-13-4 • 10-10-4 • 11-15-4 • 13-18-5 |

## Instructions on installation of cable glands

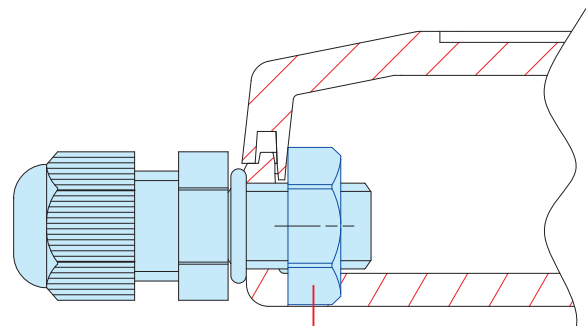


- Please note that certain cable glands are unable to be affixed on properly due to the lack of surface area for installation, causing the nut to not be able to be secured properly.

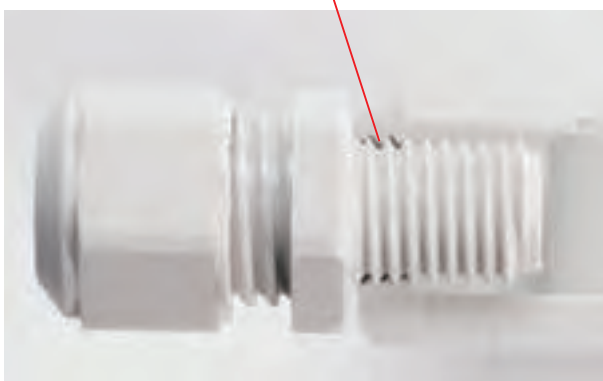
In these instances, a thread-hole should be drilled with the cable gland directly screwed into it without utilizing the nut.



Cross-section



Obstruction



- Thread-hole milling from M6~M32, PG7~21 sizes can be performed as per your requirements.



# PF SERIES FLAT NETWORK CASE

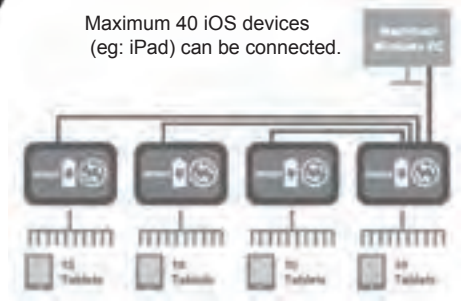
## USB-HUB

Self-powered USB-hub enabling power charging and data synchronization for multiple USB devices.

Product by MT-planning, Ltd.(Japan)  
Website : [mt-planning.com](http://mt-planning.com)

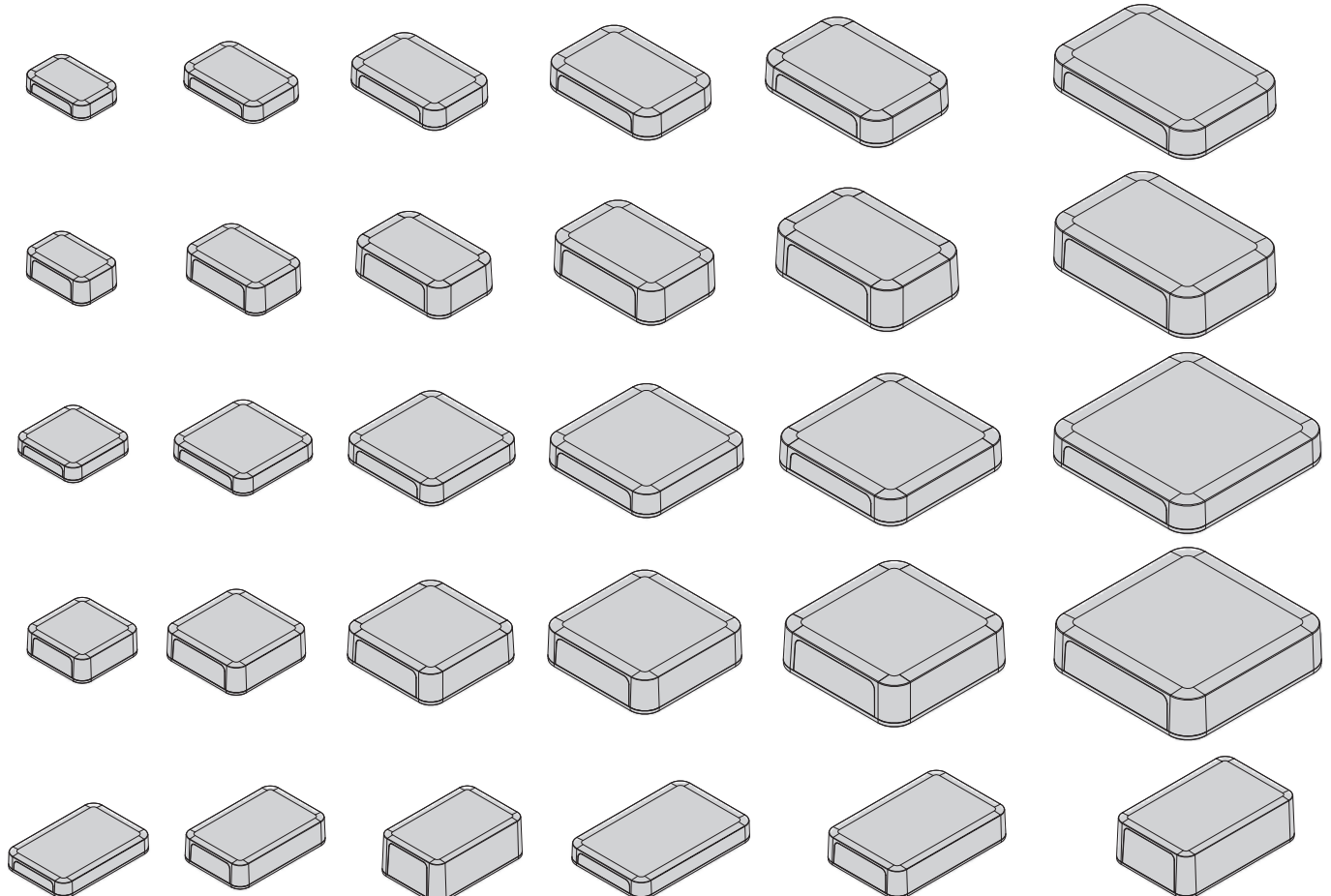


Maximum 40 iOS devices  
(eg: iPad) can be connected.



**Huge selection, 30 different sizes are now available.**

From 100 x 67 x 22.5 to 240 x 240 x 60mm.



# APPLICATION EXAMPLE

## USB HEMODYNAMIC RESEARCH DEVICE



Product by Cardiovascular Engineering, Inc. (USA)  
 website : [cardiovascularengineering.com](http://cardiovascularengineering.com)

## WIRELESS HOME ELECTRONICS CONTROLLER

Product by AR SMART SAS (Colombia)  
 Website : [ar-smart.co](http://ar-smart.co)



## iCONSE-T IOT and SENSOR NETWORK TRAINING SYSTEM

Product by Benchmark Electronic Systems (India)  
 website : [iconse-t.com](http://iconse-t.com)



## G4 FLIGHT TRACKER

Product by Guardian Mobility (Canada)  
 website : [guardianmobility.com](http://guardianmobility.com)



## GSM MODULE

Product by Elmar Electronic d.o.o. (Croatia)  
 Website : [elmar-el.hr](http://elmar-el.hr)



## TOUCH PANEL CONTROLLER

Product by Elmar Electronic d.o.o. (Croatia)  
 Website : [elmar-el.hr](http://elmar-el.hr)



## WIRELESS NETWORK DATA LOGGER

Product by SensingWinTech Co.,Ltd. (Japan)  
 Website : [sensingwintech.com](http://sensingwintech.com)



## ADVANCED TRIGGER STATION

Product by BrainTrends (Italy)  
 Website : [braintrends.it](http://braintrends.it)







| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |



- Flat designed plastic case with detachable panels.
- Made of flame-resistant ABS UL94V-0, and available in off-white and dark gray color.
- 22 new sizes added for a total of 30 available sizes.
- Equipped with built-in bosses for PCB mounting.
- Suitable for Wi-Fi access point, measuring equipment, controller or other various applications either desktop or wall mounting and so on.

Components

| No. | Part name          | Pcs | Material    | Color / Finish        |
|-----|--------------------|-----|-------------|-----------------------|
| 1   | Top cover          | 1   | ABS UL94V-0 | Off-white • Dark gray |
| 2   | Bottom base        | 1   | ABS UL94V-0 | Off-white • Dark gray |
| 3   | Panel              | 2   | ABS UL94V-0 | Off-white • Dark gray |
| 4   | Self tapping screw | 4   | Steel       | Nickel plated         |
| 5   | Rubber feet        | 4   | Elastomer   | Dark gray             |

Accessories (Optional parts)



PCB mounting screw  
EM series See page 135



TORX screw  
MR series See page 135



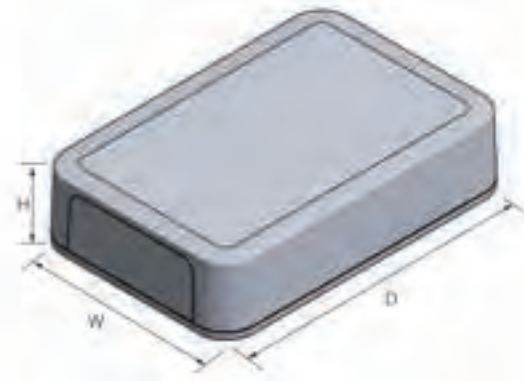
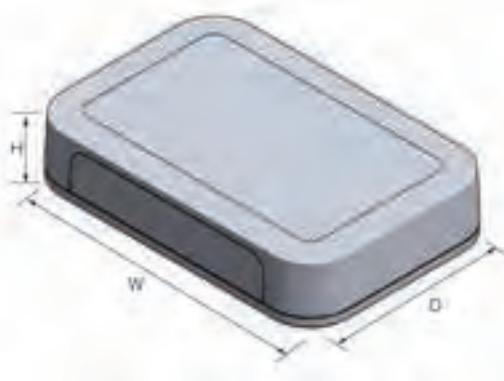
Tapping standoff  
TPS series See page 133



Suspension bracket  
WM series See page 129



Neodymium magnet  
NMG series See page 130



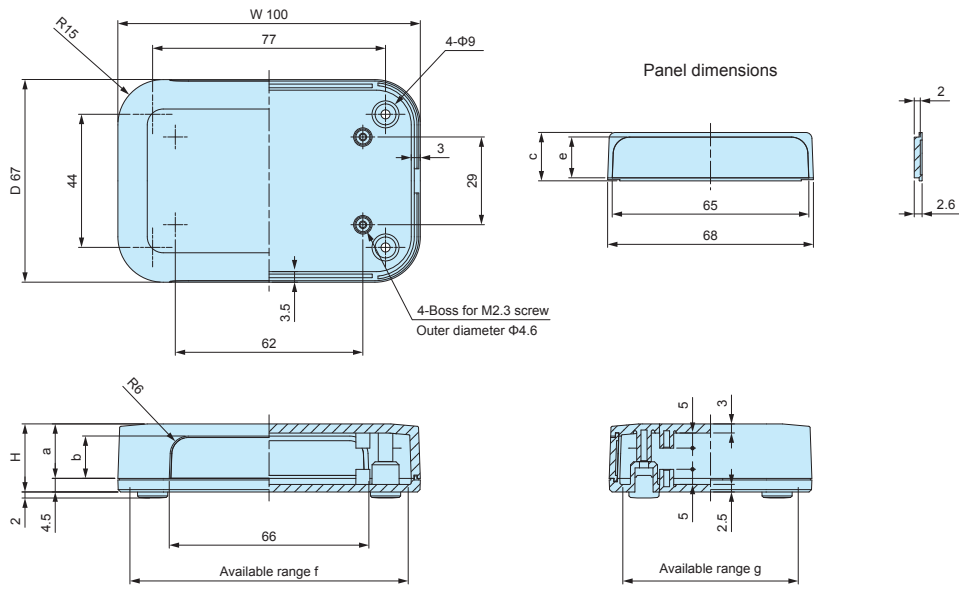
Product no. / Dimensions

※ H dimension is not inclusive of rubber feet. (Rubber feet height = 2mm)

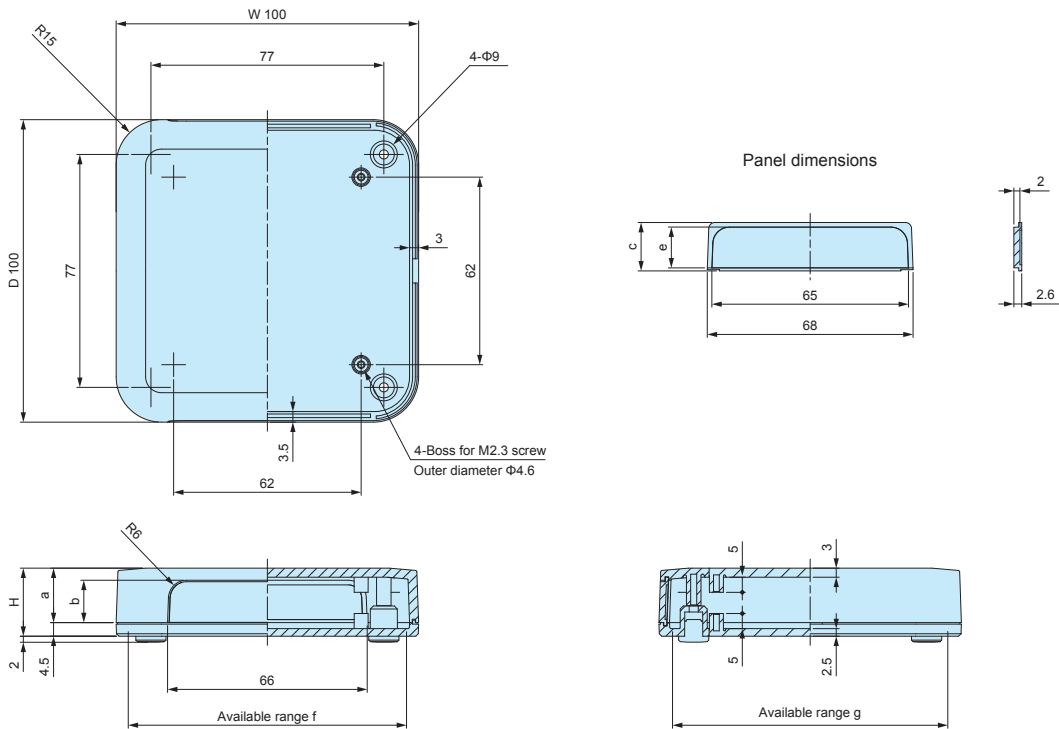
| Product no.           |                       | Dimensions |      |     | Screw          | Weight (g) |
|-----------------------|-----------------------|------------|------|-----|----------------|------------|
| ● Off-white           | ● Dark gray           | W          | H    | D   |                |            |
| <b>NEW</b> PF10-2- 7W | <b>NEW</b> PF10-2- 7D | 100        | 22.5 | 67  | M2.5-8 x 4 pcs | 60         |
| <b>NEW</b> PF10-2-10W | <b>NEW</b> PF10-2-10D | 100        | 22.5 | 100 | M2.5-8 x 4 pcs | 82.9       |
| <b>NEW</b> PF10-2-15W | <b>NEW</b> PF10-2-15D | 100        | 22.5 | 150 | M2.5-8 x 4 pcs | 120.2      |
| <b>NEW</b> PF10-4- 7W | <b>NEW</b> PF10-4- 7D | 100        | 35   | 67  | M2.5-8 x 4 pcs | 65         |
| <b>NEW</b> PF10-4-10W | <b>NEW</b> PF10-4-10D | 100        | 35   | 100 | M2.5-8 x 4 pcs | 97.1       |
| <b>NEW</b> PF10-4-15W | <b>NEW</b> PF10-4-15D | 100        | 35   | 150 | M2.5-8 x 4 pcs | 132.6      |
| <b>NEW</b> PF10-6-15W | <b>NEW</b> PF10-6-15D | 100        | 55   | 150 | M2.5-8 x 4 pcs | 169.1      |
| <b>NEW</b> PF13-3- 9W | <b>NEW</b> PF13-3- 9D | 125        | 25   | 85  | M2.5-8 x 4 pcs | 90.8       |
| <b>NEW</b> PF13-3-13W | <b>NEW</b> PF13-3-13D | 125        | 25   | 125 | M2.5-8 x 4 pcs | 127.5      |
| <b>NEW</b> PF13-3-19W | <b>NEW</b> PF13-3-19D | 125        | 25   | 190 | M2.5-8 x 4 pcs | 186.8      |
| <b>NEW</b> PF13-4- 9W | <b>NEW</b> PF13-4- 9D | 125        | 40   | 85  | M2.5-8 x 4 pcs | 108.4      |
| <b>NEW</b> PF13-4-13W | <b>NEW</b> PF13-4-13D | 125        | 40   | 125 | M2.5-8 x 4 pcs | 151.4      |
| <b>NEW</b> PF13-4-19W | <b>NEW</b> PF13-4-19D | 125        | 40   | 190 | M2.5-8 x 4 pcs | 214.9      |
| <b>NEW</b> PF13-6-19W | <b>NEW</b> PF13-6-19D | 125        | 60   | 190 | M2.5-8 x 4 pcs | 250.4      |
| PF15-3-10W            | PF15-3-10D            | 150        | 30   | 100 | M2.5-8 x 4 pcs | 145.5      |
| PF15-3-15W            | PF15-3-15D            | 150        | 30   | 150 | M2.5-8 x 4 pcs | 207.5      |
| PF15-5-10W            | PF15-5-10D            | 150        | 45   | 100 | M2.5-8 x 4 pcs | 166        |
| PF15-5-15W            | PF15-5-15D            | 150        | 45   | 150 | M2.5-8 x 4 pcs | 233.5      |
| <b>NEW</b> PF18-4-12W | <b>NEW</b> PF18-4-12D | 175        | 35   | 120 | M2.5-8 x 4 pcs | 188.7      |
| <b>NEW</b> PF18-4-18W | <b>NEW</b> PF18-4-18D | 175        | 35   | 175 | M2.5-8 x 4 pcs | 266.8      |
| <b>NEW</b> PF18-5-12W | <b>NEW</b> PF18-5-12D | 175        | 50   | 120 | M2.5-8 x 4 pcs | 213.6      |
| <b>NEW</b> PF18-5-18W | <b>NEW</b> PF18-5-18D | 175        | 50   | 175 | M2.5-8 x 4 pcs | 302.1      |
| PF20-4-13W            | PF20-4-13D            | 200        | 40   | 135 | M3-8 x 4 pcs   | 264        |
| PF20-4-20W            | PF20-4-20D            | 200        | 40   | 200 | M3-8 x 4 pcs   | 368.5      |
| PF20-6-13W            | PF20-6-13D            | 200        | 60   | 135 | M3-8 x 4 pcs   | 302.5      |
| PF20-6-20W            | PF20-6-20D            | 200        | 60   | 200 | M3-8 x 4 pcs   | 417        |
| <b>NEW</b> PF24-4-17W | <b>NEW</b> PF24-4-17D | 240        | 42.5 | 165 | M3-8 x 4 pcs   | 370.4      |
| <b>NEW</b> PF24-4-24W | <b>NEW</b> PF24-4-24D | 240        | 42.5 | 240 | M3-8 x 4 pcs   | 521.4      |
| <b>NEW</b> PF24-6-17W | <b>NEW</b> PF24-6-17D | 240        | 60   | 165 | M3-8 x 4 pcs   | 408.8      |
| <b>NEW</b> PF24-6-24W | <b>NEW</b> PF24-6-24D | 240        | 60   | 240 | M3-8 x 4 pcs   | 568.7      |

PF dimensions

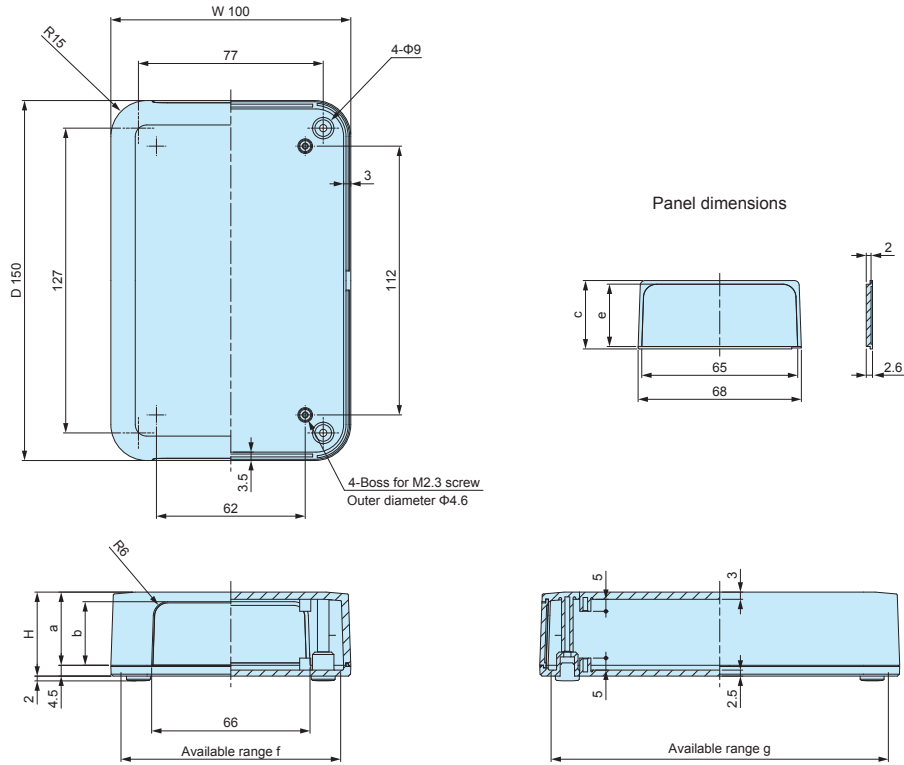
DXF/DWG/PDF drawings available on our website.



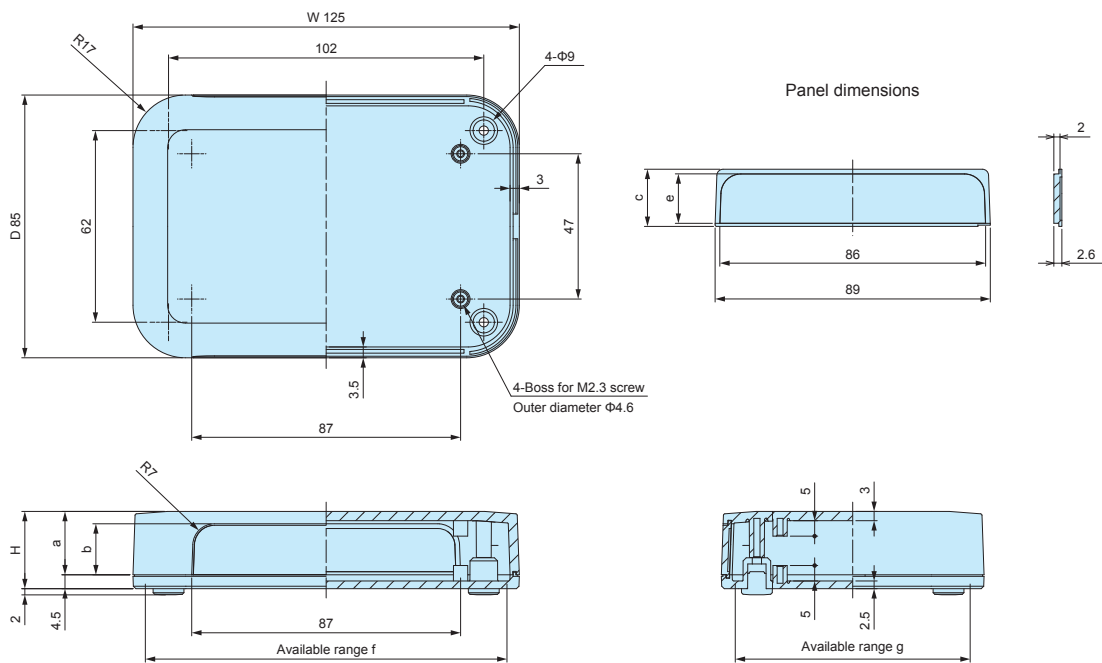
| Product no. | W   | H    | D  | a    | b    | c    | e    | f  | g  |
|-------------|-----|------|----|------|------|------|------|----|----|
| PF10-2-7□   | 100 | 22.5 | 67 | 18   | 14   | 16   | 13.5 | 92 | 58 |
| PF10-4-7□   | 100 | 35   | 67 | 30.5 | 26.5 | 28.5 | 26   | 91 | 57 |



| Product no. | W   | H    | D   | a    | b    | c    | e    | f  | g  |
|-------------|-----|------|-----|------|------|------|------|----|----|
| PF10-2-10□  | 100 | 22.5 | 100 | 18   | 14   | 16   | 13.5 | 92 | 91 |
| PF10-4-10□  | 100 | 35   | 100 | 30.5 | 26.5 | 28.5 | 26   | 91 | 90 |



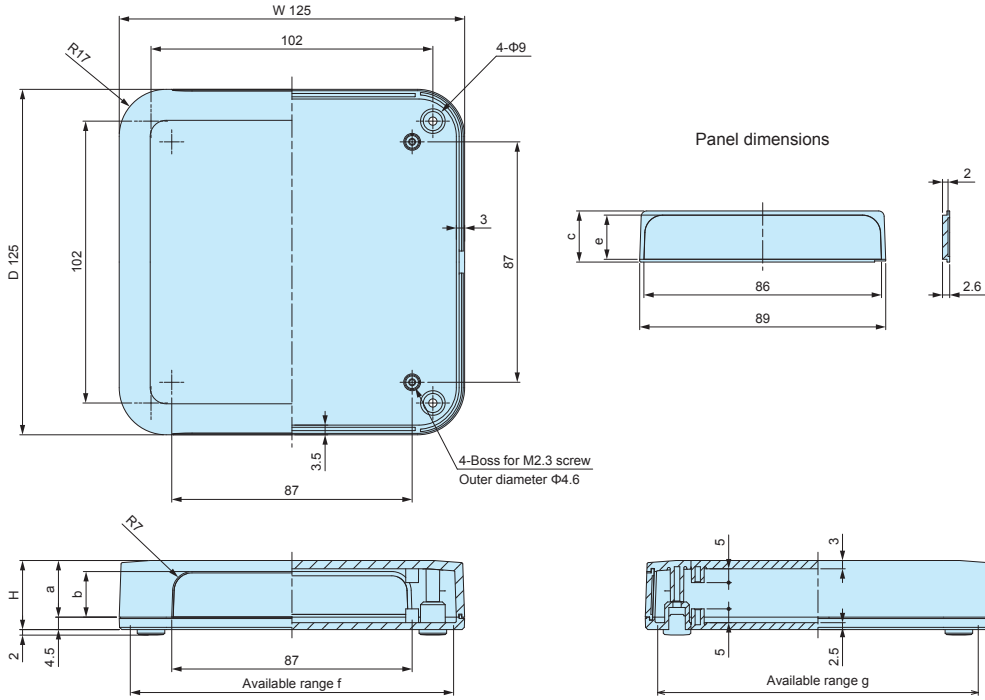
| Product no. | W   | H    | D   | a    | b    | c    | e    | f  | g   |
|-------------|-----|------|-----|------|------|------|------|----|-----|
| PF10-2-15□  | 100 | 22.5 | 150 | 18   | 14   | 16   | 13.5 | 92 | 141 |
| PF10-4-15□  | 100 | 35   | 150 | 30.5 | 26.5 | 28.5 | 26   | 91 | 140 |
| PF10-6-15□  | 100 | 55   | 150 | 50.5 | 46.5 | 48.5 | 46   | 90 | 139 |



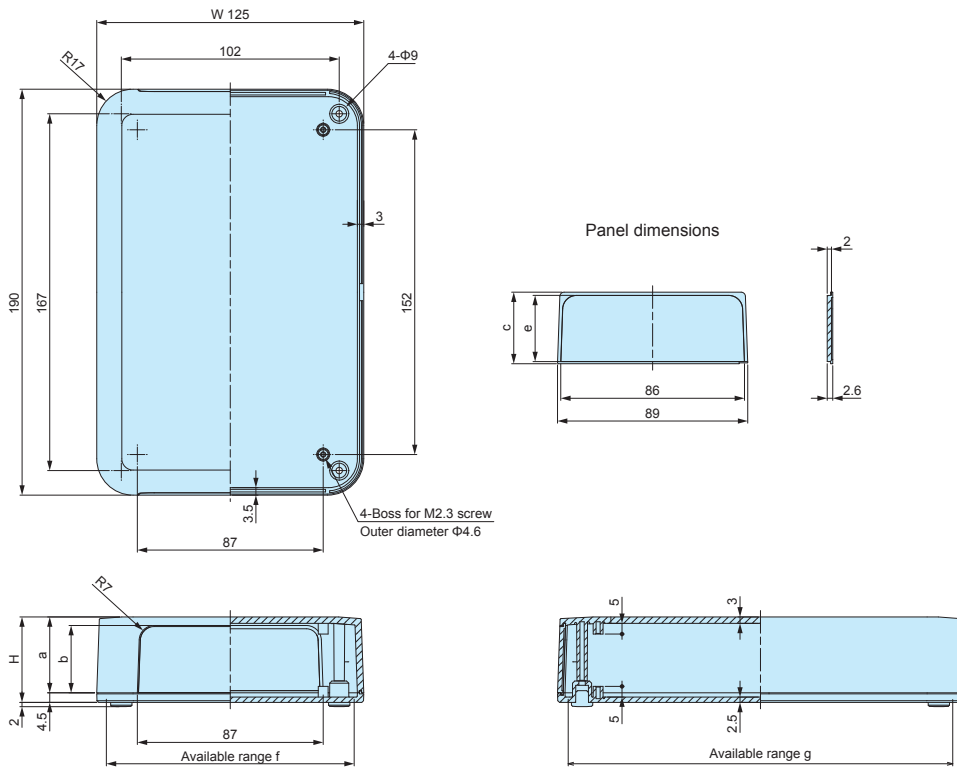
| Product no. | W   | H  | D  | a    | b    | c    | e  | f   | g  |
|-------------|-----|----|----|------|------|------|----|-----|----|
| PF13-3-9□   | 125 | 25 | 85 | 20.5 | 16.5 | 18.5 | 16 | 117 | 76 |
| PF13-4-9□   | 125 | 40 | 85 | 35.5 | 31.5 | 33.5 | 31 | 116 | 75 |

PF dimensions

DXF/DWG/PDF drawings available on our website.

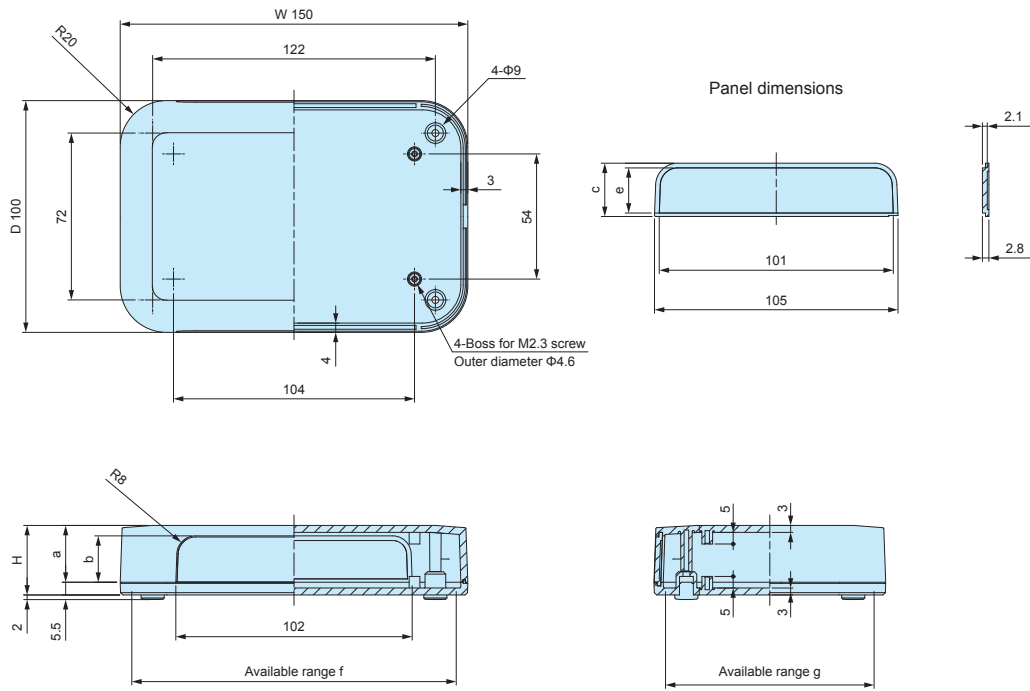


| Product no. | W   | H  | D   | a    | b    | c    | e  | f   | g   |
|-------------|-----|----|-----|------|------|------|----|-----|-----|
| PF13-3-13□  | 125 | 25 | 125 | 20.5 | 16.5 | 18.5 | 16 | 117 | 116 |
| PF13-4-13□  | 125 | 40 | 125 | 35.5 | 31.5 | 33.5 | 31 | 116 | 115 |

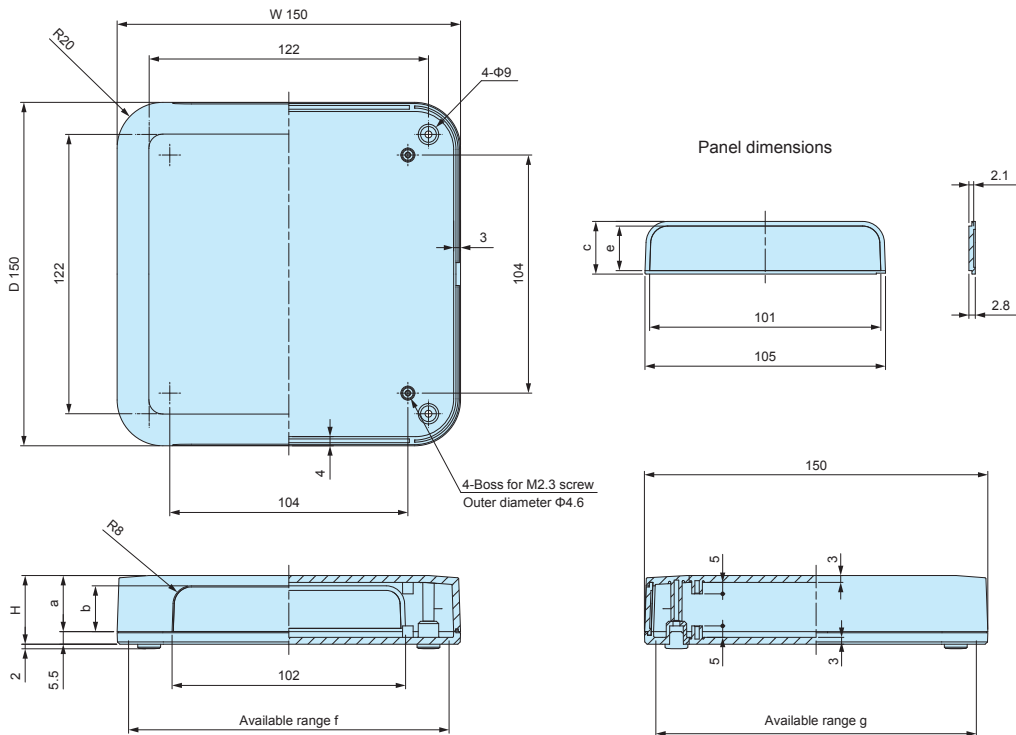


| Product no. | W   | H  | D   | a    | b    | c    | e  | f   | g   |
|-------------|-----|----|-----|------|------|------|----|-----|-----|
| PF13-3-19□  | 125 | 25 | 190 | 20.5 | 16.5 | 18.5 | 16 | 117 | 181 |
| PF13-4-19□  | 125 | 40 | 190 | 35.5 | 31.5 | 33.5 | 31 | 116 | 180 |
| PF13-6-19□  | 125 | 60 | 190 | 55.5 | 51.5 | 53.5 | 51 | 115 | 179 |





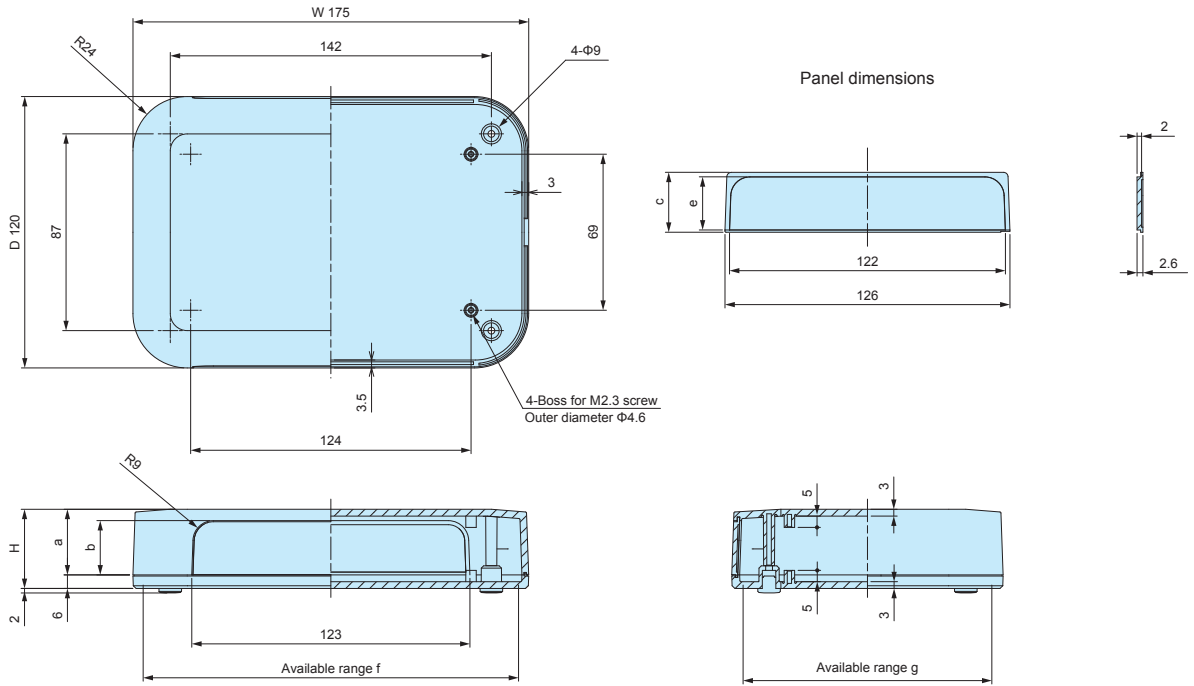
| Product no. | W   | H  | D   | a    | b  | c  | e    | f   | g  |
|-------------|-----|----|-----|------|----|----|------|-----|----|
| PF15-3-10□  | 150 | 30 | 100 | 24.5 | 20 | 23 | 19.5 | 142 | 90 |
| PF15-5-10□  | 150 | 45 | 100 | 39.5 | 35 | 38 | 34.5 | 141 | 89 |



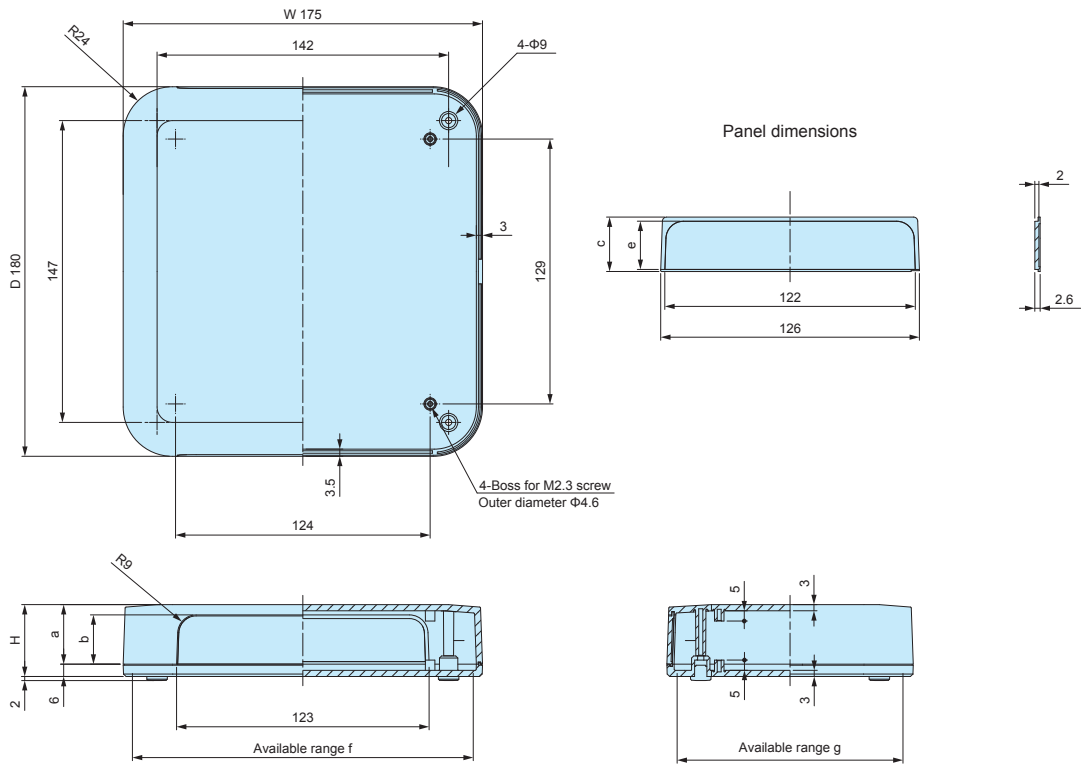
| Product no. | W   | H  | D   | a    | b    | c  | e    | f   | g   |
|-------------|-----|----|-----|------|------|----|------|-----|-----|
| PF15-3-15□  | 150 | 30 | 150 | 24.5 | 20   | 23 | 19.5 | 142 | 140 |
| PF15-5-15□  | 150 | 45 | 150 | 45   | 39.5 | 38 | 34.5 | 141 | 139 |

PF dimensions

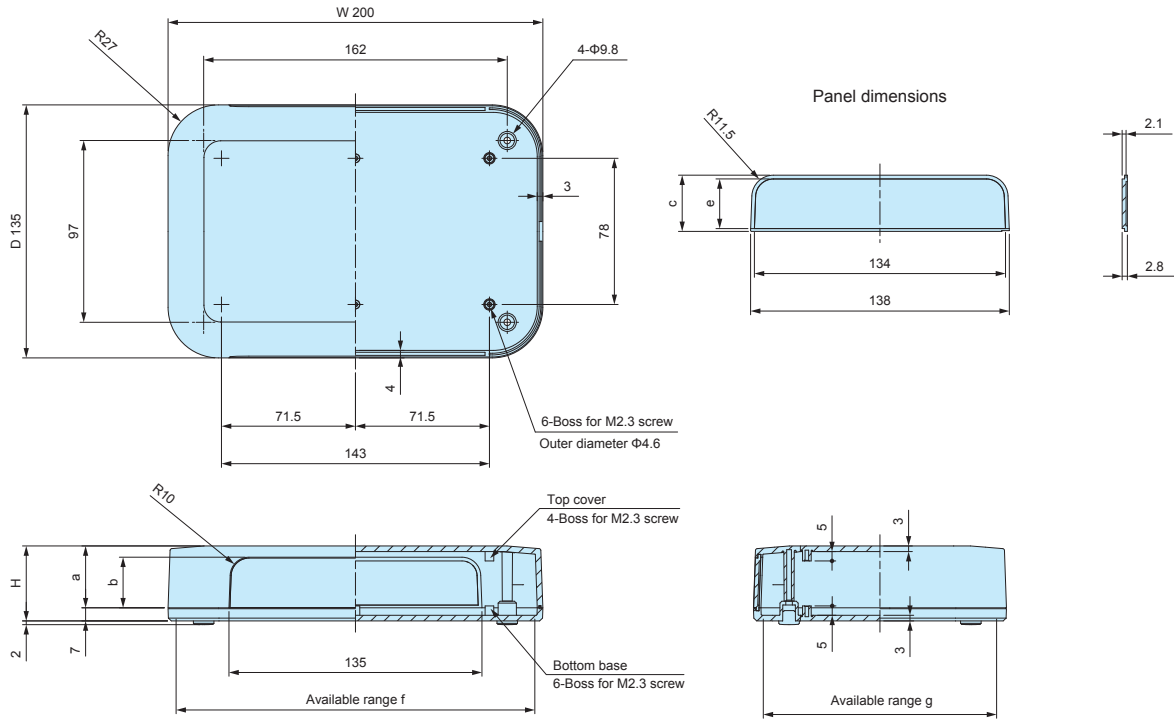
DXF/DWG/PDF drawings available on our website.



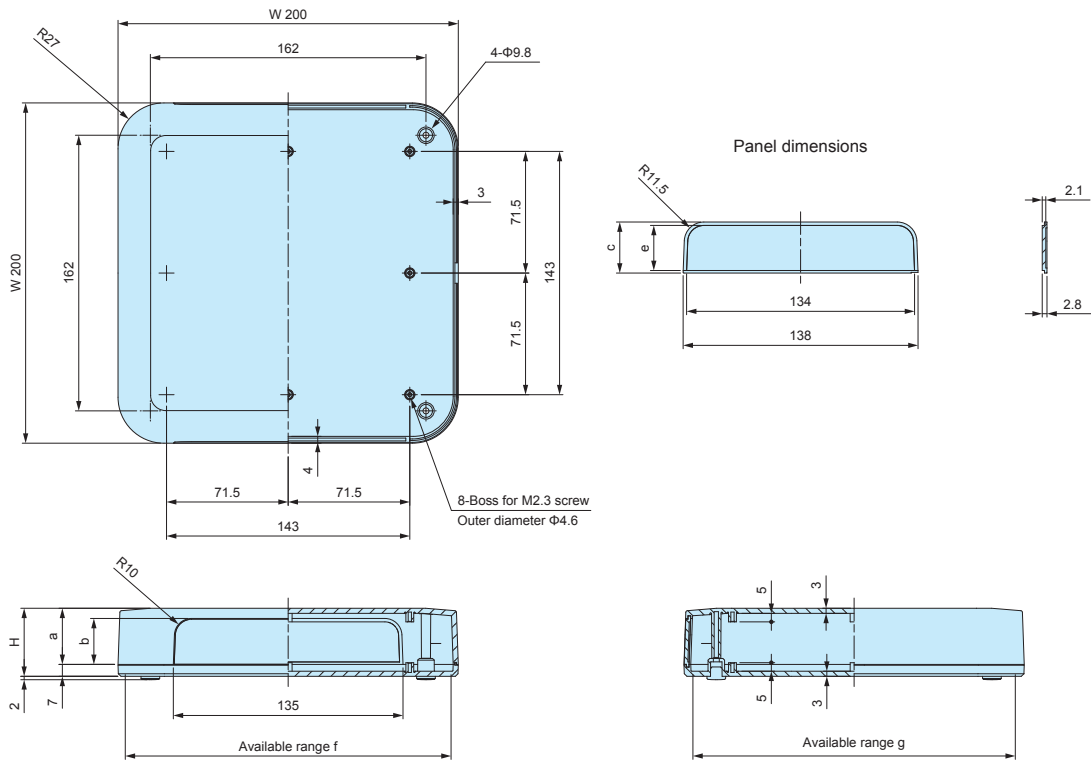
| Product no. | W   | H  | D   | a  | b  | c    | e    | f   | g   |
|-------------|-----|----|-----|----|----|------|------|-----|-----|
| PF18-4-12□  | 175 | 35 | 120 | 29 | 24 | 26.5 | 23.5 | 166 | 110 |
| PF18-5-12□  | 175 | 50 | 120 | 29 | 24 | 41.5 | 38.5 | 165 | 109 |



| Product no. | W   | H  | D   | a  | b  | c    | e    | f   | g   |
|-------------|-----|----|-----|----|----|------|------|-----|-----|
| PF18-4-18□  | 175 | 35 | 175 | 29 | 24 | 26.5 | 23.5 | 166 | 165 |
| PF18-5-18□  | 175 | 50 | 175 | 44 | 39 | 41.5 | 38.5 | 165 | 164 |



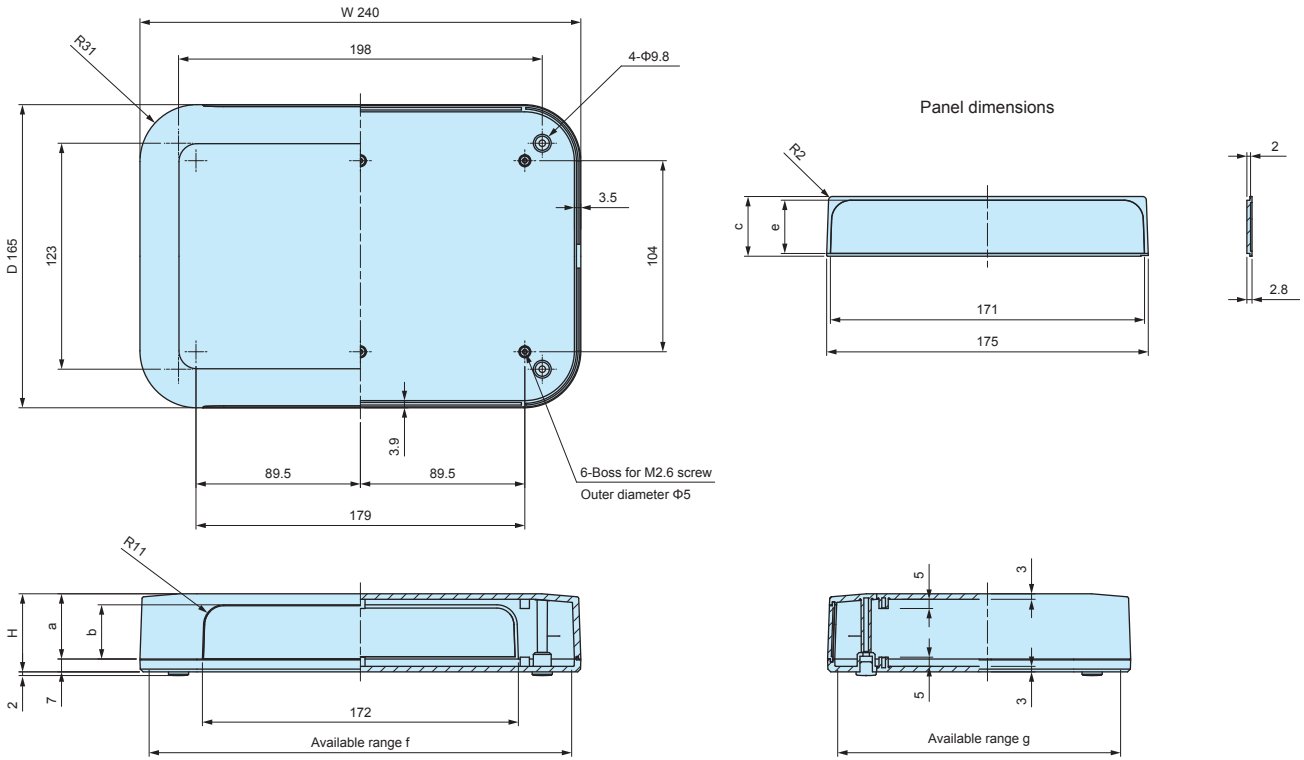
| Product no. | W   | H  | D   | a  | b  | c  | e    | f     | g     |
|-------------|-----|----|-----|----|----|----|------|-------|-------|
| PF20-4-13□  | 200 | 40 | 135 | 33 | 27 | 30 | 26.5 | 191.5 | 124.5 |
| PF20-6-13□  | 200 | 60 | 135 | 53 | 47 | 50 | 46.5 | 190   | 123   |



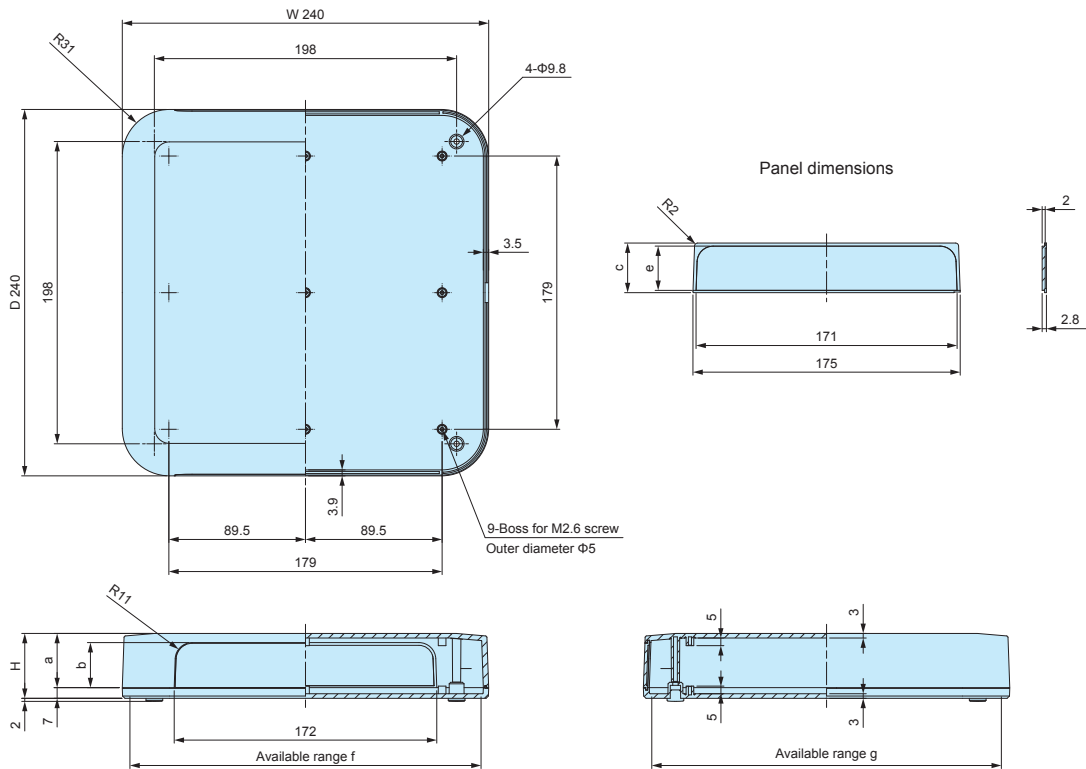
| Product no. | W   | H  | D   | a  | b  | c  | e    | f     | g     |
|-------------|-----|----|-----|----|----|----|------|-------|-------|
| PF20-4-20□  | 200 | 40 | 200 | 33 | 27 | 30 | 26.5 | 191.5 | 189.5 |
| PF20-6-20□  | 200 | 60 | 200 | 53 | 47 | 50 | 46.5 | 190   | 188   |

PF dimensions

■ DXF/DWG/PDF drawings available on our website.



| Product no. | W   | H    | D   | a    | b    | c    | e    | f   | g   |
|-------------|-----|------|-----|------|------|------|------|-----|-----|
| PF24-4-17□  | 240 | 42.5 | 165 | 35.5 | 29.5 | 32.5 | 29   | 230 | 154 |
| PF24-6-17□  | 240 | 60   | 165 | 53   | 47   | 50   | 46.5 | 229 | 153 |



| Product no. | W   | H    | D   | a    | b    | c    | e    | f   | g   |
|-------------|-----|------|-----|------|------|------|------|-----|-----|
| PF24-4-24□  | 240 | 42.5 | 240 | 35.5 | 29.5 | 32.5 | 29   | 230 | 229 |
| PF24-6-24□  | 240 | 60   | 240 | 53   | 47   | 50   | 46.5 | 229 | 228 |

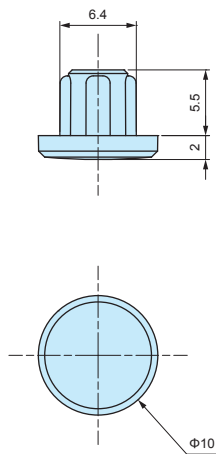
**PFRF** SERIES

**RUBBER FEET for PF**

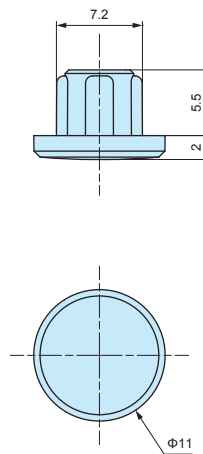


- Rubber feet for PF series.
- Inserted into the screw holes on the underside of box.
- Elastomer material is resistant against color migration.

PFRF-M2.5D



PFRF-M3D



**Product no. / Dimensions**

| Product no. | Suitable case  | Material  | Color     | Pack of |
|-------------|--|-----------|-----------|---------|
| PFRF-M2.5D  | PF10-2-7, 10-2-10, 10-2-15, 10-4-7, 10-4-10, 10-4-15<br>PF10-6-15, 13-3-9, 13-3-13, 13-3-19, 13-4-9, 13-4-13<br>PF13-4-19, 13-6-19, 15-3-10, 15-3-15, 15-5-10, 15-5-15<br>PF18-4-12, 18-4-18, 18-5-12, 18-5-18 | Elastomer | Dark gray | 4       |
| PFRF-M3D    | PF20-4-13, 20-4-20, 20-6-13, 20-6-20, 24-4-17, 24-4-24<br>PF24-6-17, 24-6-24   | Elastomer | Dark gray | 4       |





| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |



- New PF plastic case with wall mounting flange bottom design.
- Made of flame-resistant ABS UL94V-0 and available in off-white color.
- 24 different sizes available for selection.
- Equipped with built-in bosses for PCB mounting.
- Suitable for Wi-Fi access point, wireless LAN, HUB, controller or other applications.

Components

| No. | Part name          | Pcs | Material    | Color / Finish |
|-----|--------------------|-----|-------------|----------------|
| 1   | Top cover          | 1   | ABS UL94V-0 | Off-white      |
| 2   | Flanged base       | 1   | ABS UL94V-0 | Off-white      |
| 3   | Panel              | 2   | ABS UL94V-0 | Off-white      |
| 4   | Self tapping screw | 4   | Steel       | Nickel plated  |

Accessories (Optional parts)



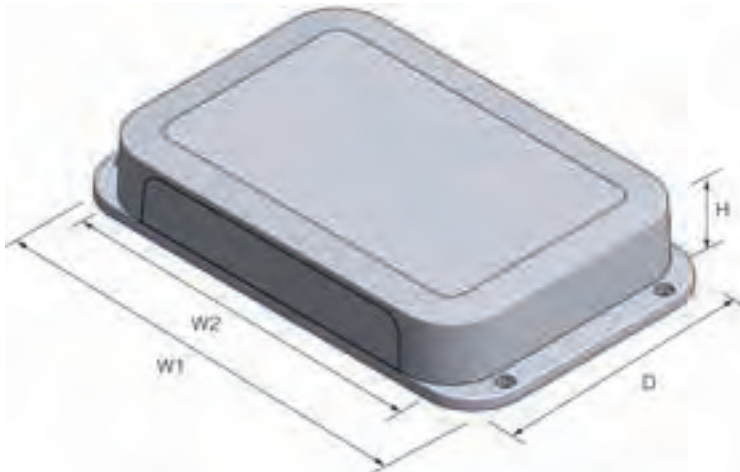
PCB mounting screw  
EM series  
See page 135



TORX screw  
MR series  
See page 135



Tapping standoff  
TPS series  
See page 133

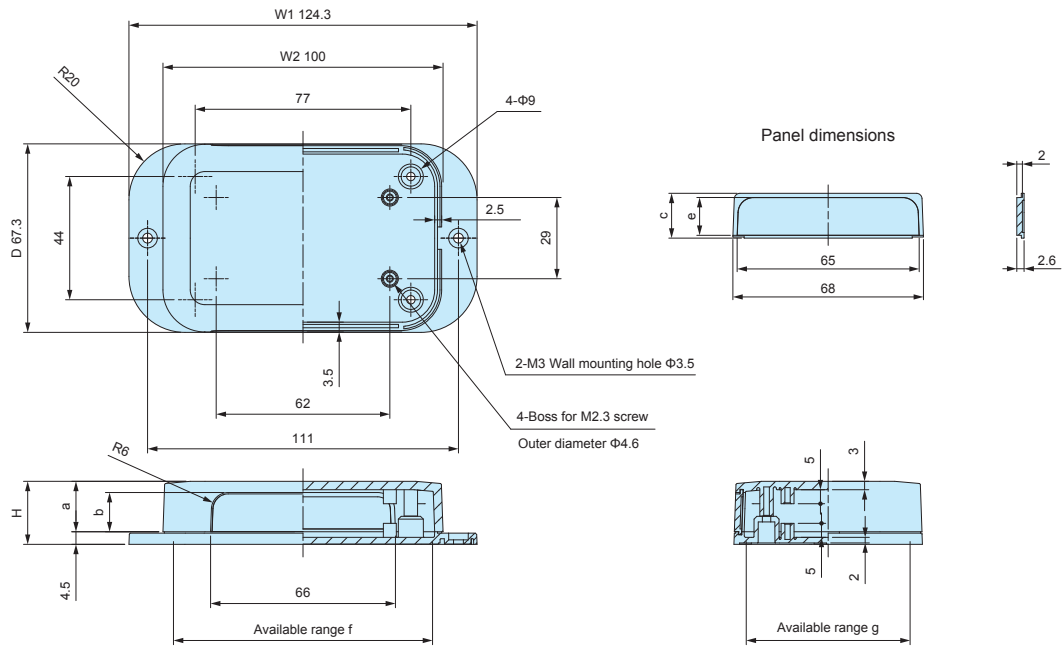


Product no. / Dimensions

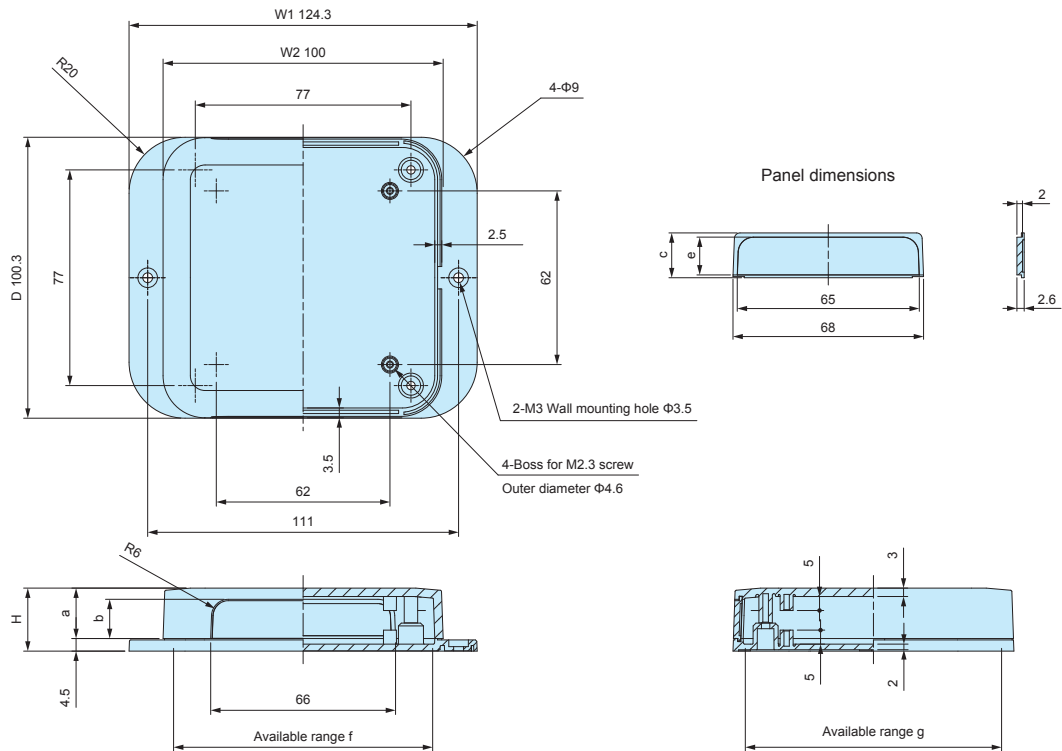
| Product no.<br>● Off-white | Dimensions |     |      |       | Screw          | Weight (g) |
|----------------------------|------------|-----|------|-------|----------------|------------|
|                            | W1         | W2  | H    | D     |                |            |
| PFF10-2- 7W                | 124.3      | 100 | 22.5 | 67.3  | M2.5-8 x 4 pcs | 60.8       |
| PFF10-2-10W                | 124.3      | 100 | 22.5 | 100.3 | M2.5-8 x 4 pcs | 84.6       |
| PFF10-4- 7W                | 124.3      | 100 | 35   | 67.3  | M2.5-8 x 4 pcs | 72         |
| PFF10-4-10W                | 124.3      | 100 | 35   | 100.3 | M2.5-8 x 4 pcs | 99.1       |
| PFF13-3- 9W                | 149.3      | 125 | 25   | 85.3  | M2.5-8 x 4 pcs | 90.8       |
| PFF13-3-13W                | 155.3      | 125 | 25   | 125.3 | M2.5-8 x 4 pcs | 128.6      |
| PFF13-4- 9W                | 149.3      | 125 | 40   | 85.3  | M2.5-8 x 4 pcs | 108.4      |
| PFF13-4-13W                | 155.3      | 125 | 40   | 125.3 | M2.5-8 x 4 pcs | 152.3      |
| PFF15-3-10W                | 180.4      | 150 | 30   | 100.4 | M2.5-8 x 4 pcs | 145.2      |
| PFF15-3-15W                | 180.4      | 150 | 30   | 150.4 | M2.5-8 x 4 pcs | 211.3      |
| PFF15-5-10W                | 180.4      | 150 | 45   | 100.4 | M2.5-8 x 4 pcs | 168.6      |
| PFF15-5-15W                | 180.4      | 150 | 45   | 150.4 | M2.5-8 x 4 pcs | 235        |
| PFF18-4-12W                | 205.4      | 175 | 35   | 120.4 | M2.5-8 x 4 pcs | 192.1      |
| PFF18-4-18W                | 205.4      | 175 | 35   | 175.4 | M2.5-8 x 4 pcs | 209.8      |
| PFF18-5-12W                | 205.4      | 175 | 50   | 120.4 | M2.5-8 x 4 pcs | 215.8      |
| PFF18-5-18W                | 205.4      | 175 | 50   | 175.4 | M2.5-8 x 4 pcs | 299.7      |
| PFF20-4-13W                | 230.5      | 200 | 40   | 135.5 | M3-8 x 4 pcs   | 267.7      |
| PFF20-4-20W                | 230.5      | 200 | 40   | 200.5 | M3-8 x 4 pcs   | 376        |
| PFF20-6-13W                | 230.5      | 200 | 60   | 135.5 | M3-8 x 4 pcs   | 309.7      |
| PFF20-6-20W                | 230.5      | 200 | 60   | 200.5 | M3-8 x 4 pcs   | 422.9      |
| PFF24-4-17W                | 270.5      | 240 | 42.5 | 165.5 | M3-8 x 4 pcs   | 366.9      |
| PFF24-4-24W                | 270.5      | 240 | 42.5 | 240.5 | M3-8 x 4 pcs   | 513.5      |
| PFF24-6-17W                | 270.5      | 240 | 60   | 165.5 | M3-8 x 4 pcs   | 403.8      |
| PFF24-6-24W                | 270.5      | 240 | 60   | 240.5 | M3-8 x 4 pcs   | 560.8      |

PFF dimensions

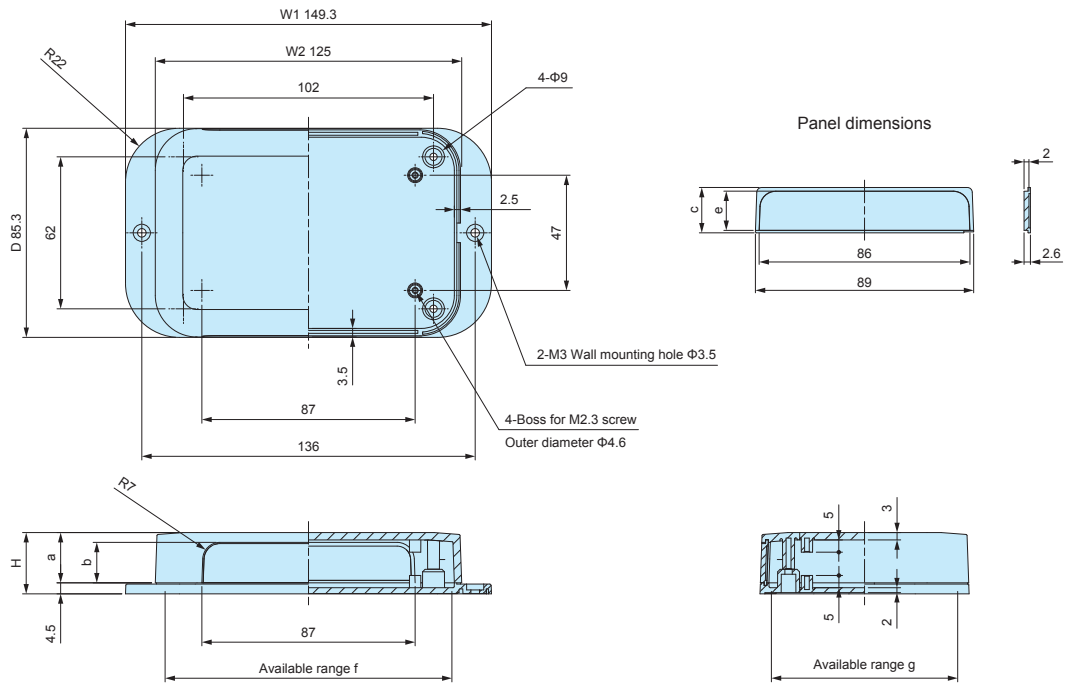
DXF/DWG/PDF drawings available on our website.



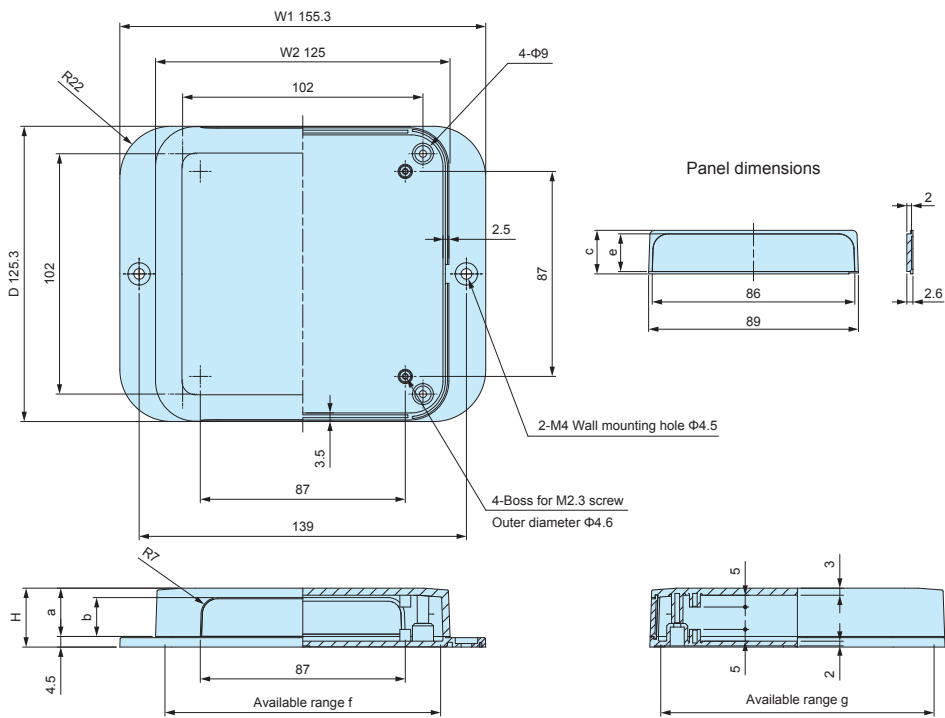
| Product no. | W1    | W2  | H    | D    | a    | b    | c    | e    | f  | g  |
|-------------|-------|-----|------|------|------|------|------|------|----|----|
| PFF10-2-7W  | 124.3 | 100 | 22.5 | 67.3 | 18   | 14   | 16   | 13.5 | 92 | 58 |
| PFF10-4-7W  | 124.3 | 100 | 35   | 67.3 | 30.5 | 26.5 | 28.5 | 26   | 91 | 57 |



| Product no. | W1    | W2  | H    | D     | a    | b    | c    | e    | f  | g  |
|-------------|-------|-----|------|-------|------|------|------|------|----|----|
| PFF10-2-10W | 124.3 | 100 | 22.5 | 100.3 | 18   | 14   | 16   | 13.5 | 92 | 91 |
| PFF10-4-10W | 124.3 | 100 | 35   | 100.3 | 30.5 | 26.5 | 28.5 | 26   | 91 | 90 |



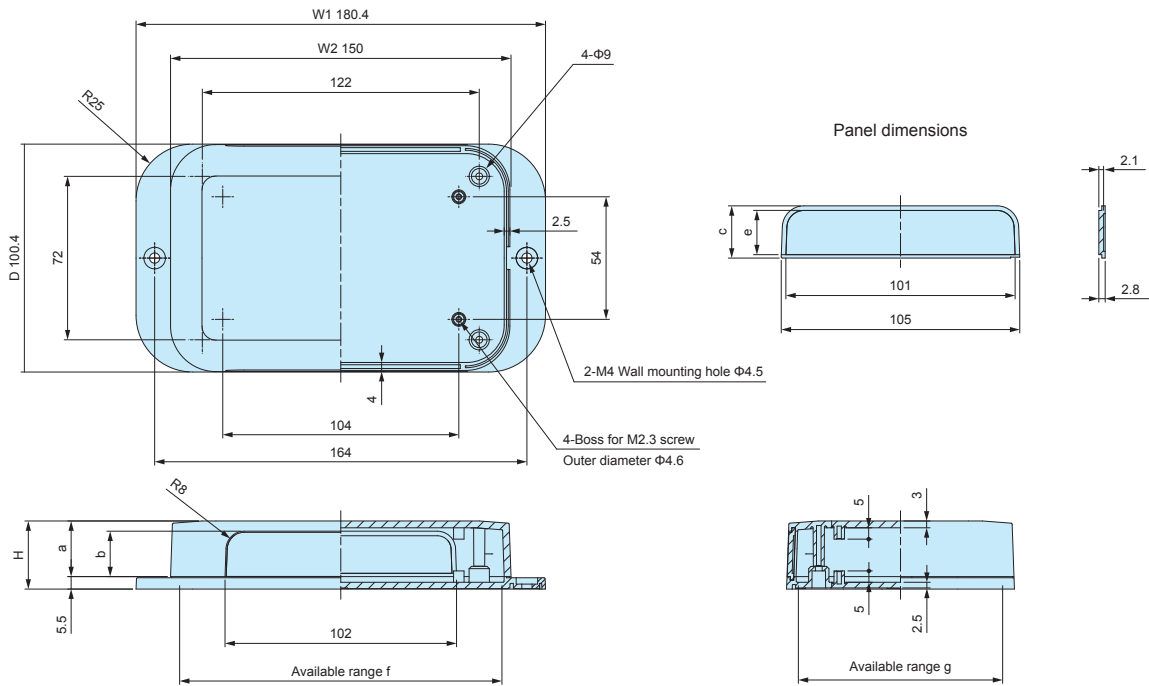
| Product no. | W1    | W2  | H  | D    | a    | b    | c    | e  | f   | g  |
|-------------|-------|-----|----|------|------|------|------|----|-----|----|
| PFF13-3-9W  | 149.3 | 125 | 25 | 85.3 | 20.5 | 16.5 | 18.5 | 16 | 117 | 76 |
| PFF13-4-9W  | 149.3 | 125 | 40 | 85.3 | 35.5 | 31.5 | 33.5 | 31 | 116 | 75 |



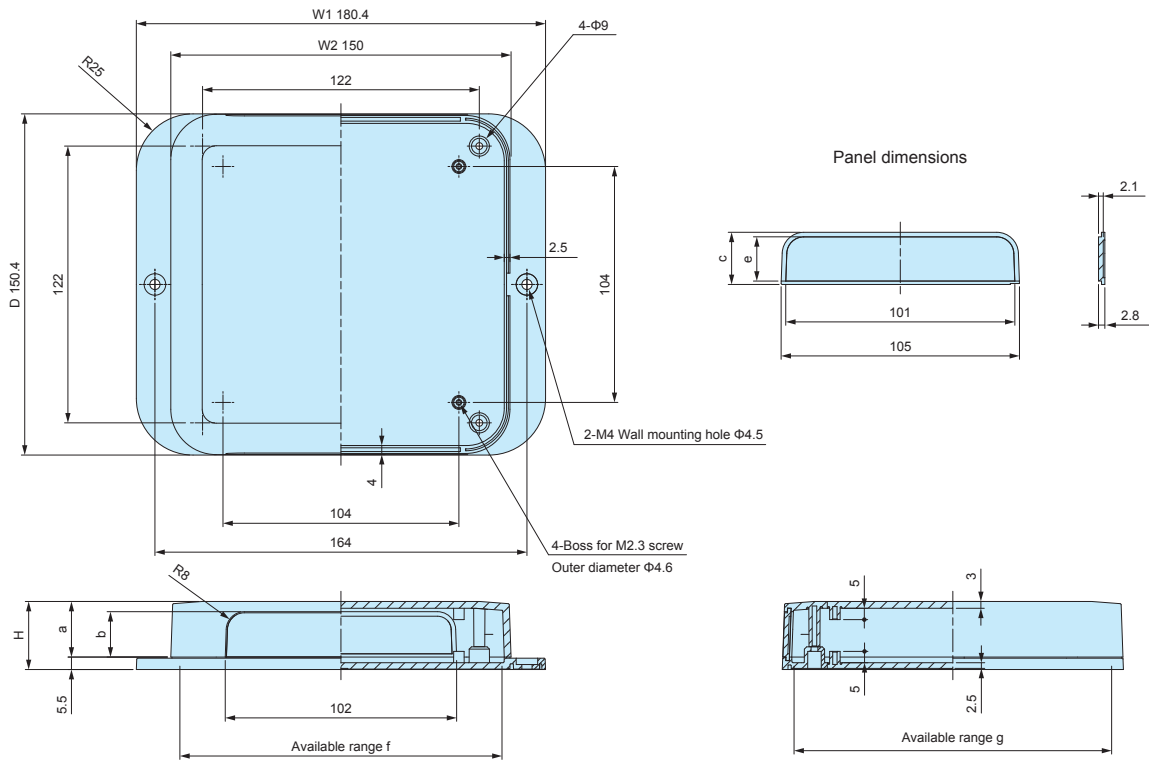
| Product no. | W1    | W2  | H  | D     | a    | b    | c    | e  | f   | g   |
|-------------|-------|-----|----|-------|------|------|------|----|-----|-----|
| PFF13-3-13W | 155.3 | 125 | 25 | 125.3 | 20.5 | 16.5 | 18.5 | 16 | 117 | 116 |
| PFF13-4-13W | 155.3 | 125 | 40 | 125.3 | 35.5 | 31.5 | 33.5 | 31 | 116 | 115 |

PFF dimensions

DXF/DWG/PDF drawings available on our website.

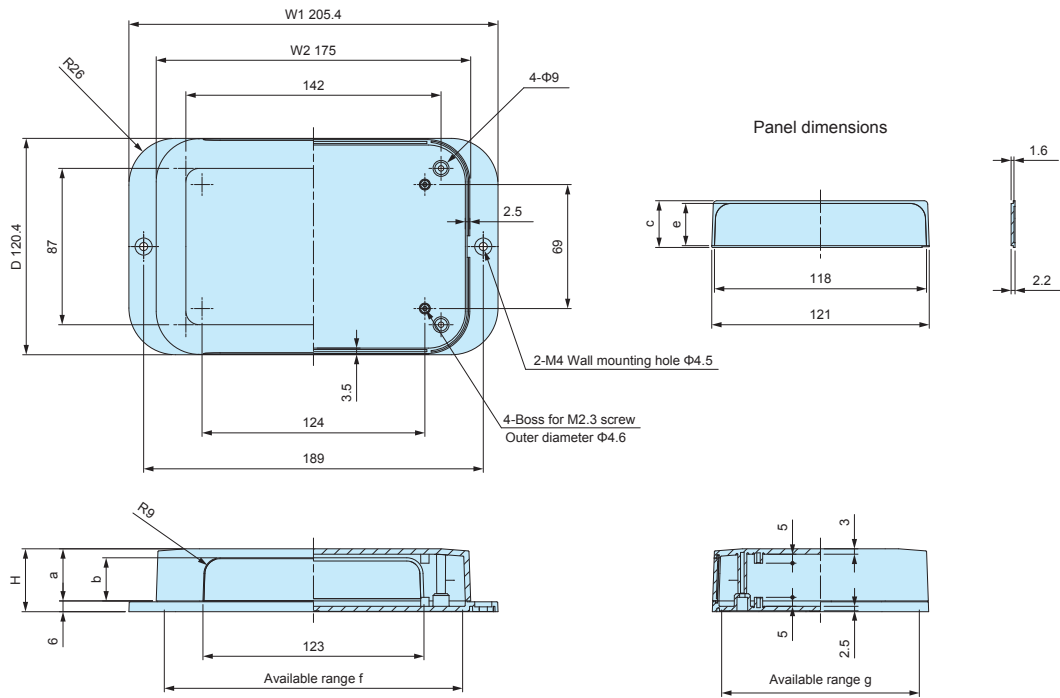


| Product no. | W1    | W2  | H  | D     | a    | b  | c  | e    | f   | g  |
|-------------|-------|-----|----|-------|------|----|----|------|-----|----|
| PFF15-3-10W | 180.4 | 150 | 30 | 100.4 | 24.5 | 20 | 23 | 19.5 | 142 | 90 |
| PFF15-5-10W | 180.4 | 150 | 45 | 100.4 | 39.5 | 35 | 38 | 34.5 | 141 | 89 |

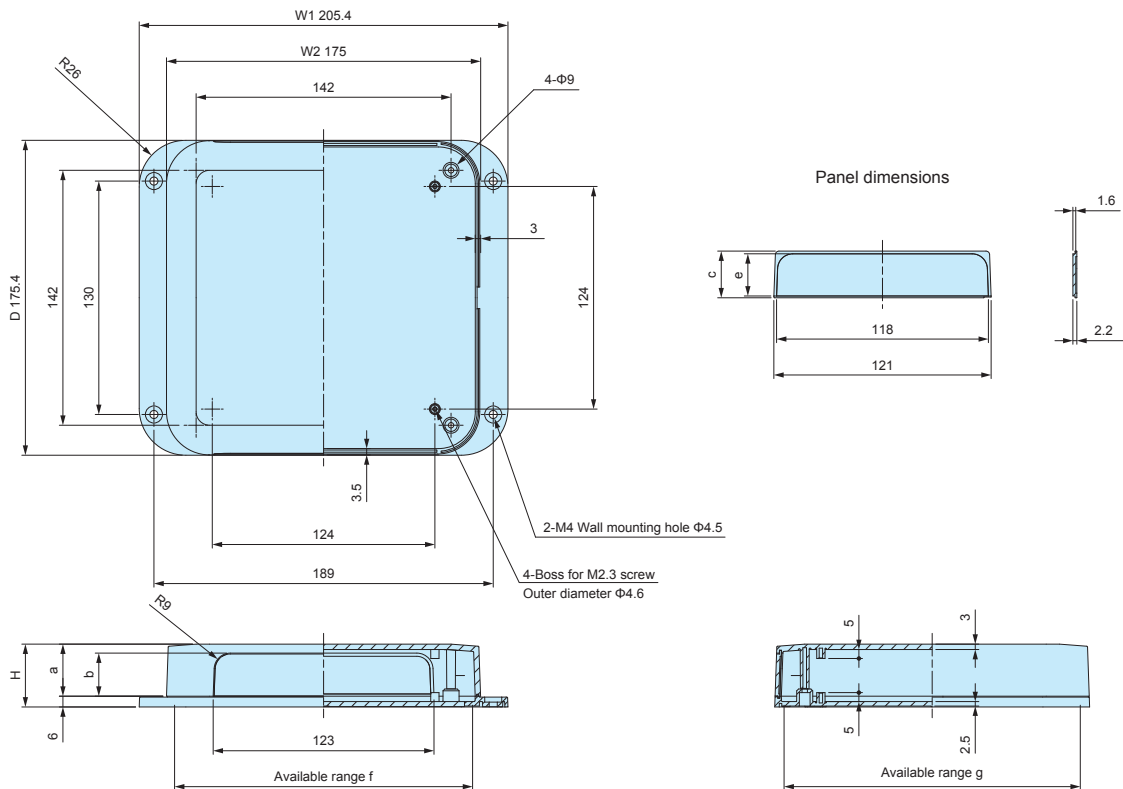


| Product no. | W1    | W2  | H  | D     | a    | b  | c  | e    | f   | g   |
|-------------|-------|-----|----|-------|------|----|----|------|-----|-----|
| PFF15-3-15W | 180.4 | 150 | 30 | 150.4 | 24.5 | 20 | 23 | 19.5 | 142 | 140 |
| PFF15-5-15W | 180.4 | 150 | 45 | 150.4 | 39.5 | 35 | 38 | 34.5 | 141 | 139 |





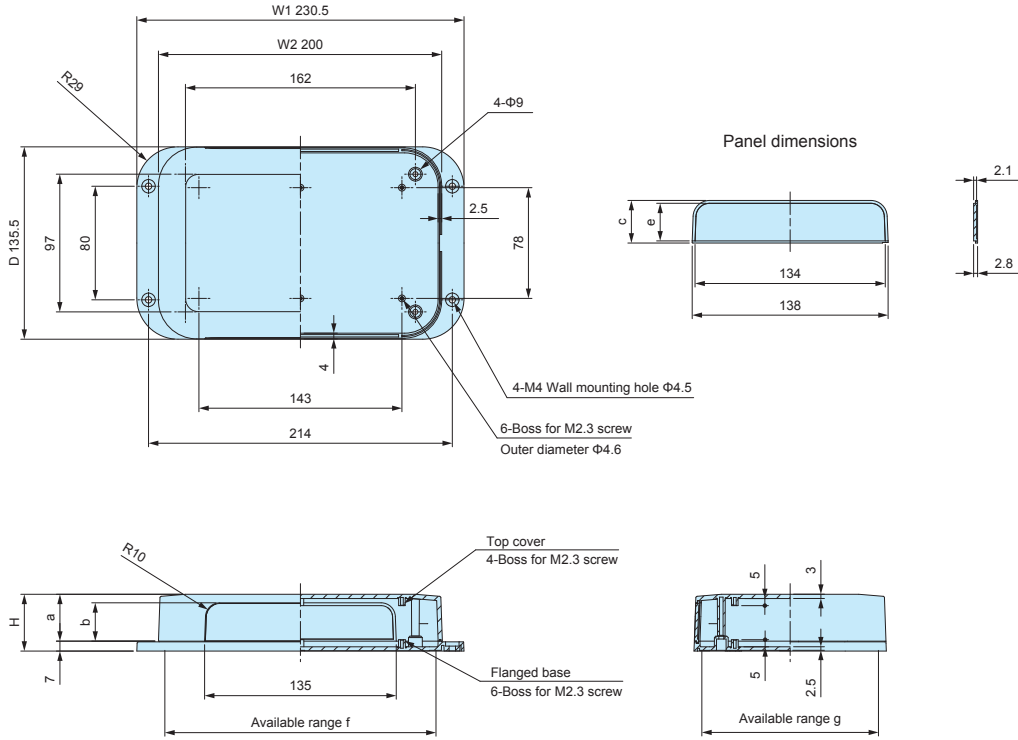
| Product no. | W1    | W2  | H  | D     | a  | b  | c    | e    | f   | g   |
|-------------|-------|-----|----|-------|----|----|------|------|-----|-----|
| PFF18-4-12W | 205.4 | 175 | 35 | 120.4 | 29 | 24 | 26.5 | 23.5 | 166 | 110 |
| PFF18-5-12W | 205.4 | 175 | 50 | 120.4 | 44 | 39 | 41.5 | 38.5 | 165 | 109 |



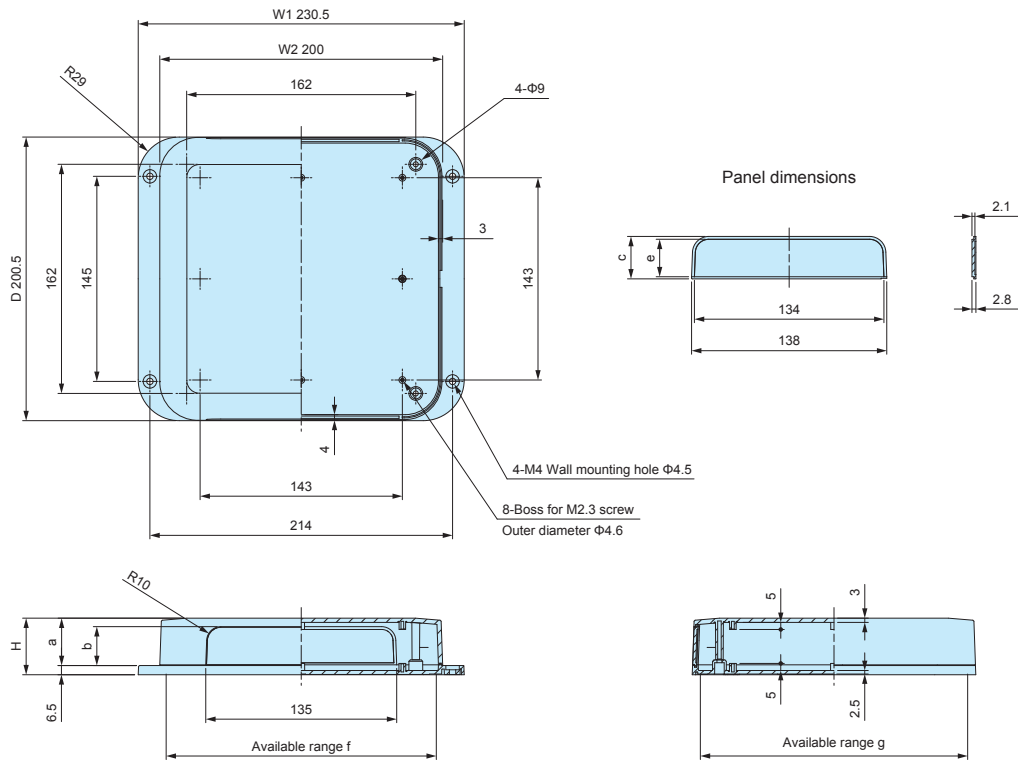
| Product no. | W1    | W2  | H  | D     | a    | b    | c    | e    | f   | g   |
|-------------|-------|-----|----|-------|------|------|------|------|-----|-----|
| PFF18-4-18W | 205.4 | 175 | 35 | 175.4 | 29   | 24   | 26.5 | 23.5 | 166 | 165 |
| PFF18-5-18W | 205.4 | 175 | 50 | 175.4 | 44.5 | 39.5 | 41.5 | 38.5 | 165 | 109 |

PFF dimensions

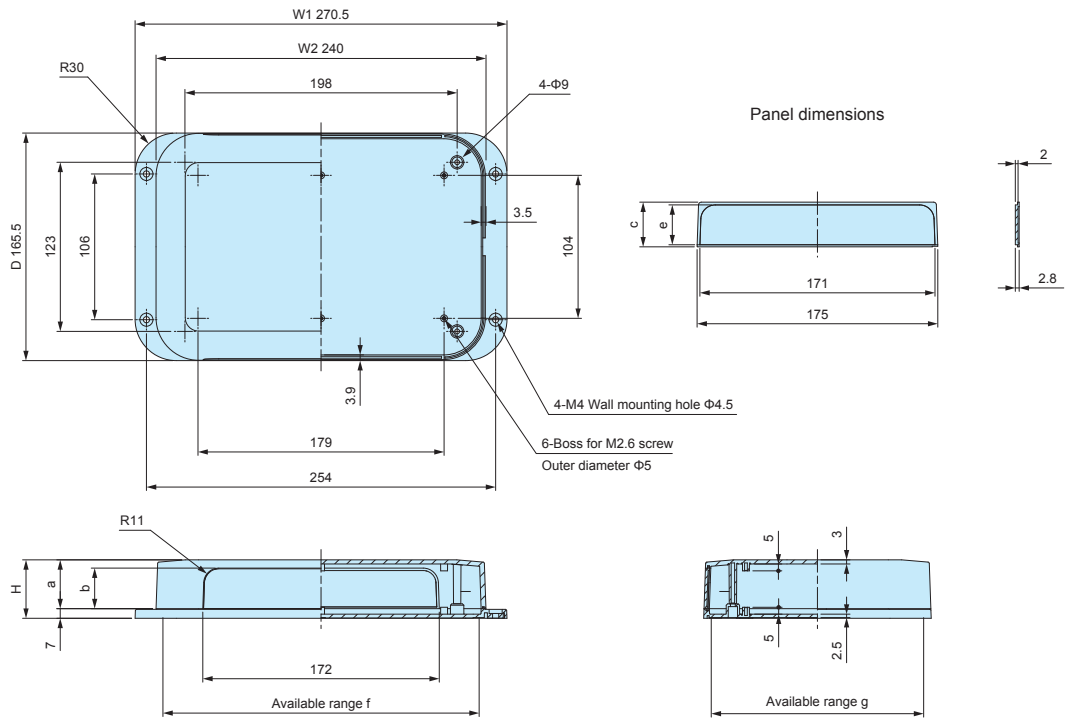
■ DXF/DWG/PDF drawings available on our website.



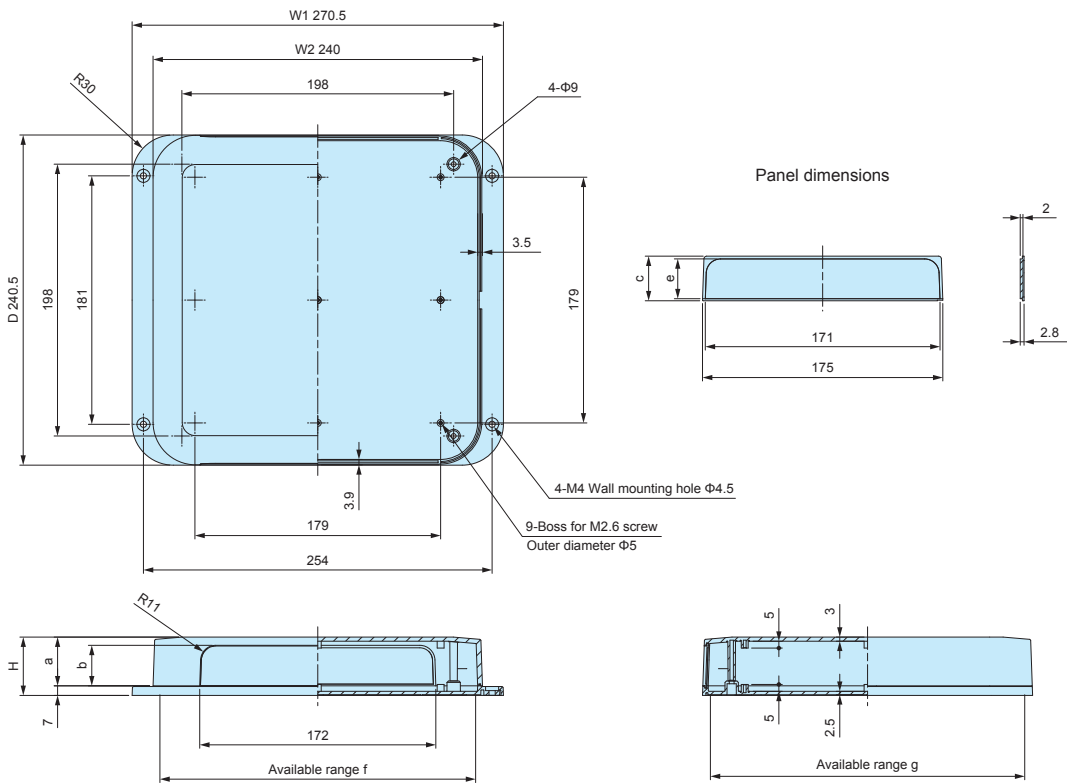
| Product no. | W1    | W2  | H  | D     | a  | b  | c  | e    | f   | g   |
|-------------|-------|-----|----|-------|----|----|----|------|-----|-----|
| PFF20-4-13W | 230.5 | 200 | 40 | 135.5 | 33 | 27 | 30 | 26.5 | 191 | 124 |
| PFF20-6-13W | 230.5 | 200 | 60 | 135.5 | 53 | 47 | 50 | 46.5 | 190 | 123 |



| Product no. | W1    | W2  | H  | D     | a  | b  | c  | e    | f   | g   |
|-------------|-------|-----|----|-------|----|----|----|------|-----|-----|
| PFF20-4-20W | 230.5 | 200 | 40 | 200.5 | 33 | 27 | 30 | 26.5 | 191 | 189 |
| PFF20-6-20W | 230.5 | 200 | 60 | 200.5 | 53 | 47 | 50 | 46.5 | 190 | 188 |



| Product no. | W1    | W2  | H    | D     | a    | b    | c    | e    | f   | g   |
|-------------|-------|-----|------|-------|------|------|------|------|-----|-----|
| PFF24-4-17W | 270.5 | 240 | 42.5 | 165.5 | 35.5 | 29.5 | 32.5 | 29   | 230 | 154 |
| PFF24-6-17W | 270.5 | 240 | 60   | 165.5 | 53   | 47   | 50   | 46.5 | 229 | 153 |



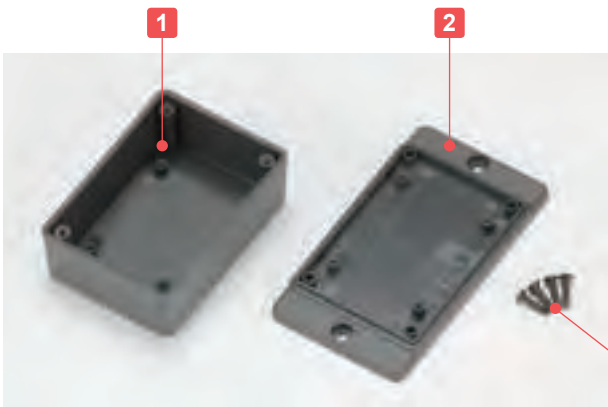
| Product no. | W1    | W2  | H    | D     | a    | b    | c    | e    | f   | g   |
|-------------|-------|-----|------|-------|------|------|------|------|-----|-----|
| PFF24-4-24W | 270.5 | 240 | 42.5 | 240.5 | 35.5 | 29.5 | 32.5 | 29   | 230 | 229 |
| PFF24-6-24W | 270.5 | 240 | 60   | 240.5 | 53   | 47   | 50   | 46.5 | 229 | 228 |

# TWF SERIES

# PLASTIC ENCLOSURE with WALL MOUNTING FLANGE



| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |

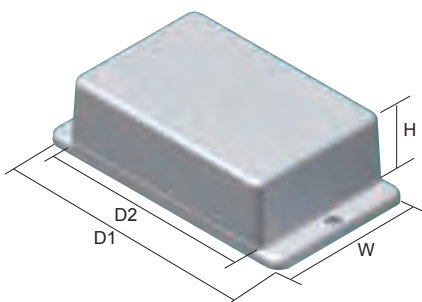


- Multi-purpose flanged enclosure designed for use as a wall-mounted device/terminal.
- 23 different sizes in 2 colors. Made of ABS UL94V-0 : UL94V-1.
- Equipped with screwing bosses for PCB.
- Recommended to be used as measurement instruments, wireless communication gadgets, controller devices and so on.

### Components

| No. | Part name          | Pcs   | Material             | Color / Finish                           |
|-----|--------------------|-------|----------------------|--|
| 1   | Cover              | 1     | ABS UL94V-0 : UL94-1 | Off-white • Dark gray                    |
| 2   | Flanged base       | 1     | ABS UL94V-0 : UL94-1 | Off-white • Dark gray                    |
| 3   | Self tapping screw | 2 / 4 | Steel                | Nickel plated • Black trivalent chromate |

### Accessories (Optional parts)



TORX screw  
MR series  
See page 135



PCB mounting screw  
EM-2.3  
See page 135



Tapping standoff  
TPS series  
See page 133

# APPLICATION EXAMPLE

## SOLAR POWER SYSTEM REMOTE MONITOR

Product by Wave Energy Inc. (Japan)  
 Website : [wavee.co.jp](http://wavee.co.jp)



## SOLAR PANEL CHARGE CONTROLLER

Product by SunWorks Inc. (UK)  
 Website : [sunworks.co.uk](http://sunworks.co.uk)



## WIRELESS RFID TAG SEARCH DEVICE

Product by MULTILUX (Slovenia)  
 Website : [multilux.eu](http://multilux.eu)



### RFID TAG

Using our PS-65W portable plastic case.



## WIRELESS LIGHTING CONTROL ROUTER

Product by Deus LLC (Russia)  
 Website : [me6cloud.com](http://me6cloud.com)



### Color Type

| Code | Cover     | Flanged base | Screw                    |
|------|-----------|--------------|--------------------------|
| W    | Off-white | Off-white    | Nickel plated            |
| D    | Dark gray | Dark gray    | Black trivalent chromate |

### Product no. / Dimensions

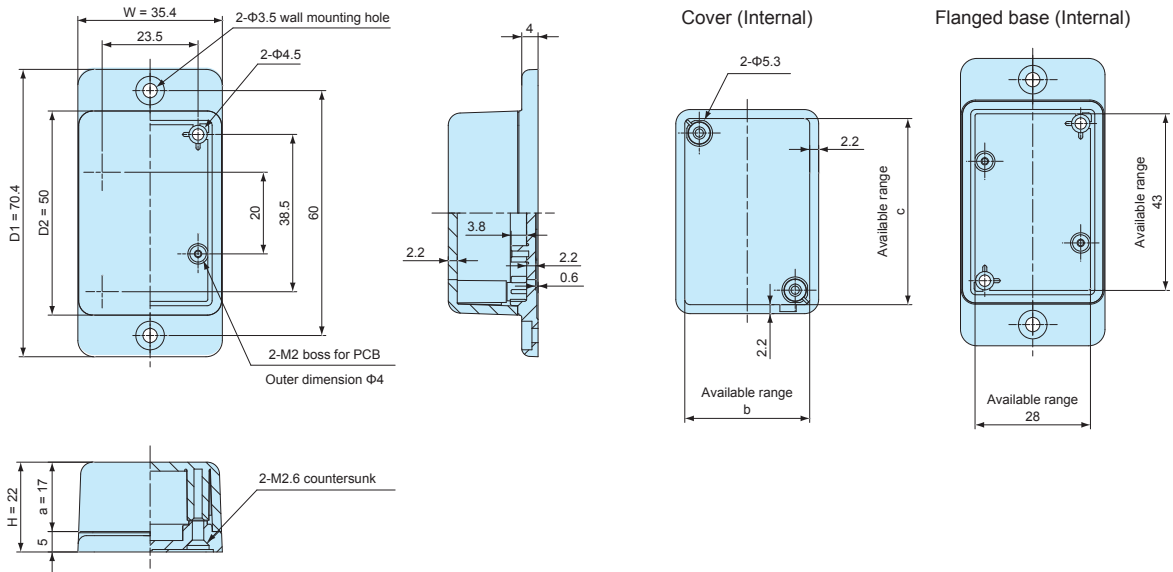
| Product no. |             | Dimensions |      |                   |            | UL class | Screw           | Weight (g) |
|-------------|-------------|------------|------|-------------------|------------|----------|-----------------|------------|
| ● Off-white | ● Dark gray | W          | H    | D1 (Flanged base) | D2 (Cover) |          |                 |            |
| TWF 4-2- 5W | TWF 4-2- 5D | 35.4       | 22   | 70.4              | 50         | UL94V-0  | M2.6-12 × 2 pcs | 19.7       |
| TWF 5-2- 5W | TWF 5-2- 5D | 50.4       | 17   | 70.4              | 50         | UL94V-1  | M2.6-12 × 4 pcs | 21.5       |
| TWF 5-3- 5W | TWF 5-3- 5D | 50.4       | 27   | 70.4              | 50         | UL94V-1  | M2.6-12 × 4 pcs | 26.5       |
| TWF 5-2- 7W | TWF 5-2- 7D | 50.4       | 17   | 90.4              | 70         | UL94V-1  | M2.6-12 × 4 pcs | 29         |
| TWF 5-3- 7W | TWF 5-3- 7D | 50.4       | 29.5 | 90.4              | 70         | UL94V-1  | M2.6-12 × 4 pcs | 36         |
| TWF 5-4- 7W | TWF 5-4- 7D | 50.4       | 42   | 90.4              | 70         | UL94V-1  | M2.6-12 × 4 pcs | 43.5       |
| TWF 5-3- 9W | TWF 5-3- 9D | 45.6       | 27.5 | 111               | 90         | UL94V-0  | M2.6-12 × 4 pcs | 43         |
| TWF 7-2-11W | TWF 7-2-11D | 70.6       | 20.5 | 127               | 105        | UL94V-0  | M2.6-14 × 4 pcs | 66.5       |
| TWF 7-4-11W | TWF 7-4-11D | 70.6       | 35.5 | 127               | 105        | UL94V-0  | M2.6-14 × 4 pcs | 82         |
| TWF 7-5-11W | TWF 7-5-11D | 70.6       | 50.5 | 127               | 105        | UL94V-0  | M2.6-14 × 4 pcs | 96.5       |
| TWF 7-3-13W | TWF 7-3-13D | 65.5       | 25.5 | 150               | 130        | UL94V-0  | M3-16 × 4 pcs   | 87         |
| TWF 7-5-13W | TWF 7-5-13D | 65.5       | 50   | 150               | 130        | UL94V-0  | M3-16 × 4 pcs   | 114        |
| TWF 8-2- 8W | TWF 8-2- 8D | 80.6       | 23.5 | 100.6             | 80         | UL94V-0  | M2.6-14 × 4 pcs | 62         |
| TWF 8-4- 8W | TWF 8-4- 8D | 80.6       | 43.5 | 100.6             | 80         | UL94V-0  | M2.6-14 × 4 pcs | 82         |
| TWF 9-4-17W | TWF 9-4-17D | 86         | 35   | 190               | 170        | UL94V-0  | M3-16 × 4 pcs   | 150        |
| TWF 9-6-17W | TWF 9-6-17D | 86         | 60   | 190               | 170        | UL94V-0  | M3-16 × 4 pcs   | 184        |
| TWF11-5-22W | TWF11-5-22D | 110.3      | 45   | 250.6             | 220        | UL94V-0  | M3-16 × 4 pcs   | 250        |
| TWF11-8-22W | TWF11-8-22D | 110.3      | 75   | 250.6             | 220        | UL94V-0  | M3-16 × 4 pcs   | 303        |
| TWF13-3-13W | TWF13-3-13D | 125.6      | 25   | 155.6             | 125        | UL94V-0  | M3-16 × 4 pcs   | 155        |
| TWF13-5-13W | TWF13-5-13D | 125.6      | 45   | 155.6             | 125        | UL94V-0  | M3-16 × 4 pcs   | 189        |
| TWF13-3-18W | TWF13-3-18D | 125.6      | 25   | 205.6             | 175        | UL94V-0  | M3-16 × 4 pcs   | 199        |
| TWF13-5-18W | TWF13-5-18D | 125.6      | 45   | 205.6             | 175        | UL94V-0  | M3-16 × 4 pcs   | 242        |
| TWF13-7-18W | TWF13-7-18D | 125.6      | 65   | 205.6             | 175        | UL94V-0  | M3-16 × 4 pcs   | 281        |



**TWF dimensions**

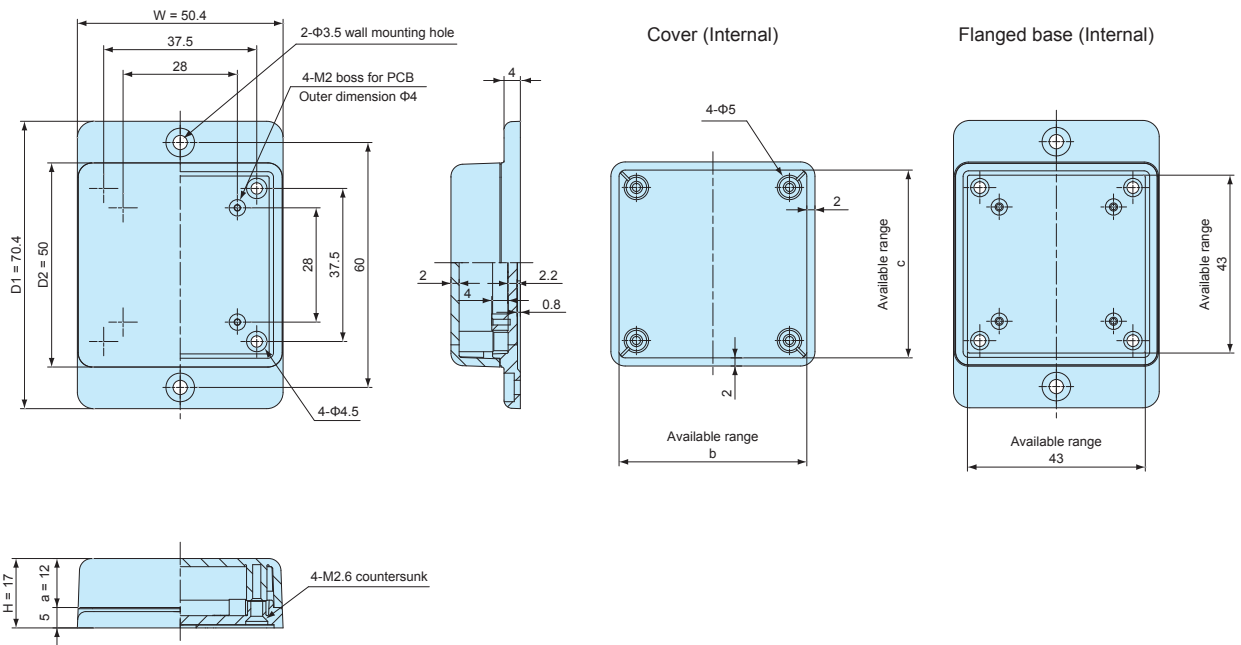
■ DXF/DWG/PDF drawings available on our website.

TWF4-2-5□



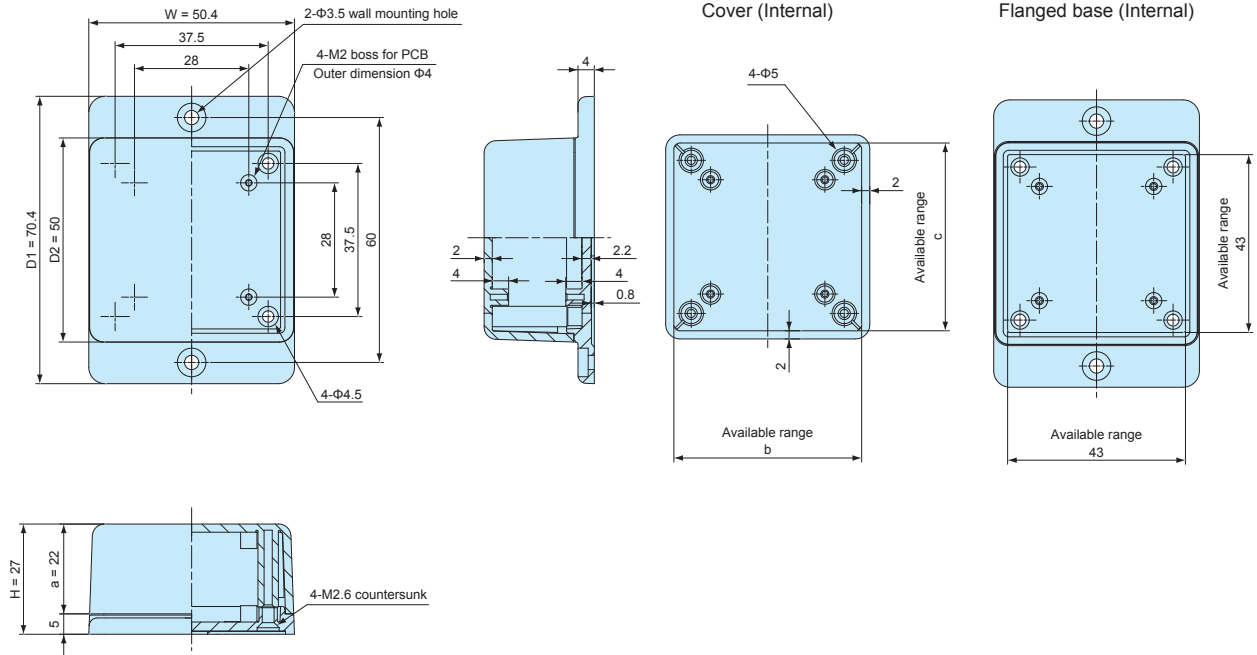
| Product no. | W    | H  | D1   | D2 | a  | b  | c  |
|-------------|------|----|------|----|----|----|----|
| TWF4-2-5□   | 35.4 | 22 | 70.4 | 50 | 17 | 29 | 44 |

TWF5-2-5□



| Product no. | W    | H  | D1   | D2 | a  | b  | c  |
|-------------|------|----|------|----|----|----|----|
| TWF5-2-5□   | 50.4 | 17 | 70.4 | 50 | 12 | 45 | 45 |

TWF5-3-5□

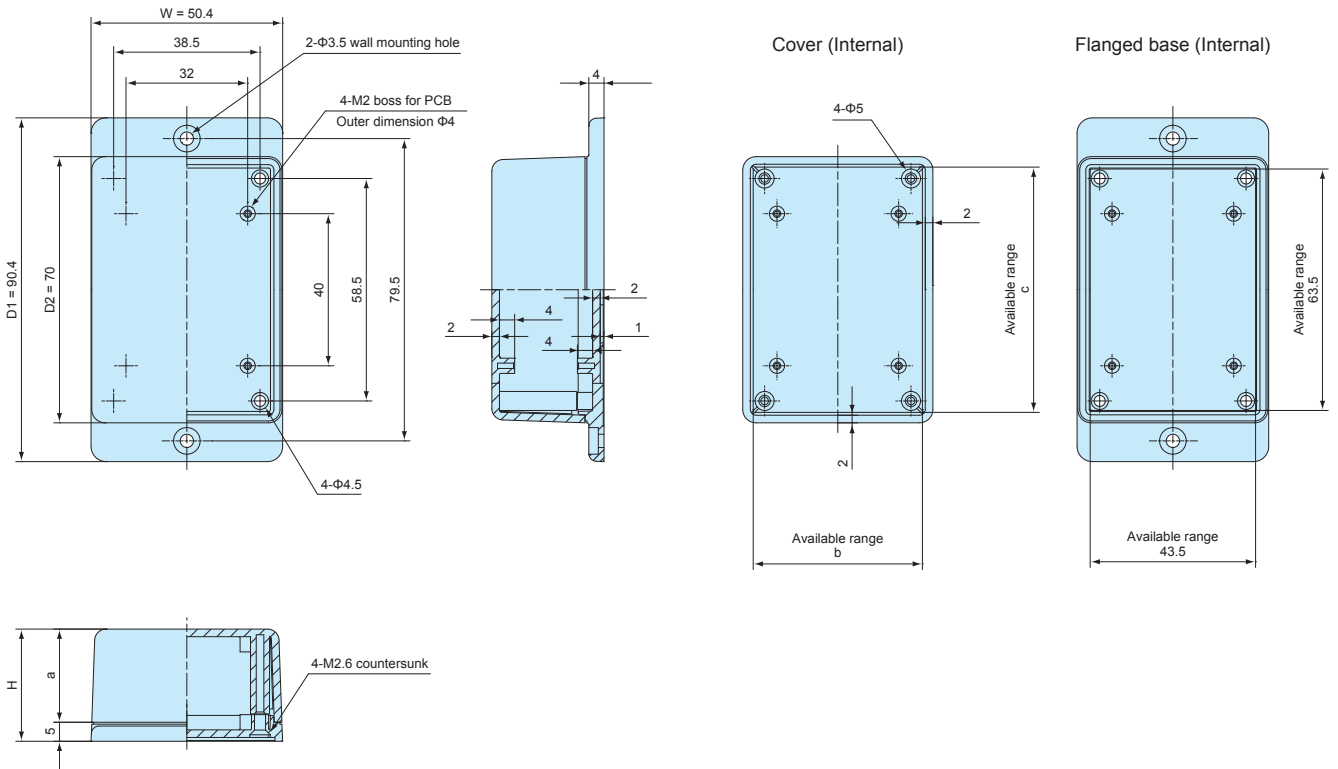


| Product no. | W    | H  | D1   | D2 | a  | b    | c    |
|-------------|------|----|------|----|----|------|------|
| TWF5-3-5□   | 50.4 | 27 | 70.4 | 50 | 22 | 44.5 | 44.5 |

TWF5-2-7□

TWF5-3-7□

TWF5-4-7□

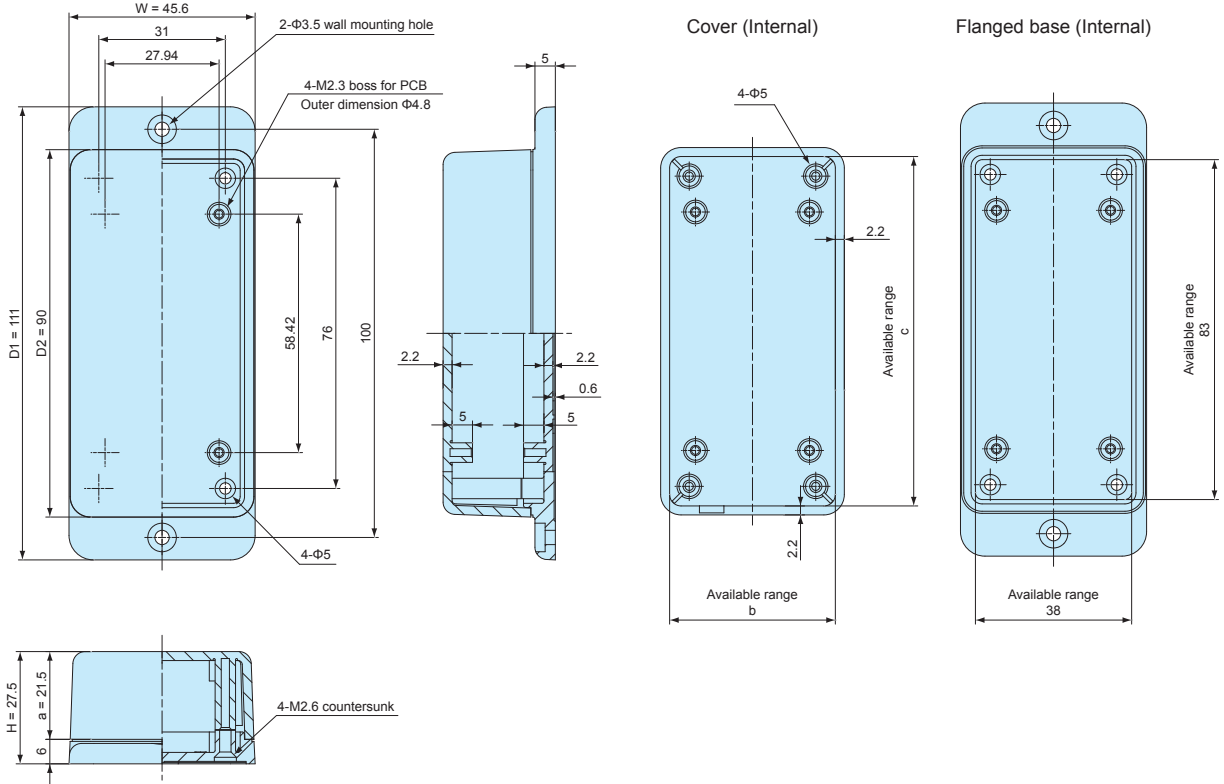


| Product no. | W    | H    | D1   | D2 | a    | b    | c    |
|-------------|------|------|------|----|------|------|------|
| TWF5-2-7□   | 50.4 | 17   | 90.4 | 70 | 12   | 44.5 | 64.5 |
| TWF5-3-7□   | 50.4 | 29.5 | 90.4 | 70 | 24.5 | 44   | 64   |
| TWF5-4-7□   | 50.4 | 42   | 90.4 | 70 | 37   | 43   | 63   |

**TWF dimensions**

■ DXF/DWG/PDF drawings available on our website.

TWF5-3-9 □

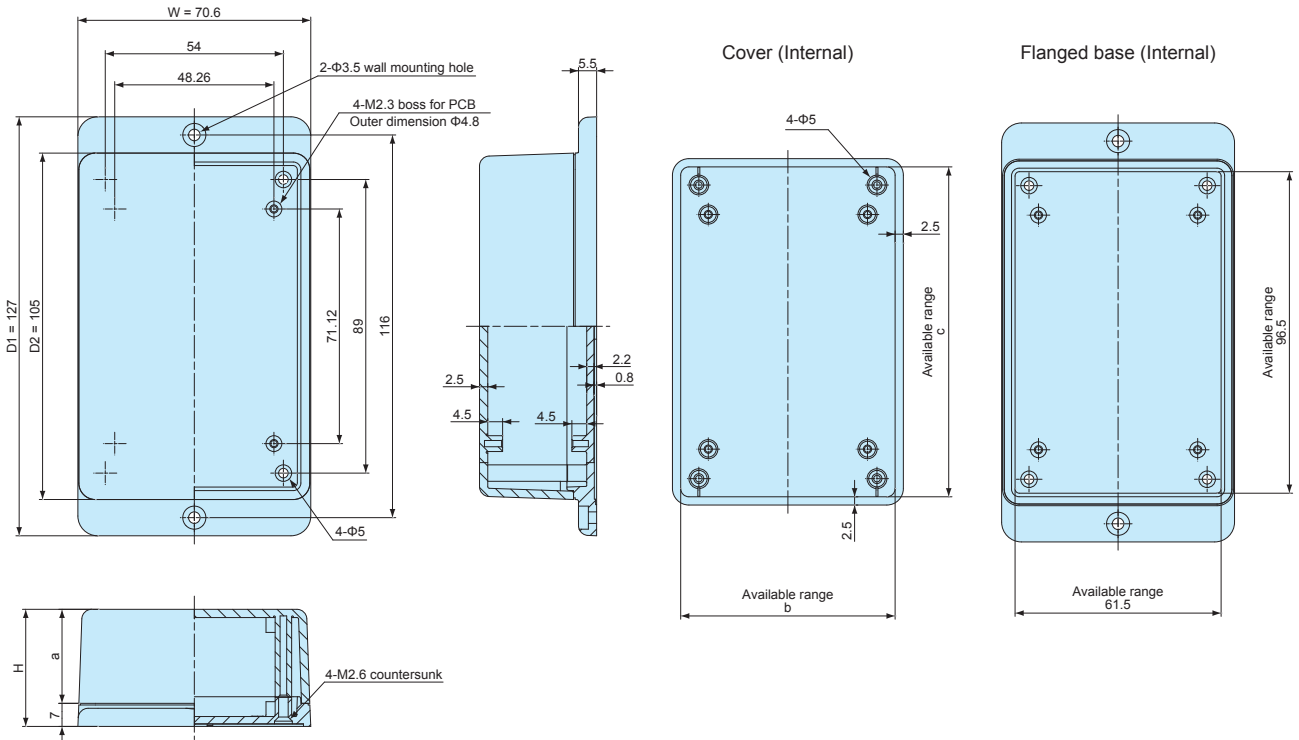


| Product no. | W    | H    | D1  | D2 | a    | b  | c  |
|-------------|------|------|-----|----|------|----|----|
| TWF5-3-9 □  | 45.6 | 27.5 | 111 | 90 | 21.5 | 39 | 84 |

TWF7-2-11 □

TWF7-4-11 □

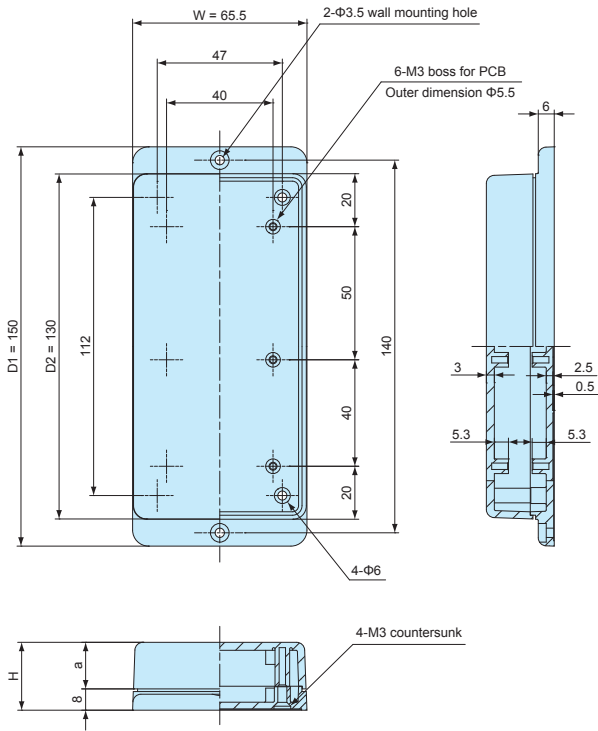
TWF7-5-11 □



| Product no. | W    | H    | D1  | D2  | a    | b    | c    |
|-------------|------|------|-----|-----|------|------|------|
| TWF7-2-11 □ | 70.6 | 20.5 | 127 | 105 | 13.5 | 63.5 | 98.5 |
| TWF7-4-11 □ | 70.6 | 35.5 | 127 | 105 | 28.5 | 62.5 | 97.5 |
| TWF7-5-11 □ | 70.6 | 50.5 | 127 | 105 | 43.5 | 61.5 | 96.5 |

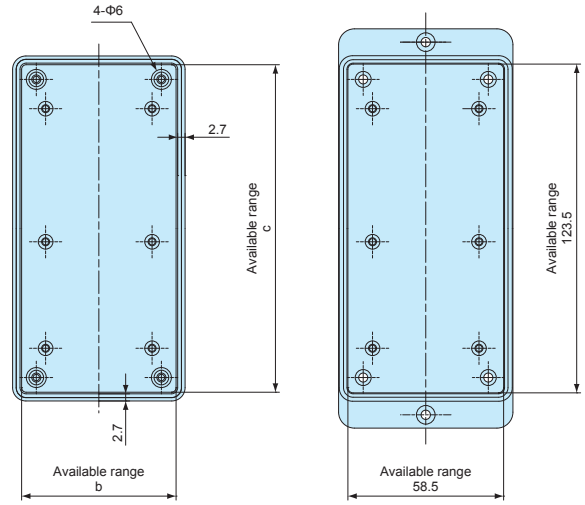
TWF7-3-13□

TWF7-5-13□



Cover (Internal)

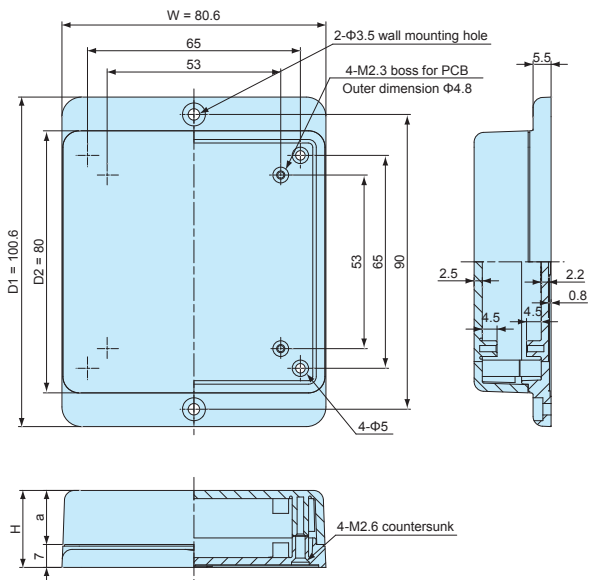
Flanged base (Internal)



| Product no. | W    | H    | D1  | D2  | a    | b    | c     |
|-------------|------|------|-----|-----|------|------|-------|
| TWF7-3-13□  | 65.5 | 25.5 | 150 | 130 | 17.5 | 58   | 123   |
| TWF7-5-13□  | 65.5 | 50   | 150 | 130 | 42   | 56.5 | 121.5 |

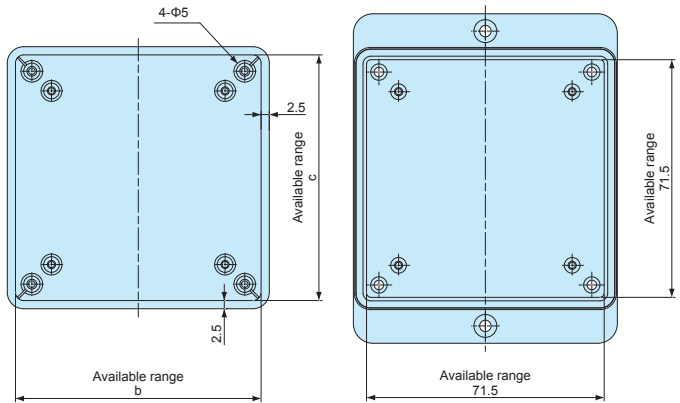
TWF8-2-8□

TWF8-4-8□



Cover (Internal)

Flanged base (Internal)



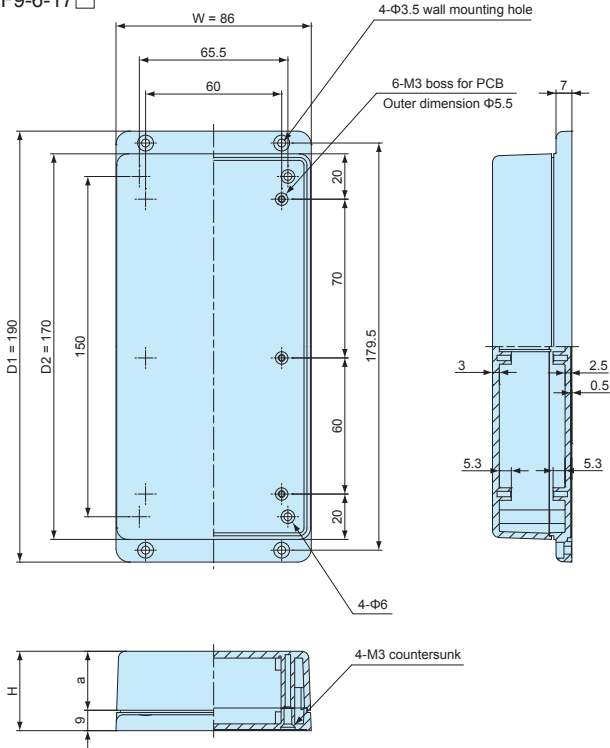
| Product no. | W    | H    | D1    | D2 | a    | b    | c    |
|-------------|------|------|-------|----|------|------|------|
| TWF8-2-8□   | 80.6 | 23.5 | 100.6 | 80 | 16.5 | 73.5 | 73.5 |
| TWF8-4-8□   | 80.6 | 43.5 | 100.6 | 80 | 36.5 | 72   | 72   |

TWF dimensions

■ DXF/DWG/PDF drawings available on our website.

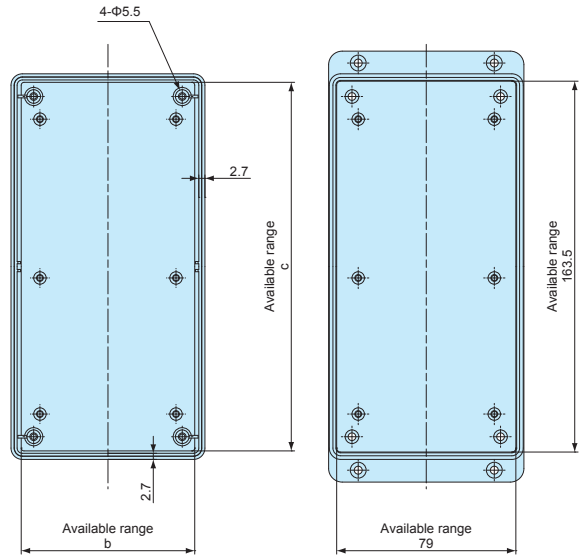
TWF9-4-17□

TWF9-6-17□



Cover (Internal)

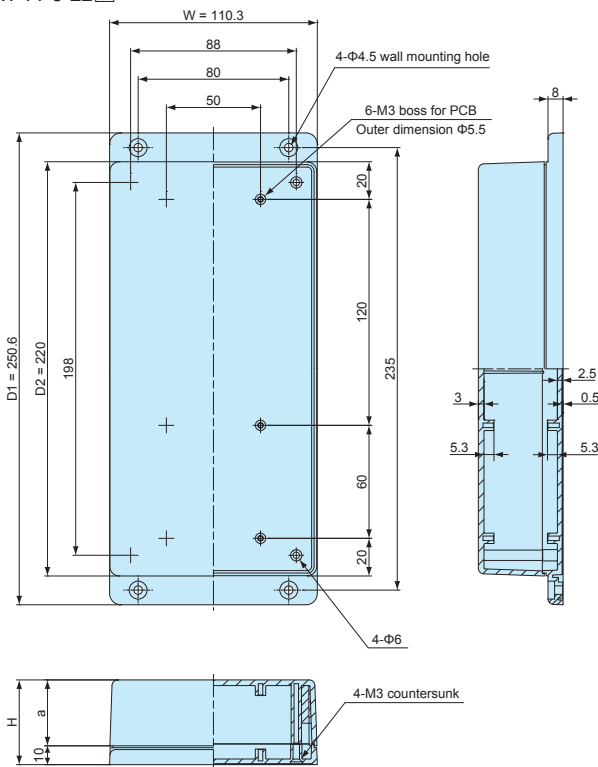
Flanged base (Internal)



| Product no. | W  | H  | D1  | D2  | a  | b    | c     |
|-------------|----|----|-----|-----|----|------|-------|
| TWF9-4-17□  | 86 | 35 | 190 | 170 | 26 | 76.5 | 162.5 |
| TWF9-6-17□  | 86 | 60 | 190 | 170 | 51 | 76.5 | 161   |

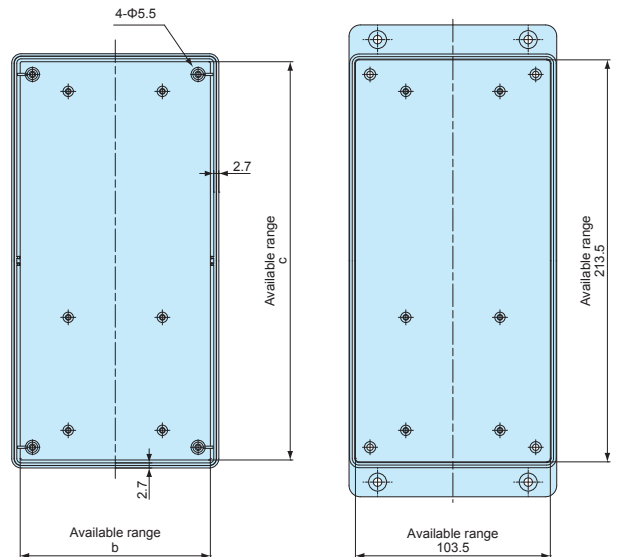
TWF11-5-22□

TWF11-8-22□



Cover (Internal)

Flanged base (Internal)

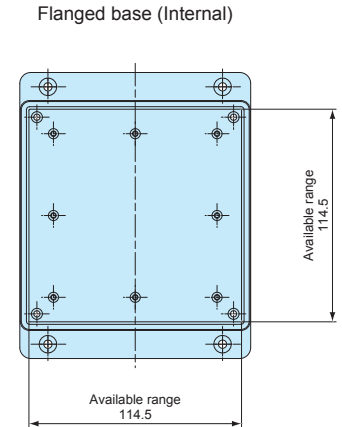
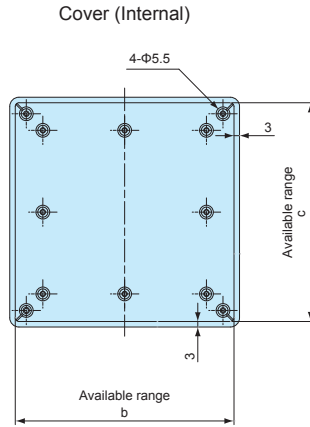
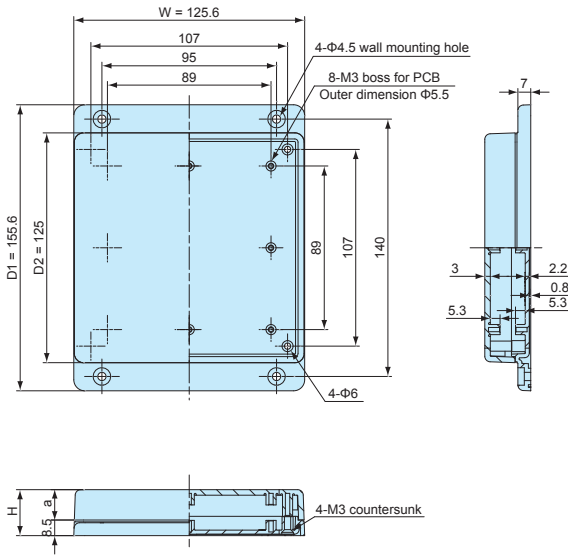


| Product no. | W     | H  | D1    | D2  | a  | b   | c     |
|-------------|-------|----|-------|-----|----|-----|-------|
| TWF11-5-22□ | 110.3 | 45 | 250.6 | 220 | 35 | 101 | 211.5 |
| TWF11-8-22□ | 110.3 | 75 | 250.6 | 220 | 65 | 100 | 210   |



TWF13-3-13 □

TWF13-5-13 □

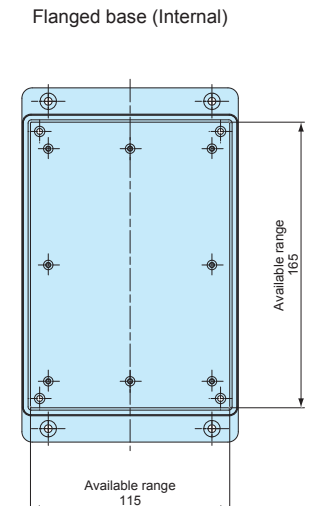
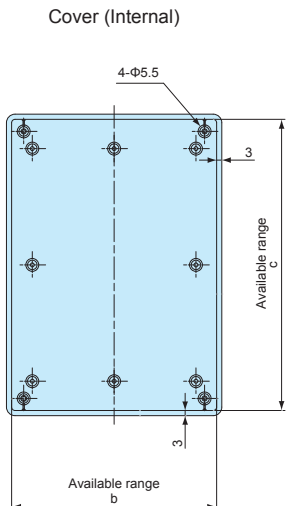
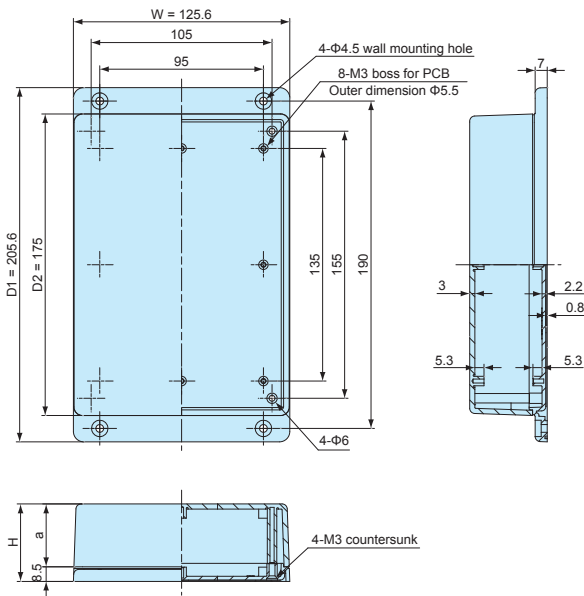


| Product no.  | W     | H  | D1    | D2  | a    | b     | c     |
|--------------|-------|----|-------|-----|------|-------|-------|
| TWF13-3-13 □ | 125.6 | 25 | 155.6 | 125 | 16.5 | 118   | 118   |
| TWF13-5-13 □ | 125.6 | 45 | 155.6 | 125 | 36.5 | 116.5 | 116.5 |

TWF13-3-18 □

TWF13-5-18 □

TWF13-7-18 □



| Product no.  | W     | H  | D1    | D2  | a    | b     | c     |
|--------------|-------|----|-------|-----|------|-------|-------|
| TWF13-3-18 □ | 125.6 | 25 | 205.6 | 175 | 16.5 | 117.5 | 167.5 |
| TWF13-5-18 □ | 125.6 | 45 | 205.6 | 175 | 36.5 | 116.5 | 166.5 |
| TWF13-7-18 □ | 125.6 | 65 | 205.6 | 175 | 56.5 | 115   | 165   |

# TWS·TW·TWN MULTI PURPOSE PLASTIC ENCLOSURE

Plastic enclosures suitable to be used as measuring instruments, communication devices, handy controllers and as various other devices.

Normal TW, TWS with silicone protectors, and flame-resistant TWN models are available.

TWS, TW, and TWN series are available in 11, 26, and 23 different sizes respectively.

## DIGITAL POWER AMPLIFIER



Product by Dream Co., Ltd. (Japan)

Website : [dream-pa.jp](http://dream-pa.jp)

High quality power amplifier equipped with USB-DAC.

Drive your speakers with 5W + 5W power while connected with PC through USB.

You can adjust your PC volume via a volume button on this device as well.

Unit is also equipped with an analog line-in terminal, so you can connect your portable audio player, etc.

With standard USB AC adapter, this can be used as an power amplifier for an analog line-in.

This amplifier is designed with plenty of film capacitors enabling crystal clear sound and natural sounding tones.

## GPS DATA LOGGER



Product by Reds Fixit Shop LLC (USA)

Website : [redsfixit.com](http://redsfixit.com)

Data logger to save and carry searched GPS data.

Map information can be printed out to a printer.

Compatible with many different map system formats; data is also able to be exported easily.

# APPLICATION EXAMPLE

## 6 CHANNEL DATA LOGGER



Possible to log temperature/humidity data and show the data up to 6 channels at a time.

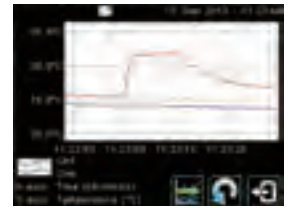
Maximum, Minimum, Average and Standard values can be displayed.

Furthermore, the difference between 2 channels can be displayed graphically.

Backlight touch screen panel provides a clear display for viewing.

Product by Irisense Limited (UK)

Website : [irisense.com](http://irisense.com)



## Wi-Fi DIRECT DATA LOGGER



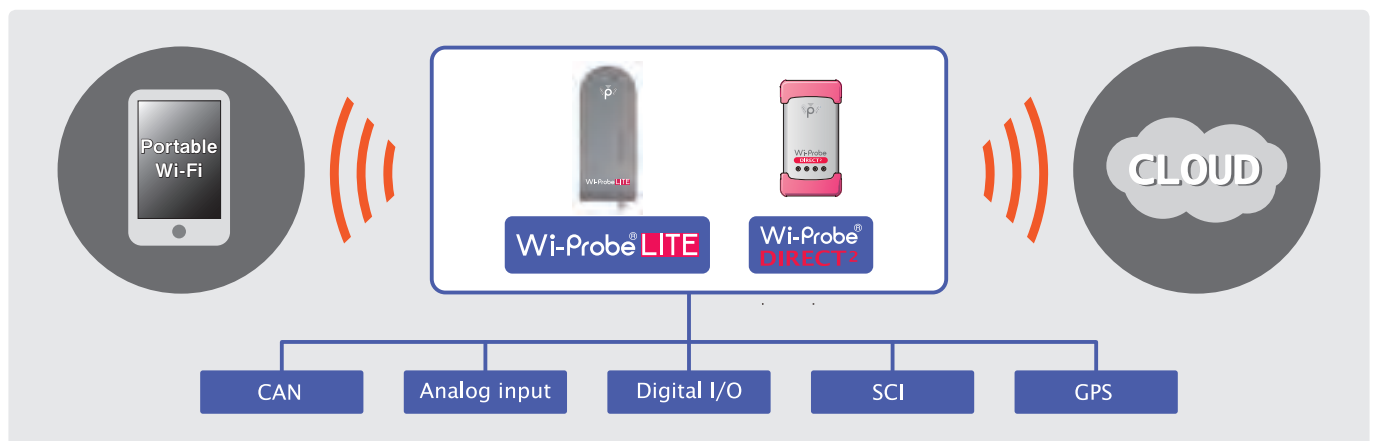
Product by Tkcc Co.,Ltd. (Japan)

Website : [tkcc.net](http://tkcc.net)

Highly functional data logger which can communicate with one another via Wi-Fi Direct®, thus joining a Wi-Fi network is not necessary.

Long distance communication can be done using Multihop Wireless Networks.

It is also able to monitor distant loggers using cloud computing infrastructure.

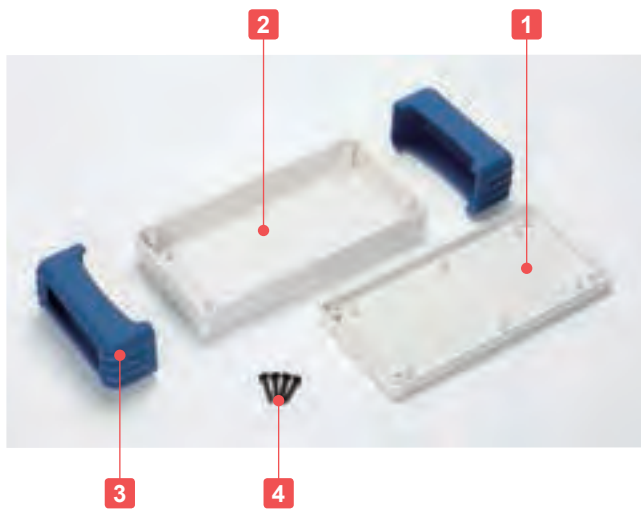


# TWS SERIES

# PLASTIC ENCLOSURE with SILICONE PROTECTOR



| Technical Data                       |
|--------------------------------------|
| Operating temperature: -10°C ~ +60°C |



- Universal plastic enclosure with protective silicone protectors which functions both as an anti-slip grip and impact protection.
- Available in 11 sizes and selectable in 18 different color combinations.
- Plastic case and protective silicone with screw fastening.

### Components

| No. | Part name          | Pcs | Material : Color / Finish                                    |
|-----|--------------------|-----|--|
| 1   | Top cover          | 1   | ABS UL94HB : Light gray • Black - ABS UL94V-0 : Off-white    |
| 2   | Bottom cover       | 1   | ABS UL94HB : Light gray • Black - ABS UL94V-0 : Off-white    |
| 3   | Silicone protector | 2   | Silicone : Pink • Yellow • Green • Navy • Light gray • Black |
| 4   | Self tapping screw | 4   | Steel M3-20 / Black trivalent chromate                       |

### Accessories (Optional parts)



PCB mounting screw  
EM-2.3  
See page 135



Tapping standoff  
TPS series  
See page 133



Snap-in battery box  
LD • LDN series  
See page 122



Color Type



■ Note: Enclosure material varies depending on color. Black and Light gray are ABS UL94HB; Off-white is ABS UL94V-0.

ABS UL94HB (Black • Light gray enclosure)

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

| Product no.  | W          | H          | D        | Plastic case material | Weight (g) |
|--------------|------------|------------|----------|-----------------------|------------|
| TWS 7-3-13□□ | 71(65)     | 32(25.6)   | 136(130) | ABS UL94HB            | 117        |
| TWS 7-5-13□□ | 71(65)     | 56(50.1)   | 136(130) | ABS UL94HB            | 147.5      |
| TWS 9-4-17□□ | 91.5(85.5) | 41.5(35.5) | 176(170) | ABS UL94HB            | 193        |
| TWS 9-6-17□□ | 91.5(85.5) | 66.5(60.5) | 176(170) | ABS UL94HB            | 243        |
| TWS11-5-22□□ | 116(110)   | 51.5(45.3) | 226(220) | ABS UL94HB            | 325.5      |
| TWS11-8-22□□ | 116(110)   | 81.5(75.3) | 226(220) | ABS UL94HB            | 399        |
| TWS13-3-13□□ | 131(125)   | 31(25)     | 131(125) | ABS UL94HB            | 222        |
| TWS13-5-13□□ | 131(125)   | 51(45)     | 131(125) | ABS UL94HB            | 269.5      |
| TWS13-3-18□□ | 131(125)   | 31(25)     | 181(175) | ABS UL94HB            | 271.5      |
| TWS13-5-18□□ | 131(125)   | 51(45)     | 181(175) | ABS UL94HB            | 322        |
| TWS13-7-18□□ | 131(125)   | 71(65)     | 181(175) | ABS UL94HB            | 371        |

■ ( ) value = enclosure dimension.

ABS UL94V-0 (Off-white enclosure)

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

| Product no.  | W          | H          | D        | Plastic case material | Weight (g) |
|--------------|------------|------------|----------|-----------------------|------------|
| TWS 7-3-13W□ | 71(65)     | 32(25.6)   | 136(130) | ABS UL94V-0           | 126        |
| TWS 7-5-13W□ | 71(65)     | 56(50.1)   | 136(130) | ABS UL94V-0           | 163        |
| TWS 9-4-17W□ | 91.5(85.5) | 41.5(35.5) | 176(170) | ABS UL94V-0           | 211        |
| TWS 9-6-17W□ | 91.5(85.5) | 66.5(60.5) | 176(170) | ABS UL94V-0           | 266        |
| TWS11-5-22W□ | 116(110)   | 51.5(45.3) | 226(220) | ABS UL94V-0           | 356.5      |
| TWS11-8-22W□ | 116(110)   | 81.5(75.3) | 226(220) | ABS UL94V-0           | 438        |
| TWS13-3-13W□ | 131(125)   | 31(25)     | 131(125) | ABS UL94V-0           | 243.5      |
| TWS13-5-13W□ | 131(125)   | 51(45)     | 131(125) | ABS UL94V-0           | 294        |
| TWS13-3-18W□ | 131(125)   | 31(25)     | 181(175) | ABS UL94V-0           | 293.5      |
| TWS13-5-18W□ | 131(125)   | 51(45)     | 181(175) | ABS UL94V-0           | 353        |
| TWS13-7-18W□ | 131(125)   | 71(65)     | 181(175) | ABS UL94V-0           | 407.5      |

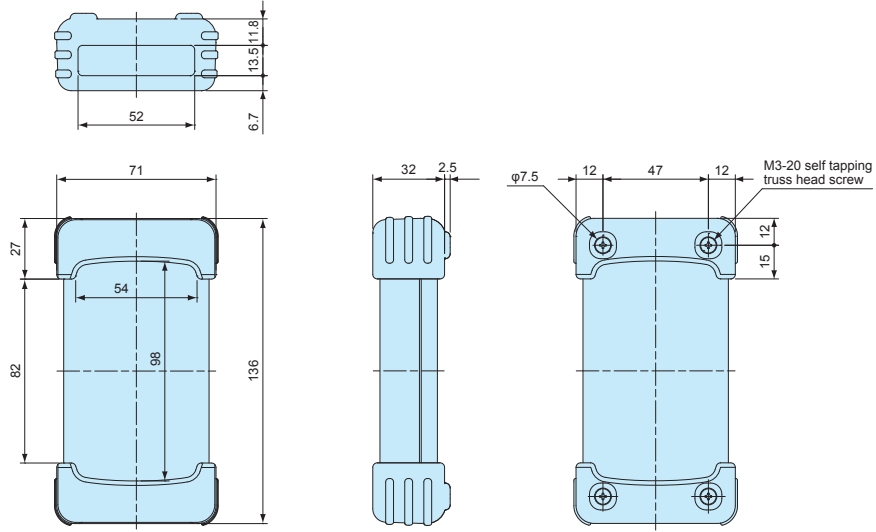
■ ( ) value = enclosure dimension.

**TWS dimensions**

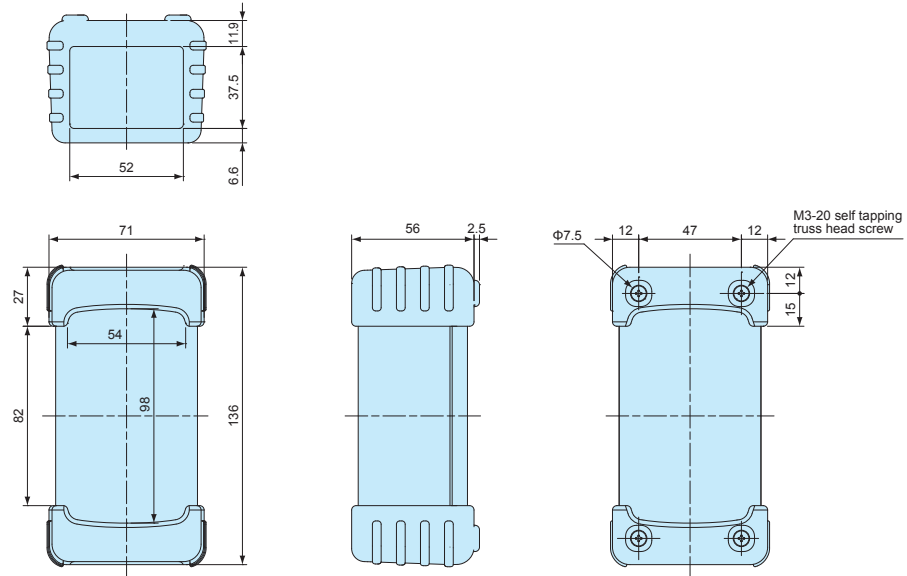
■ DXF/DWG/PDF drawings available on our website.

■ Refer to page 118 and 119 for enclosure dimensions (without silicone protector).

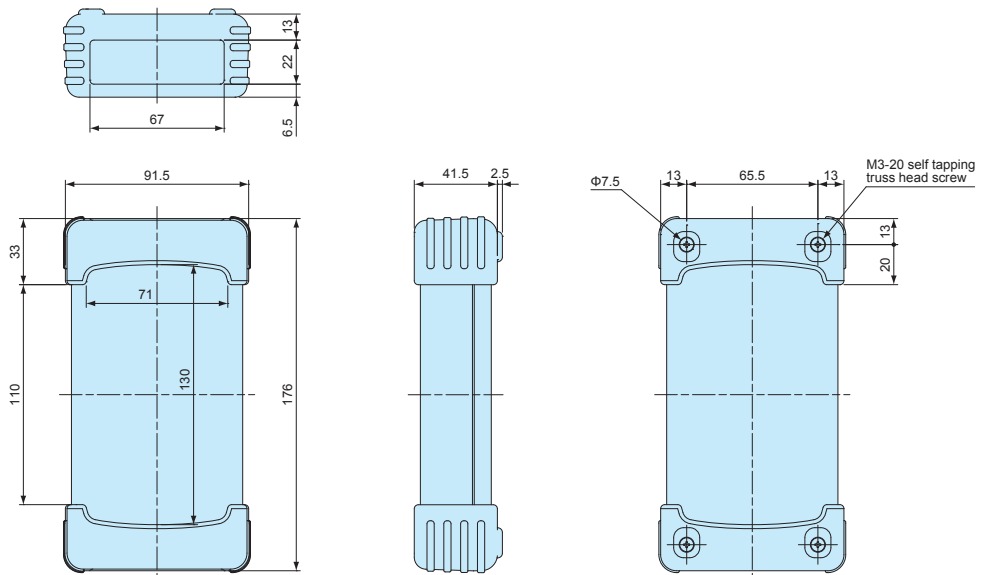
**TWS7-3-13**



**TWS7-5-13**



**TWS9-4-17**





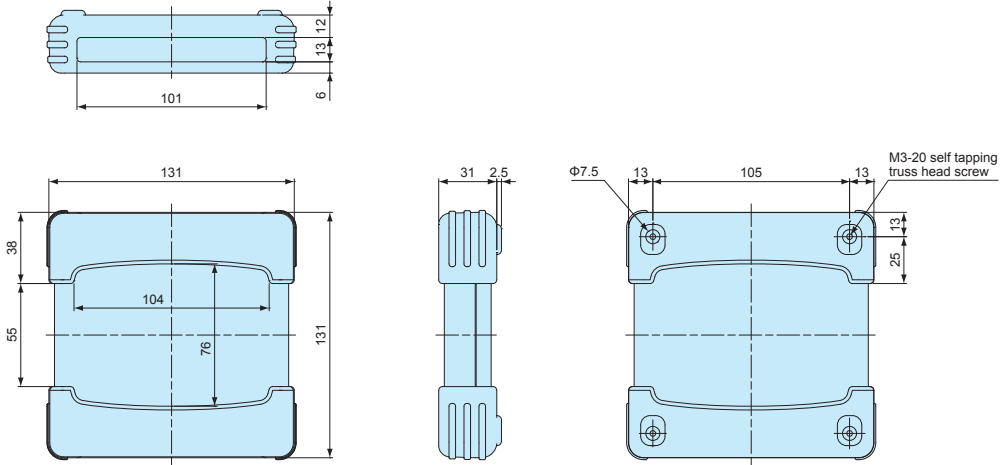


**TWS dimensions**

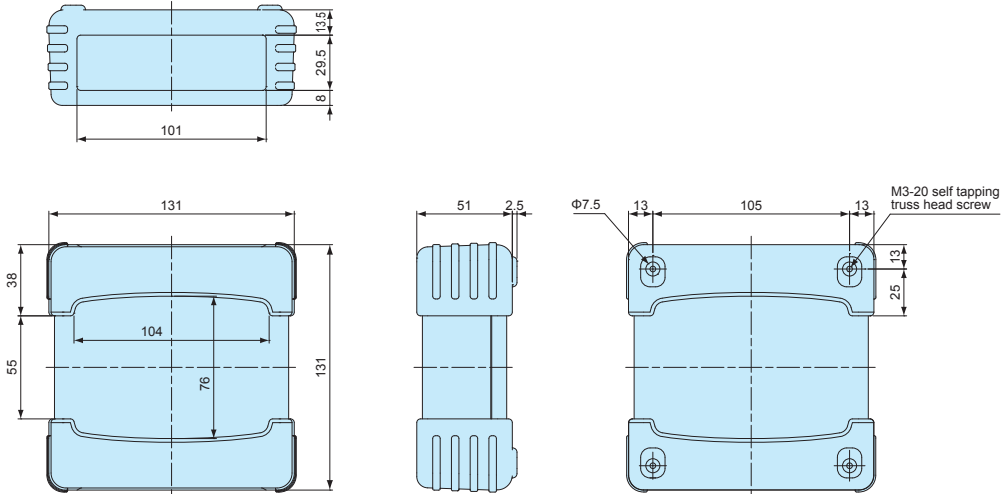
■ DXF/DWG/PDF drawings available on our website.

■ Refer to page 119 for enclosure dimensions (without silicone protector).

TWS13-3-13

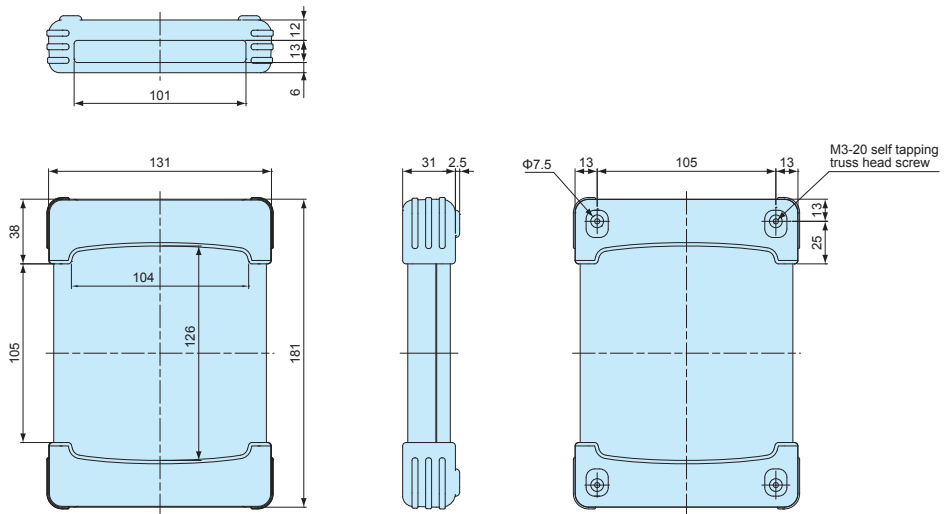


TWS13-5-13

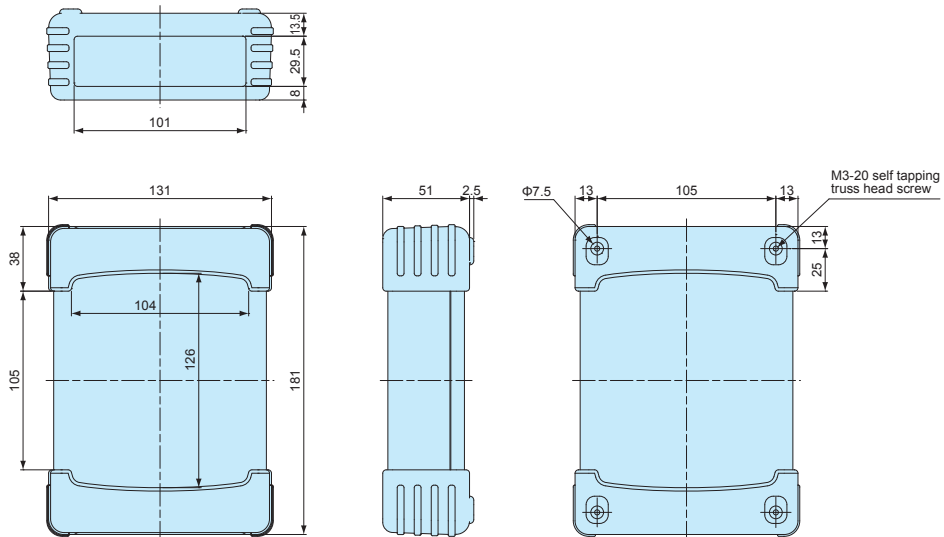


■ Refer to page 120 for enclosure dimensions (without silicone protector).

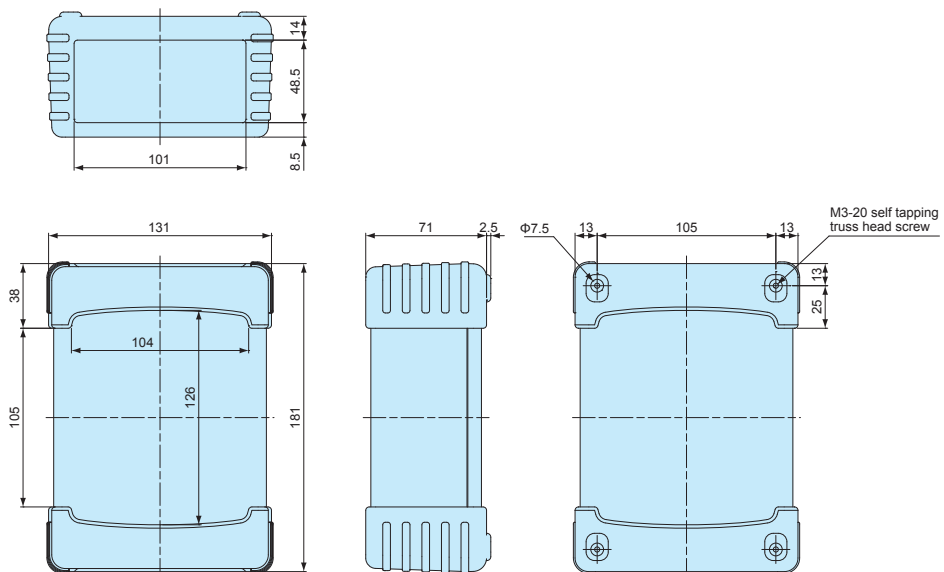
TWS13-3-18



TWS13-5-18

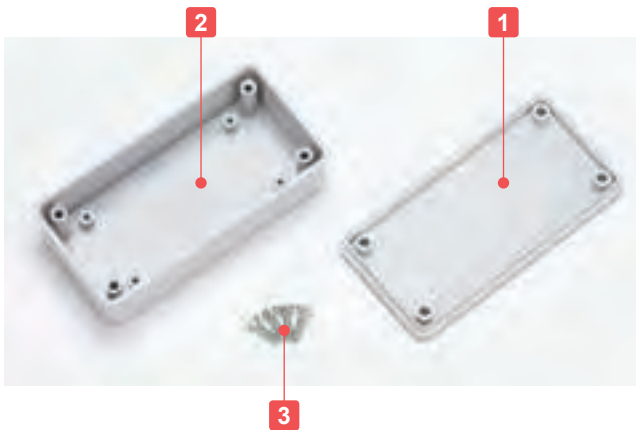


TWS13-7-18





| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |



- Universal plastic enclosure with screw fastening.
- Selectable in 26 sizes in 3 colors ; Light gray, Black and Off-white.
- Suitable for measuring instruments, testing devices, wireless communication devices, medical devices, and so on.

**Components**

| No. | Part name          | Pcs   | Material / Color / Finish                                  |
|-----|--------------------|-------|--|
| 1   | Top cover          | 1     | TW : ABS UL94HB / Light gray • Black                       |
|     |                    |       | TWN : ABS UL94V-1 • UL94V-0 / Off-white                    |
| 2   | Bottom cover       | 1     | TW : ABS UL94HB / Light gray • Black                       |
|     |                    |       | TWN : ABS UL94V-1 • UL94V-0 / Off-white                    |
| 3   | Self tapping screw | 2 / 4 | TW : Steel / Trivalent chromate • Black trivalent chromate |
|     |                    |       | TWN : Steel / Nickel plated                                |



Neodymium magnet  
NMG series  
See page 130

**Accessories (Optional parts)**



Wall suspension bracket  
WM series  
See page 129



TORX Screw  
MR series  
See page 135



PCB mounting screw  
EM series  
See page 135



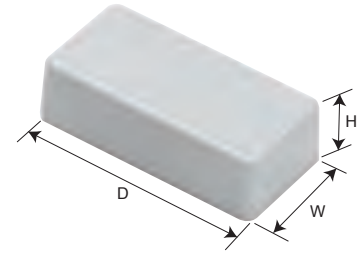
Tapping standoff  
TPS series  
See page 133



Snap-in battery box  
LD • LDN series  
See page 122

Color Type

| Series | Code | Top cover  | Bottom cover | Screw                    |
|--------|------|------------|--------------|--------------------------|
| TW     | G    | Light gray | Light gray   | Trivalent chromate       |
|        | B    | Black      | Black        | Black trivalent chromate |
| TWN    | W    | Off-white  | Off-white    | Nickel plated            |



TW series (ABS UL94HB)

Product no. / Dimensions

| Product no.  |            | Dimensions |      |      | Screw           | Weight (g) |
|--------------|------------|------------|------|------|-----------------|------------|
| ● Light gray | ● Black    | W          | H    | D    |                 |            |
| TW 4-2- 5G   | TW 4-2- 5B | 35         | 20   | 50   | M2.6-12 × 2 pcs | 13.5       |
| TW 4-2- 6G   | TW 4-2- 6B | 35         | 20   | 60   | M2.6-12 × 2 pcs | 15.5       |
| TW 4-2- 8G   | TW 4-2- 8B | 40.3       | 20   | 80.3 | M2.6-12 × 2 pcs | 22         |
| TW 5-2- 5G   | TW 5-2- 5B | 50         | 15   | 50   | M2.6-12 × 4 pcs | 18         |
| TW 5-3- 5G   | TW 5-3- 5B | 50         | 25   | 50   | M2.6-12 × 4 pcs | 22         |
| TW 5-2- 7G   | TW 5-2- 7B | 50         | 15   | 70   | M2.6-12 × 4 pcs | 22         |
| TW 5-3- 7G   | TW 5-3- 7B | 50         | 27.5 | 70   | M2.6-12 × 4 pcs | 29         |
| TW 5-4- 7G   | TW 5-4- 7B | 50         | 40   | 70   | M2.6-12 × 4 pcs | 35         |
| TW 5-3- 9G   | TW 5-3- 9B | 45         | 25   | 90   | M3-12 × 4 pcs   | 30.5       |
| TW 5-3-10G   | TW 5-3-10B | 50         | 30   | 100  | M3-12 × 4 pcs   | 45.5       |
| TW 7-2-11G   | TW 7-2-11B | 70         | 20   | 105  | M2.6-14 × 4 pcs | 56.5       |
| TW 7-4-11G   | TW 7-4-11B | 70         | 35   | 105  | M2.6-14 × 4 pcs | 70         |
| TW 7-5-11G   | TW 7-5-11B | 70         | 50   | 105  | M2.6-14 × 4 pcs | 83         |
| TW 7-3-13G   | TW 7-3-13B | 65         | 25.6 | 130  | M3-16 × 4 pcs   | 76         |
| TW 7-5-13G   | TW 7-5-13B | 65         | 50.1 | 130  | M3-16 × 4 pcs   | 100        |
| TW 8-2- 8G   | TW 8-2- 8B | 80         | 20   | 80   | M2.6-12 × 4 pcs | 49         |
| TW 8-4- 8G   | TW 8-4- 8B | 80         | 40   | 80   | M2.6-12 × 4 pcs | 65         |
| TW 9-4-17G   | TW 9-4-17B | 85.5       | 35.5 | 170  | M3-16 × 4 pcs   | 133        |
| TW 9-6-17G   | TW 9-6-17B | 85.5       | 60.5 | 170  | M3-16 × 4 pcs   | 168        |
| TW11-5-22G   | TW11-5-22B | 110        | 45.3 | 220  | M3-16 × 4 pcs   | 223        |
| TW11-8-22G   | TW11-8-22B | 110        | 75.3 | 220  | M3-16 × 4 pcs   | 277        |
| TW13-3-13G   | TW13-3-13B | 125        | 25   | 125  | M3-16 × 4 pcs   | 135        |
| TW13-5-13G   | TW13-5-13B | 125        | 45   | 125  | M3-16 × 4 pcs   | 165.5      |
| TW13-3-18G   | TW13-3-18B | 125        | 25   | 175  | M3-16 × 4 pcs   | 184.5      |
| TW13-5-18G   | TW13-5-18B | 125        | 45   | 175  | M3-16 × 4 pcs   | 218        |
| TW13-7-18G   | TW13-7-18B | 125        | 65   | 175  | M3-16 × 4 pcs   | 254        |

TWN series (ABS UL94V-1 • UL94V-0)

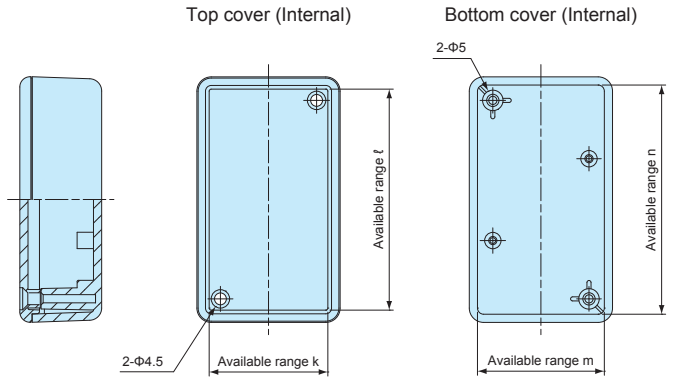
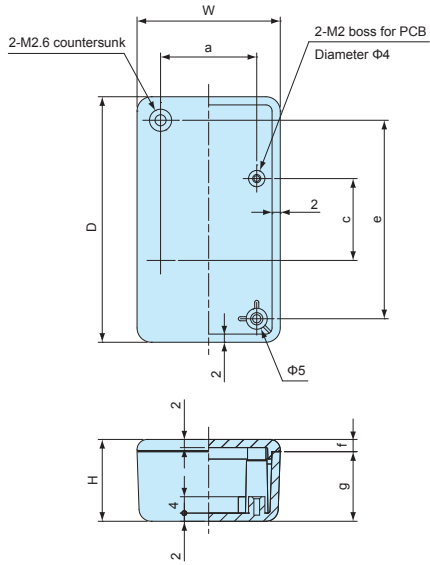
Product no. / Dimensions

| Product no. | W    | H    | D    | Screw           | UL class | Weight (g) |
|-------------|------|------|------|-----------------|----------|------------|
| TWN 4-2- 5W | 35   | 20   | 50   | M2.6-12 × 2 pcs | UL94V-1  | 16.5       |
| TWN 4-2- 6W | 35   | 20   | 60   | M2.6-12 × 2 pcs | UL94V-1  | 18         |
| TWN 4-2- 8W | 40.3 | 20   | 80.3 | M2.6-12 × 2 pcs | UL94V-1  | 26         |
| TWN 5-2- 7W | 50   | 15   | 70   | M2.6-12 × 4 pcs | UL94V-1  | 24.5       |
| TWN 5-3- 7W | 50   | 27.5 | 70   | M2.6-12 × 4 pcs | UL94V-1  | 33         |
| TWN 5-4- 7W | 50   | 40   | 70   | M2.6-12 × 4 pcs | UL94V-1  | 39.5       |
| TWN 5-3- 9W | 45   | 25   | 90   | M3-16 × 4 pcs   | UL94V-1  | 35         |
| TWN 7-2-11W | 70   | 20   | 105  | M2.6-14 × 4 pcs | UL94V-0  | 64.5       |
| TWN 7-4-11W | 70   | 35   | 105  | M2.6-14 × 4 pcs | UL94V-0  | 80         |
| TWN 7-5-11W | 70   | 50   | 105  | M2.6-14 × 4 pcs | UL94V-0  | 94.5       |
| TWN 7-3-13W | 65   | 25.6 | 130  | M3-16 × 4 pcs   | UL94V-0  | 85         |
| TWN 7-5-13W | 65   | 50.1 | 130  | M3-16 × 4 pcs   | UL94V-0  | 115.5      |
| TWN 8-2- 8W | 80   | 20   | 80   | M2.6-12 × 4 pcs | UL94V-0  | 55.5       |
| TWN 8-4- 8W | 80   | 40   | 80   | M2.6-12 × 4 pcs | UL94V-0  | 75         |
| TWN 9-4-17W | 85.5 | 35.5 | 170  | M3-16 × 4 pcs   | UL94V-0  | 151        |
| TWN 9-6-17W | 85.5 | 60.5 | 170  | M3-16 × 4 pcs   | UL94V-0  | 191        |
| TWN11-5-22W | 110  | 45.3 | 220  | M3-16 × 4 pcs   | UL94V-0  | 254        |
| TWN11-8-22W | 110  | 75.3 | 220  | M3-16 × 4 pcs   | UL94V-0  | 316        |
| TWN13-3-13W | 125  | 25   | 125  | M3-16 × 4 pcs   | UL94V-0  | 156.5      |
| TWN13-5-13W | 125  | 45   | 125  | M3-16 × 4 pcs   | UL94V-0  | 190        |
| TWN13-3-18W | 125  | 25   | 175  | M3-16 × 4 pcs   | UL94V-0  | 206.5      |
| TWN13-5-18W | 125  | 45   | 175  | M3-16 × 4 pcs   | UL94V-0  | 249        |
| TWN13-7-18W | 125  | 65   | 175  | M3-16 × 4 pcs   | UL94V-0  | 290.5      |

**TW / TWN dimensions**

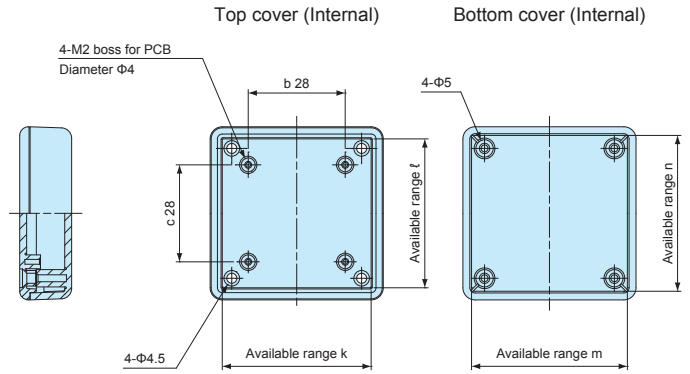
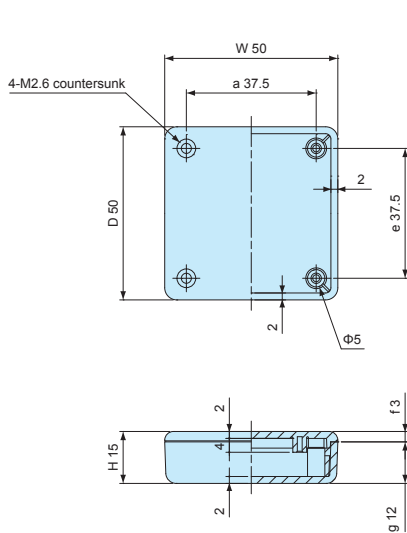
■ DXF/DWG/PDF drawings available on our website.

TW / TWN4-2-5  
 TW / TWN4-2-6  
 TW / TWN4-2-8



| Product no.    | W    | H  | D    | a    | b | c  | e    | f | g  | i | j | k    | ℓ    | m    | n    |
|----------------|------|----|------|------|---|----|------|---|----|---|---|------|------|------|------|
| TW / TWN4-2-5□ | 35   | 20 | 50   | 23.5 | - | 20 | 38.5 | 3 | 17 | - | - | 28.5 | 43.5 | 29.5 | 44.5 |
| TW / TWN4-2-6□ | 35   | 20 | 60   | 23.5 | - | 20 | 48.5 | 3 | 17 | - | - | 28.5 | 53.5 | 29.5 | 54.5 |
| TW / TWN4-2-8□ | 40.3 | 20 | 80.3 | 28.5 | - | 40 | 68.5 | 3 | 17 | - | - | 33.5 | 73.5 | 34.5 | 74.5 |

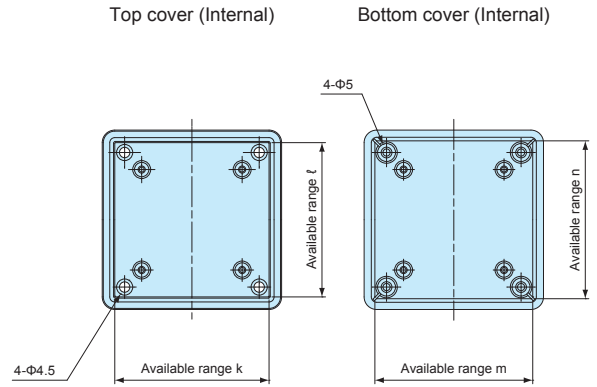
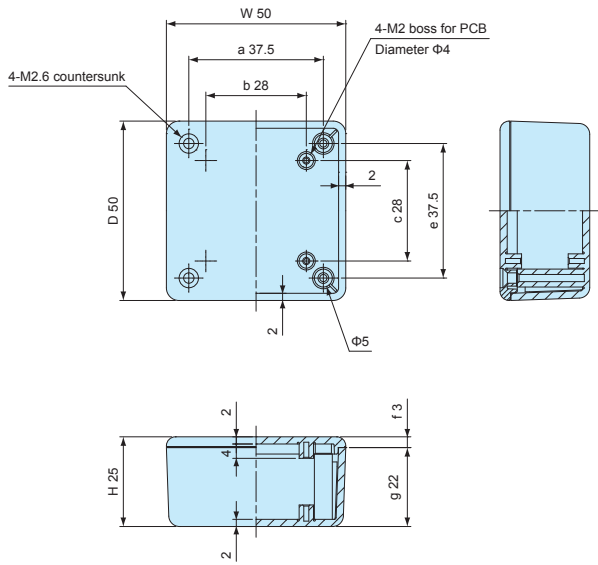
TW5-2-5



| Product no. | W  | H  | D  | a    | b  | c  | e    | f | g  | i | j | k  | ℓ  | m  | n  |
|-------------|----|----|----|------|----|----|------|---|----|---|---|----|----|----|----|
| TW5-2-5□    | 50 | 15 | 50 | 37.5 | 28 | 28 | 37.5 | 3 | 12 | - | - | 43 | 43 | 45 | 45 |

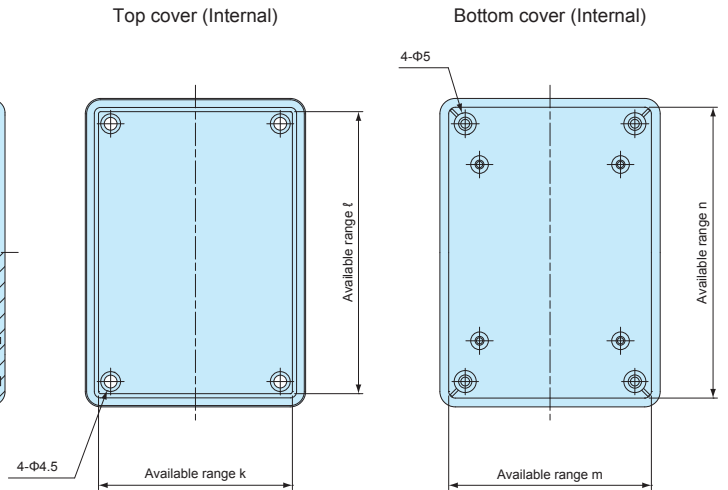
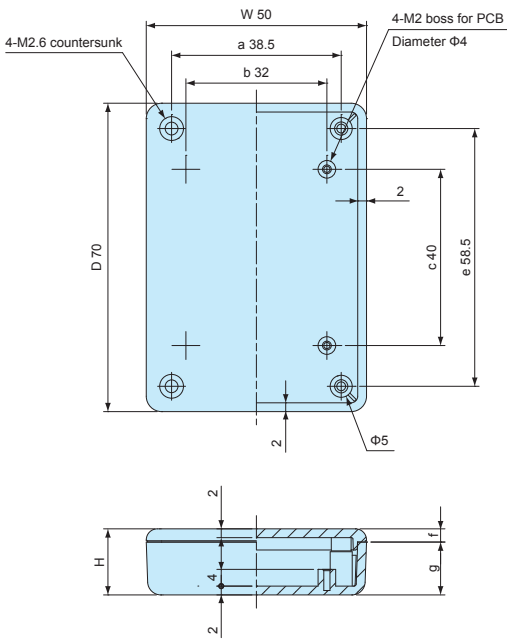


TW5-3-5



| Product no. | W  | H  | D  | a    | b  | c  | e    | f | g  | i | j | k  | ℓ  | m    | n    |
|-------------|----|----|----|------|----|----|------|---|----|---|---|----|----|------|------|
| TW5-3-5□    | 50 | 25 | 50 | 37.5 | 28 | 28 | 37.5 | 3 | 22 | - | - | 43 | 43 | 44.5 | 44.5 |

TW / TWN5-2-7  
 TW / TWN5-3-7  
 TW / TWN5-4-7

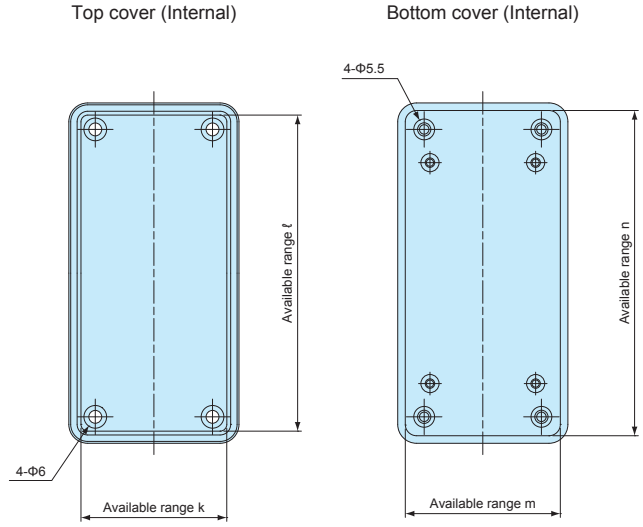
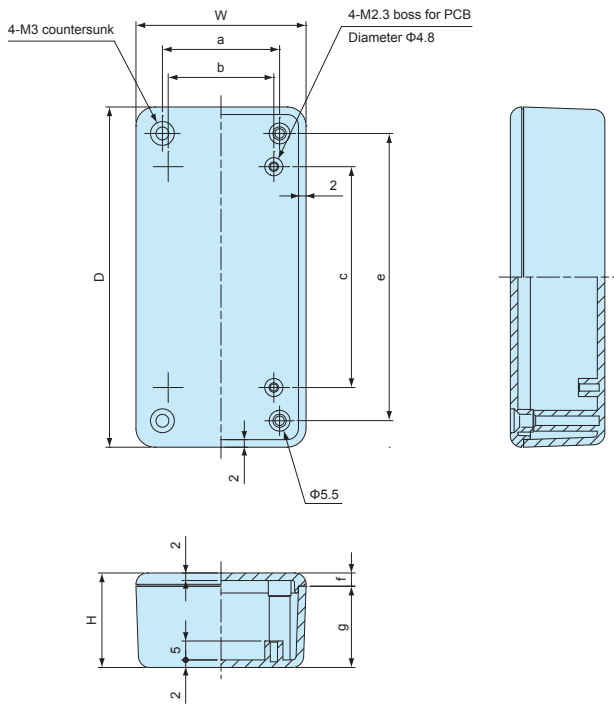


| Product no.    | W  | H    | D  | a    | b  | c  | e    | f | g    | i | j | k    | ℓ    | m    | n    |
|----------------|----|------|----|------|----|----|------|---|------|---|---|------|------|------|------|
| TW / TWN5-2-7□ | 50 | 15   | 70 | 38.5 | 32 | 40 | 58.5 | 3 | 12   | - | - | 43.5 | 63.5 | 44.5 | 64.5 |
| TW / TWN5-3-7□ | 50 | 27.5 | 70 | 38.5 | 32 | 40 | 58.5 | 3 | 24.5 | - | - | 43.5 | 63.5 | 44   | 64   |
| TW / TWN5-4-7□ | 50 | 40   | 70 | 38.5 | 32 | 40 | 58.5 | 3 | 37   | - | - | 43.5 | 63.5 | 43   | 63   |

TW / TWN dimensions

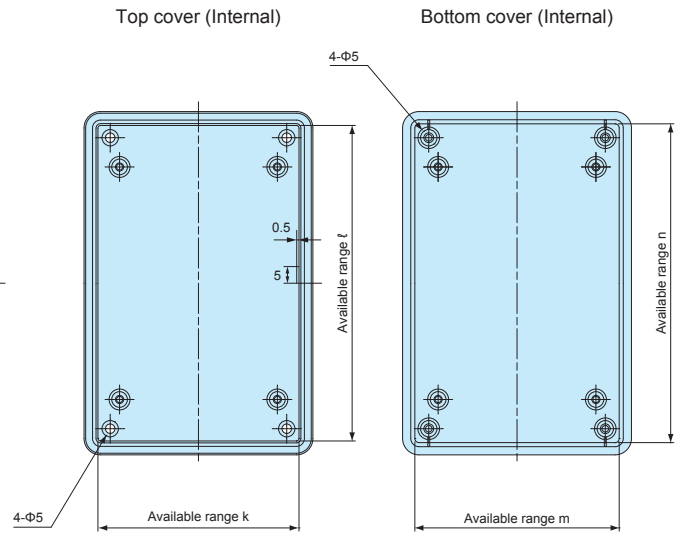
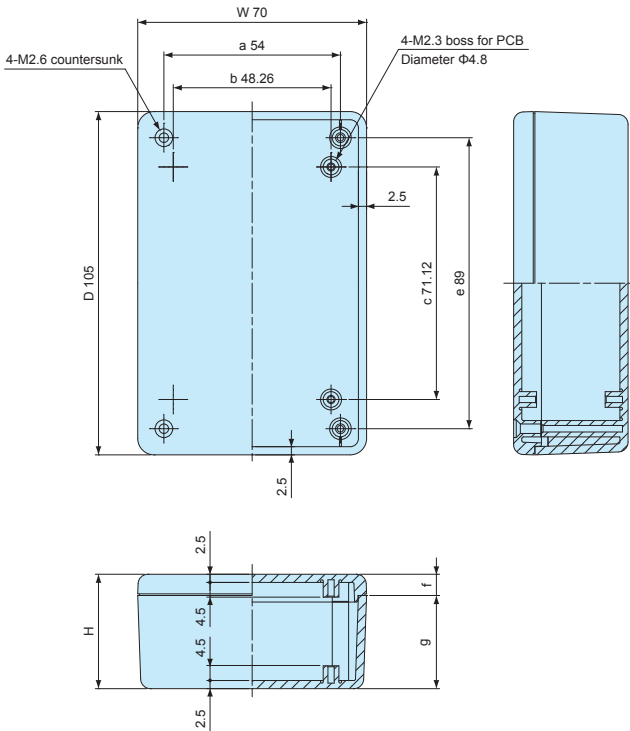
DXF/DWG/PDF drawings available on our website.

TW / TWN5-3-9  
TW5-3-10



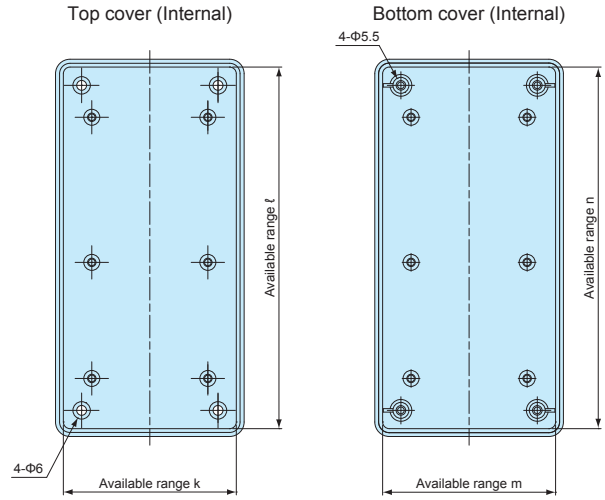
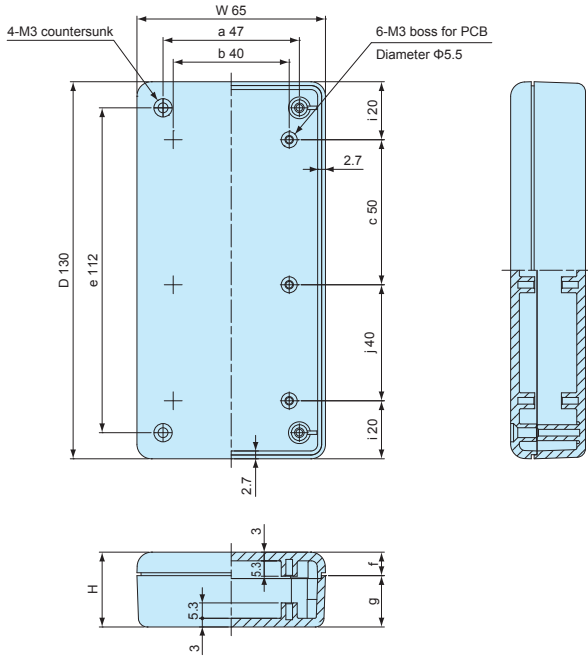
| Product no.    | W  | H  | D   | a  | b     | c     | e  | f   | g    | i | j | k    | ℓ    | m  | n  |
|----------------|----|----|-----|----|-------|-------|----|-----|------|---|---|------|------|----|----|
| TW / TWN5-3-9□ | 45 | 25 | 90  | 31 | 27.94 | 58.42 | 76 | 3.5 | 21.5 | - | - | 38.5 | 83.5 | 39 | 84 |
| TW5-3-10□      | 50 | 30 | 100 | 36 | 22.86 | 73.66 | 86 | 3.5 | 26.5 | - | - | 43   | 93   | 44 | 94 |

TW / TWN7-2-11  
TW / TWN7-4-11  
TW / TWN7-5-11



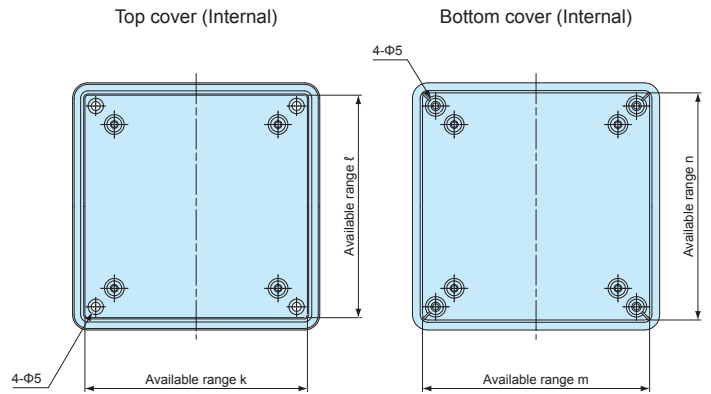
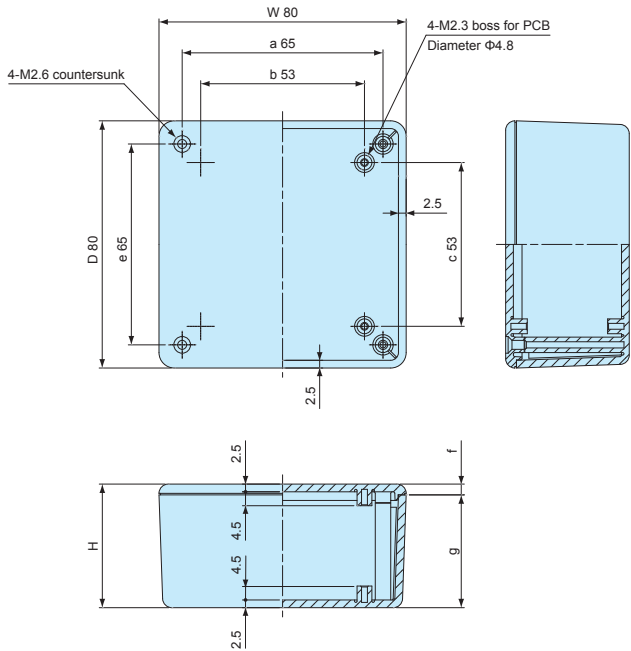
| Product no.     | W  | H  | D   | a  | b     | c     | e  | f   | g    | i | j | k    | ℓ    | m    | n    |
|-----------------|----|----|-----|----|-------|-------|----|-----|------|---|---|------|------|------|------|
| TW / TWN7-2-11□ | 70 | 20 | 105 | 54 | 48.26 | 71.12 | 89 | 6.5 | 13.5 | - | - | 61.5 | 96.5 | 63.5 | 98.5 |
| TW / TWN7-4-11□ | 70 | 35 | 105 | 54 | 48.26 | 71.12 | 89 | 6.5 | 28.5 | - | - | 61.5 | 96.5 | 62.5 | 97.5 |
| TW / TWN7-5-11□ | 70 | 50 | 105 | 54 | 48.26 | 71.12 | 89 | 6.5 | 43.5 | - | - | 61.5 | 96.5 | 61.5 | 96.5 |

TW / TWN7-3-13 / TWS7-3-13  
 TW / TWN7-5-13 / TWS7-5-13



| Product no.     | W  | H    | D   | a  | b  | c  | e   | f   | g    | i  | j  | k  | ℓ   | m    | n     |
|-----------------|----|------|-----|----|----|----|-----|-----|------|----|----|----|-----|------|-------|
| TW / TWN7-3-13□ | 65 | 25.6 | 130 | 47 | 40 | 50 | 112 | 8.1 | 17.5 | 20 | 40 | 57 | 122 | 58   | 123   |
| TW / TWN7-5-13□ | 65 | 50.1 | 130 | 47 | 40 | 50 | 112 | 8.1 | 42   | 20 | 40 | 57 | 122 | 56.5 | 121.5 |

TW / TWN8-2-8  
 TW / TWN8-4-8

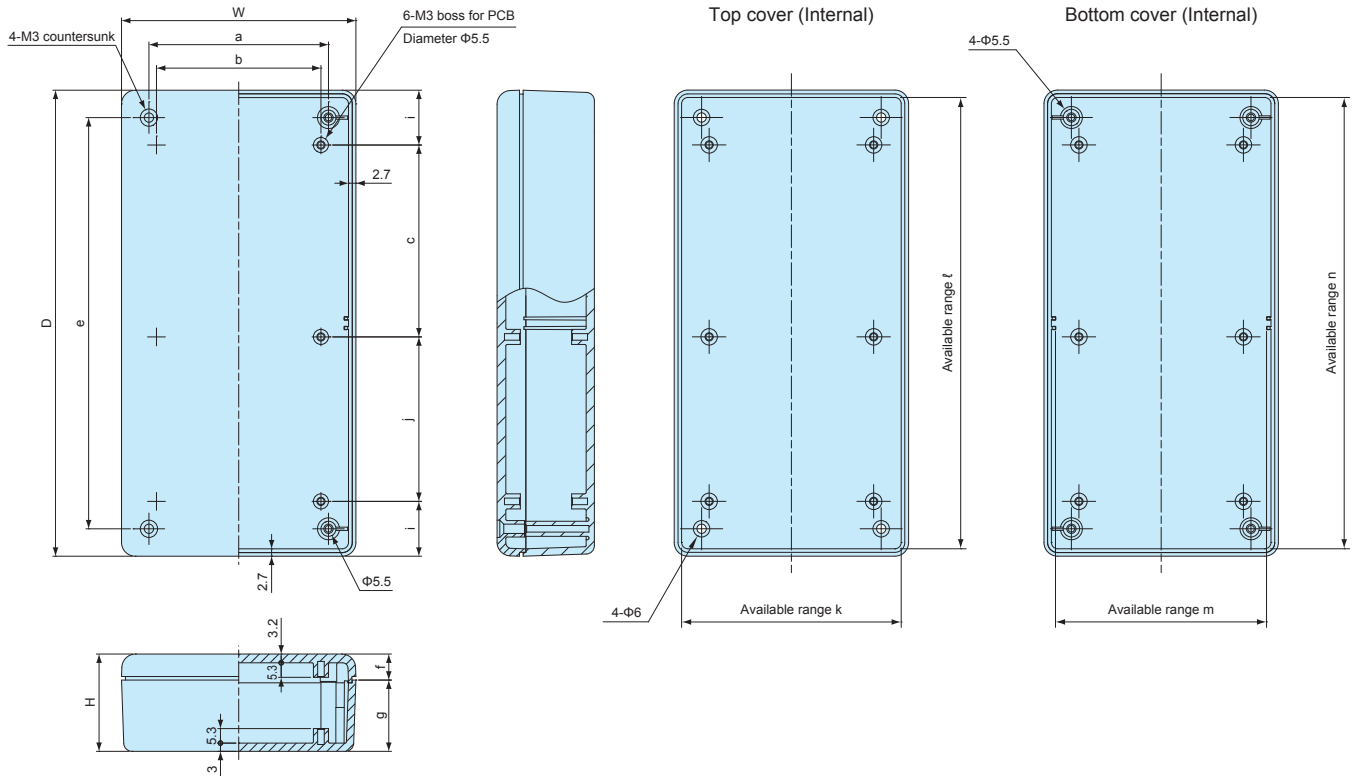


| Product no.    | W  | H  | D  | a  | b  | c  | e  | f   | g    | i | j | k  | ℓ  | m    | n    |
|----------------|----|----|----|----|----|----|----|-----|------|---|---|----|----|------|------|
| TW / TWN8-2-8□ | 80 | 20 | 80 | 65 | 53 | 53 | 65 | 3.5 | 16.5 | - | - | 72 | 72 | 73.5 | 73.5 |
| TW / TWN8-4-8□ | 80 | 40 | 80 | 65 | 53 | 53 | 65 | 3.5 | 36.5 | - | - | 72 | 72 | 72   | 72   |

**TW / TWN dimensions**

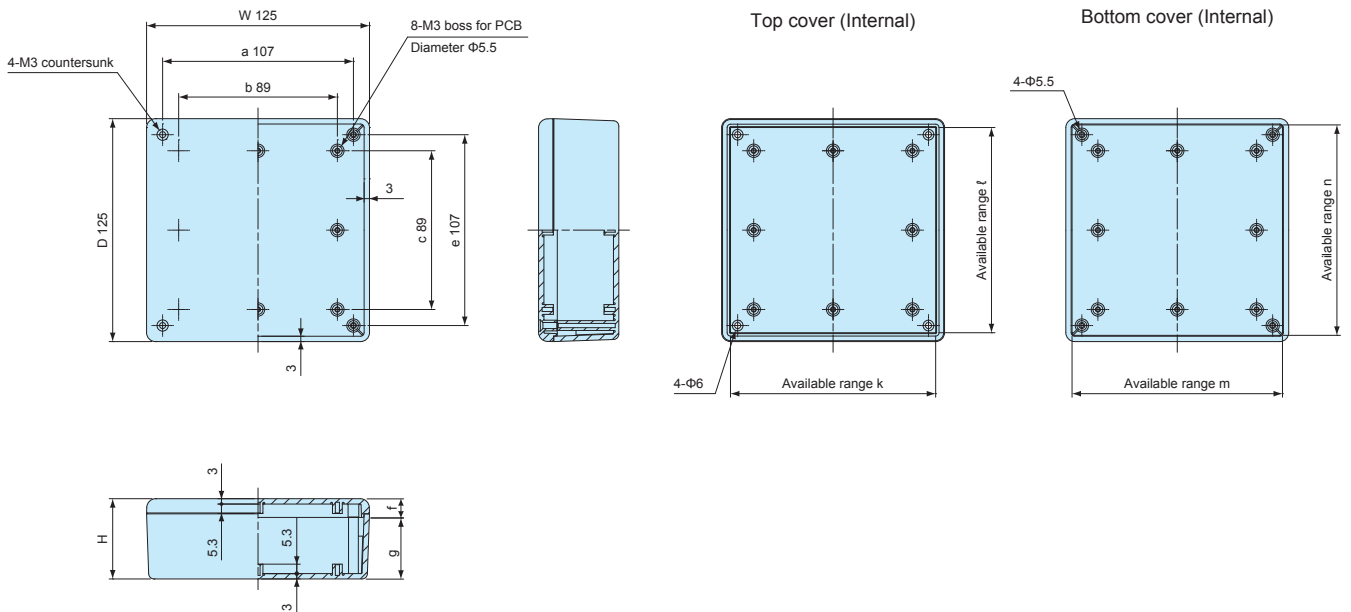
■ DXF/DWG/PDF drawings available on our website.

TW / TWN 9-4-17 / TWS 9-4-17  
 TW / TWN 9-6-17 / TWS 9-6-17  
 TW / TWN11-5-22 / TWS11-5-22  
 TW / TWN11-8-22 / TWS11-8-22



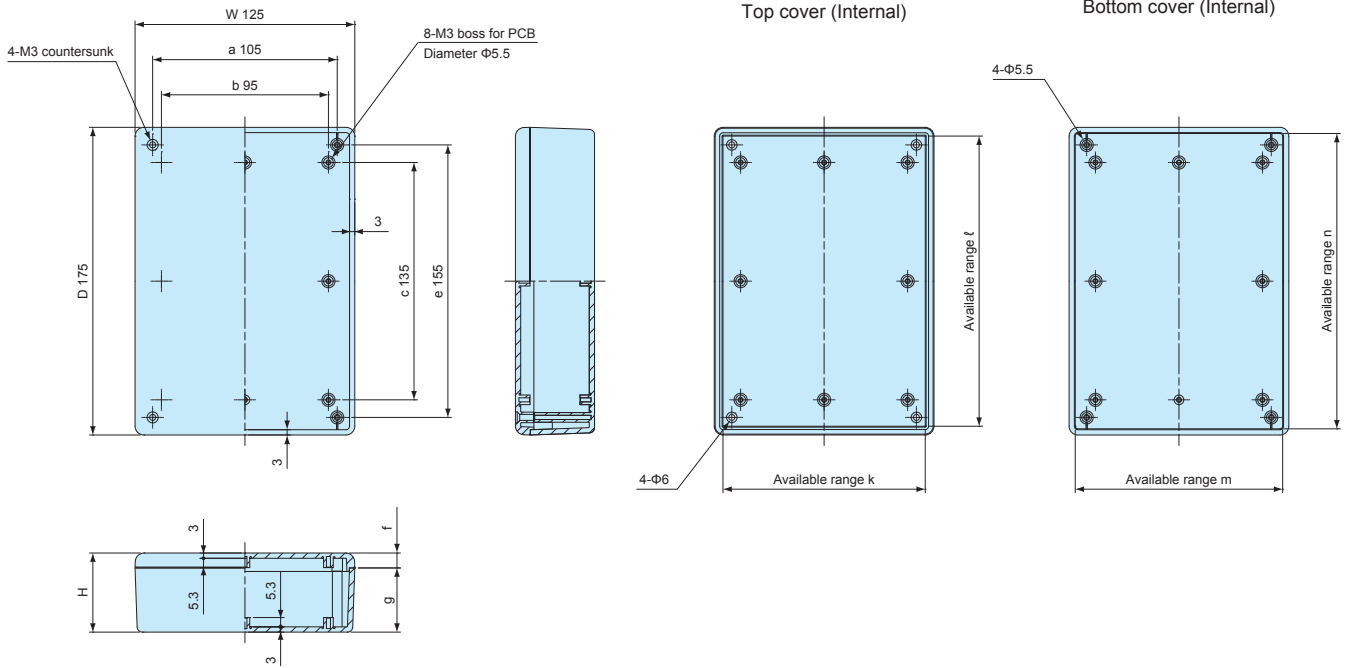
| Product no.      | W    | H    | D   | a    | b  | c   | e   | f    | g  | i  | j  | k    | ℓ   | m    | n     |
|------------------|------|------|-----|------|----|-----|-----|------|----|----|----|------|-----|------|-------|
| TW / TWN 9-4-17□ | 85.5 | 35.5 | 170 | 65.5 | 60 | 70  | 150 | 9.5  | 26 | 20 | 60 | 77.5 | 162 | 76.5 | 162.5 |
| TW / TWN 9-6-17□ | 85.5 | 60.5 | 170 | 65.5 | 60 | 70  | 150 | 9.5  | 51 | 20 | 60 | 77.5 | 162 | 76.5 | 161   |
| TW / TWN11-5-22□ | 110  | 45.3 | 220 | 88   | 50 | 120 | 198 | 10.3 | 35 | 20 | 60 | 102  | 212 | 101  | 211.5 |
| TW / TWN11-8-22□ | 110  | 75.3 | 220 | 88   | 50 | 120 | 198 | 10.3 | 65 | 20 | 60 | 102  | 212 | 100  | 210   |

TW / TWN13-3-13 / TWS13-3-13  
 TW / TWN13-5-13 / TWS13-5-13



| Product no.      | W   | H  | D   | a   | b  | c  | e   | f   | g    | i | j | k   | ℓ   | m     | n     |
|------------------|-----|----|-----|-----|----|----|-----|-----|------|---|---|-----|-----|-------|-------|
| TW / TWN13-3-13□ | 125 | 25 | 125 | 107 | 89 | 89 | 107 | 8.5 | 16.5 | - | - | 115 | 115 | 118   | 118   |
| TW / TWN13-5-13□ | 125 | 45 | 125 | 107 | 89 | 89 | 107 | 8.5 | 36.5 | - | - | 115 | 115 | 116.5 | 116.5 |

TW / TWN13-3-18 / TWS13-3-18  
 TW / TWN13-5-18 / TWS13-5-18  
 TW / TWN13-7-18 / TWS13-7-18



| Product no.      | W   | H  | D   | a   | b  | c   | e   | f   | g    | i | j | k   | l   | m     | n     |
|------------------|-----|----|-----|-----|----|-----|-----|-----|------|---|---|-----|-----|-------|-------|
| TW / TWN13-3-18□ | 125 | 25 | 175 | 105 | 95 | 135 | 155 | 8.5 | 16.5 | - | - | 115 | 165 | 117.5 | 167.5 |
| TW / TWN13-5-18□ | 125 | 45 | 175 | 105 | 95 | 135 | 155 | 8.5 | 36.5 | - | - | 115 | 165 | 116.5 | 166.5 |
| TW / TWN13-7-18□ | 125 | 65 | 175 | 105 | 95 | 135 | 155 | 8.5 | 56.5 | - | - | 115 | 165 | 115   | 165   |

**TWSC SERIES**

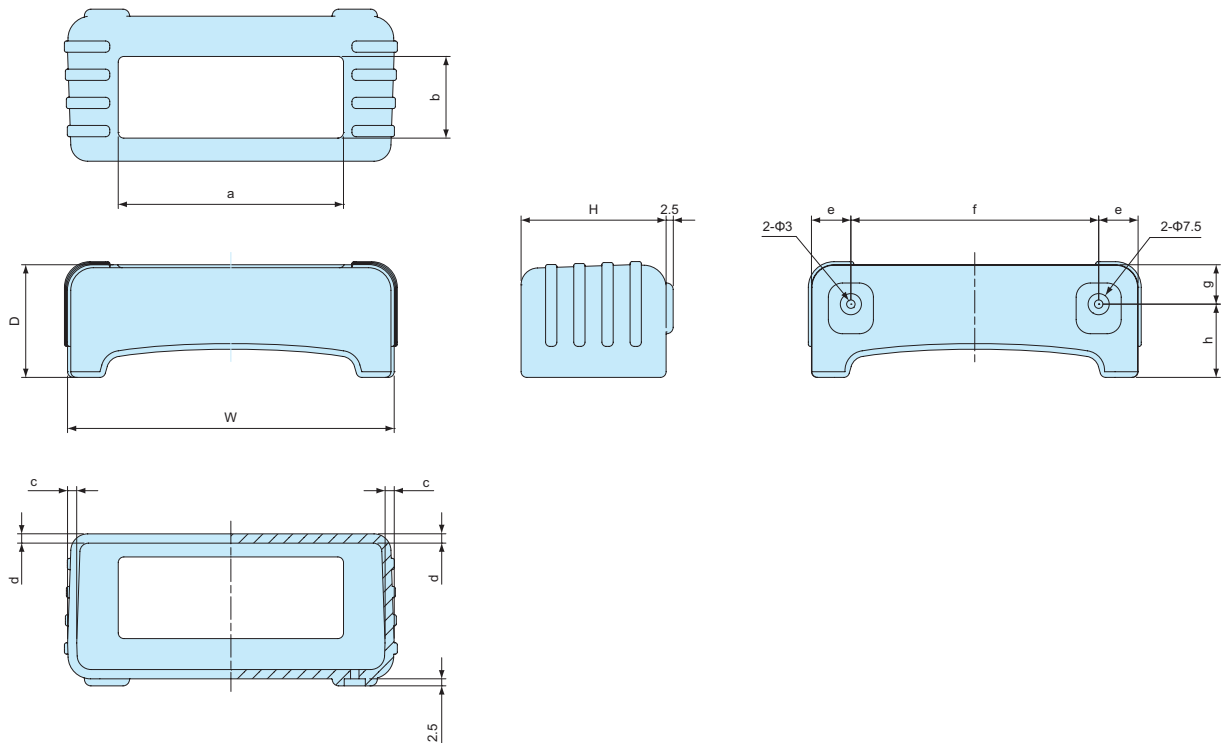
**SILICONE PROTECTOR for TW•TWN**

**Color Type**



- Silicone Protector for TW • TWN series. Selectable in 6 colors.
- Please select a model based on the suitable plastic case as listed below. The silicone protector is a set of 2 pcs.
- Custom color is available from 500 pairs per order. Please specify the **PANTONE** color number or provide your sample color.

■ DXF/DWG/PDF drawings available on our website.



**Components**

| Part name          | Pcs           | Material    | Color / Finish                                    |
|--------------------|---------------|-------------|---|
| Silicone protector | 1 set (2 pcs) | Silicone    | Pink • Yellow • Green • Navy • Light gray • Black |
| Self tapping screw | 4             | Steel M3-20 | Black trivalent chromate                          |

**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no. | W    | H    | D  | a   | b    | c    | d    | e  | f    | g  | h  | Suitable case                      | Weight (g) |
|-------------|------|------|----|-----|------|------|------|----|------|----|----|------------------------------------|------------|
| TWSC 7-3□   | 71   | 32   | 27 | 52  | 13.5 | 3.2  | 3.3  | 12 | 47   | 12 | 15 | TW / TWN 7-3-13                    | 41         |
| TWSC 7-5□   | 71   | 56   | 27 | 52  | 37.5 | 3.15 | 3.1  | 12 | 47   | 12 | 15 | TW / TWN 7-5-13                    | 47.5       |
| TWSC 9-4□   | 91.5 | 41.5 | 33 | 67  | 22   | 3.1  | 3.15 | 13 | 65.5 | 13 | 20 | TW / TWN 9-4-17                    | 60         |
| TWSC 9-6□   | 91.5 | 66.5 | 33 | 67  | 46.5 | 3.2  | 3.3  | 13 | 65.5 | 13 | 20 | TW / TWN 9-6-17                    | 75         |
| TWSC11-5□   | 116  | 51.5 | 40 | 80  | 29   | 3.25 | 3.3  | 14 | 88   | 14 | 26 | TW / TWN11-5-22                    | 102.5      |
| TWSC11-8□   | 116  | 81.5 | 40 | 80  | 58   | 3.2  | 3.3  | 14 | 88   | 14 | 26 | TW / TWN11-8-22                    | 122        |
| TWSC13-3□   | 131  | 31   | 38 | 101 | 13   | 3.15 | 3.2  | 13 | 105  | 13 | 25 | TW / TWN13-3-13<br>TW / TWN13-3-18 | 87         |
| TWSC13-5□   | 131  | 51   | 38 | 101 | 29.5 | 3.3  | 3.3  | 13 | 105  | 13 | 25 | TW / TWN13-5-13<br>TW / TWN13-5-18 | 104        |
| TWSC13-7□   | 131  | 71   | 38 | 101 | 48.5 | 3.3  | 3.3  | 13 | 105  | 13 | 25 | TW / TWN13-7-18                    | 117        |



**LD•LDN SERIES**

**SNAP-IN BATTERY BOX**

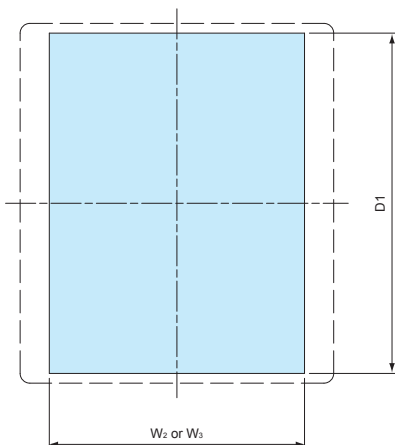
Snap-in battery holders are available for installation onto TWS • TW • TWN series.  
Hole milling is required for installation of battery holder.



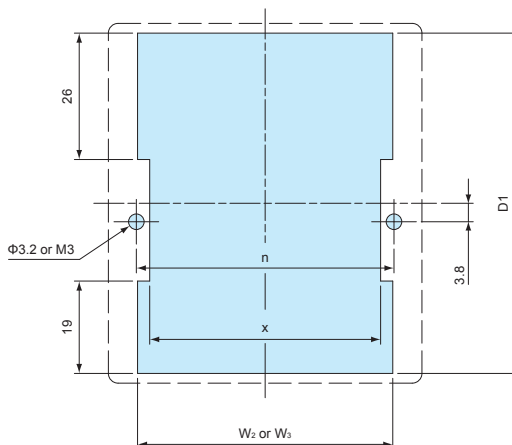
Visit our website for more details on the LD • LDN series.

**LD • LDN mounting hole**

Snap-in mount hole



Screwed mount hole



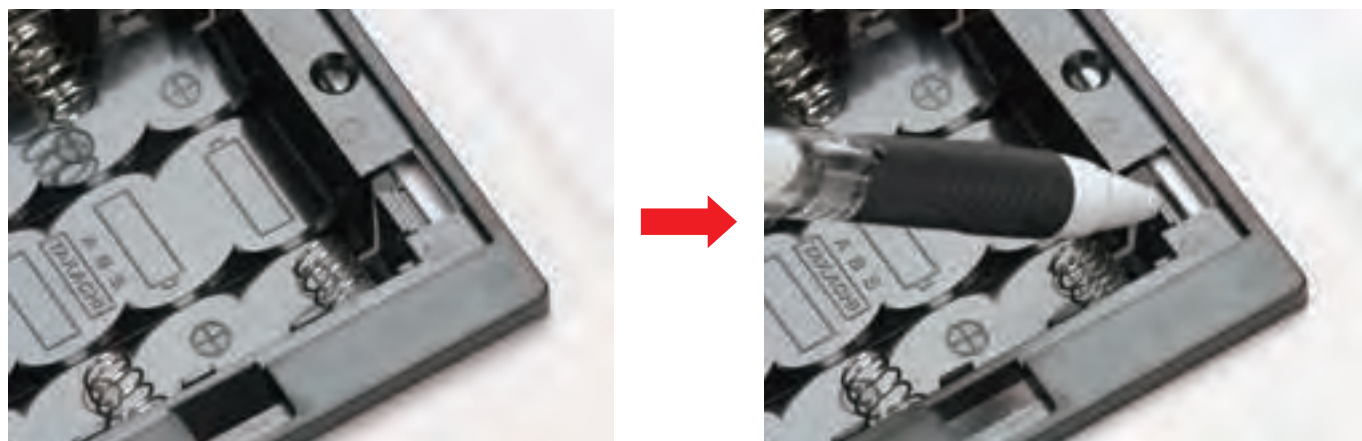
**Mount hole dimension**

| Product no.       | W <sub>2</sub> (thickness=2.5mm) | W <sub>3</sub> (thickness=3.0mm) | D1   | n    | x    |
|-------------------|----------------------------------|----------------------------------|------|------|------|
| LD / LDN-2 • 006P | 38.5                             | 40.5                             | 70.6 | 40.5 | 34.5 |
| LD / LDN-3        | 52.5                             | 54                               | 70.4 | 53   | 49   |
| LD / LDN-4        | 68.5                             | 70.5                             | 70.6 | 70.1 | 64.5 |

■ W<sub>2</sub> or W<sub>3</sub> size depends on the thickness of the enclosure wall used for mounting.

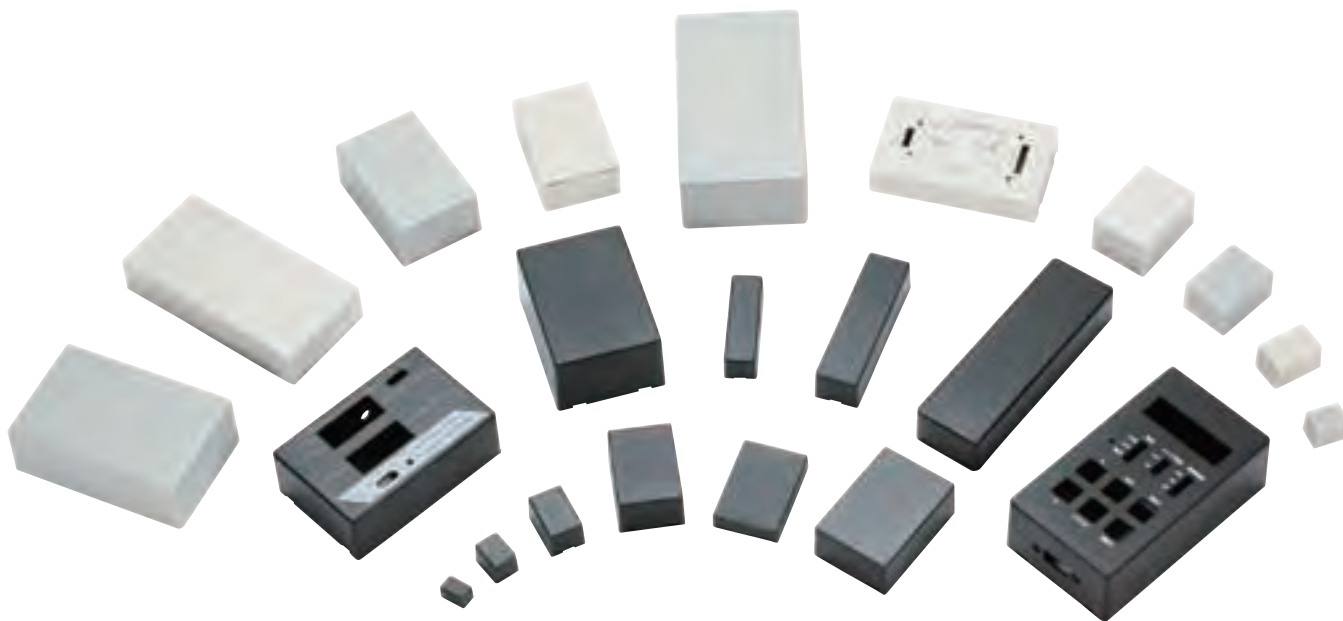
**How to mount the battery box on the enclosure**

Please push the hook using a thin stick when mounting the battery box on the enclosure.  
Please use minimal force when pushing to avoid breaking it.



# SW•SW-N•SW-T

# COMPACT SNAP-IN PLASTIC CASE



| Technical Data         |
|------------------------|
| Protection class: IP40 |
| Operating temperature: |
| SW•SW-N: -10°C ~ +60°C |
| SW-T: -10°C ~ +100°C   |

- No screws required; simple snap on / off cover.
- General purpose compact type case.
- Ample interior space.
- Exclusive PCB is available.
- 3 different material types (standard, flame-resistant, and heat-resistant) are available.

### Components

| No. | Part name | Material / Color                     |
|-----|-----------|--------------------------------------|
| 1   | Base      | SW : ABS UL94HB / Light gray • Black |
|     |           | SW-N : ABS UL94V-1 : UL94V-0 / Gray  |
|     |           | SW-T : ABS flame-resistant / Black   |
| 2   | Cover     | SW : ABS UL94HB / Light gray • Black |
|     |           | SW-N : ABS UL94V-1 : UL94V-0 / Gray  |
|     |           | SW-T : ABS flame-resistant / Black   |

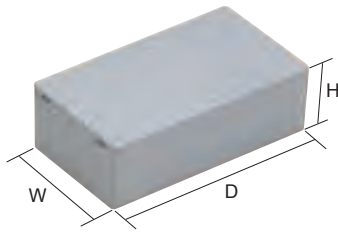
### Accessories (Optional parts)



Adhesive standoff  
T-600, 700, ASR  
See page 134



Neodymium magnet  
NMG series  
See page 130



**Color Type**

| Series | Code | Color      |
|--------|------|------------|
| SW     | S    | Light gray |
|        | B    | Black      |
| SW-N   | G    | Gray       |
| SW-T   | B    | Black      |

**SW standard (ABS UL94HB)**

**Product no. / Dimensions**

| Product no.  |         | Dimensions |    |     | Weight (g) |
|--------------|---------|------------|----|-----|------------|
| ● Light gray | ● Black | W          | H  | D   |            |
| SW- 15S      | SW- 15B | 10         | 10 | 15  | 1          |
| SW- 20S      | SW- 20B | 15         | 15 | 20  | 2          |
| SW- 30S      | SW- 30B | 20         | 18 | 30  | 4          |
| SW- 40S      | SW- 40B | 30         | 20 | 40  | 10         |
| SW- 50S      | SW- 50B | 35         | 25 | 50  | 14         |
| SW- 53S      | SW- 53B | 36         | 11 | 53  | 10         |
| SW- 55S      | SW- 55B | 40         | 20 | 55  | 17         |
| SW- 60S      | SW- 60B | 18         | 17 | 60  | 9          |
| SW- 65S      | SW- 65B | 45         | 25 | 65  | 21         |
| SW- 75S      | SW- 75B | 50         | 30 | 75  | 32         |
| SW- 85S      | SW- 85B | 60         | 40 | 85  | 43         |
| SW- 90S      | SW- 90B | 25         | 21 | 90  | 17         |
| SW- 95S      | SW- 95B | 58         | 18 | 95  | 34         |
| SW-100S      | SW-100B | 65         | 35 | 100 | 55         |
| SW-120S      | SW-120B | 60         | 24 | 120 | 50         |
| SW-125S      | SW-125B | 70         | 40 | 125 | 77         |
| SW-130S      | SW-130B | 40         | 25 | 130 | 43         |

**SW-N flame-resistant (ABS UL94V-1 : UL94V-0)**

**Product no. / Dimensions**

| Product no. | W  | H  | D   | UL class | Weight (g) |
|-------------|----|----|-----|----------|------------|
| SW-N 20G    | 15 | 15 | 20  | UL94V-1  | 3          |
| SW-N 30G    | 20 | 18 | 30  | UL94V-1  | 5          |
| SW-N 40G    | 30 | 20 | 40  | UL94V-0  | 11         |
| SW-N 50G    | 35 | 25 | 50  | UL94V-0  | 17         |
| SW-N 55G    | 40 | 20 | 55  | UL94V-0  | 19         |
| SW-N 65G    | 45 | 25 | 65  | UL94V-0  | 23         |
| SW-N 75G    | 50 | 30 | 75  | UL94V-0  | 35         |
| SW-N 85G    | 60 | 40 | 85  | UL94V-0  | 50         |
| SW-N 95G    | 58 | 18 | 95  | UL94V-0  | 37         |
| SW-N100G    | 65 | 35 | 100 | UL94V-0  | 60         |
| SW-N120G    | 60 | 24 | 120 | UL94V-0  | 56         |
| SW-N125G    | 70 | 40 | 125 | UL94V-0  | 85         |
| SW-N130G    | 40 | 25 | 130 | UL94V-0  | 48         |

**SW-T heat-resistant (ABS heat distortion temperature 100°C)**

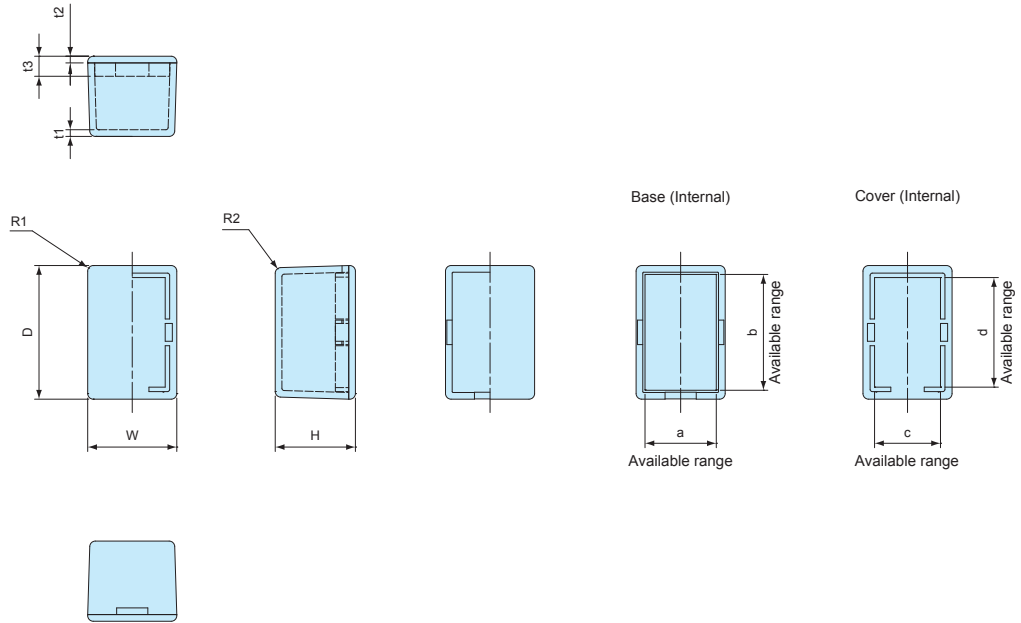
**Product no. / Dimensions**

| Product no. | W  | H  | D   | Weight (g) |
|-------------|----|----|-----|------------|
| SW-T 20B    | 15 | 15 | 20  | 2          |
| SW-T 40B    | 30 | 20 | 40  | 9          |
| SW-T 55B    | 40 | 20 | 55  | 16         |
| SW-T 75B    | 50 | 30 | 75  | 30         |
| SW-T 95B    | 58 | 18 | 95  | 31         |
| SW-T100B    | 65 | 35 | 100 | 50         |

**SW • SW-N • SW-T dimensions**

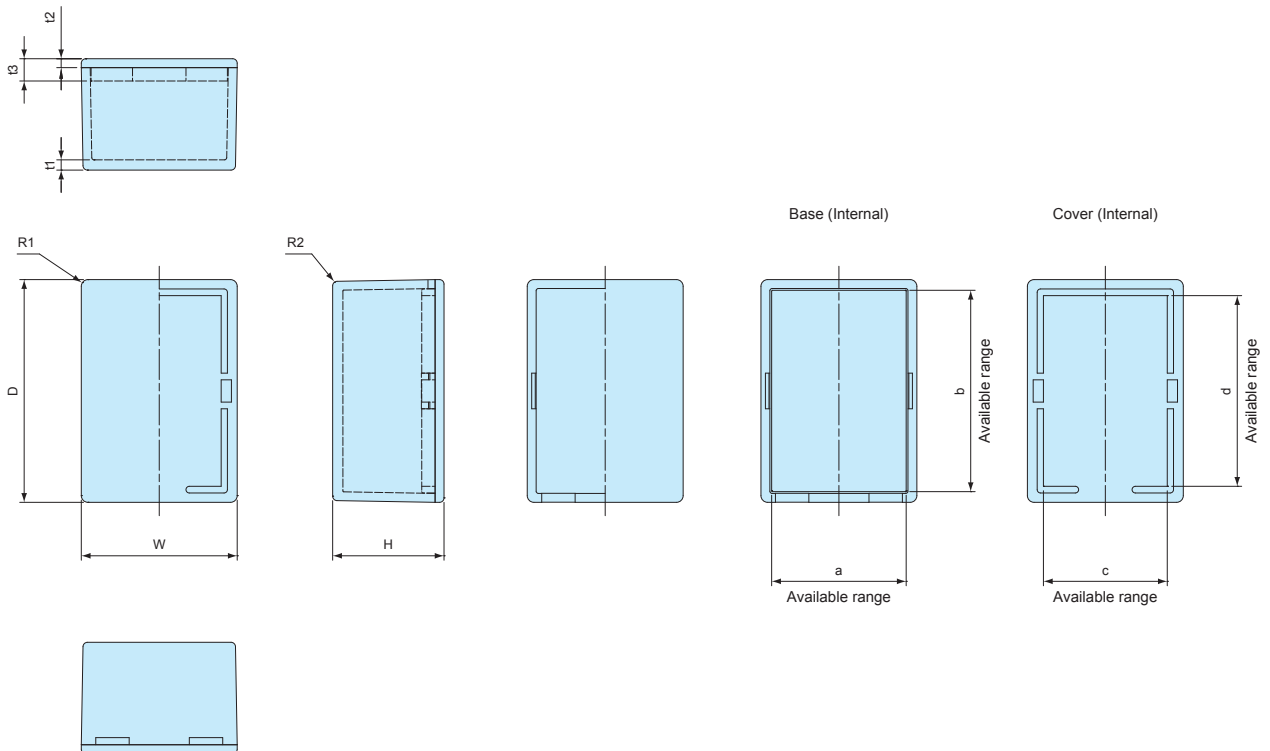
■ DXF/DWG/PDF drawings available on our website.

SW-15 • SW-20 • SW-30  
 SW-N20 • SW-N30  
 SW-T20



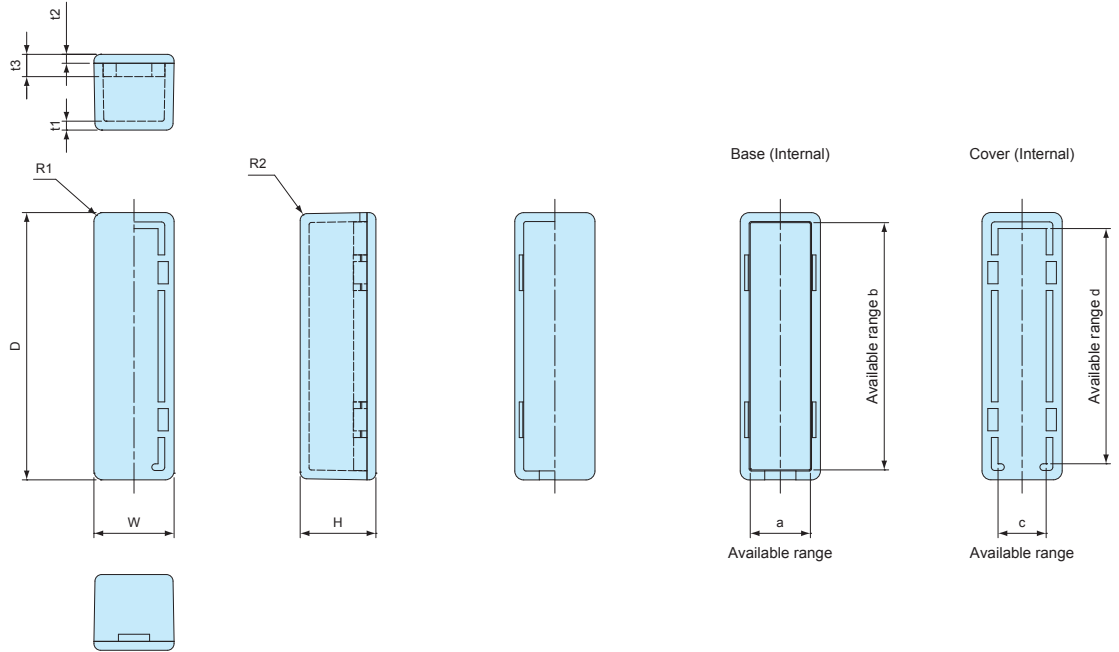
| Product no.             | W  | H  | D  | a    | b    | c    | d    | t1  | t2  | t3  | R1   | R2   |
|-------------------------|----|----|----|------|------|------|------|-----|-----|-----|------|------|
| SW-15                   | 10 | 10 | 15 | 7.2  | 12.2 | 5.4  | 10.6 | 1.1 | 1.1 | 3.6 | 1    | 1    |
| SW-20 • SW-N20 • SW-T20 | 15 | 15 | 20 | 11.6 | 16.6 | 10   | 14.8 | 1.5 | 1.5 | 4.5 | 1.25 | 1.25 |
| SW-30 • SW-N30          | 20 | 18 | 30 | 16   | 26   | 14.8 | 24.6 | 1.5 | 1.5 | 4.5 | 1.25 | 1.25 |

SW-40 • SW-50 • SW-53 • SW-55  
 SW-N40 • SW-N50 • SW-N55  
 SW-T40 • SW-T55



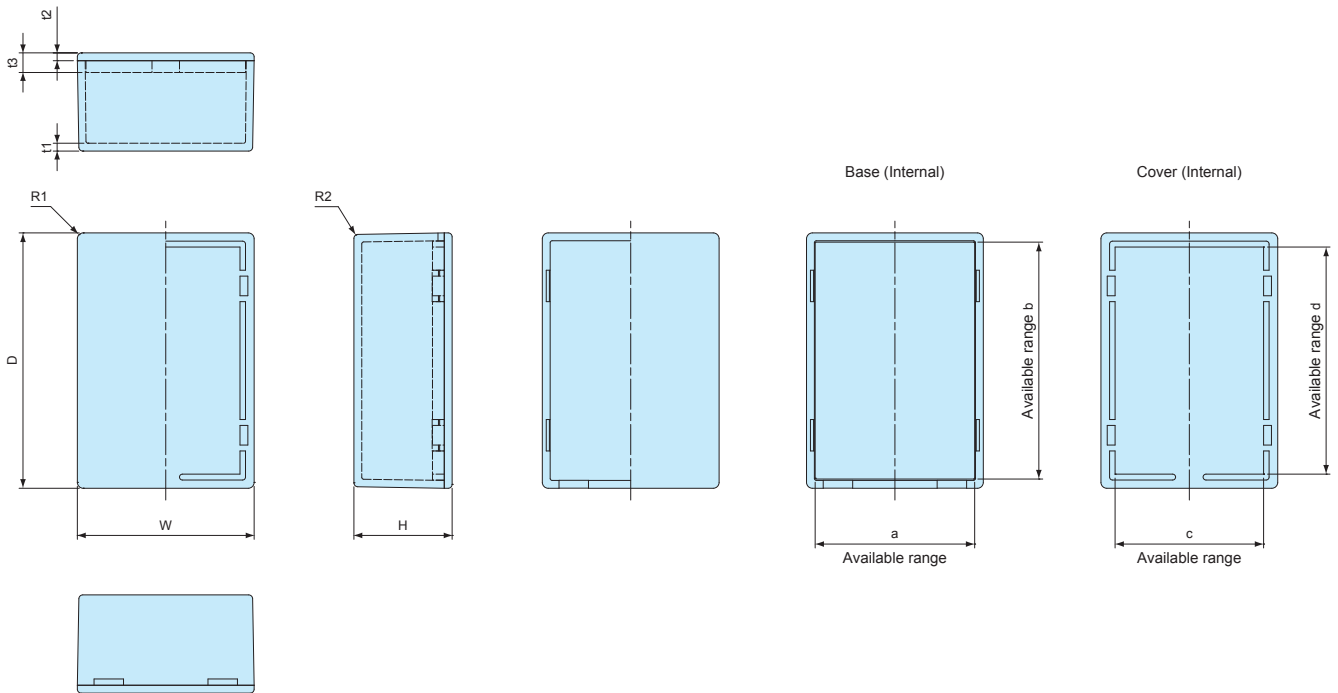
| Product no.             | W  | H  | D  | a    | b    | c    | d    | t1  | t2  | t3  | R1  | R2   |
|-------------------------|----|----|----|------|------|------|------|-----|-----|-----|-----|------|
| SW-40 • SW-N40 • SW-T40 | 30 | 20 | 40 | 26   | 36   | 22.8 | 32.8 | 1.8 | 2   | 5   | 1.5 | 1    |
| SW-50 • SW-N50          | 35 | 25 | 50 | 30.2 | 45.2 | 27.8 | 42.8 | 2.3 | 2   | 5   | 1.5 | 1    |
| SW-53                   | 36 | 11 | 53 | 32   | 49   | 29.2 | 46.2 | 1.8 | 1.8 | 4.8 | 1.5 | 1.25 |
| SW-55 • SW-N55 • SW-T55 | 40 | 20 | 55 | 35.5 | 50.5 | 32.8 | 47.8 | 2   | 2   | 5   | 1.5 | 0.3  |

SW-60 • SW-90



| Product no. | W  | H  | D  | a    | b    | c    | d    | t1 | t2 | t3 | R1 | R2  |
|-------------|----|----|----|------|------|------|------|----|----|----|----|-----|
| SW-60       | 18 | 17 | 60 | 13.5 | 55.5 | 10.8 | 52.8 | 2  | 2  | 5  | 2  | 1.5 |
| SW-90       | 25 | 21 | 91 | 20.3 | 85.3 | 17.8 | 82.8 | 2  | 2  | 5  | 2  | 1.5 |

SW-65 • SW-75 • SW-85 • SW-95 • SW-100 • SW-120 • SW-125 • SW-130  
 SW-N65 • SW-N75 • SW-N85 • SW-N95 • SW-N100 • SW-N120 • SW-N125 • SW-N130  
 SW-T75 • SW-T95 • SW-T100



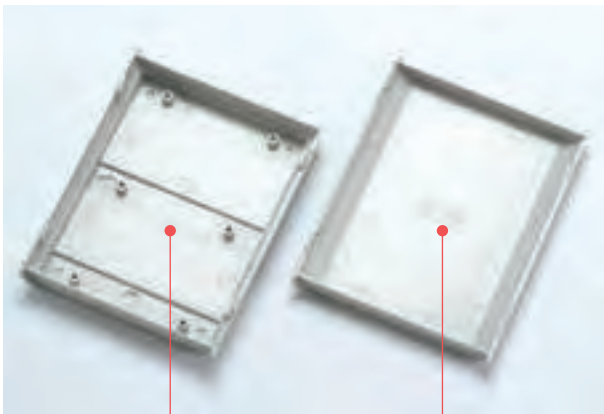
| Product no.                | W  | H  | D   | a    | b     | c    | d     | t1  | t2  | t3  | R1   | R2   |
|----------------------------|----|----|-----|------|-------|------|-------|-----|-----|-----|------|------|
| SW- 65 • SW-N 65           | 45 | 25 | 65  | 40.6 | 60.3  | 37.8 | 57.8  | 2   | 2   | 5   | 1.5  | 1    |
| SW- 75 • SW-N 75 • SW-T 75 | 50 | 30 | 75  | 45.2 | 70.5  | 42.8 | 67.8  | 2   | 2   | 5   | 1.75 | 0.3  |
| SW- 85 • SW-N 85           | 60 | 40 | 85  | 54.5 | 79.5  | 52.8 | 77.8  | 2.3 | 2   | 5   | 2    | 1.5  |
| SW- 95 • SW-N 95 • SW-T 95 | 58 | 18 | 95  | 53.7 | 90.7  | 50.8 | 87.8  | 2   | 2   | 5   | 3    | 1.5  |
| SW-100 • SW-N100 • SW-T100 | 65 | 35 | 100 | 60.6 | 95.6  | 57.8 | 92.8  | 2   | 2.5 | 5.5 | 2    | 1.5  |
| SW-120 • SW-N120           | 60 | 24 | 120 | 55.7 | 115.7 | 52.8 | 112.8 | 2   | 2.5 | 5.5 | 2    | 1.5  |
| SW-125 • SW-N125           | 70 | 40 | 125 | 65   | 120   | 62.8 | 117.8 | 2.5 | 2.5 | 5.5 | 3    | 1.5  |
| SW-130 • SW-N130           | 40 | 25 | 130 | 35.5 | 125.5 | 32.8 | 122.8 | 2.5 | 2.5 | 5.5 | 3    | 1.75 |

**SU** SERIES

**NETWORK PLASTIC CASE**



| Technical Data                       |
|--------------------------------------|
| Protection class: IP40               |
| Operating temperature: -10°C ~ +60°C |



1

2

- Rounded shape design.
- Suitable for wall-mount communication device usage.
- Snap on / off cover. No screws are required.

**Components**

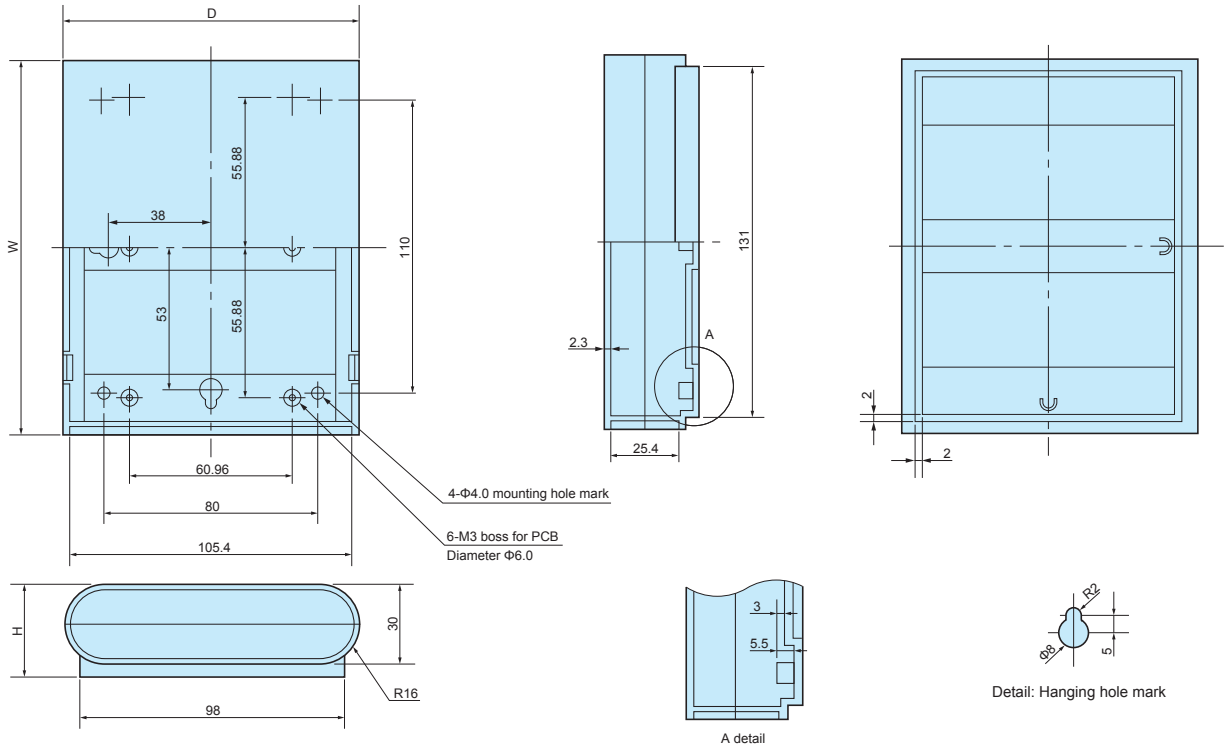
| No. | Part name | Material   | Color / Finish                 |
|-----|-----------|------------|--------------------------------|
| 1   | Cover     | ABS UL94HB | Light gray • Dark gray • White |
| 2   | Base      | ABS UL94HB | Light gray • Dark gray • White |



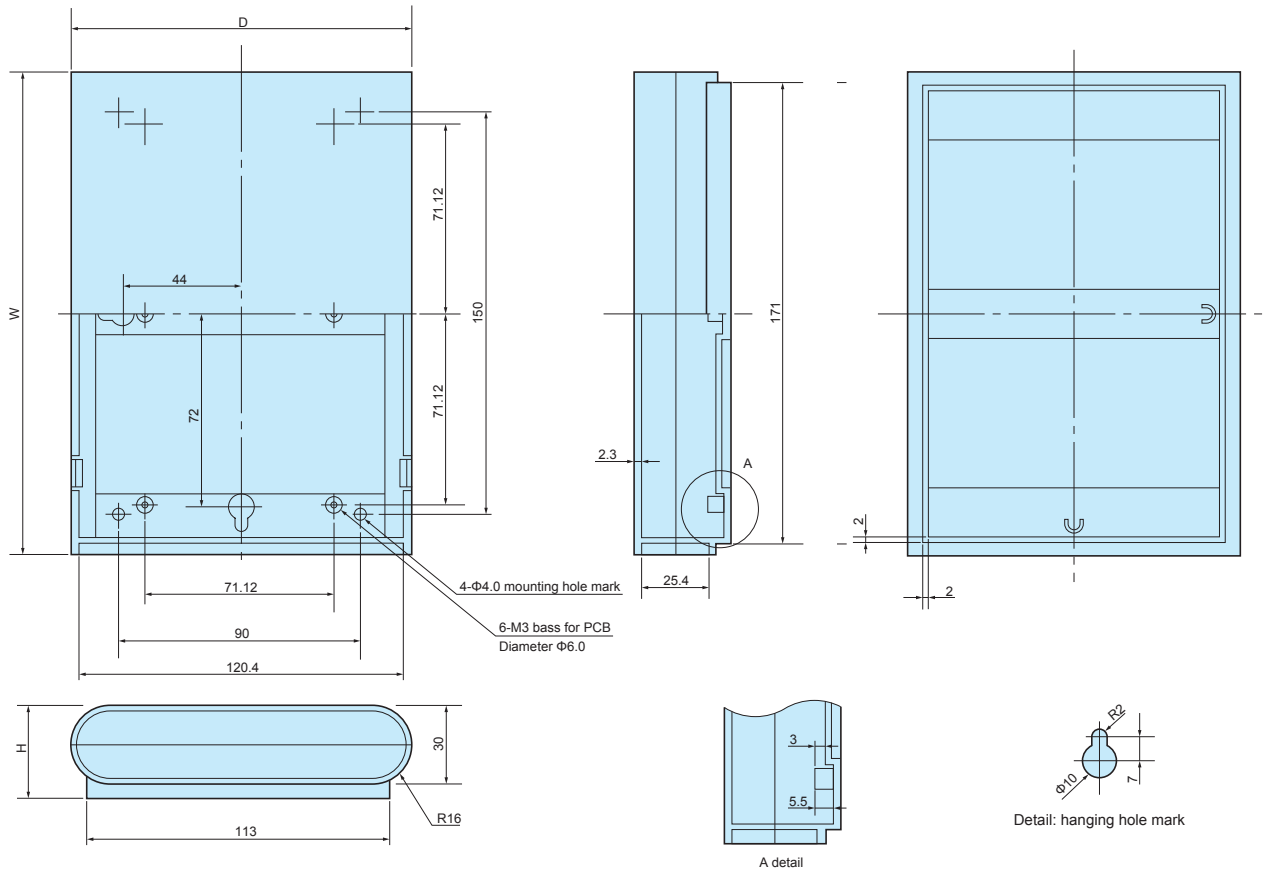
SU dimensions

■ DXF/DWG/PDF drawings available on our website.

SU-140



SU-180

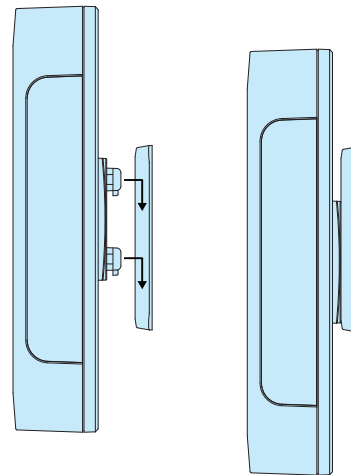


Product no. / Dimensions

| Product no.  |             |         | Dimensions |    |     | Weight (g) |
|--------------|-------------|---------|------------|----|-----|------------|
| ● Light gray | ● Dark gray | ● White | W          | H  | D   |            |
| SU-140G      | SU-140C     | SU-140W | 140        | 35 | 110 | 100        |
| SU-180G      | SU-180C     | SU-180W | 180        | 35 | 125 | 140        |

**WM SERIES SUSPENSION BRACKET**

How to install



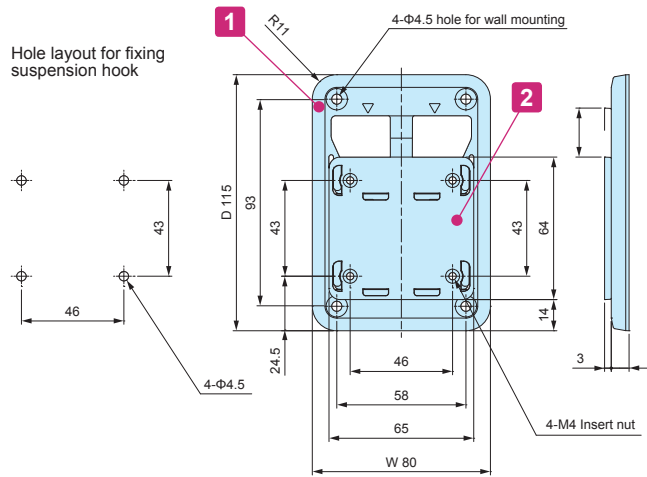
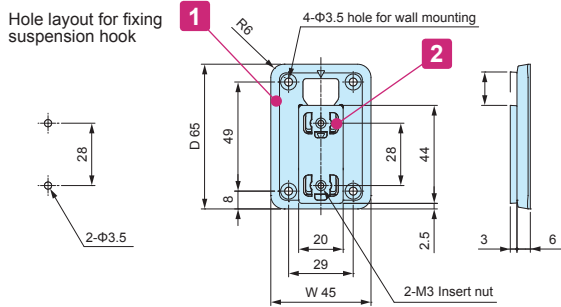
- Plastic wall mounting bracket. Easy attachment and removal.
- Large and small brackets are available.
- Applicable not only for the PF series, but also other plastic/metal enclosures with a panel thickness of 0.8 ~ 3.5mm.
- To attach the suspension hook onto the enclosure, hole milling is required.

| Technical Data         |             |
|------------------------|-------------|
| Max load : 2 kg - WM-1 | 5 kg - WM-2 |

- The max load values listed are static load values only. Use caution when handling.
- Please be aware of the insertion direction of the suspension hook against the mounting base when attaching.

WM-1

WM-2



■ DXF/DWG/PDF drawings available on our website.

Components

| No. | Part name       | Pcs   | Material                  | Color / Finish        |
|-----|-----------------|-------|---------------------------|-----------------------|
| 1   | Mounting base   | 1     | PC + ABS UL94HB           | Off-white • Dark gray |
| 2   | Suspension hook | 1     | PC + ABS UL94HB           | Off-white • Dark gray |
| -   | Insert nut      | 2 / 4 | Brass                     | Unfinished            |
| -   | Screw           | 2     | M3-8 Steel binding = WM-1 | Nickel plated         |
| -   | Screw           | 4     | M4-8 Steel binding = WM-2 | Nickel plated         |

Product no. / Dimensions

| Product no. |             | Dimensions |     | Mountable thickness | Weight (g) |
|-------------|-------------|------------|-----|---------------------|------------|
| ● Off-white | ● Dark gray | W          | D   |                     |            |
| WM-1W       | WM-1D       | 45         | 65  | t0.8 ~ t3.5         | 11.5       |
| WM-2W       | WM-2D       | 80         | 115 | t0.8 ~ t3.5         | 48         |

NMG SERIES

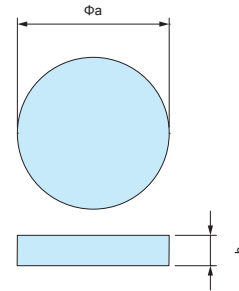
NEODYMIUM MAGNET



Round magnet



- Material / Finish: Neodymium / Nickel plated
- Please attach using a strong adhesive.



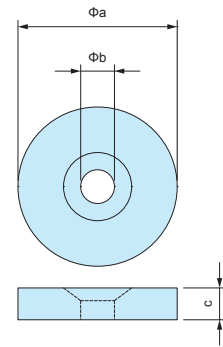
Components

| Product no. | a  | b | Weight (g) |
|-------------|----|---|------------|
| NMG3-15N    | 15 | 3 | 4          |
| NMG3-20N    | 20 | 3 | 7.1        |
| NMG5-22N    | 22 | 5 | 11.4       |
| NMG5-25N    | 25 | 5 | 18.4       |

Round magnet with countersunk hole



- Please fasten with a screw.



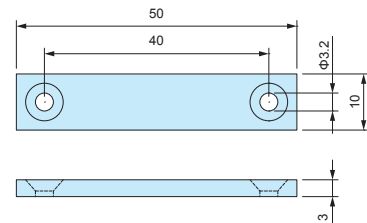
Components

| Product no. | a  | b   | c | Countersunk size | Weight (g) |
|-------------|----|-----|---|------------------|------------|
| NMG3-15M3   | 15 | 3.2 | 3 | M3               | 3.8        |
| NMG3-20M3   | 20 | 3.2 | 3 | M3               | 6.9        |
| NMG5-22M4   | 22 | 4.3 | 5 | M4               | 13.7       |
| NMG5-25M5   | 25 | 5.3 | 5 | M5               | 17.6       |

Rectangular magnet with countersunk holes



- Please fasten with a screw.



Components

| Product no. | a  | b  | c | Countersunk size | Weight (g) |
|-------------|----|----|---|------------------|------------|
| NMG3-50M3   | 50 | 10 | 3 | M3               | 11.3       |

Example 1 The magnetic force remains strong even through plastic.



Make recessed pocket on the inside wall.

Glue on.

Attach onto a metallic surface.

Example 2



Make holes

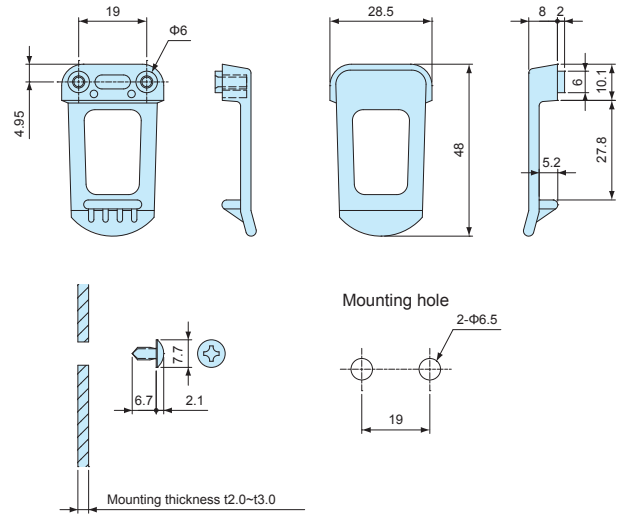
Fasten with a screw and nut.

Attach onto a metallic surface.

**CAUTION: Handle with care to avoid personal injury or damage to the magnet.**

**GDH SERIES PLASTIC BELT CLIP**

■ DXF/DWG/PDF drawings available on our website.



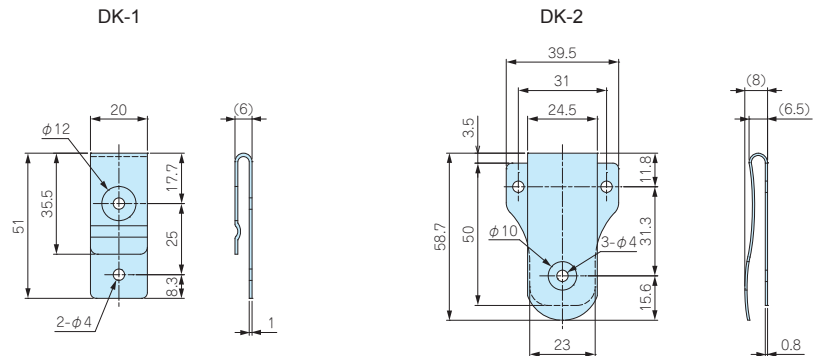
**Components**

| No. | Part name | Pcs | Material     | Color / Finish     |
|-----|-----------|-----|--------------|--------------------|
| 1   | Clip      | 1   | ABS UL94HB   | White gray • Black |
| 2   | Screw     | 2   | Steel M3.5-6 | Zinc plated        |

**Product no. / Dimensions**

| Product no.  |         | W    | H  | D  |
|--------------|---------|------|----|----|
| ● White gray | ● Black |      |    |    |
| GDH-1G       | GDH-1B  | 28.5 | 10 | 48 |

**DK SERIES STEEL BELT CLIP**



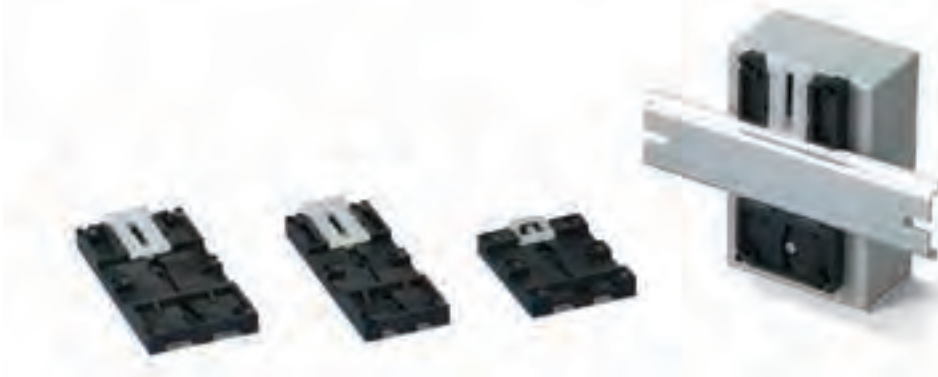
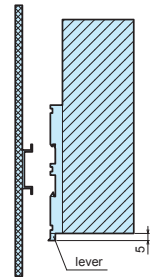
**Product no. / Dimensions**

| Product no. | Material         | Finish        |
|-------------|------------------|---------------|
| DK-1        | Steel SPCC t=1.0 | Chrome plated |
| DK-2        | Steel SPCC t=0.8 | Chrome plated |

**DRA SERIES** DIN-RAIL MOUNTING BASE

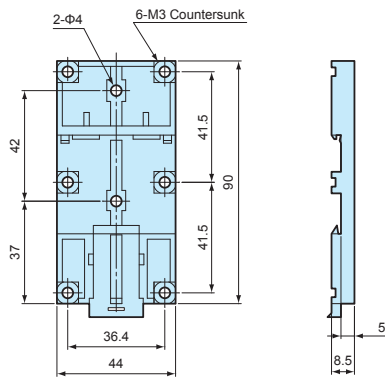
■ NOTE

Before installation, please ensure that the lever is not fully hidden behind the enclosure

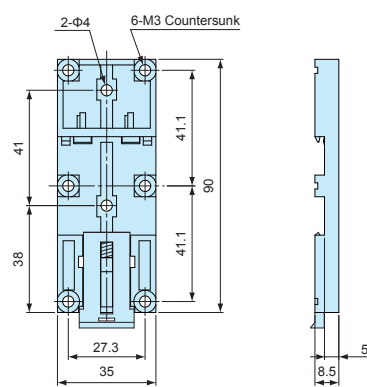


- For installation of enclosures, PCB and other parts onto a DIN rail.
- Simple installation and removal via the pull lever.

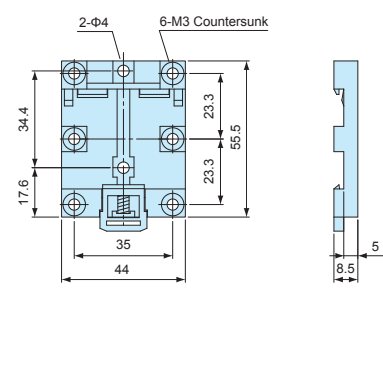
DRA-1



DRA-2



DRA-3



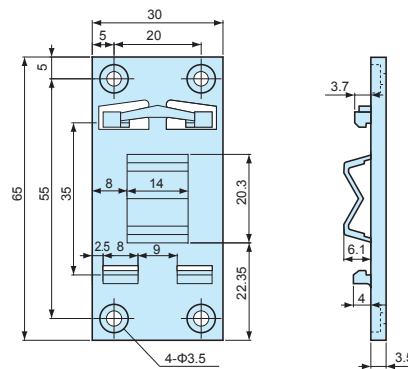
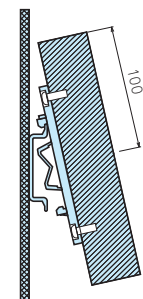
Product no. / Dimensions

| Product no. | Material (body)  | Material (lever) | Color               | Max load (kg) |
|-------------|------------------|------------------|---------------------|---------------|
| DRA-1       | PPE : SB UL94V-1 | Nylon 66 UL94V-2 | Black : Milky white | 5             |
| DRA-2       | PPE : SB UL94V-1 | Nylon 66 UL94V-2 | Black : Milky white | 5             |
| DRA-3       | PPE : SB UL94V-1 | Nylon 66 UL94V-2 | Black : Milky white | 5             |

**DRT SERIES** DIN-RAIL MOUNTING BASE

■ NOTE

Before installation, please ensure that the length (from top) of the enclosure is equal to, or less than 100mm from the center of the mounting base.



- For installation of enclosures, PCB and other parts onto a DIN rail.
- Simple installation and removal by tilting the case at an angle and sliding it in/out.

Product no. / Dimensions

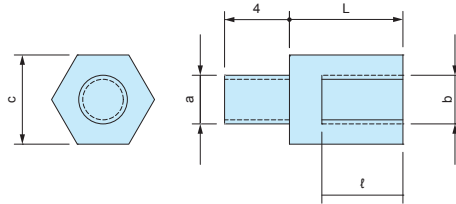
| Product no. | Material    | Color      | Max load (kg) |
|-------------|-------------|------------|---------------|
| DRT-1       | PBT UL94V-0 | Light gray | 1             |

TPS SERIES

TAPPING STANDOFF



- Tapping screw head allows for easy installation onto existing enclosure boss mount.
- 4 different sizes available: M2, M2.3, M2.6 and M3 size.



Product no. / Dimensions

■ Material / Finish: Brass / Unfinished

| Product no. | Screw size (a) | Screw size (b) | c   | L  | φ | Pack of | Recommended enclosure models                              |
|-------------|----------------|----------------|-----|----|---|---------|---|
| TPS-M2.3-4  | M2.3           | M2.3           | 5   | 4  | 3 | 4       | WH series • WP series (M2.3 only)                         |
| TPS-M2.3-5  | M2.3           | M2.3           | 5   | 5  | 3 | 4       | LC • LCS • LCT series                                     |
| TPS-M2.3-6  | M2.3           | M2.3           | 5   | 6  | 4 | 4       | PF10-2-7 / 10-2-10 / 10-2-15 / 10-4-7 / 10-4-10 / 10-4-15 |
| TPS-M2.3-7  | M2.3           | M2.3           | 5   | 7  | 5 | 4       | 10-6-15 / 13-3-9 / 13-3-13 / 13-3-19 / 13-4-9 / 13-4-13   |
| TPS-M2.3-8  | M2.3           | M2.3           | 5   | 8  | 6 | 4       | 13-4-19 / 13-6-19 / 15-3-10 / 15-5-10 / 15-3-15           |
| TPS-M2.3-10 | M2.3           | M2.3           | 5   | 10 | 6 | 4       | 15-5-15 / 18-4-12 / 18-4-18 / 18-5-12 / 18-5-18           |
| TPS-M2.3-12 | M2.3           | M2.3           | 5   | 12 | 6 | 4       | 20-4-13 / 20-6-13 / 20-4-20 / 20-6-20                     |
| TPS-M2.6-4  | M2.6           | M2.6           | 5   | 4  | 3 | 4       | TW • TWN • TWF5-3-9 / 7-2-11 / 7-4-11 / 7-5-11            |
| TPS-M2.6-5  | M2.6           | M2.6           | 5   | 5  | 3 | 4       | TW5-3-10 • TW • TWN • TWF8-2-8 / 8-4-8                    |
| TPS-M2.6-7  | M2.6           | M2.6           | 5   | 7  | 5 | 4       |   |
| TPS-M2.6-10 | M2.6           | M2.6           | 5   | 10 | 6 | 4       |   |
| TPS-M2.6-12 | M2.6           | M2.6           | 5   | 12 | 6 | 4       |   |
| TPS-M3-4    | M3             | M3             | 5.5 | 4  | 3 | 4       |   |
| TPS-M3-5    | M3             | M3             | 5.5 | 5  | 3 | 4       |   |
| TPS-M3-6    | M3             | M3             | 5.5 | 6  | 4 | 4       |   |
| TPS-M3-7    | M3             | M3             | 5.5 | 7  | 5 | 4       |   |
| TPS-M3-8    | M3             | M3             | 5.5 | 8  | 5 | 4       |   |
| TPS-M3-10   | M3             | M3             | 5.5 | 10 | 6 | 4       |   |
| TPS-M3-12   | M3             | M3             | 5.5 | 12 | 6 | 4       |   |

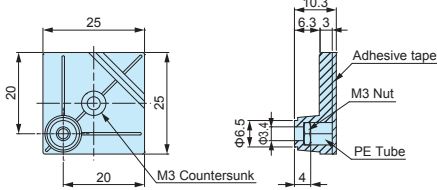


- Please use a suitably sized driver to both secure and loosen the tapping standoff.



**T-600**

**M3 INSERT NUT ADHESIVE STANDOFF**



- Double-sided adhesive tape allows the standoff to be mounted easily; allows PCB mounting in non-boss enclosures.

**NOTE**

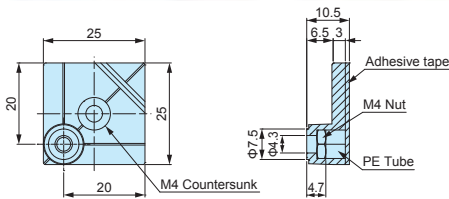
- Please ensure the surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.
- Recommended screw torque: 4kgf • cm.

**Product no. / Dimensions**

| Product no. | Material | Color | Weight (g)   | Pack of |
|-------------|----------|-------|--------------|---------|
| T-600       | ABS      | Black | 2.6 (g) / pc | 10      |

**T-700**

**M4 INSERT NUT ADHESIVE STANDOFF**



- Double-sided adhesive tape allows the standoff to be mounted easily; allows PCB mounting in non-boss enclosures.

**NOTE**

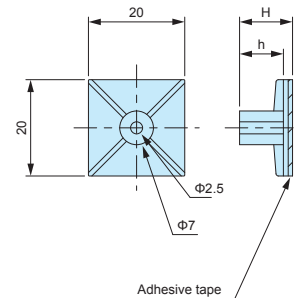
- Please ensure the surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.
- Recommended screw torque: 8.1kgf • cm.

**Product no. / Dimensions**

| Product no. | Material | Color   | Weight (g)   | Pack of |
|-------------|----------|---------|--------------|---------|
| T-700       | ABS      | Natural | 2.6 (g) / pc | 10      |

**ASR SERIES**

**ADHESIVE STANDOFF**



- M3 tapping screw use adhesive standoff.  
Recommended to be used with EM-3 or EM-3-6 tapping screws (See page 135).

**NOTE**

- Please ensure the surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.
- Recommended screw torque: 4kgf • cm.

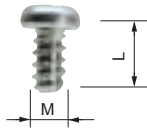
**Product no. / Dimensions**

| Product no.         | H    | h    | Weight (g)   | Pack of |
|---------------------|------|------|--------------|---------|
| ASR- 5              | 5.1  | 3.1  | 0.9 (g) / pc | 10      |
| ASR- 6              | 6.4  | 4.4  | 1.0 (g) / pc | 10      |
| <b>NEW</b> ASR- 7   | 7.2  | 5.1  | 0.9 (g) / pc | 10      |
| <b>NEW</b> ASR- 8   | 8.1  | 6.3  | 0.9 (g) / pc | 10      |
| ASR- 9              | 9    | 7    | 1.0 (g) / pc | 10      |
| ASR-11              | 11   | 9    | 1.0 (g) / pc | 10      |
| ASR-13              | 12.7 | 10.7 | 1.2 (g) / pc | 10      |
| <b>NEW</b> ASR-14.5 | 14.7 | 12.8 | 1.1 (g) / pc | 10      |
| ASR-16              | 15.9 | 13.9 | 1.3 (g) / pc | 10      |
| ASR-19              | 19.1 | 17.1 | 1.4 (g) / pc | 10      |

■ Material: Nylon 66 UL94V-2

EM SERIES

PCB MOUNTING SCREW



- Self-tapping screws for mounting PCB on bosses or standoffs.
- EM-3-6 self-tapping screws are suitable for mounting 1.6mm or thicker PCB.

Product no. / Dimensions

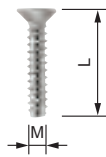
| Product no.       | M   | L | Material | Finish             | Suitable enclosures   | Pack of |
|-------------------|-----|---|----------|--------------------|---|---------|
| EM-1.6            | 1.6 | 4 | Steel    | Trivalent chromate | CSS • CS • PS • WC  | 50      |
| EM-2              | 2   | 5 | Steel    | Trivalent chromate | TW • TWN • TWF • WP (M2 size)   | 50      |
| EM-2.3            | 2.3 | 6 | Steel    | Trivalent chromate | LCT • LCS • LC • WH<br>PF • PFF (M2.3 size)<br>TW • TWN • TWF (M2.3 size)<br>WP (M2.3 size) | 50      |
| <b>NEW</b> EM-2.6 | 2.6 | 6 | Steel    | Trivalent chromate | PF • PFF (M2.6 size)  | 50      |
| EM-3              | 3   | 5 | Steel    | Trivalent chromate | TW • TWN • TWF (M3 size) • SU   | 50      |
| EM-3-6            | 3   | 6 | Steel    | Trivalent chromate |   | 50      |

MR SERIES

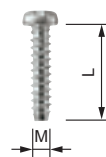
TORX SCREW



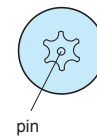
Countersunk head



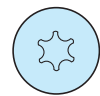
Pan head



With pin



★ Without pin



★ : MR2.6-10□, MR3-14□, and MR1.6-6S are without pin.

Product no. / Dimensions

★Mark = Without pin

| Product no. | M   | L  | head no. | Head style  | Material | Finish                   | Suitable enclosures   | Pack of |
|-------------|-----|----|----------|-------------|----------|--------------------------|---|---------|
| MR1.6-6S★   | 1.6 | 6  | T3       | Pan         | Steel    | Nickel plated            | CS • CSS  | 20      |
| MR2.5-8PS   | 2.5 | 8  | T8       | Pan         | Steel    | Nickel plated            | PF • PFF (M2.5 size)  | 20      |
| MR2.6-10S★  | 2.6 | 10 | T8       | Countersunk | Steel    | Nickel plated            | TW5-2-5 / 5-3-5   | 20      |
| MR2.6-10B★  | 2.6 | 10 | T8       | Countersunk | Steel    | Black trivalent chromate | TW • TWN4-2-5 / 4-2-6 / 4-2-8 / 5-2-7<br>TW • TWN5-3-7 / 5-4-7 / 8-2-8 / 8-4-8<br>TWF5-2-7 / 5-3-7 / 5-4-7  | 20      |
| MR2.6-12PS  | 2.6 | 12 | T8       | Pan         | Steel    | Nickel plated            | LCT • LCS • LC115-F2 / F3<br>LCT • LCS • LC145S-F6  | 20      |
| MR2.6-14PS  | 2.6 | 14 | T8       | Pan         | Steel    | Nickel plated            | LCT • LCS • LC115H-F2 / F3 / M2 / 9V<br>LCT • LCS • LC135-F4 / M2 / M3 / 9V<br>LCT • LCS • LC135H-F4 / M2 / M3 / 9V<br>LCT • LCS • LC145-F6 / M2 / M4<br>LCT • LCS • LC145H-F6 / M2 / M4<br>LCT • LCS • LC165-M4<br>LCT • LCS • LC165H-M4                             | 20      |
| MR2.6-14S   | 2.6 | 14 | T8       | Countersunk | Steel    | Nickel plated            | LCT • LCS • LC115-F2 / F3<br>LCT • LCS • LC145S-F6<br>TW • TWN7-2-11 / 7-4-11 / 7-5-11  | 20      |
| MR2.6-18S   | 2.6 | 18 | T8       | Countersunk | Steel    | Nickel plated            | LCT • LCS • LC115H-N / F2 / F3 / M2 / 9V<br>LCT • LCS • LC135-N / F4 / M2 / M3 / 9V<br>LCT • LCS • LC135H-N / F4 / M2 / M3 / 9V<br>LCT • LCS • LC145-N / F6 / M2 / M4<br>LCT • LCS • LC145H-N / F6 / M2 / M4<br>LCT • LCS • LC165-N / M4<br>LCT • LCS • LC165H-N / M4 | 20      |
| MR3-8PS     | 3   | 8  | T10      | Pan         | Steel    | Nickel plated            | PF • PFF (M3 size)  | 20      |
| MR3-14S★    | 3   | 14 | T10      | Countersunk | Steel    | Nickel plated            | TW5-3-10  | 20      |
| MR3-14B★    | 3   | 14 | T10      | Countersunk | Steel    | Black trivalent chromate | TW • TWN5-3-9 / 7-3-13 / 7-5-13 / 9-4-17 / 9-6-17<br>TWF7-3-13 / 7-5-13 / 9-4-17 / 9-6-17   | 20      |
| MR-1S       | 3   | 5  | T10      | Countersunk | Steel    | Nickel plated            | UC  | 20      |
| MR-1B       | 3   | 5  | T10      | Countersunk | Steel    | Black trivalent chromate | UC • UCY • US   | 20      |
| MR-2S       | 3   | 10 | T10      | Countersunk | Steel    | Nickel plated            | HEN   | 20      |

CR2•CR123A-PC SERIES

LITHIUM BATTERY HOLDER

DXF/DWG/PDF drawings available on our website.



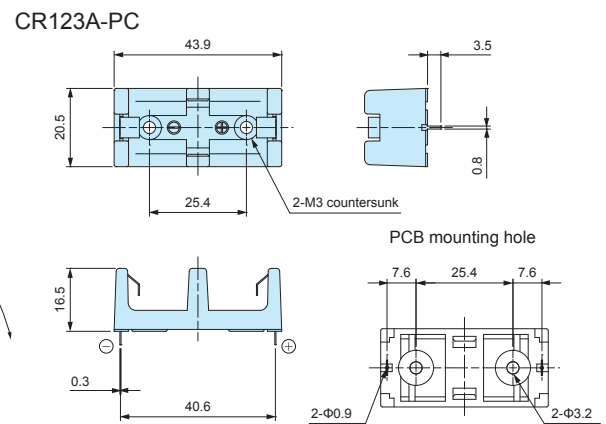
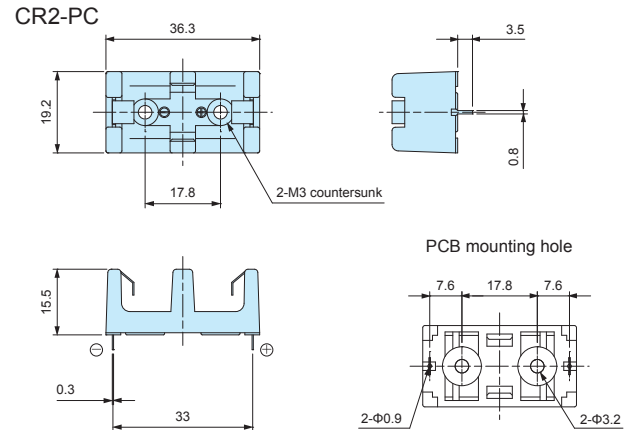
| Technical Data                       |
|--------------------------------------|
| Operating temperature: -10°C ~ +60°C |

Components

| Holder material | Holder color | Contact material | Contact finish |
|-----------------|--------------|------------------|----------------|
| ABS UL94V-0     | Black        | Phosphor bronze  | Nickel plated  |

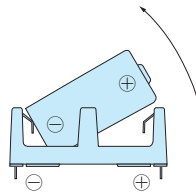
Product no. / Feature

| Product no. | Battery  | Mounting                   | Weight (g) |
|-------------|----------|----------------------------|------------|
| CR2-PC      | CR2×1    | Through-hole mount pin x 2 | 4.3        |
| CR123A-PC   | CR123A×1 | Through-hole mount pin x 2 | 5.0        |



Caution

- Please remove the battery from the positive (+) side. Removing it from the negative (-) side may damage the battery or the battery contacts.



CR2•CR123A-R SERIES

LITHIUM BATTERY HOLDER with LEAD WIRE



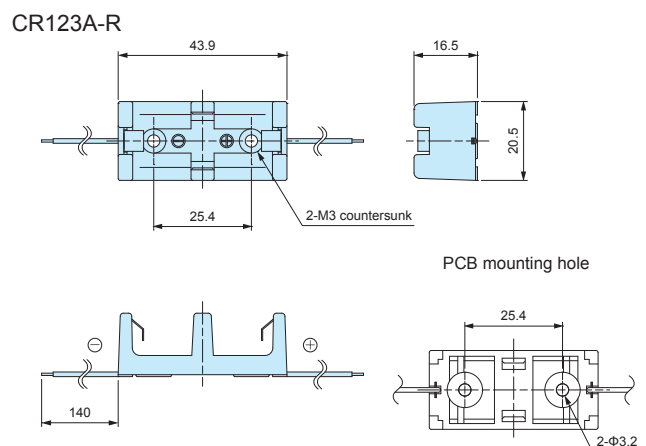
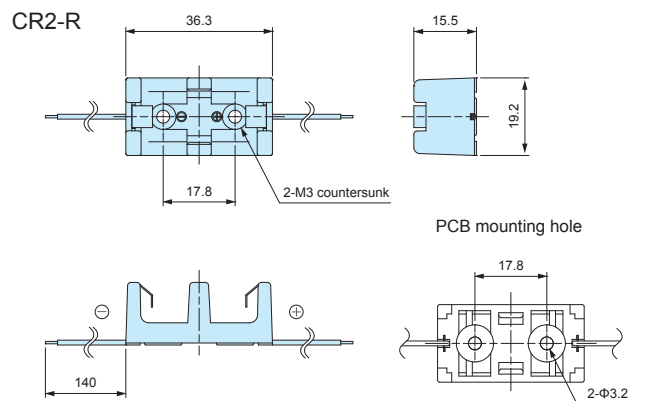
| Technical Data                       |
|--------------------------------------|
| Operating temperature: -10°C ~ +60°C |

Components

| Holder material | Holder color | Contact material | Contact finish |
|-----------------|--------------|------------------|----------------|
| ABS UL94V-0     | Black        | Phosphor bronze  | Nickel plated  |

Product no. / Feature

| Product no. | Battery  | Lead wire          | Weight (g) |
|-------------|----------|--------------------|------------|
| CR2-R       | CR2×1    | UL1007 AWG26 L=140 | 5.3        |
| CR123A-R    | CR123A×1 | UL1007 AWG26 L=140 | 6.0        |



DXF/DWG/PDF drawings available on our website.

# EX MULTI-FUNCTION EXTRUDED ALUMINIUM CASE

By utilizing 5 different exterior frame types with the same cover, various functions are now possible.  
39 different sizes are available for each version.

Aluminium Panel corner guard version  
EXP series Page 139 ~ 140



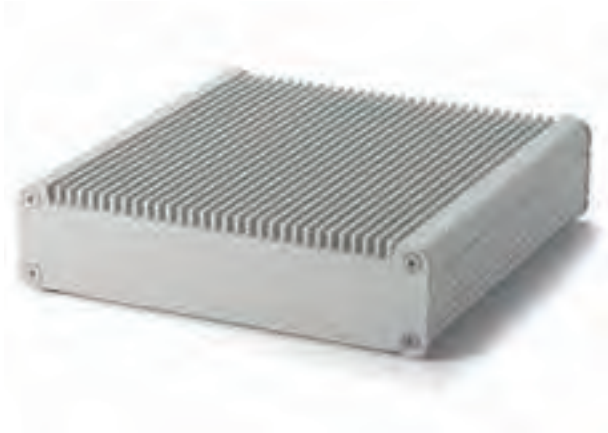
EMC Shielding corner guard version  
EXPE series Page 141 ~ 142



IP65 Corner guard version  
EXW series Page 143 ~ 144



Heat-sink version  
EXH series Page 207 ~ 210



Standard version  
EX series Page 145 ~ 146



Custom frame length for all versions are available.





# 16 COLOR COMBINATIONS

Available in 2 different body frame and 8 different exterior frame colors.



## APPLICATION EXAMPLE

MEASURING INSTRUMENT



NETWORK / COMMUNICATION BOX



INDUSTRIAL FANLESS EMBEDDED PC



CONTROLLER



DIGITAL AUDIO AMPLIFIER



# EXP SERIES

# ALUMINIUM PANEL CASE with CORNER GUARD



| Technical Data         |
|------------------------|
| Protection class: IP40 |

- Corner guards are designed to be both aesthetically pleasing, and impact resistant.
- Available in 39 different standard sizes with 16 different color combinations.

### Product no. / Dimensions

| No. | Product no.    | Pcs | Material                     | Color / Finish   |
|-----|----------------|-----|------------------------------|--|
| 1   | Panel          | 2   | Aluminium A1100 t=1.5        | Silver • Black / Anodized  |
| 2   | Top cover      | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized  |
| 3   | Bottom cover   | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized  |
| 4   | Exterior frame | 2   | Polycarbonate-ABS UL94V-0    | Black • Gray / Unpainted<br>Indigo • Navy • Lime • Yellow • Orange • Red / Painted |
| 5   | Corner guard   | 8   | Silicone                     | Black • Dark gray  |
| 6   | Screw          | 8   | Stainless steel              | Unfinished   |

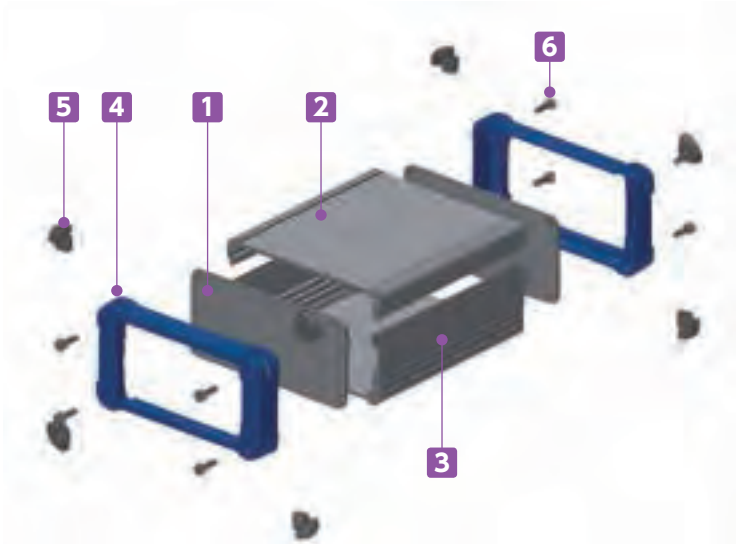
### Color Type

Black and gray exterior frames are unpainted; other colored exterior frames are painted.

|            |                           |                            |                            |                          |
|------------|---------------------------|----------------------------|----------------------------|--------------------------|
| Code       | <b>S B</b> Silver / Black | <b>S G</b> Silver / Gray   | <b>S I</b> Silver / Indigo | <b>S N</b> Silver / Navy |
| Color      |                           |                            |                            |                          |
| Code       | <b>S L</b> Silver / Lime  | <b>S Y</b> Silver / Yellow | <b>S O</b> Silver / Orange | <b>S R</b> Silver / Red  |
| Color      |                           |                            |                            |                          |
| Color code | <b>B B</b> Black / Black  | <b>B G</b> Black / Gray    | <b>B I</b> Black / Indigo  | <b>B N</b> Black / Navy  |
| Color      |                           |                            |                            |                          |
| Code       | <b>B L</b> Black / Lime   | <b>B Y</b> Black / Yellow  | <b>B O</b> Black / Orange  | <b>B R</b> Black / Red   |
| Color      |                           |                            |                            |                          |



■ Detailed dimensions on page 147 and 149 ~ 151.



Included screws  
 EXP7 and EXP9 series : M2.5-8 x 8 pcs  
 EXP11 and EXP15 series : M3-10 x 8 pcs  
 ※Hexagonal wrench included.

**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no.   | W   | H   | D   |
|---------------|-----|-----|-----|
| EXP 7- 3- 6□□ | 69  | 34  | 60  |
| EXP 7- 3- 9□□ | 69  | 34  | 87  |
| EXP 7- 3-11□□ | 69  | 34  | 110 |
| EXP 7- 4- 6□□ | 69  | 44  | 60  |
| EXP 7- 4- 9□□ | 69  | 44  | 87  |
| EXP 7- 4-11□□ | 69  | 44  | 110 |
| EXP 7- 6- 6□□ | 69  | 59  | 60  |
| EXP 7- 6- 9□□ | 69  | 59  | 87  |
| EXP 7- 6-11□□ | 69  | 59  | 110 |
| EXP 9- 4- 7□□ | 89  | 39  | 70  |
| EXP 9- 4-10□□ | 89  | 39  | 100 |
| EXP 9- 4-13□□ | 89  | 39  | 130 |
| EXP 9- 5- 7□□ | 89  | 49  | 70  |
| EXP 9- 5-10□□ | 89  | 49  | 100 |
| EXP 9- 5-13□□ | 89  | 49  | 130 |
| EXP 9- 6- 7□□ | 89  | 64  | 70  |
| EXP 9- 6-10□□ | 89  | 64  | 100 |
| EXP 9- 6-13□□ | 89  | 64  | 130 |
| EXP12- 4- 9□□ | 116 | 41  | 90  |
| EXP12- 4-13□□ | 116 | 41  | 130 |
| EXP12- 4-18□□ | 116 | 41  | 176 |
| EXP12- 6- 9□□ | 116 | 56  | 90  |
| EXP12- 6-13□□ | 116 | 56  | 130 |
| EXP12- 6-18□□ | 116 | 56  | 176 |
| EXP12- 7- 9□□ | 116 | 71  | 90  |
| EXP12- 7-13□□ | 116 | 71  | 130 |
| EXP12- 7-18□□ | 116 | 71  | 176 |
| EXP15- 5-11□□ | 151 | 46  | 110 |
| EXP15- 5-15□□ | 151 | 46  | 150 |
| EXP15- 5-20□□ | 151 | 46  | 200 |
| EXP15- 6-11□□ | 151 | 61  | 110 |
| EXP15- 6-15□□ | 151 | 61  | 150 |
| EXP15- 6-20□□ | 151 | 61  | 200 |
| EXP15- 8-11□□ | 151 | 81  | 110 |
| EXP15- 8-15□□ | 151 | 81  | 150 |
| EXP15- 8-20□□ | 151 | 81  | 200 |
| EXP15-10-11□□ | 151 | 101 | 110 |
| EXP15-10-15□□ | 151 | 101 | 150 |
| EXP15-10-20□□ | 151 | 101 | 200 |

■ Custom length is available.

EXPE SERIES

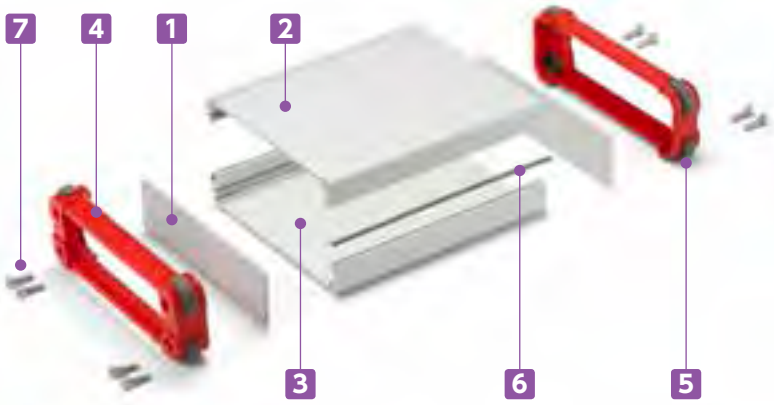
ALUMINIUM EMC SHIELD CASE with CORNER GUARD



EMC  
Shielding  
Effects



| Technical Data         |
|------------------------|
| Protection class: IP40 |



- EMC shielding is achieved by having the unfinished inner sides of the top/bottom covers and fabric-over-foam gaskets in contact with one another.
- Corner guards are designed to be both aesthetically pleasing, and strong against impact.
- Available in 39 different sizes and 8 different color combinations.

Included screws  
EXPE7 and EXPE9 series : M2.5-8 x 8 pcs  
EXPE11 and EXPE15 series : M3-10 x 8 pcs  
※Hexagonal wrench included.

Components

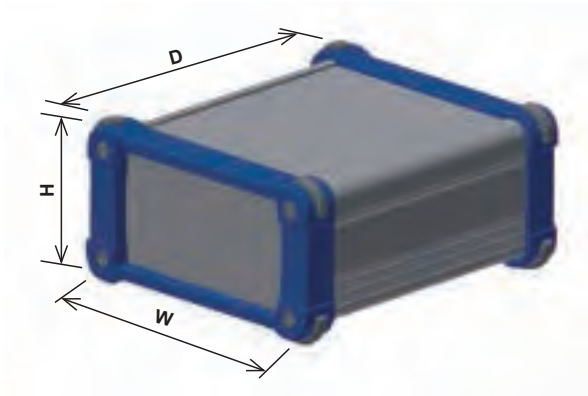
| No. | Part name               | Pcs | Material                     | Color / Finish   |
|-----|-------------------------|-----|------------------------------|--|
| 1   | Panel                   | 2   | Aluminium A1100 t=1.5        | Silver / Anodized (outside) : Unfinished (inside)                                  |
| 2   | Top cover               | 1   | Extruded aluminium A6063S-T5 | Silver / Painted (outside) : Unfinished (inside)                                   |
| 3   | Bottom cover            | 1   | Extruded aluminium A6063S-T5 | Silver / Painted (outside) : Unfinished (inside)                                   |
| 4   | Exterior frame          | 2   | Polycarbonate-ABS UL94V-0    | Black • Gray / Unpainted<br>Indigo • Navy • Lime • Yellow • Orange • Red / Painted |
| 5   | Corner guard            | 8   | Silicone                     | Black • Dark gray  |
| 6   | Fabric-over-foam gasket | 2   | Conductive fabric : TPE      | Metallic gray  |
| 7   | Screw                   | 8   | Stainless steel              | Unfinished   |

Color Type

Black and gray exterior frames are unpainted; other colored exterior frames are painted.

| Code  | S B Silver / Black | S G Silver / Gray   | S I Silver / Indigo | S N Silver / Navy |
|-------|--------------------|---------------------|---------------------|-------------------|
| Color |                    |                     |                     |                   |
| Code  | S L Silver / Lime  | S Y Silver / Yellow | S O Silver / Orange | S R Silver / Red  |
| Color |                    |                     |                     |                   |

■ Detailed dimensions on page 147 and 149 ~ 151.



**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no.    | W   | H   | D   |
|----------------|-----|-----|-----|
| EXPE 7- 3- 6□□ | 69  | 34  | 60  |
| EXPE 7- 3- 9□□ | 69  | 34  | 87  |
| EXPE 7- 3-11□□ | 69  | 34  | 110 |
| EXPE 7- 4- 6□□ | 69  | 44  | 60  |
| EXPE 7- 4- 9□□ | 69  | 44  | 87  |
| EXPE 7- 4-11□□ | 69  | 44  | 110 |
| EXPE 7- 6- 6□□ | 69  | 59  | 60  |
| EXPE 7- 6- 9□□ | 69  | 59  | 87  |
| EXPE 7- 6-11□□ | 69  | 59  | 110 |
| EXPE 9- 4- 7□□ | 89  | 39  | 70  |
| EXPE 9- 4-10□□ | 89  | 39  | 100 |
| EXPE 9- 4-13□□ | 89  | 39  | 130 |
| EXPE 9- 5- 7□□ | 89  | 49  | 70  |
| EXPE 9- 5-10□□ | 89  | 49  | 100 |
| EXPE 9- 5-13□□ | 89  | 49  | 130 |
| EXPE 9- 6- 7□□ | 89  | 64  | 70  |
| EXPE 9- 6-10□□ | 89  | 64  | 100 |
| EXPE 9- 6-13□□ | 89  | 64  | 130 |
| EXPE12- 4- 9□□ | 116 | 41  | 90  |
| EXPE12- 4-13□□ | 116 | 41  | 130 |
| EXPE12- 4-18□□ | 116 | 41  | 176 |
| EXPE12- 6- 9□□ | 116 | 56  | 90  |
| EXPE12- 6-13□□ | 116 | 56  | 130 |
| EXPE12- 6-18□□ | 116 | 56  | 176 |
| EXPE12- 7- 9□□ | 116 | 71  | 90  |
| EXPE12- 7-13□□ | 116 | 71  | 130 |
| EXPE12- 7-18□□ | 116 | 71  | 176 |
| EXPE15- 5-11□□ | 151 | 46  | 110 |
| EXPE15- 5-15□□ | 151 | 46  | 150 |
| EXPE15- 5-20□□ | 151 | 46  | 200 |
| EXPE15- 6-11□□ | 151 | 61  | 110 |
| EXPE15- 6-15□□ | 151 | 61  | 150 |
| EXPE15- 6-20□□ | 151 | 61  | 200 |
| EXPE15- 8-11□□ | 151 | 81  | 110 |
| EXPE15- 8-15□□ | 151 | 81  | 150 |
| EXPE15- 8-20□□ | 151 | 81  | 200 |
| EXPE15-10-11□□ | 151 | 101 | 110 |
| EXPE15-10-15□□ | 151 | 101 | 150 |
| EXPE15-10-20□□ | 151 | 101 | 200 |

**How to install a shield gasket**



■ Insert fabric-over-foam gasket into the joint-grooves on the bottom cover.



■ Ensure that a small portion of the fabric-over-foam gasket protrudes out in order to maintain a connection with the end panels.

**EXW SERIES**

**IP65 ALUMINIUM CASE with CORNER GUARD**



- IP65 is made possible by sealing between top & bottom covers and end panels with gaskets.
- Available in 39 different standard sizes and 6 color combinations by 2 body frame and 3 end panel colors.

| Technical Data         |
|------------------------|
| Protection class: IP65 |

Included screws  
 EXW7 and EXW9 series : M2.5-8 x 8 pcs  
 EXW12 and EXW15 series : M3-10 x 8 pcs  
 ※Hexagonal wrench included.

**Components**

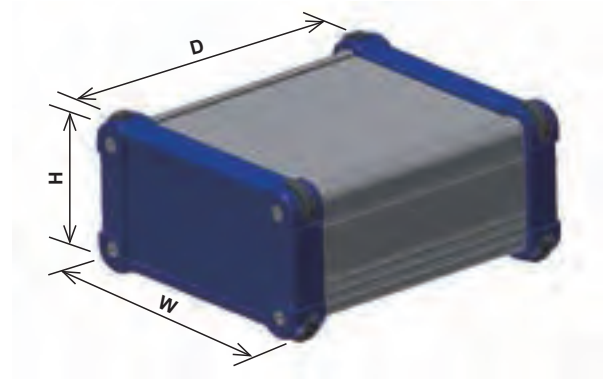
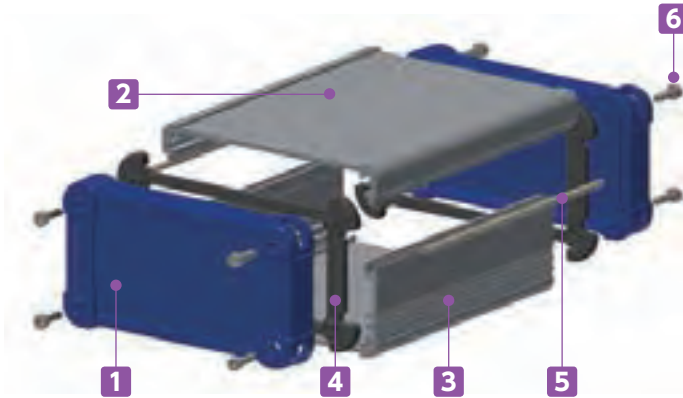
| No. | Part name    | Pcs | Material                     | Color / Finish                             |
|-----|--------------|-----|------------------------------|--|
| 1   | End panel    | 2   | Polycarbonate-ABS UL94V-0    | Black • Gray / Unpainted<br>Navy / Painted |
| 2   | Top cover    | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                  |
| 3   | Bottom cover | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                  |
| 4   | Panel gasket | 2   | Silicone                     | Dark gray • Black                          |
| 5   | Cover gasket | 2   | Silicone                     | White gray                                 |
| 6   | Screw        | 8   | Stainless steel              | Unfinished                                 |

**Color Type**

Black and gray end panels are unpainted; navy end panel is painted.

| Code  | S B Silver / Black | S G Silver / Gray | S N Silver / Navy |
|-------|--------------------|-------------------|-------------------|
| Color |                    |                   |                   |
| Code  | B B Black / Black  | B G Black / Gray  | B N Black / Navy  |
| Color |                    |                   |                   |

■ Detailed dimensions on page 148 ~ 151.



**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no.   | W   | H   | D   |
|---------------|-----|-----|-----|
| EXW 7- 3- 6□□ | 69  | 34  | 58  |
| EXW 7- 3- 9□□ | 69  | 34  | 85  |
| EXW 7- 3-11□□ | 69  | 34  | 108 |
| EXW 7- 4- 6□□ | 69  | 44  | 58  |
| EXW 7- 4- 9□□ | 69  | 44  | 85  |
| EXW 7- 4-11□□ | 69  | 44  | 108 |
| EXW 7- 6- 6□□ | 69  | 59  | 58  |
| EXW 7- 6- 9□□ | 69  | 59  | 85  |
| EXW 7- 6-11□□ | 69  | 59  | 108 |
| EXW 9- 4- 7□□ | 89  | 39  | 69  |
| EXW 9- 4-10□□ | 89  | 39  | 99  |
| EXW 9- 4-13□□ | 89  | 39  | 129 |
| EXW 9- 5- 7□□ | 89  | 49  | 69  |
| EXW 9- 5-10□□ | 89  | 49  | 99  |
| EXW 9- 5-13□□ | 89  | 49  | 129 |
| EXW 9- 6- 7□□ | 89  | 64  | 69  |
| EXW 9- 6-10□□ | 89  | 64  | 99  |
| EXW 9- 6-13□□ | 89  | 64  | 129 |
| EXW12- 4- 9□□ | 116 | 41  | 88  |
| EXW12- 4-13□□ | 116 | 41  | 128 |
| EXW12- 4-18□□ | 116 | 41  | 174 |
| EXW12- 6- 9□□ | 116 | 56  | 88  |
| EXW12- 6-13□□ | 116 | 56  | 128 |
| EXW12- 6-18□□ | 116 | 56  | 174 |
| EXW12- 7- 9□□ | 116 | 71  | 88  |
| EXW12- 7-13□□ | 116 | 71  | 128 |
| EXW12- 7-18□□ | 116 | 71  | 174 |
| EXW15- 5-11□□ | 151 | 46  | 107 |
| EXW15- 5-15□□ | 151 | 46  | 147 |
| EXW15- 5-20□□ | 151 | 46  | 197 |
| EXW15- 6-11□□ | 151 | 61  | 107 |
| EXW15- 6-15□□ | 151 | 61  | 147 |
| EXW15- 6-20□□ | 151 | 61  | 197 |
| EXW15- 8-11□□ | 151 | 81  | 107 |
| EXW15- 8-15□□ | 151 | 81  | 147 |
| EXW15- 8-20□□ | 151 | 81  | 197 |
| EXW15-10-11□□ | 151 | 101 | 107 |
| EXW15-10-15□□ | 151 | 101 | 147 |
| EXW15-10-20□□ | 151 | 101 | 197 |

■ Custom length is available.

**How to install a cover gasket**



■ Insert cover gasket into the joint-grooves on the bottom cover.



■ Ensure that a small portion of the cover gasket protrudes out in order to maintain a seal with the panel gasket for IP65 protection.

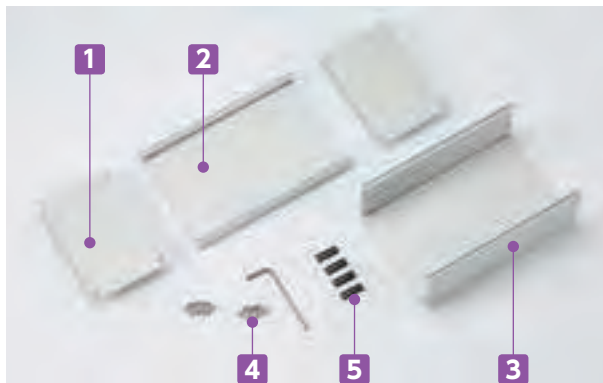




| Technical Data         |
|------------------------|
| Protection class: IP40 |



- Simple yet beautifully designed aluminium extrusion enclosure.
- Selectable in 4 different color combinations.
- Beautiful high-end finish is achieved by having a chamfered edge panel.
- Suitable for industrial and audio interface equipments.



Components

| No. | Part name    | Pcs | Material                     | Color / Finish            |
|-----|--------------|-----|------------------------------|---------------------------|
| 1   | End panel    | 2   | Aluminium A1050P             | Silver • Black / Anodized |
| 2   | Top cover    | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized |
| 3   | Bottom cover | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized |
| 4   | Screw        | 8   | Stainless steel              | Unfinished                |
| 5   | Rubber feet  | 4   | Polyurethane                 | Black                     |

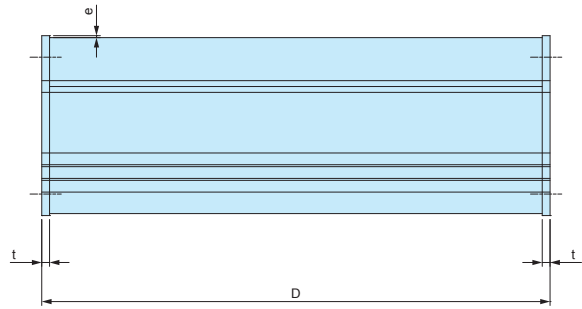
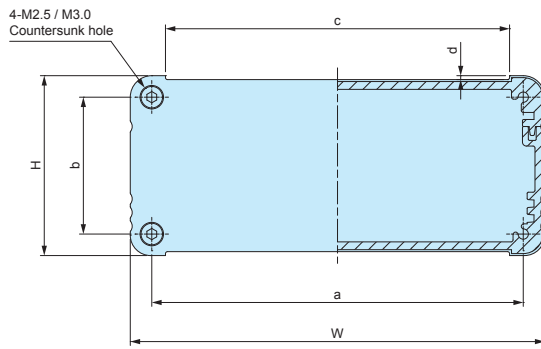
Color Type

| Code  | S S Silver / Silver | S B Silver / Black | B S Black / Silver | B B Black / Black |
|-------|---------------------|--------------------|--------------------|-------------------|
| Color |                     |                    |                    |                   |



EX dimensions

■ Detailed dimensions on page 149 ~ 150 and 152.



Included screws  
 EX6 and EX8 series : M2.5-8 x 8 pcs  
 EX11 and EX14 series : M3-8 x 8 pcs  
 ※Hexagonal wrench included.

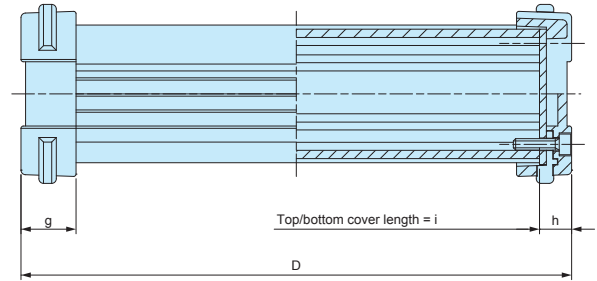
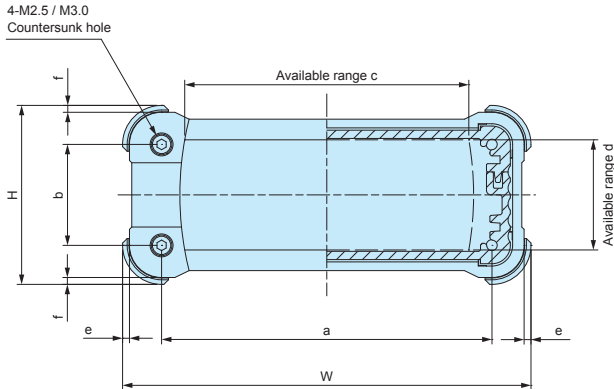
Product no. / Dimensions

■ Please suffix color code at the end of the product number.

| Product no.  | W    | H    | D   | a   | b  | c    | d   | e   | t   |
|--------------|------|------|-----|-----|----|------|-----|-----|-----|
| EX 6- 3- 5□□ | 60.6 | 25.6 | 50  | 52  | 17 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 3- 8□□ | 60.6 | 25.6 | 77  | 52  | 17 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 3-10□□ | 60.6 | 25.6 | 100 | 52  | 17 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 4- 5□□ | 60.6 | 35.6 | 50  | 52  | 27 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 4- 8□□ | 60.6 | 35.6 | 77  | 52  | 27 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 4-10□□ | 60.6 | 35.6 | 100 | 52  | 27 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 5- 5□□ | 60.6 | 50.6 | 50  | 52  | 42 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 5- 8□□ | 60.6 | 50.6 | 77  | 52  | 42 | 45.2 | 0.9 | 0.3 | 2   |
| EX 6- 5-10□□ | 60.6 | 50.6 | 100 | 52  | 42 | 45.2 | 0.9 | 0.3 | 2   |
| EX 8- 3- 6□□ | 80.6 | 30.6 | 60  | 72  | 22 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 3- 9□□ | 80.6 | 30.6 | 90  | 72  | 22 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 3-12□□ | 80.6 | 30.6 | 120 | 72  | 22 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 4- 6□□ | 80.6 | 40.6 | 60  | 72  | 32 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 4- 9□□ | 80.6 | 40.6 | 90  | 72  | 32 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 4-12□□ | 80.6 | 40.6 | 120 | 72  | 32 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 6- 6□□ | 80.6 | 55.6 | 60  | 72  | 47 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 6- 9□□ | 80.6 | 55.6 | 90  | 72  | 47 | 65.2 | 0.9 | 0.3 | 2   |
| EX 8- 6-12□□ | 80.6 | 55.6 | 120 | 72  | 47 | 65.2 | 0.9 | 0.3 | 2   |
| EX11- 3- 8□□ | 106  | 31   | 79  | 95  | 20 | 87   | 1   | 0.5 | 2.5 |
| EX11- 3-12□□ | 106  | 31   | 119 | 95  | 20 | 87   | 1   | 0.5 | 2.5 |
| EX11- 3-16□□ | 106  | 31   | 165 | 95  | 20 | 87   | 1   | 0.5 | 2.5 |
| EX11- 5- 8□□ | 106  | 46   | 79  | 95  | 35 | 87   | 1   | 0.5 | 2.5 |
| EX11- 5-12□□ | 106  | 46   | 119 | 95  | 35 | 87   | 1   | 0.5 | 2.5 |
| EX11- 5-16□□ | 106  | 46   | 165 | 95  | 35 | 87   | 1   | 0.5 | 2.5 |
| EX11- 6- 8□□ | 106  | 61   | 79  | 95  | 50 | 87   | 1   | 0.5 | 2.5 |
| EX11- 6-12□□ | 106  | 61   | 119 | 95  | 50 | 87   | 1   | 0.5 | 2.5 |
| EX11- 6-16□□ | 106  | 61   | 165 | 95  | 50 | 87   | 1   | 0.5 | 2.5 |
| EX14- 4-10□□ | 141  | 36   | 98  | 130 | 25 | 122  | 1   | 0.5 | 2.5 |
| EX14- 4-14□□ | 141  | 36   | 138 | 130 | 25 | 122  | 1   | 0.5 | 2.5 |
| EX14- 4-19□□ | 141  | 36   | 188 | 130 | 25 | 122  | 1   | 0.5 | 2.5 |
| EX14- 5-10□□ | 141  | 51   | 98  | 130 | 40 | 122  | 1   | 0.5 | 2.5 |
| EX14- 5-14□□ | 141  | 51   | 138 | 130 | 40 | 122  | 1   | 0.5 | 2.5 |
| EX14- 5-19□□ | 141  | 51   | 188 | 130 | 40 | 122  | 1   | 0.5 | 2.5 |
| EX14- 7-10□□ | 141  | 71   | 98  | 130 | 60 | 122  | 1   | 0.5 | 2.5 |
| EX14- 7-14□□ | 141  | 71   | 138 | 130 | 60 | 122  | 1   | 0.5 | 2.5 |
| EX14- 7-19□□ | 141  | 71   | 188 | 130 | 60 | 122  | 1   | 0.5 | 2.5 |
| EX14- 9-10□□ | 141  | 91   | 98  | 130 | 80 | 122  | 1   | 0.5 | 2.5 |
| EX14- 9-14□□ | 141  | 91   | 138 | 130 | 80 | 122  | 1   | 0.5 | 2.5 |
| EX14- 9-19□□ | 141  | 91   | 188 | 130 | 80 | 122  | 1   | 0.5 | 2.5 |

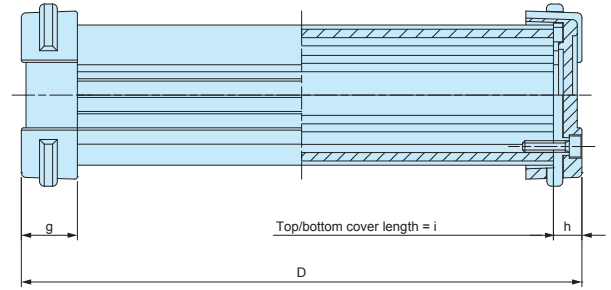
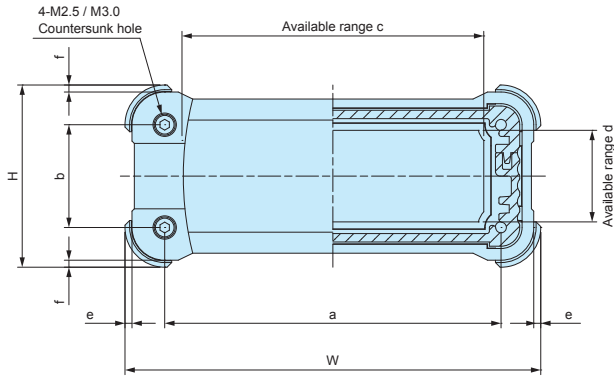
■ Custom length is available.

EXP • EXPE dimensions



| Product no.          | W   | H   | D   | a   | b  | c     | d    | e    | f    | g  | h   | i   |
|----------------------|-----|-----|-----|-----|----|-------|------|------|------|----|-----|-----|
| EXP • EXPE 7- 3- 6□□ | 69  | 34  | 60  | 52  | 17 | 41.8  | 19.6 | 1.5  | 1.5  | 12 | 7   | 46  |
| EXP • EXPE 7- 3- 9□□ | 69  | 34  | 87  | 52  | 17 | 41.8  | 19.6 | 1.5  | 1.5  | 12 | 7   | 73  |
| EXP • EXPE 7- 3-11□□ | 69  | 34  | 110 | 52  | 17 | 41.8  | 19.6 | 1.5  | 1.5  | 12 | 7   | 96  |
| EXP • EXPE 7- 4- 6□□ | 69  | 44  | 60  | 52  | 27 | 41.5  | 29.6 | 1.5  | 1.5  | 12 | 7   | 46  |
| EXP • EXPE 7- 4- 9□□ | 69  | 44  | 87  | 52  | 27 | 41.5  | 29.6 | 1.5  | 1.5  | 12 | 7   | 73  |
| EXP • EXPE 7- 4-11□□ | 69  | 44  | 110 | 52  | 27 | 41.5  | 29.6 | 1.5  | 1.5  | 12 | 7   | 96  |
| EXP • EXPE 7- 6- 6□□ | 69  | 59  | 60  | 52  | 42 | 41.2  | 44.6 | 1.5  | 1.5  | 12 | 7   | 46  |
| EXP • EXPE 7- 6- 9□□ | 69  | 59  | 87  | 52  | 42 | 41.2  | 44.6 | 1.5  | 1.5  | 12 | 7   | 73  |
| EXP • EXPE 7- 6-11□□ | 69  | 59  | 110 | 52  | 42 | 41.2  | 44.6 | 1.5  | 1.5  | 12 | 7   | 96  |
| EXP • EXPE 9- 4- 7□□ | 89  | 39  | 70  | 72  | 22 | 61.6  | 23.5 | 1.5  | 1.5  | 12 | 7   | 56  |
| EXP • EXPE 9- 4-10□□ | 89  | 39  | 100 | 72  | 22 | 61.6  | 23.5 | 1.5  | 1.5  | 12 | 7   | 86  |
| EXP • EXPE 9- 4-13□□ | 89  | 39  | 130 | 72  | 22 | 61.6  | 23.5 | 1.5  | 1.5  | 12 | 7   | 116 |
| EXP • EXPE 9- 5- 7□□ | 89  | 49  | 70  | 72  | 32 | 61.3  | 33.5 | 1.5  | 1.5  | 12 | 7   | 56  |
| EXP • EXPE 9- 5-10□□ | 89  | 49  | 100 | 72  | 32 | 61.3  | 33.5 | 1.5  | 1.5  | 12 | 7   | 86  |
| EXP • EXPE 9- 5-13□□ | 89  | 49  | 130 | 72  | 32 | 61.3  | 33.5 | 1.5  | 1.5  | 12 | 7   | 116 |
| EXP • EXPE 9- 6- 7□□ | 89  | 64  | 70  | 72  | 47 | 61    | 48.5 | 1.5  | 1.5  | 12 | 7   | 56  |
| EXP • EXPE 9- 6-10□□ | 89  | 64  | 100 | 72  | 47 | 61    | 48.5 | 1.5  | 1.5  | 12 | 7   | 86  |
| EXP • EXPE 9- 6-13□□ | 89  | 64  | 130 | 72  | 47 | 61    | 48.5 | 1.5  | 1.5  | 12 | 7   | 116 |
| EXP • EXPE12- 4- 9□□ | 116 | 41  | 90  | 95  | 20 | 82.8  | 23.8 | 1.75 | 1.75 | 16 | 8   | 74  |
| EXP • EXPE12- 4-13□□ | 116 | 41  | 130 | 95  | 20 | 82.8  | 23.8 | 1.75 | 1.75 | 16 | 8   | 114 |
| EXP • EXPE12- 4-18□□ | 116 | 41  | 176 | 95  | 20 | 82.8  | 23.8 | 1.75 | 1.75 | 16 | 8   | 160 |
| EXP • EXPE12- 6- 9□□ | 116 | 56  | 90  | 95  | 35 | 83.2  | 38.8 | 1.75 | 1.75 | 16 | 8   | 74  |
| EXP • EXPE12- 6-13□□ | 116 | 56  | 130 | 95  | 35 | 83.2  | 38.8 | 1.75 | 1.75 | 16 | 8   | 114 |
| EXP • EXPE12- 6-18□□ | 116 | 56  | 176 | 95  | 35 | 83.2  | 38.8 | 1.75 | 1.75 | 16 | 8   | 160 |
| EXP • EXPE12- 7- 9□□ | 116 | 71  | 90  | 95  | 50 | 82.8  | 52.5 | 1.75 | 1.75 | 16 | 8   | 74  |
| EXP • EXPE12- 7-13□□ | 116 | 71  | 130 | 95  | 50 | 82.8  | 52.5 | 1.75 | 1.75 | 16 | 8   | 114 |
| EXP • EXPE12- 7-18□□ | 116 | 71  | 176 | 95  | 50 | 82.8  | 52.5 | 1.75 | 1.75 | 16 | 8   | 160 |
| EXP • EXPE15- 5-11□□ | 151 | 46  | 110 | 130 | 25 | 107.4 | 23.7 | 1.75 | 1.75 | 18 | 8.5 | 93  |
| EXP • EXPE15- 5-15□□ | 151 | 46  | 150 | 130 | 25 | 107.4 | 23.7 | 1.75 | 1.75 | 18 | 8.5 | 133 |
| EXP • EXPE15- 5-20□□ | 151 | 46  | 200 | 130 | 25 | 107.4 | 23.7 | 1.75 | 1.75 | 18 | 8.5 | 183 |
| EXP • EXPE15- 6-11□□ | 151 | 61  | 110 | 130 | 40 | 107.4 | 38.7 | 1.75 | 1.75 | 18 | 8.5 | 93  |
| EXP • EXPE15- 6-15□□ | 151 | 61  | 150 | 130 | 40 | 107.4 | 38.7 | 1.75 | 1.75 | 18 | 8.5 | 133 |
| EXP • EXPE15- 6-20□□ | 151 | 61  | 200 | 130 | 40 | 107.4 | 38.7 | 1.75 | 1.75 | 18 | 8.5 | 183 |
| EXP • EXPE15- 8-11□□ | 151 | 81  | 110 | 130 | 60 | 107.4 | 58.7 | 1.75 | 1.75 | 18 | 8.5 | 93  |
| EXP • EXPE15- 8-15□□ | 151 | 81  | 150 | 130 | 60 | 107.4 | 58.7 | 1.75 | 1.75 | 18 | 8.5 | 133 |
| EXP • EXPE15- 8-20□□ | 151 | 81  | 200 | 130 | 60 | 107.4 | 58.7 | 1.75 | 1.75 | 18 | 8.5 | 183 |
| EXP • EXPE15-10-11□□ | 151 | 101 | 110 | 130 | 80 | 107.4 | 78.7 | 1.75 | 1.75 | 18 | 8.5 | 93  |
| EXP • EXPE15-10-15□□ | 151 | 101 | 150 | 130 | 80 | 107.4 | 78.7 | 1.75 | 1.75 | 18 | 8.5 | 133 |
| EXP • EXPE15-10-20□□ | 151 | 101 | 200 | 130 | 80 | 107.4 | 78.7 | 1.75 | 1.75 | 18 | 8.5 | 183 |

EXW dimensions

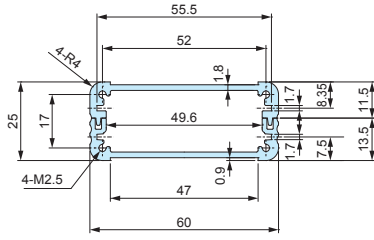


| Product no.   | W   | H   | D   | a   | b  | c     | d    | e    | f    | g  | h   | i   |
|---------------|-----|-----|-----|-----|----|-------|------|------|------|----|-----|-----|
| EXW 7- 3- 6□□ | 69  | 34  | 58  | 52  | 17 | 46    | 16   | 1.5  | 1.5  | 12 | 6   | 46  |
| EXW 7- 3- 9□□ | 69  | 34  | 85  | 52  | 17 | 46    | 16   | 1.5  | 1.5  | 12 | 6   | 73  |
| EXW 7- 3-11□□ | 69  | 34  | 108 | 52  | 17 | 46    | 16   | 1.5  | 1.5  | 12 | 6   | 96  |
| EXW 7- 4- 6□□ | 69  | 44  | 58  | 52  | 27 | 46    | 26   | 1.5  | 1.5  | 12 | 6   | 46  |
| EXW 7- 4- 9□□ | 69  | 44  | 85  | 52  | 27 | 46    | 26   | 1.5  | 1.5  | 12 | 6   | 73  |
| EXW 7- 4-11□□ | 69  | 44  | 108 | 52  | 27 | 46    | 26   | 1.5  | 1.5  | 12 | 6   | 96  |
| EXW 7- 6- 6□□ | 69  | 59  | 58  | 52  | 42 | 46    | 41   | 1.5  | 1.5  | 12 | 6   | 46  |
| EXW 7- 6- 9□□ | 69  | 59  | 85  | 52  | 42 | 46    | 41   | 1.5  | 1.5  | 12 | 6   | 73  |
| EXW 7- 6-11□□ | 69  | 59  | 108 | 52  | 42 | 46    | 41   | 1.5  | 1.5  | 12 | 6   | 96  |
| EXW 9- 4- 7□□ | 89  | 39  | 69  | 72  | 22 | 65.8  | 20   | 1.5  | 1.5  | 12 | 6.5 | 56  |
| EXW 9- 4-10□□ | 89  | 39  | 99  | 72  | 22 | 65.8  | 20   | 1.5  | 1.5  | 12 | 6.5 | 86  |
| EXW 9- 4-13□□ | 89  | 39  | 129 | 72  | 22 | 65.8  | 20   | 1.5  | 1.5  | 12 | 6.5 | 116 |
| EXW 9- 5- 7□□ | 89  | 49  | 69  | 72  | 32 | 65.8  | 30   | 1.5  | 1.5  | 12 | 6.5 | 56  |
| EXW 9- 5-10□□ | 89  | 49  | 99  | 72  | 32 | 65.8  | 30   | 1.5  | 1.5  | 12 | 6.5 | 86  |
| EXW 9- 5-13□□ | 89  | 49  | 129 | 72  | 32 | 65.8  | 30   | 1.5  | 1.5  | 12 | 6.5 | 116 |
| EXW 9- 6- 7□□ | 89  | 64  | 69  | 72  | 47 | 65.8  | 45   | 1.5  | 1.5  | 12 | 6.5 | 56  |
| EXW 9- 6-10□□ | 89  | 64  | 99  | 72  | 47 | 65.8  | 45   | 1.5  | 1.5  | 12 | 6.5 | 86  |
| EXW 9- 6-13□□ | 89  | 64  | 129 | 72  | 47 | 65.8  | 45   | 1.5  | 1.5  | 12 | 6.5 | 116 |
| EXW12- 4- 9□□ | 116 | 41  | 88  | 95  | 20 | 89.6  | 18   | 1.75 | 1.75 | 16 | 7   | 74  |
| EXW12- 4-13□□ | 116 | 41  | 128 | 95  | 20 | 89.6  | 18   | 1.75 | 1.75 | 16 | 7   | 114 |
| EXW12- 4-18□□ | 116 | 41  | 174 | 95  | 20 | 89.6  | 18   | 1.75 | 1.75 | 16 | 7   | 160 |
| EXW12- 6- 9□□ | 116 | 56  | 88  | 95  | 35 | 89.6  | 33   | 1.75 | 1.75 | 16 | 7   | 74  |
| EXW12- 6-13□□ | 116 | 56  | 128 | 95  | 35 | 89.6  | 33   | 1.75 | 1.75 | 16 | 7   | 114 |
| EXW12- 6-18□□ | 116 | 56  | 174 | 95  | 35 | 89.6  | 33   | 1.75 | 1.75 | 16 | 7   | 160 |
| EXW12- 7- 9□□ | 116 | 71  | 88  | 95  | 50 | 89.6  | 48   | 1.75 | 1.75 | 16 | 7   | 74  |
| EXW12- 7-13□□ | 116 | 71  | 128 | 95  | 50 | 89.6  | 48   | 1.75 | 1.75 | 16 | 7   | 114 |
| EXW12- 7-18□□ | 116 | 71  | 174 | 95  | 50 | 89.6  | 48   | 1.75 | 1.75 | 16 | 7   | 160 |
| EXW15- 5-11□□ | 151 | 46  | 107 | 130 | 25 | 103.4 | 18.2 | 1.75 | 1.75 | 18 | 7   | 93  |
| EXW15- 5-15□□ | 151 | 46  | 147 | 130 | 25 | 103.4 | 18.2 | 1.75 | 1.75 | 18 | 7   | 133 |
| EXW15- 5-20□□ | 151 | 46  | 197 | 130 | 25 | 103.4 | 18.2 | 1.75 | 1.75 | 18 | 7   | 183 |
| EXW15- 6-11□□ | 151 | 61  | 107 | 130 | 40 | 103.4 | 33.2 | 1.75 | 1.75 | 18 | 7   | 93  |
| EXW15- 6-15□□ | 151 | 61  | 147 | 130 | 40 | 103.4 | 33.2 | 1.75 | 1.75 | 18 | 7   | 133 |
| EXW15- 6-20□□ | 151 | 61  | 197 | 130 | 40 | 103.4 | 33.2 | 1.75 | 1.75 | 18 | 7   | 183 |
| EXW15- 8-11□□ | 151 | 81  | 107 | 130 | 60 | 103.4 | 53.2 | 1.75 | 1.75 | 18 | 7   | 93  |
| EXW15- 8-15□□ | 151 | 81  | 147 | 130 | 60 | 103.4 | 53.2 | 1.75 | 1.75 | 18 | 7   | 133 |
| EXW15- 8-20□□ | 151 | 81  | 197 | 130 | 60 | 103.4 | 53.2 | 1.75 | 1.75 | 18 | 7   | 183 |
| EXW15-10-11□□ | 151 | 101 | 107 | 130 | 80 | 103.4 | 73.2 | 1.75 | 1.75 | 18 | 7   | 93  |
| EXW15-10-15□□ | 151 | 101 | 147 | 130 | 80 | 103.4 | 73.2 | 1.75 | 1.75 | 18 | 7   | 133 |
| EXW15-10-20□□ | 151 | 101 | 197 | 130 | 80 | 103.4 | 73.2 | 1.75 | 1.75 | 18 | 7   | 183 |

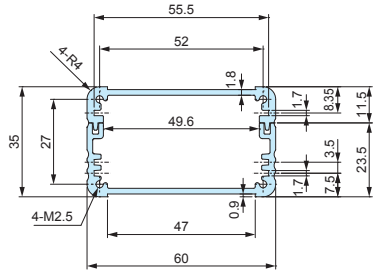
Cross-section View

EXP • EXPE • EXW • EX top / bottom covers

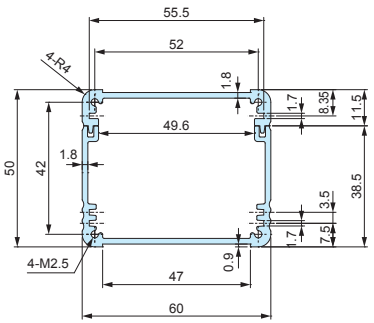
EXP • EXPE • EXW 7-3-□  
EX 6-3-□



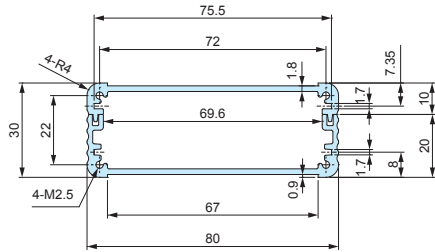
EXP • EXPE • EXW 7-4-□  
EX 6-4-□



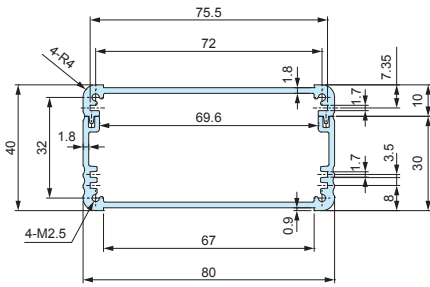
EXP • EXPE • EXW 7-6-□  
EX 6-5-□



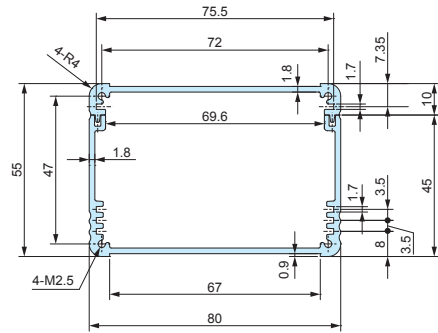
EXP • EXPE • EXW 9-4-□  
EX 8-3-□



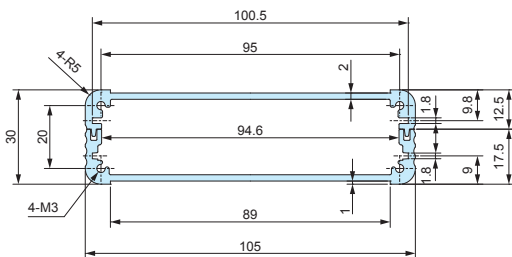
EXP • EXPE • EXW 9-5-□  
EX 8-4-□



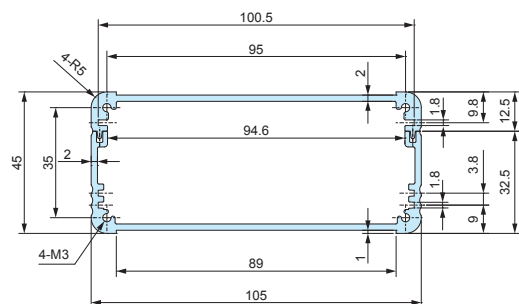
EXP • EXPE • EXW 9-6-□  
EX 8-6-□



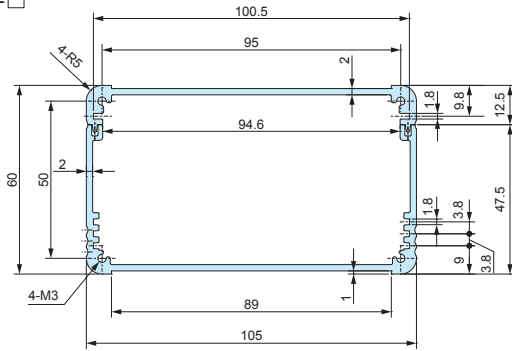
EXP • EXPE • EXW 12-4-□  
EX 11-3-□□



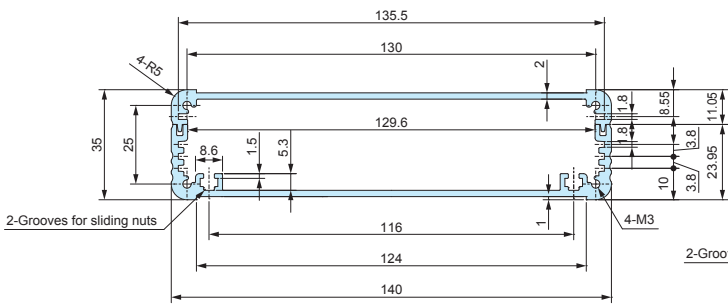
EXP • EXPE • EXW 12-6-□  
EX 11-5-□



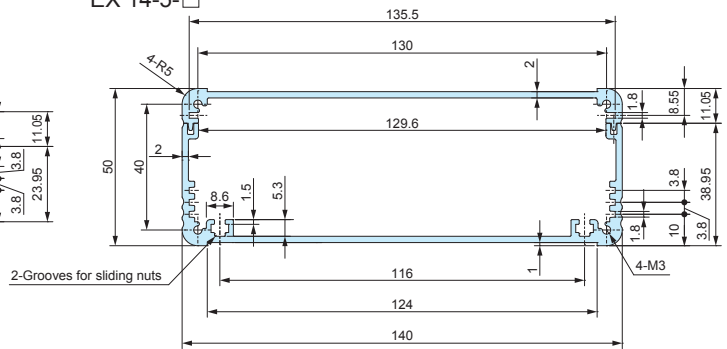
EXP • EXPE • EXW 12-7-□  
EX 11-6-□



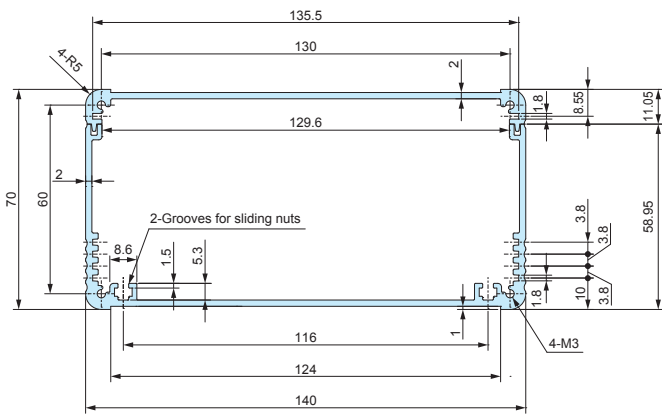
EXP • EXPE • EXW 15-5-□  
EX 14-4-□



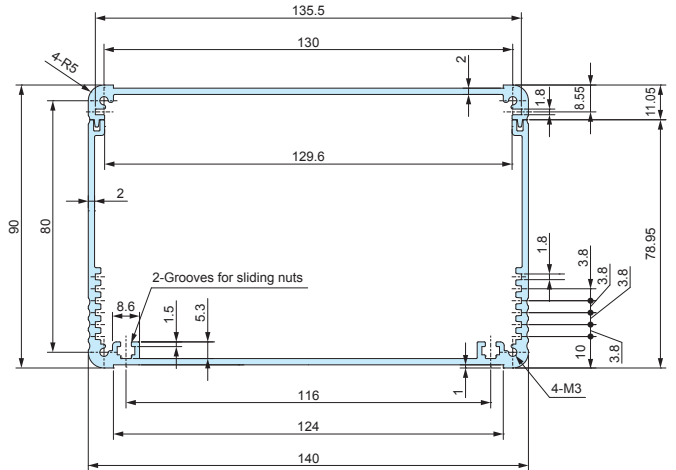
EXP • EXPE • EXW 15-6-□  
EX 14-5-□



EXP • EXPE • EXW 15-8-□  
EX 14-7-□



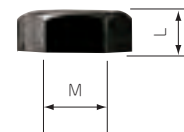
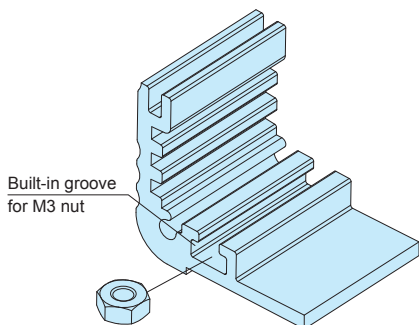
EXP • EXPE • EXW 15-10-□  
EX 14-9-□



Accessories (Optional parts)

MT-3N

SLIDING NUT for EXP • EXPE • EXW • EX

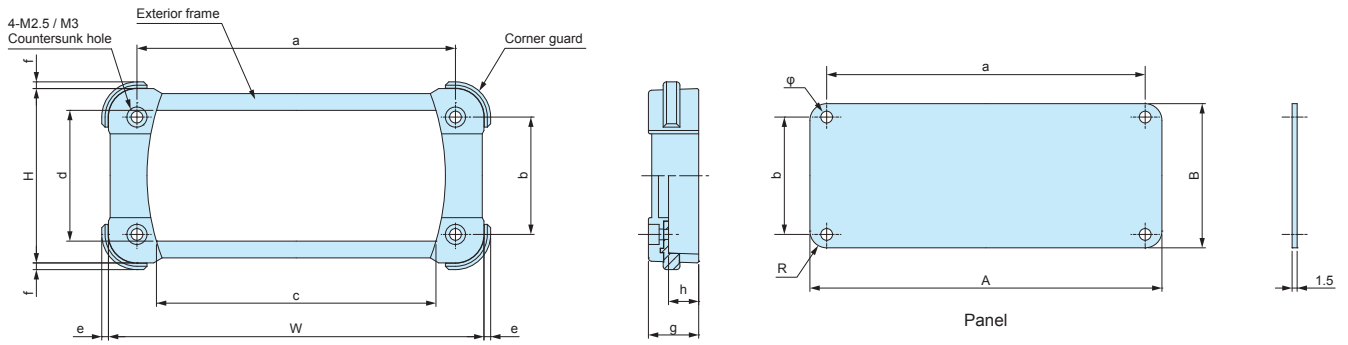


Product no. / Dimensions

| Product no. | M | L   | Material | Finish                   | Pack of |
|-------------|---|-----|----------|--------------------------|---------|
| MT-3N       | 3 | 2.4 | Steel    | Black trivalent chromate | 50      |

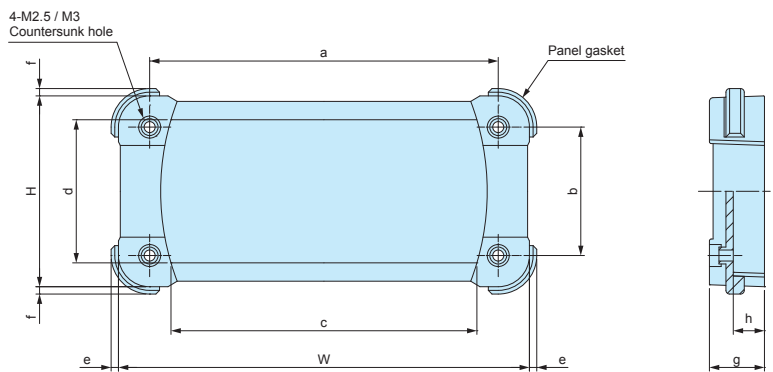
■ Sliding nut can be used on 140mm and larger bottom covers.

EXP • EXPE exterior frame / panel



| Product no.       | W     | H    | a   | b  | c     | d    | e    | f    | g  | h   | A     | B    | φ   | R   |
|-------------------|-------|------|-----|----|-------|------|------|------|----|-----|-------|------|-----|-----|
| EXP / EXPE 7- 3-□ | 66    | 31   | 52  | 17 | 41.8  | 21   | 1.5  | 1.5  | 12 | 6.5 | 60.6  | 23.2 | 3   | 3.5 |
| EXP / EXPE 7- 4-□ | 66    | 41   | 52  | 27 | 41.5  | 29.6 | 1.5  | 1.5  | 12 | 6.5 | 60.6  | 33.2 | 3   | 3.5 |
| EXP / EXPE 7- 6-□ | 66    | 56   | 52  | 42 | 41.2  | 44.6 | 1.5  | 1.5  | 12 | 6.5 | 60.6  | 48.2 | 3   | 3.5 |
| EXP / EXPE 9- 4-□ | 86    | 36   | 72  | 22 | 61.6  | 24   | 1.5  | 1.5  | 12 | 6.5 | 80.6  | 28.8 | 3   | 3.5 |
| EXP / EXPE 9- 5-□ | 86    | 46   | 72  | 32 | 61.3  | 34   | 1.5  | 1.5  | 12 | 6.5 | 80.6  | 38.8 | 3   | 3.5 |
| EXP / EXPE 9- 6-□ | 86    | 61   | 72  | 47 | 61    | 49   | 1.5  | 1.5  | 12 | 6.5 | 80.6  | 53.8 | 3   | 3.5 |
| EXP / EXPE12- 4-□ | 112.5 | 37.5 | 95  | 20 | 82.8  | 23.8 | 1.75 | 1.75 | 16 | 9.5 | 105.6 | 28.6 | 3.5 | 4.5 |
| EXP / EXPE12- 6-□ | 112.5 | 52.5 | 95  | 35 | 83.2  | 38.8 | 1.75 | 1.75 | 16 | 9.5 | 105.6 | 43.6 | 3.5 | 4.5 |
| EXP / EXPE12- 7-□ | 112.5 | 67.5 | 95  | 50 | 82.8  | 53.8 | 1.75 | 1.75 | 16 | 9.5 | 105.6 | 58.6 | 3.5 | 4.5 |
| EXP / EXPE15- 5-□ | 147.5 | 42.5 | 130 | 25 | 118   | 28.8 | 1.75 | 1.75 | 18 | 11  | 140.6 | 33.6 | 3.5 | 4.5 |
| EXP / EXPE15- 6-□ | 147.5 | 57.5 | 130 | 40 | 117.8 | 43.8 | 1.75 | 1.75 | 18 | 11  | 140.6 | 48.6 | 3.5 | 4.5 |
| EXP / EXPE15- 8-□ | 147.5 | 77.5 | 130 | 60 | 116.3 | 63.8 | 1.75 | 1.75 | 18 | 11  | 140.6 | 68.6 | 3.5 | 4.5 |
| EXP / EXPE15-10-□ | 147.5 | 97.5 | 130 | 80 | 115.7 | 83.8 | 1.75 | 1.75 | 18 | 11  | 140.6 | 88.6 | 3.5 | 4.5 |

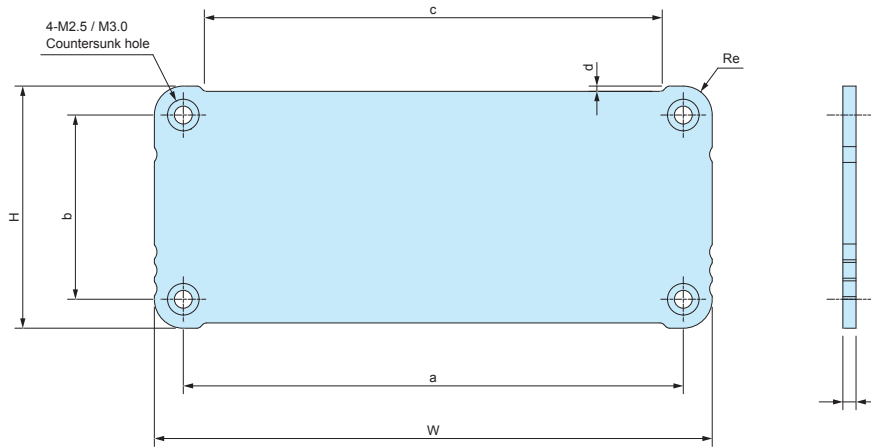
EXW panel



| Product no. | W     | H    | a   | b  | c     | d    | e    | f    | g  | h   |
|-------------|-------|------|-----|----|-------|------|------|------|----|-----|
| EXW 7- 3-□  | 66    | 31   | 52  | 17 | 41.7  | 21.8 | 1.5  | 1.5  | 12 | 6   |
| EXW 7- 4-□  | 66    | 41   | 52  | 27 | 41.2  | 31.8 | 1.5  | 1.5  | 12 | 6   |
| EXW 7- 6-□  | 66    | 56   | 52  | 42 | 41.2  | 45.8 | 1.5  | 1.5  | 12 | 6   |
| EXW 9- 4-□  | 86    | 36   | 72  | 22 | 61.5  | 24.8 | 1.5  | 1.5  | 12 | 5.5 |
| EXW 9- 5-□  | 86    | 46   | 72  | 32 | 61    | 34.8 | 1.5  | 1.5  | 12 | 5.5 |
| EXW 9- 6-□  | 86    | 61   | 72  | 47 | 60.8  | 49.8 | 1.5  | 1.5  | 12 | 5.5 |
| EXW12- 4-□  | 112.5 | 37.5 | 95  | 20 | 81.9  | 27.3 | 1.75 | 1.75 | 16 | 9   |
| EXW12- 6-□  | 112.5 | 52.5 | 95  | 35 | 82.2  | 42.3 | 1.75 | 1.75 | 16 | 9   |
| EXW12- 7-□  | 112.5 | 67.5 | 95  | 50 | 82.3  | 54.3 | 1.75 | 1.75 | 16 | 9   |
| EXW15- 5-□  | 147.5 | 42.5 | 130 | 25 | 118.8 | 29.3 | 1.75 | 1.75 | 18 | 11  |
| EXW15- 6-□  | 147.5 | 57.5 | 130 | 40 | 117.8 | 44.3 | 1.75 | 1.75 | 18 | 11  |
| EXW15- 8-□  | 147.5 | 77.5 | 130 | 60 | 116.3 | 64.3 | 1.75 | 1.75 | 18 | 11  |
| EXW15-10-□  | 147.5 | 97.5 | 130 | 80 | 116.6 | 84.3 | 1.75 | 1.75 | 18 | 11  |



EX panel



| Product no. | W    | H    | a   | b  | c    | d   | e   | t   |
|-------------|------|------|-----|----|------|-----|-----|-----|
| EX 6-3-□    | 60.6 | 25.6 | 52  | 17 | 45.2 | 0.9 | 4.3 | 2   |
| EX 6-4-□    | 60.6 | 35.6 | 52  | 27 | 45.2 | 0.9 | 4.3 | 2   |
| EX 6-5-□    | 60.6 | 50.6 | 52  | 42 | 45.2 | 0.9 | 4.3 | 2   |
| EX 8-3-□    | 80.6 | 30.6 | 72  | 22 | 65.2 | 0.9 | 4.3 | 2   |
| EX 8-4-□    | 80.6 | 40.6 | 72  | 32 | 65.2 | 0.9 | 4.3 | 2   |
| EX 8-6-□    | 80.6 | 55.6 | 72  | 47 | 65.2 | 0.9 | 4.3 | 2   |
| EX11-3-□    | 106  | 31   | 95  | 20 | 87   | 1   | 5.5 | 2.5 |
| EX11-5-□    | 106  | 46   | 95  | 35 | 87   | 1   | 5.5 | 2.5 |
| EX11-6-□    | 106  | 61   | 95  | 50 | 87   | 1   | 5.5 | 2.5 |
| EX14-4-□    | 141  | 36   | 130 | 25 | 122  | 1   | 5.5 | 2.5 |
| EX14-5-□    | 141  | 51   | 130 | 40 | 122  | 1   | 5.5 | 2.5 |
| EX14-7-□    | 141  | 71   | 130 | 60 | 122  | 1   | 5.5 | 2.5 |
| EX14-9-□    | 141  | 91   | 130 | 80 | 122  | 1   | 5.5 | 2.5 |

Accessories (Optional parts)

**EXEG-2.5** EMC SHIELDING FABRIC-OVER-FOAM GASKET for EXPE ★★ NEW

- EMC shielding fabric-over-foam gasket for EXPE series.



Product no. / Dimensions

| Product no. | Φ   | Material               | Color         | Sales unit   |
|-------------|-----|------------------------|---------------|--------------|
| EXEG-2.5    | 2.5 | Wire mesh gasket • TPE | Metallic gray | 500mm x 1 pc |

Length tolerance = +/- 10%

**SGK-2.5** SILICONE GASKET for EXW

- Sealing gasket for EXW series.



Product no. / Dimensions

| Product no. | Φ   | Material | Color      | Sales unit    |
|-------------|-----|----------|------------|---------------|
| SGK-2.5     | 2.5 | Silicone | White gray | 1000mm x 1 pc |

Length tolerance = +/- 10%

# MX•MXA ALUMINIUM MOBILE ENCLOSURE

The MXA mobile enclosure is designed with a beautiful and elegant finish in mind. With its tapered panel edges and rounded design, it fits comfortably in your hand, while giving off a simple yet sleek look. Suitable for use as small audio devices and as an amplifier unit, among others.

## APPLICATION EXAMPLE

### DESKTOP AUDIO PREAMPLIFIER with USB



Product by: Conisis lab.inc. (Japan) Web: [conisis.com](http://conisis.com)

### WIRELESS MICROPHONE SYSTEM



Product by: Catchbox (Finland) Web: [eu.getcatchbox.com](http://eu.getcatchbox.com)

A throwable wireless microphone and sound transmission system. Built with audiences in mind, its soft exterior and auto-mute technology allows it to be passed or thrown around without being damaged, or having unwanted noise interference. Using a universal license-free wireless radio frequency band, the unit can be used in almost any parts of the world, without requiring special permissions to operate a radio device in this frequency.

### MODEL RAILROAD CONTROLLER



Product by: Calura Ltd (Japan) Web: [calura.co.jp](http://calura.co.jp)

Control box for a high efficiency performance controller for model railroad trains. By utilizing high / low RF signals, it enables higher operation response, providing a realistic driving experience.

**ETHERNET CELLULAR ROUTER**



Product by: NimbeLink (USA)  
 Web: [nimbelink.com](http://nimbelink.com)

**AIS (AUTOMATIC IDENTIFICATION SYSTEM) SIGNAL RECEIVER**



Product by: SRT Marine System Solutions Ltd. (UK)  
 Web: [srt-marinesystems.com](http://srt-marinesystems.com)

**MOBILE MOISTURE METER**



Product by: ARP Co.,Ltd. (Japan)  
 Web: [arp-id.co.jp](http://arp-id.co.jp)

**VEHICLE IDENTIFY CAMERA DATA TRANSMITTER**



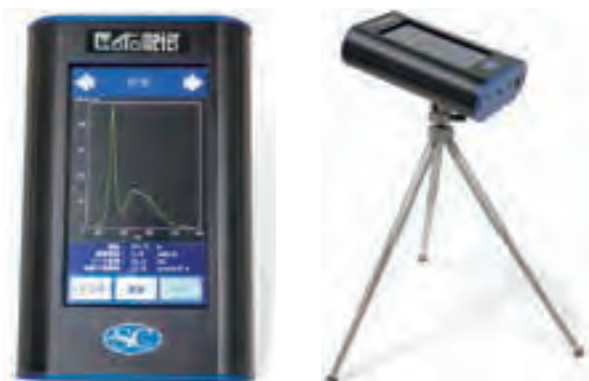
Product by: Sensor Dynamics (Australia)  
 Web: [sensordynamics.com.au](http://sensordynamics.com.au)

**FULL COLOR LED TABLETOP LIGHTING DEVICE**



Product by: DAISHO DENKI INC. (Japan)  
 Web: [daisho-denki.com](http://daisho-denki.com)

**SPECTRAL LUMINOMETER**



Product by: Spectra Co-op (Japan)  
 Web: [spectra.co.jp](http://spectra.co.jp)

**RTD SENSOR TESTER**

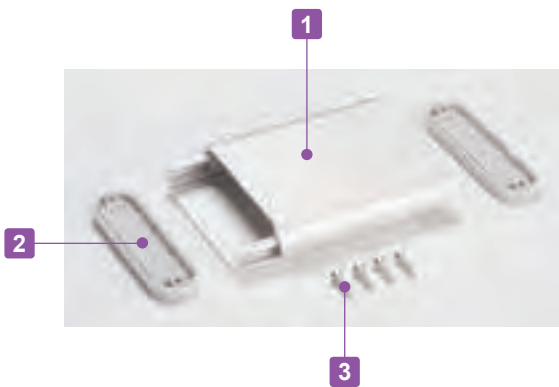


Product by: Turbomation (USA)  
 Web: [turbomation.com](http://turbomation.com)



# MX SERIES

# MOBILE ENCLOSURE



- 12 different color combinations and 30 different sizes available to choose from.
- Mobile case with easy to hold rounded design.
- Grooves are built into the internal enclosure, allowing for easy sliding/insertion of pcb boards.
- Frame is made from extruded aluminium material, whereas the panel is ABS plastic.
- MX1-5 models do not have internal grooves.

### Components

■ Please refer to page 159 ~ 161 for part drawings.

| No. | Part Name          | Pcs | Material                     | Color / Finish   |
|-----|--------------------|-----|------------------------------|--|
| 1   | Frame              | 2   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized  |
| 2   | Panel              | 2   | ABS UL94HB                   | Gray • Black / Unpainted<br>Navy • Lime • Orange • Red / Painted |
| 3   | Self tapping screw | 4   | Steel                        | Nickel plated • Black trivalent chromate                         |

### Color Type

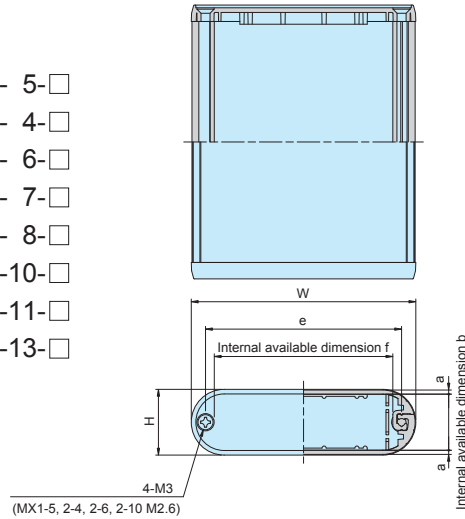
Please choose from the color combinations listed below.

| Code  | B B Black / Black  | B G Black / Gray  | B N Black / Navy  | B L Black / Lime  | B O Black / Orange  | B R Black / Red  |
|-------|--------------------|-------------------|-------------------|-------------------|---------------------|------------------|
| Color |                    |                   |                   |                   |                     |                  |
| Code  | S B Silver / Black | S G Silver / Gray | S N Silver / Navy | S L Silver / Lime | S O Silver / Orange | S R Silver / Red |
| Color |                    |                   |                   |                   |                     |                  |

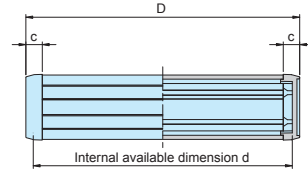
MX dimensions

■ DXF/DWG/PDF drawings available on our website.

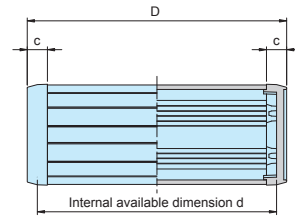
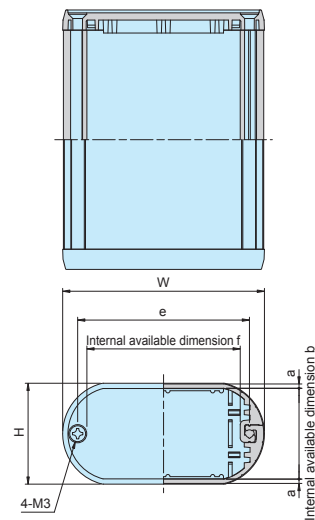
- MX1- 5-□
- MX2- 4-□
- MX2- 6-□
- MX2- 7-□
- MX2- 8-□
- MX2-10-□
- MX3-11-□
- MX4-13-□



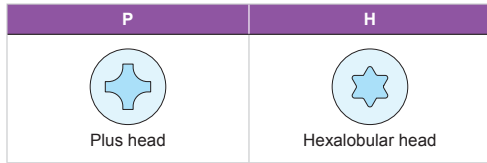
Included screws  
 MX1-5, 2-4, 2-10 models: M2.6-10 x 4 pcs  
 MX2-7, 2-8, 3-11 models: M3-12 x 4 pcs  
 MX4-7, 4-10, 4-13 models: M3-14 x 4 pcs



- MX4- 7-□
- MX4-10-□



Screw Type



Please request / order by indicating the combination part number as below.

**MX 1 - 5 - 6** □ □ □

Color code                      Screw P or H

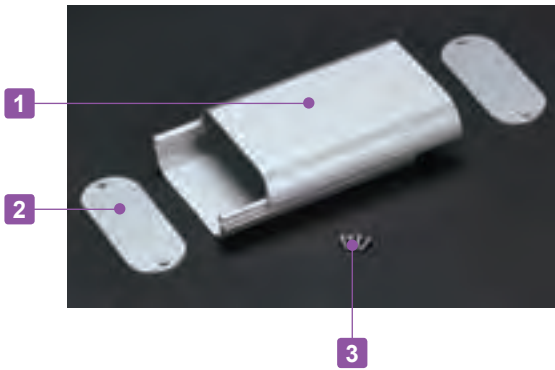
Product no. / Dimensions

■ Please suffix color and screw code at the end of the product number.

| Product no.  | H  | W   | D   | a    | b    | c | d     | e     | f     | Weight (g) |
|--------------|----|-----|-----|------|------|---|-------|-------|-------|------------|
| MX1- 5- 6□□□ | 13 | 48  | 55  | 1.2  | 10.2 | 6 | 50    | 38.8  | 33.6  | 25         |
| MX1- 5- 9□□□ | 13 | 48  | 85  | 1.2  | 10.2 | 6 | 80    | 38.8  | 33.6  | 40         |
| MX1- 5-12□□□ | 13 | 48  | 115 | 1.2  | 10.2 | 6 | 110   | 38.8  | 33.6  | 55         |
| MX2- 4- 5□□□ | 15 | 41  | 50  | 1.2  | 12.2 | 6 | 44.6  | 31.8  | 26.6  | 20         |
| MX2- 4- 8□□□ | 15 | 41  | 80  | 1.2  | 12.2 | 6 | 74.6  | 31.8  | 26.6  | 35         |
| MX2- 4-11□□□ | 15 | 41  | 110 | 1.2  | 12.2 | 6 | 104.6 | 31.8  | 26.6  | 50         |
| MX2- 6- 5□□□ | 18 | 57  | 50  | 1.2  | 15.1 | 5 | 45    | 47.7  | 42.5  | 35         |
| MX2- 6- 8□□□ | 18 | 57  | 75  | 1.2  | 15.1 | 5 | 70    | 47.7  | 42.5  | 50         |
| MX2- 6-10□□□ | 18 | 57  | 100 | 1.2  | 15.1 | 5 | 95    | 47.7  | 42.5  | 70         |
| MX2- 7- 6□□□ | 20 | 70  | 60  | 1.5  | 16.5 | 6 | 54.6  | 59.6  | 53.2  | 50         |
| MX2- 7- 9□□□ | 20 | 70  | 90  | 1.5  | 16.5 | 6 | 84.6  | 59.6  | 53.2  | 80         |
| MX2- 7-12□□□ | 20 | 70  | 120 | 1.5  | 16.5 | 6 | 114.6 | 59.6  | 53.2  | 105        |
| MX2- 8- 7□□□ | 24 | 82  | 70  | 1.5  | 20.5 | 6 | 64.6  | 71.6  | 65.2  | 75         |
| MX2- 8-10□□□ | 24 | 82  | 100 | 1.5  | 20.5 | 6 | 94.6  | 71.6  | 65.2  | 105        |
| MX2- 8-13□□□ | 24 | 82  | 130 | 1.5  | 20.5 | 6 | 124.6 | 71.6  | 65.2  | 140        |
| MX2-10- 8□□□ | 16 | 100 | 80  | 1.2  | 13.2 | 6 | 74.6  | 90.8  | 85.6  | 70         |
| MX2-10-11□□□ | 16 | 100 | 110 | 1.2  | 13.2 | 6 | 104.6 | 90.8  | 85.6  | 95         |
| MX2-10-15□□□ | 16 | 100 | 150 | 1.2  | 13.2 | 6 | 144.6 | 90.8  | 85.6  | 130        |
| MX3-11- 8□□□ | 30 | 110 | 80  | 1.5  | 26.5 | 7 | 74.6  | 99.6  | 93.2  | 110        |
| MX3-11-12□□□ | 30 | 110 | 120 | 1.5  | 26.5 | 7 | 114.6 | 99.6  | 93.2  | 165        |
| MX3-11-17□□□ | 30 | 110 | 170 | 1.5  | 26.5 | 7 | 164.6 | 99.6  | 93.2  | 235        |
| MX4- 7- 6□□□ | 35 | 70  | 60  | 1.55 | 31.4 | 7 | 53    | 59.6  | 53.2  | 65         |
| MX4- 7- 9□□□ | 35 | 70  | 90  | 1.55 | 31.4 | 7 | 83    | 59.6  | 53.2  | 100        |
| MX4- 7-12□□□ | 35 | 70  | 120 | 1.55 | 31.4 | 7 | 113   | 59.6  | 53.2  | 130        |
| MX4-10- 8□□□ | 40 | 95  | 80  | 1.55 | 36.4 | 8 | 73    | 84.6  | 78.2  | 115        |
| MX4-10-12□□□ | 40 | 95  | 120 | 1.55 | 36.4 | 8 | 113   | 84.6  | 78.2  | 175        |
| MX4-10-15□□□ | 40 | 95  | 150 | 1.55 | 36.4 | 8 | 143   | 84.6  | 78.2  | 215        |
| MX4-13-10□□□ | 35 | 130 | 100 | 1.75 | 31   | 8 | 94.4  | 119.6 | 113.2 | 175        |
| MX4-13-15□□□ | 35 | 130 | 150 | 1.75 | 31   | 8 | 144.4 | 119.6 | 113.2 | 265        |
| MX4-13-21□□□ | 35 | 130 | 210 | 1.75 | 31   | 8 | 204.4 | 119.6 | 113.2 | 375        |

# MXA SERIES

# ALUMINIUM MOBILE ENCLOSURE



- 14 different color combinations and 30 different sizes available to choose from.
- Suitable to be used as digital audio amplifiers, communication devices, measurement tools, etc.
- Grooves are built into the internal enclosure, allowing for easy sliding/insertion of pcb boards.
- MXA1-5 models do not have internal grooves.

### Components

■ Please refer to page 159 ~ 160 and 162 for part drawings.

| No. | Part name          | Pcs | Material                     | Color / Finish   |
|-----|--------------------|-----|------------------------------|--|
| 1   | Frame              | 2   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized  |
| 2   | Panel              | 2   | Aluminium A1050P             | Black • Silver • Cobalt • Green • Purple • Orange • Red / Anodized |
| 3   | Self tapping screw | 4   | Steel                        | Nickel plated • Black trivalent chromate                           |

### Color Type

Please choose from the color combinations listed below.

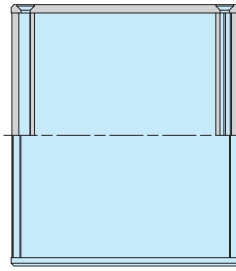
| Code  | B B Black / Black  | B S Black / Silver  | B C Black / Cobalt  | B G Black / Green  | B P Black / Purple  | B O Black / Orange  | B R Black / Red  |
|-------|--------------------|---------------------|---------------------|--------------------|---------------------|---------------------|------------------|
| Color |                    |                     |                     |                    |                     |                     |                  |
| Code  | S B Silver / Black | S S Silver / Silver | S C Silver / Cobalt | S G Silver / Green | S P Silver / Purple | S O Silver / Orange | S R Silver / Red |
| Color |                    |                     |                     |                    |                     |                     |                  |



MXA dimensions

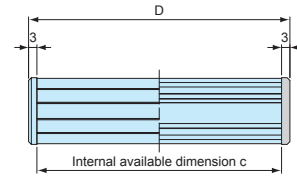
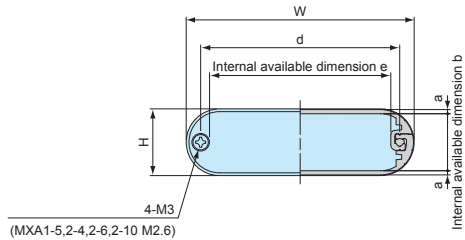
■ DXF/DWG/PDF drawings available on our website.

- MXA1- 5-□
- MXA2- 4-□
- MXA2- 6-□
- MXA2- 7-□
- MXA2- 8-□
- MXA2-10-□
- MXA3-11-□
- MXA4-13-□

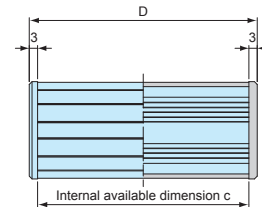
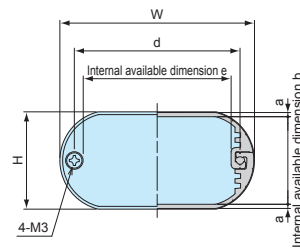


Included screws

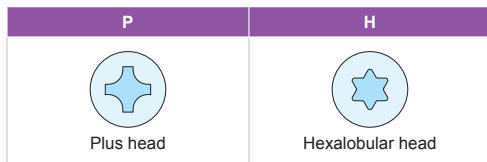
- MXA1-5, 2-4, 2-6, 2-10 models: M2.6-10 x 4 pcs
- MX2-7, 2-8, 3-11, 4-7, 4-13 models: M3-10 x 4 pcs



- MXA4- 7-□
- MXA4-10-□



Screw Type



Please request / order by indicating the combination part number as below.

**MXA 1 - 5 - 5** □ □ □

Color code      Screw P or H

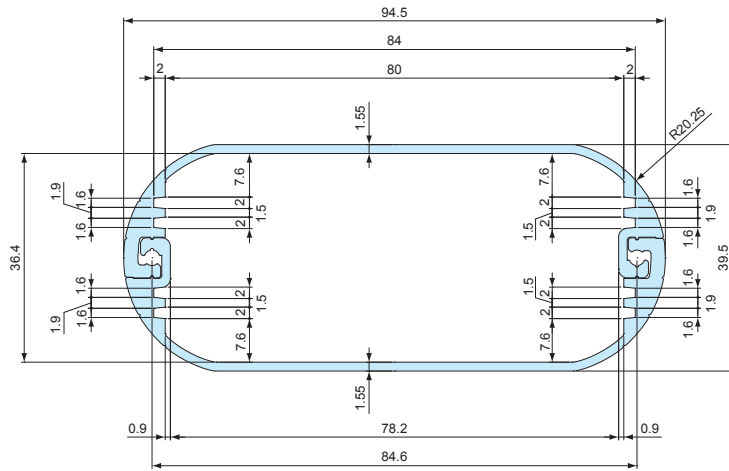
Product no. / Dimensions

■ Please suffix color and screw code at the end of the product number.

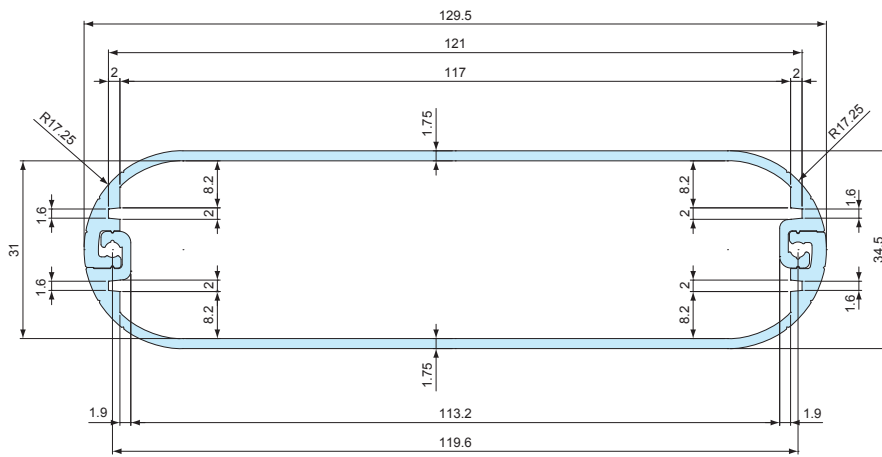
| Product no.   | H  | W   | D   | a    | b    | c   | d     | e     | Weight (g) |
|---------------|----|-----|-----|------|------|-----|-------|-------|------------|
| MXA1- 5- 5□□□ | 13 | 48  | 49  | 1.2  | 10.2 | 43  | 38.8  | 33.6  | 25         |
| MXA1- 5- 8□□□ | 13 | 48  | 79  | 1.2  | 10.2 | 73  | 38.8  | 33.6  | 40         |
| MXA1- 5-11□□□ | 13 | 48  | 109 | 1.2  | 10.2 | 103 | 38.8  | 33.6  | 55         |
| MXA2- 4- 4□□□ | 15 | 41  | 44  | 1.2  | 12.2 | 38  | 31.8  | 26.6  | 25         |
| MXA2- 4- 7□□□ | 15 | 41  | 74  | 1.2  | 12.2 | 68  | 31.8  | 26.6  | 40         |
| MXA2- 4-10□□□ | 15 | 41  | 104 | 1.2  | 12.2 | 98  | 31.8  | 26.6  | 50         |
| MXA2- 6- 5□□□ | 18 | 57  | 46  | 1.2  | 15.1 | 40  | 47.7  | 42.5  | 35         |
| MXA2- 6- 7□□□ | 18 | 57  | 71  | 1.2  | 15.1 | 65  | 47.7  | 42.5  | 50         |
| MXA2- 6-10□□□ | 18 | 57  | 96  | 1.2  | 15.1 | 90  | 47.7  | 42.5  | 65         |
| MXA2- 7- 5□□□ | 20 | 70  | 54  | 1.5  | 16.5 | 48  | 59.6  | 53.2  | 55         |
| MXA2- 7- 8□□□ | 20 | 70  | 84  | 1.5  | 16.5 | 78  | 59.6  | 53.2  | 80         |
| MXA2- 7-11□□□ | 20 | 70  | 114 | 1.5  | 16.5 | 108 | 59.6  | 53.2  | 110        |
| MXA2- 8- 6□□□ | 24 | 82  | 64  | 1.5  | 20.5 | 58  | 71.6  | 65.2  | 75         |
| MXA2- 8- 9□□□ | 24 | 82  | 94  | 1.5  | 20.5 | 88  | 71.6  | 65.2  | 105        |
| MXA2- 8-12□□□ | 24 | 82  | 124 | 1.5  | 20.5 | 118 | 71.6  | 65.2  | 135        |
| MXA2-10- 7□□□ | 16 | 100 | 74  | 1.2  | 13.2 | 68  | 90.8  | 85.6  | 70         |
| MXA2-10-10□□□ | 16 | 100 | 104 | 1.2  | 13.2 | 98  | 90.8  | 85.6  | 100        |
| MXA2-10-14□□□ | 16 | 100 | 144 | 1.2  | 13.2 | 138 | 90.8  | 85.6  | 135        |
| MXA3-11- 7□□□ | 30 | 110 | 72  | 1.5  | 26.5 | 66  | 99.6  | 93.2  | 115        |
| MXA3-11-11□□□ | 30 | 110 | 112 | 1.5  | 26.5 | 106 | 99.6  | 93.2  | 165        |
| MXA3-11-16□□□ | 30 | 110 | 162 | 1.5  | 26.5 | 156 | 99.6  | 93.2  | 235        |
| MXA4- 7- 5□□□ | 35 | 70  | 52  | 1.55 | 31.4 | 46  | 59.6  | 53.2  | 70         |
| MXA4- 7- 8□□□ | 35 | 70  | 82  | 1.55 | 31.4 | 76  | 59.6  | 53.2  | 100        |
| MXA4- 7-11□□□ | 35 | 70  | 112 | 1.55 | 31.4 | 106 | 59.6  | 53.2  | 135        |
| MXA4-10- 7□□□ | 40 | 95  | 70  | 1.55 | 36.4 | 64  | 84.6  | 78.2  | 120        |
| MXA4-10-11□□□ | 40 | 95  | 110 | 1.55 | 36.4 | 104 | 84.6  | 78.2  | 175        |
| MXA4-10-14□□□ | 40 | 95  | 140 | 1.55 | 36.4 | 134 | 84.6  | 78.2  | 220        |
| MXA4-13- 9□□□ | 35 | 130 | 90  | 1.75 | 31   | 84  | 119.6 | 113.2 | 180        |
| MXA4-13-14□□□ | 35 | 130 | 140 | 1.75 | 31   | 134 | 119.6 | 113.2 | 265        |
| MXA4-13-20□□□ | 35 | 130 | 200 | 1.75 | 31   | 194 | 119.6 | 113.2 | 370        |



MX/MXA4-10-□



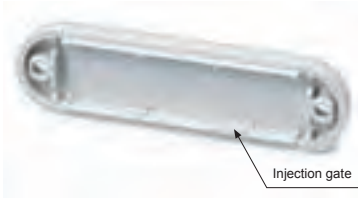
MX/MXA4-13-□



| Product no. | Frame length |
|-------------|--------------|
| MX1- 5- 6   | 43           |
| MX1- 5- 9   | 73           |
| MX1- 5-12   | 103          |
| MX2- 4- 5   | 38           |
| MX2- 4- 8   | 68           |
| MX2- 4-11   | 98           |
| MX2- 6- 5   | 40           |
| MX2- 6- 8   | 65           |
| MX2- 6-10   | 90           |
| MX2- 7- 6   | 48           |
| MX2- 7- 9   | 78           |
| MX2- 7-12   | 108          |
| MX2- 8- 7   | 58           |
| MX2- 8-10   | 88           |
| MX2- 8-13   | 118          |
| MX2-10- 8   | 68           |
| MX2-10-11   | 98           |
| MX2-10-15   | 138          |
| MX3-11- 8   | 66           |
| MX3-11-12   | 106          |
| MX3-11-17   | 156          |
| MX4- 7- 6   | 46           |
| MX4- 7- 9   | 76           |
| MX4- 7-12   | 106          |
| MX4-10- 8   | 64           |
| MX4-10-12   | 104          |
| MX4-10-15   | 134          |
| MX4-13-10   | 84           |
| MX4-13-15   | 134          |
| MX4-13-21   | 194          |

| Product no. | Frame length |
|-------------|--------------|
| MXA1- 5- 5  | 43           |
| MXA1- 5- 8  | 73           |
| MXA1- 5-11  | 103          |
| MXA2- 4- 4  | 38           |
| MXA2- 4- 7  | 68           |
| MXA2- 4-10  | 98           |
| MXA2- 6- 5  | 40           |
| MXA2- 6- 7  | 65           |
| MXA2- 6-10  | 90           |
| MXA2- 7- 5  | 48           |
| MXA2- 7- 8  | 78           |
| MXA2- 7-11  | 108          |
| MXA2- 8- 6  | 58           |
| MXA2- 8- 9  | 88           |
| MXA2- 8-12  | 118          |
| MXA2-10- 7  | 68           |
| MXA2-10-10  | 98           |
| MXA2-10-14  | 138          |
| MXA3-11- 7  | 66           |
| MXA3-11-11  | 106          |
| MXA3-11-16  | 156          |
| MXA4- 7- 5  | 46           |
| MXA4- 7- 8  | 76           |
| MXA4- 7-11  | 106          |
| MXA4-10- 7  | 64           |
| MXA4-10-11  | 104          |
| MXA4-10-14  | 134          |
| MXA4-13- 9  | 84           |
| MXA4-13-14  | 134          |
| MXA4-13-20  | 194          |

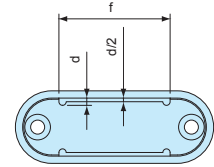
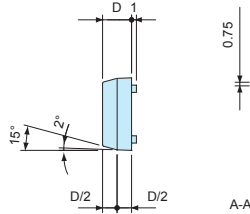
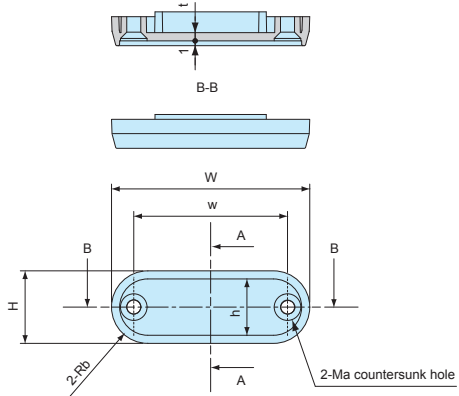
**MX panel**



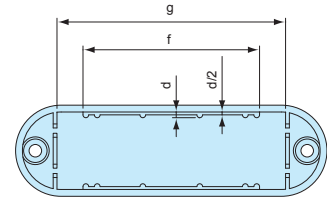
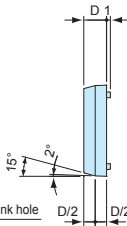
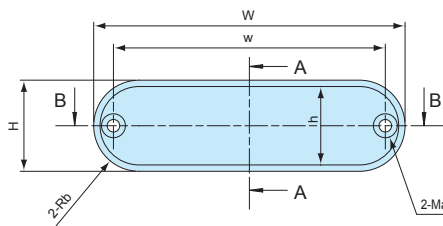
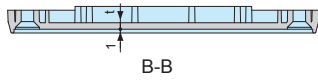
■ The MX panels are manufactured with an injection gate. Take caution when fitting your components inside the enclosure.

**Color Type**

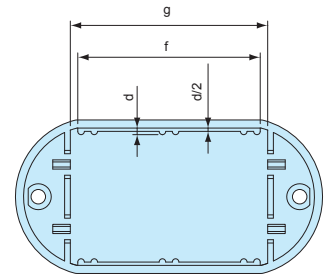
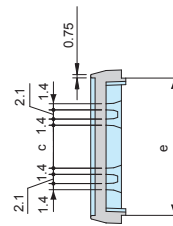
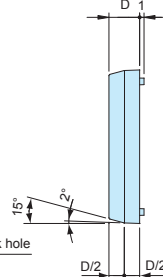
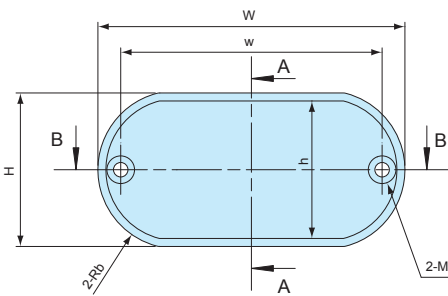
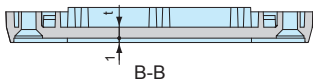
| Code | Color / Finish    |
|------|-------------------|
| G    | Gray / Unpainted  |
| B    | Black / Unpainted |
| N    | Navy / Painted    |
| L    | Lime / Painted    |
| O    | Orange / Painted  |
| R    | Red / Painted     |



| Enclosure model | W   | H  | D | w    | a   | b   | d   | e  | f  | h    | t   |
|-----------------|-----|----|---|------|-----|-----|-----|----|----|------|-----|
| MX1- 5-□        | 48  | 13 | 6 | 38.8 | 2.6 | 6.5 | 1.5 | 10 | 32 | 9.6  | 1.7 |
| MX2- 4-□        | 41  | 15 | 6 | 31.8 | 2.6 | 7.5 | 1.5 | 12 | 23 | 11.6 | 1.7 |
| MX2-10-□        | 100 | 16 | 6 | 90.8 | 2.6 | 8   | 1.5 | 13 | 81 | 12.6 | 1.7 |



| Enclosure model | W   | H  | D | w     | a   | b    | c    | d   | e    | f    | g     | h    | t   |
|-----------------|-----|----|---|-------|-----|------|------|-----|------|------|-------|------|-----|
| MX2- 6-□        | 57  | 18 | 5 | 47.7  | 2.6 | 9    | 7.9  | 1.3 | 15   | 38.3 | 41.2  | 14.9 | 1.5 |
| MX2- 7-□        | 70  | 20 | 6 | 59.6  | 3   | 10   | 9.2  | 1.5 | 16.3 | 49.5 | 52.6  | 16.6 | 1.7 |
| MX2- 8-□        | 82  | 24 | 6 | 71.6  | 3   | 12   | 9.2  | 1.5 | 20.4 | 46.5 | 60.2  | 20.6 | 1.7 |
| MX3-11-□        | 110 | 30 | 7 | 99.6  | 3   | 15   | 10.2 | 1.5 | 26.4 | 61.5 | 87.3  | 26.3 | 1.7 |
| MX4-13-□        | 130 | 35 | 8 | 119.6 | 3   | 17.5 | 11.2 | 1.5 | 30.9 | 76.5 | 104.3 | 31   | 1.8 |

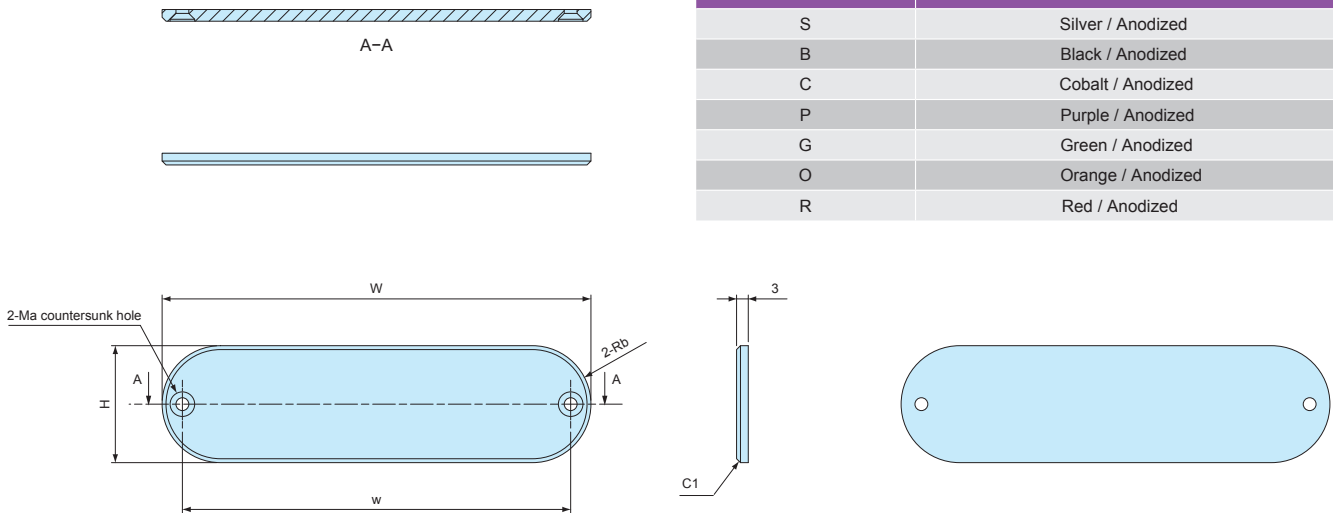


| Enclosure model | W  | H  | D | w    | a | b    | c    | d   | e    | f    | g  | h    | t   |
|-----------------|----|----|---|------|---|------|------|-----|------|------|----|------|-----|
| MX4- 7-□        | 70 | 35 | 7 | 59.6 | 3 | 18   | 9.8  | 1.5 | 31.3 | 41.6 | 45 | 31.3 | 2.5 |
| MX4-10-□        | 95 | 40 | 8 | 84.6 | 3 | 20.5 | 10.8 | 1.5 | 36.3 | 61.6 | 65 | 36   | 2.5 |

**MXA panel**

**Color Type**

| Code | Color / Finish    |
|------|-------------------|
| S    | Silver / Anodized |
| B    | Black / Anodized  |
| C    | Cobalt / Anodized |
| P    | Purple / Anodized |
| G    | Green / Anodized  |
| O    | Orange / Anodized |
| R    | Red / Anodized    |



| Enclosure model | W   | H  | w     | a   | b    |
|-----------------|-----|----|-------|-----|------|
| MXA1- 5-□       | 48  | 13 | 38.8  | 2.6 | 6.5  |
| MXA2- 4-□       | 41  | 15 | 31.8  | 2.6 | 7.5  |
| MXA2- 6-□       | 57  | 18 | 47.7  | 2.6 | 9    |
| MXA2- 7-□       | 70  | 20 | 59.6  | 3   | 10   |
| MXA2- 8-□       | 82  | 24 | 71.6  | 3   | 12   |
| MXA2-10-□       | 100 | 16 | 90.8  | 2.6 | 8    |
| MXA3-11-□       | 110 | 30 | 99.6  | 3   | 15   |
| MXA4- 7-□       | 70  | 35 | 59.6  | 3   | 18   |
| MXA4-10-□       | 95  | 40 | 84.6  | 3   | 20.5 |
| MXA4-13-□       | 130 | 35 | 119.6 | 3   | 17.5 |

**Accessories (Optional parts)**

**AFS • AFM SERIES ALUMINIUM ISOLATION FEET** See page 265 ~ 266



External type / Shot blast finish (AFS series)



Internal type / Reflective finish (AFM series)



APPLICATION EXAMPLE

- The surface treatment and finish allows the feet to exhibit a polished and luxurious feel.
- Hole milling is required for installation.



# AW·AWN·AWP IP67 ALUMINIUM ENCLOSURE

AW·AWN·AWP series are highly functional aluminium enclosures which are IP67 rated with heat dissipating heat-sink fins.

34 sizes available. Standard, Flanged, Shielding, Silicone protector types are available.

Suitable for LED power supply, industrial camera, controller or measuring instrument where waterproof and cooling performance are crucial.

## APPLICATION EXAMPLE

### LIQUID LEVEL SENSOR

Product by Watty Corporation (Japan)  
website: [watty.co.jp](http://watty.co.jp)



### OPTICAL PHASE INTERROGATOR (OPI) - DEVELOPMENT KIT

Product by Broadcom Limited. (USA)  
website : [broadcom.com](http://broadcom.com)



### RADIO-CONTROLLED ELECTRONIC EXPLODER



Product by CODETEL (France)  
website: [codetel.fr](http://codetel.fr)

### OUTDOOR LED POWER SUPPLY



### RECHARGEABLE LED WORK LIGHT

Product by Shin-Tomoe Electronic Manufacturing Co., Ltd. (Japan)  
website: [s-tomoedenki.co.jp](http://s-tomoedenki.co.jp)





**MEASURING INSTRUMENT**



**DC CONVERTER**



**TOUCH PANEL CONTROLLER**



**CAMERA**



**Wi-Fi ACCESS POINT**



**CUSTOMIZATION**

No minimum order quantity required for customization requests.



CNC Milling

Digital Printing



Custom Color Painting  
Powder-Coating



Embossed Overlay Sheet Making



**CUSTOM LENGTH AVAILABLE**

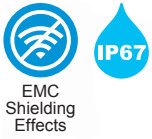
Flexible frame length from 50mm to 700mm in 1mm intervals.

No minimum order quantity and short lead time for small quantity order.



# AW SERIES

# IP67 FLANGED ALUMINIUM ENCLOSURE



- IP67 and heat dissipation enclosure. Designed with flanged end panels.
- PCB or chassis is mounted by sliding it horizontally into an inner-grooved body frame.
- Designed for a tough environment where waterproof and heat countermeasures are required.
- Suitable for outdoor use such as LED power supply and junction boxes.

### Technical Data

Protection class: IP67  
 Operating temperature: -40°C ~ +105°C  
 Recommended torque:  
 1.0N · m (10kgf · cm)

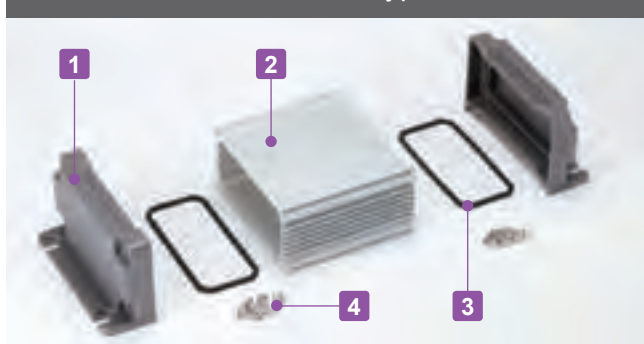
### Normal N type Components

| No. | Part name         | Pcs | Material                     | Color / Finish                        |
|-----|-------------------|-----|------------------------------|---------------------------------------|
| 1   | Flanged end panel | 2   | Diecast aluminium ADC12      | Metallic gray • Black / Powder coated |
| 2   | Body frame        | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized             |
| 3   | Gasket            | 2   | Silicone                     | Black                                 |
| 4   | Screw             | 8   | Stainless steel              | Unfinished                            |

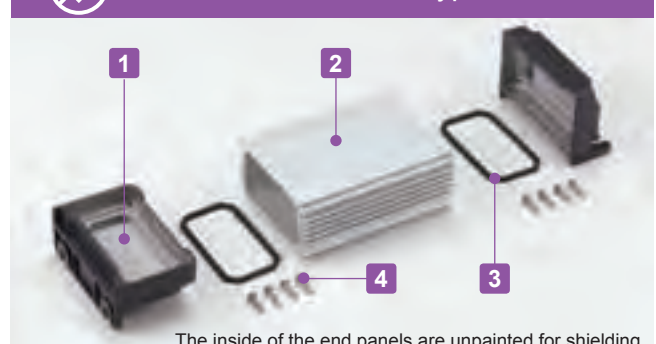
### EMC Shielded E type Components

| No. | Part name         | Pcs | Material                     | Color / Finish                               |
|-----|-------------------|-----|------------------------------|--|
| 1   | Flanged end panel | 2   | Diecast aluminium ADC12      | Silver • Black / Painted (unfinished inside) |
| 2   | Body frame        | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                    |
| 3   | Conductive gasket | 2   | Conductive silicone          | Black  |
| 4   | Screw             | 8   | Stainless steel              | Unfinished                                   |

### Normal - N type



### EMC Shielded - E type



Accessories (Optional parts)



Mounting plate  
AWC series  
See page 180



Hexagon socket head screw  
HCS series  
See page 180



Cable gland  
See page 308 ~ 314



Protective vent  
PMF Series  
See page 301 ~ 302

Normal / EMC Shielded • Color Code

Normal - N type



Metallic gray / Silver

N G S



Black / Silver

N B S



Black / Black

N B B

EMC Shielded - E type



Silver / Silver

E S S



Black / Silver

E B S



Black / Black

E B B

- ※ Thermal resistance test condition
- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminium extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

Product no. / Dimensions

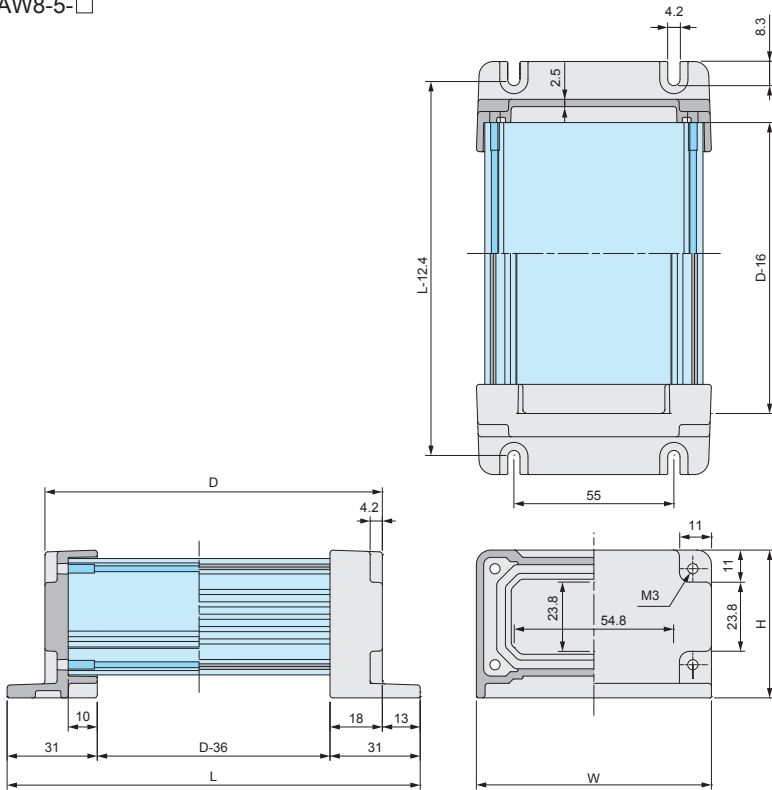
■ Please suffix color code at the end of the product number.

| Product no.  | W     | H    | D     | ※Thermal resistance (°C/W) | Weight (g) |
|--------------|-------|------|-------|----------------------------|------------|
| AW 5-4- 7□□□ | 54.6  | 38.6 | 65    | 11.2                       | 128.5      |
| AW 5-4- 9□□□ | 54.6  | 38.6 | 85    | 9.18                       | 149        |
| AW 5-4-11□□□ | 54.6  | 38.6 | 110   | 7.64                       | 175        |
| AW 5-4-14□□□ | 54.6  | 38.6 | 135   | 6.63                       | 201.5      |
| AW 7-7- 8□□□ | 65.8  | 70.8 | 80    | 4.41                       | 294.5      |
| AW 7-7-11□□□ | 65.8  | 70.8 | 110   | 3.5                        | 350        |
| AW 7-7-15□□□ | 65.8  | 70.8 | 150   | 2.83                       | 424.5      |
| AW 7-7-20□□□ | 65.8  | 70.8 | 200   | 2.33                       | 517        |
| AW 7-7-25□□□ | 65.8  | 70.8 | 250   | 2.02                       | 610        |
| AW 8-5- 9□□□ | 80.8  | 50.8 | 90    | 5.97                       | 289.5      |
| AW 8-5-12□□□ | 80.8  | 50.8 | 115   | 5.01                       | 330.5      |
| AW 8-5-14□□□ | 80.8  | 50.8 | 140   | 4.37                       | 372        |
| AW 8-5-18□□□ | 80.8  | 50.8 | 175   | 3.76                       | 429.5      |
| AW 9-9-10□□□ | 86.3  | 92   | 100   | 3.1                        | 560.5      |
| AW 9-9-13□□□ | 86.3  | 92   | 125   | 2.63                       | 633.5      |
| AW 9-9-17□□□ | 86.3  | 92   | 170   | 2.12                       | 764.5      |
| AW 9-9-22□□□ | 86.3  | 92   | 220   | 1.79                       | 910.5      |
| AW 9-9-28□□□ | 86.3  | 92   | 275   | 1.54                       | 1,071      |
| AW11-6-11□□□ | 106.3 | 62   | 110   | 4.52                       | 526.5      |
| AW11-6-15□□□ | 106.3 | 62   | 150   | 3.62                       | 625        |
| AW11-6-19□□□ | 106.3 | 62   | 190   | 3.08                       | 723.5      |
| AW11-6-24□□□ | 106.3 | 62   | 240   | 2.64                       | 847        |
| AW12-8-11□□□ | 120   | 77   | 105   | 3.6                        | 614.5      |
| AW12-8-14□□□ | 120   | 77   | 140   | 2.93                       | 720.5      |
| AW12-8-17□□□ | 120   | 77   | 179.5 | 2.47                       | 840        |
| AW12-8-22□□□ | 120   | 77   | 215   | 2.18                       | 947.5      |
| AW16-9-14□□□ | 156.3 | 87   | 135   | 2.64                       | 945.5      |
| AW16-9-18□□□ | 156.3 | 87   | 175   | 2.2                        | 1,092.5    |
| AW16-9-23□□□ | 156.3 | 87   | 225   | 1.86                       | 1,275.5    |
| AW16-9-28□□□ | 156.3 | 87   | 275   | 1.63                       | 1,459      |
| AW21-9-17□□□ | 206.3 | 87   | 170   | 2.3                        | 1,303      |
| AW21-9-21□□□ | 206.3 | 87   | 210   | 1.99                       | 1,473.5    |
| AW21-9-26□□□ | 206.3 | 87   | 260   | 1.72                       | 1,686.5    |
| AW21-9-31□□□ | 206.3 | 87   | 310   | 1.54                       | 1,899.5    |

■ Dimensions on page 167 ~ 170

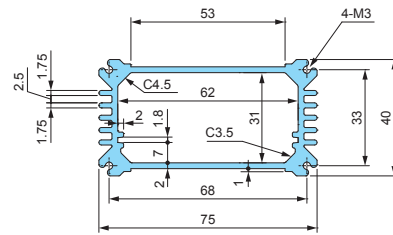


AW8-5-□

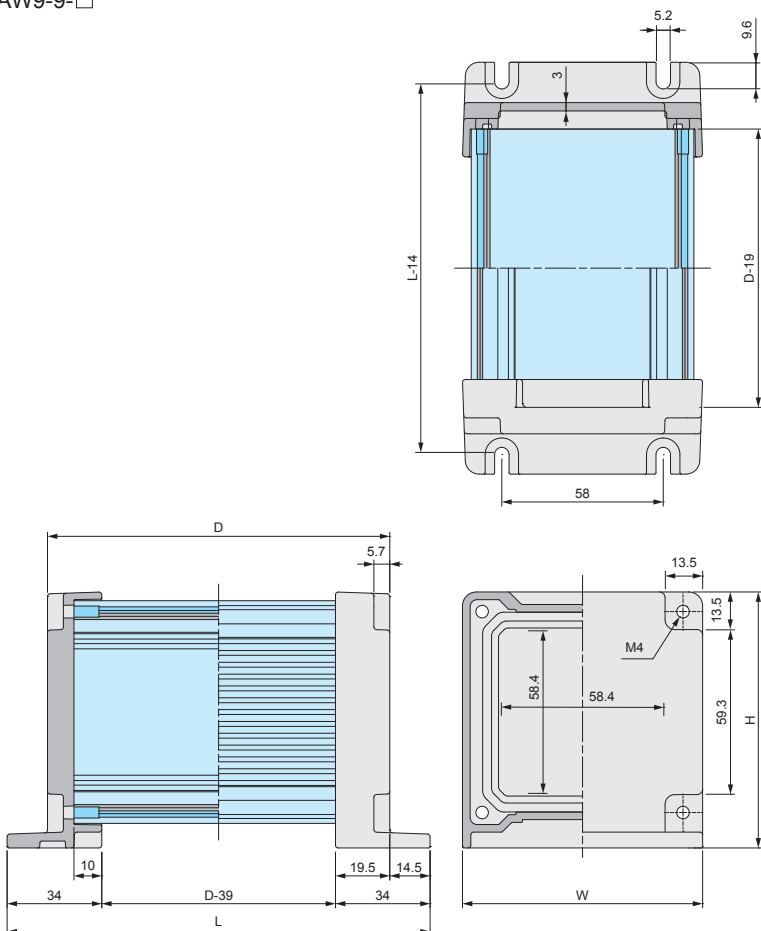


| Product no. | W    | H    | D (Body length) | L (Overall length) |
|-------------|------|------|-----------------|--------------------|
| AW8-5-9     | 80.8 | 50.8 | 90              | 116                |
| AW8-5-12    | 80.8 | 50.8 | 115             | 141                |
| AW8-5-14    | 80.8 | 50.8 | 140             | 166                |
| AW8-5-18    | 80.8 | 50.8 | 175             | 201                |

■ Body frame length = D - 16

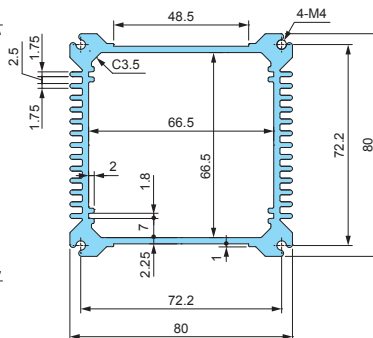


AW9-9-□



| Product no. | W    | H  | D (Body length) | L (Overall length) |
|-------------|------|----|-----------------|--------------------|
| AW9-9-10    | 86.3 | 92 | 100             | 129                |
| AW9-9-13    | 86.3 | 92 | 125             | 154                |
| AW9-9-17    | 86.3 | 92 | 170             | 199                |
| AW9-9-22    | 86.3 | 92 | 220             | 249                |
| AW9-9-28    | 86.3 | 92 | 275             | 304                |

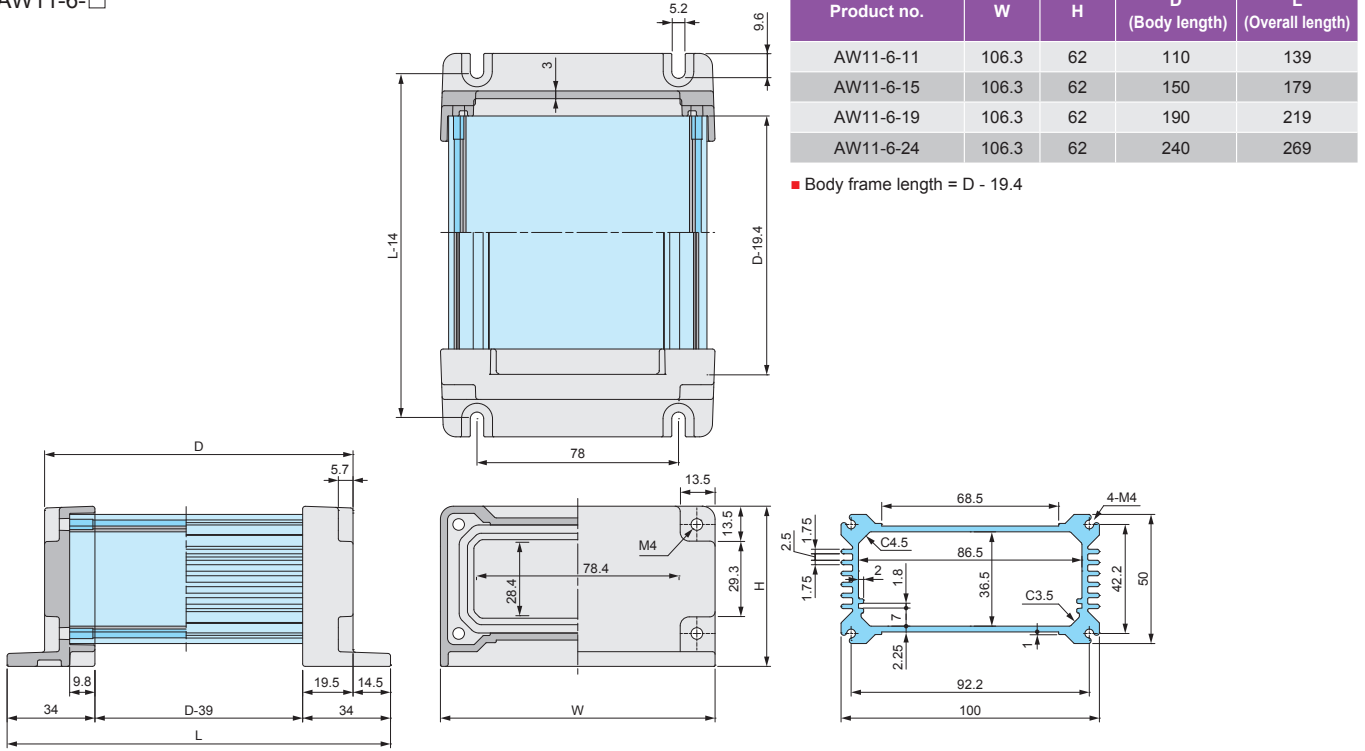
■ Body frame length = D - 19



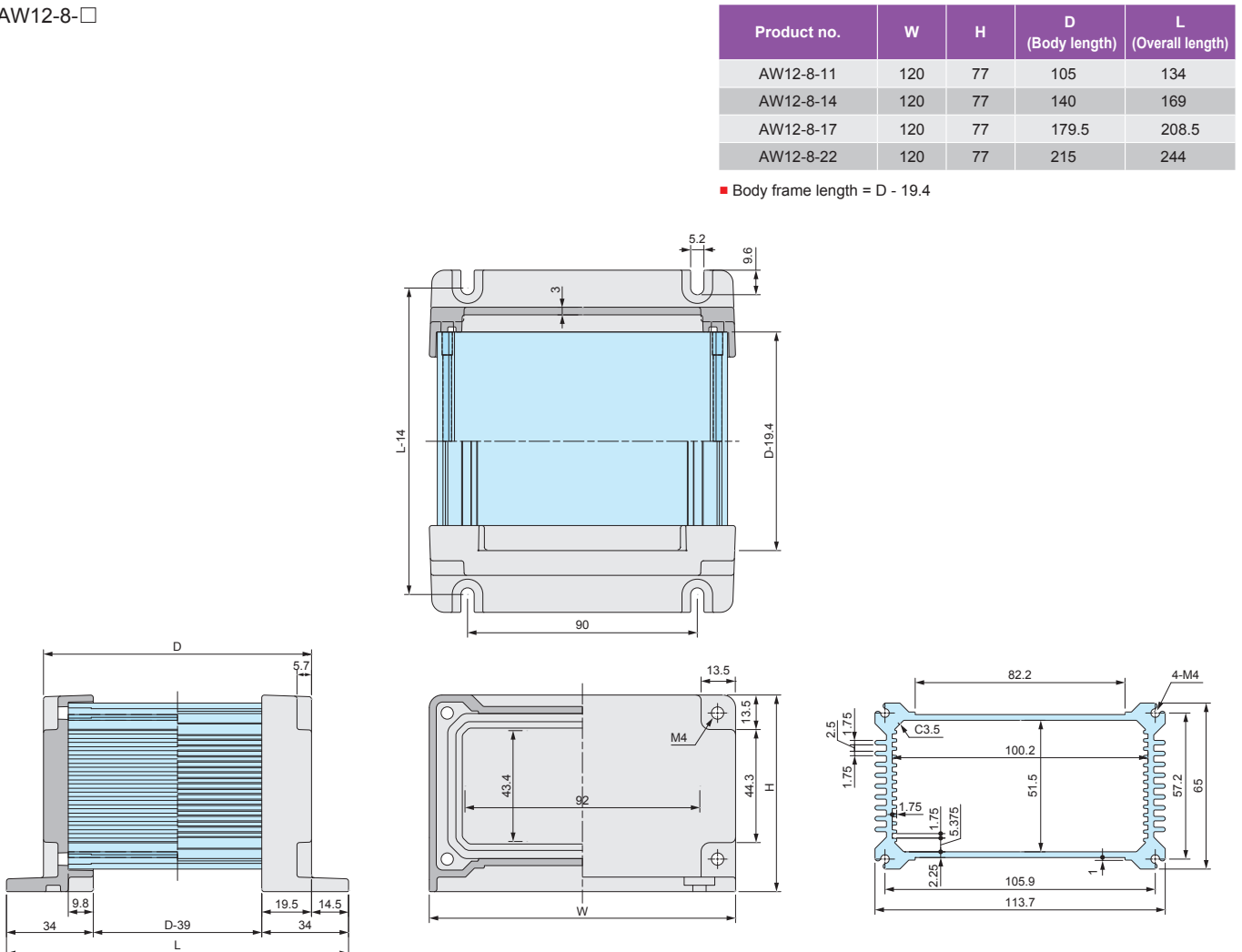
**AW dimensions**

■ DXF/DWG/PDF drawings available on our website.

AW11-6-□

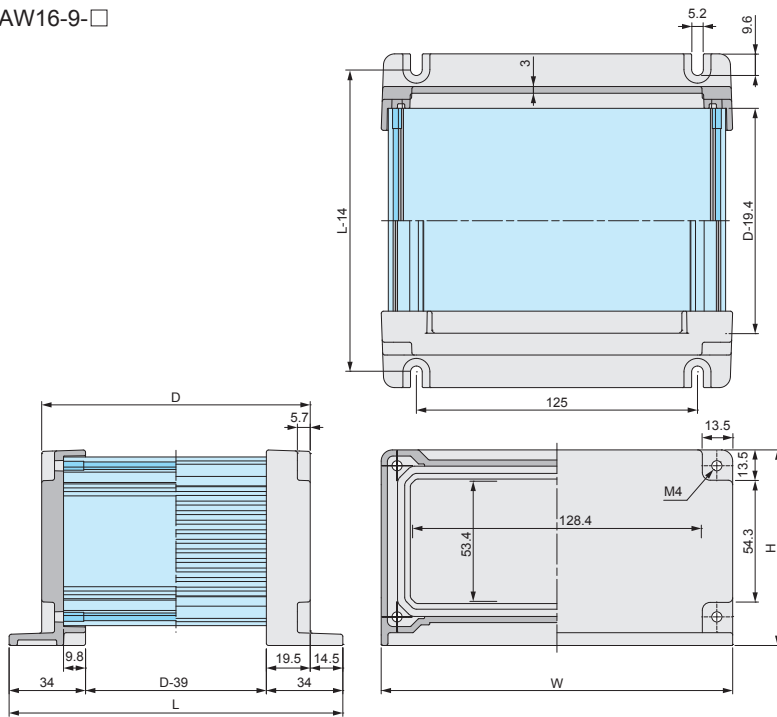


AW12-8-□



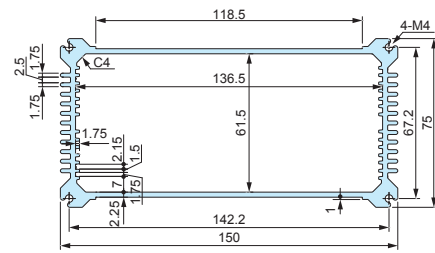


AW16-9-□



| Product no. | W     | H  | D<br>(Body length) | L<br>(Overall length) |
|-------------|-------|----|--------------------|-----------------------|
| AW16-9-14   | 156.3 | 87 | 135                | 164                   |
| AW16-9-18   | 156.3 | 87 | 175                | 204                   |
| AW16-9-23   | 156.3 | 87 | 225                | 254                   |
| AW16-9-28   | 156.3 | 87 | 275                | 304                   |

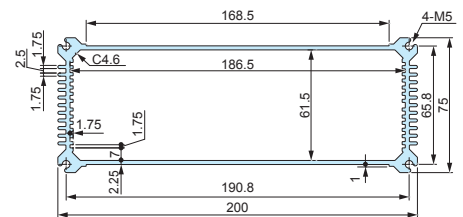
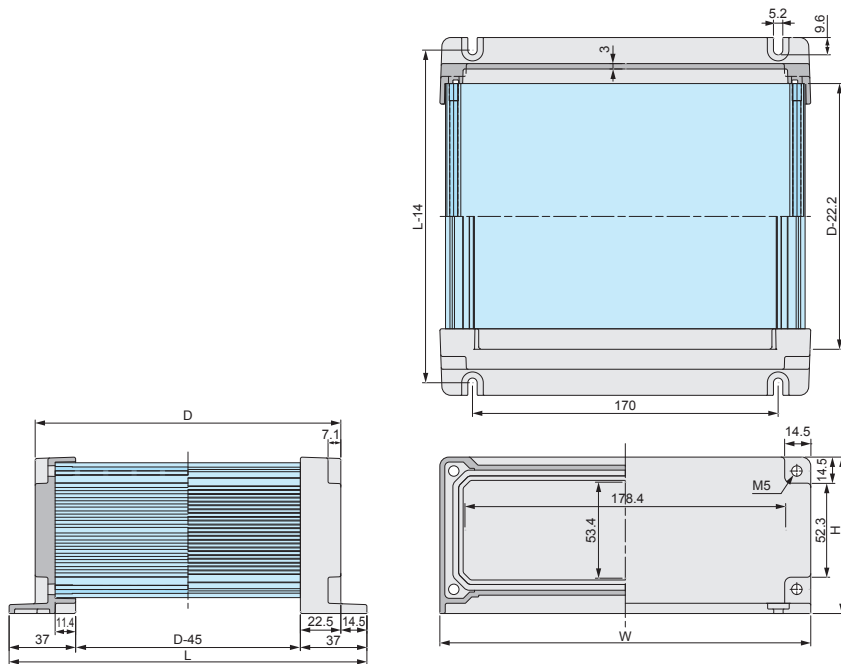
■ Body frame length = D - 19.4



AW21-9-□

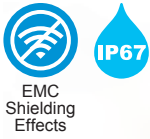
| Product no. | W     | H  | D<br>(Body length) | L<br>(Overall length) |
|-------------|-------|----|--------------------|-----------------------|
| AW21-9-17   | 206.3 | 87 | 170                | 199                   |
| AW21-9-21   | 206.3 | 87 | 210                | 239                   |
| AW21-9-26   | 206.3 | 87 | 260                | 289                   |
| AW21-9-31   | 206.3 | 87 | 310                | 339                   |

■ Body frame length = D - 22.2



# AWN SERIES

# IP67 HEAT-SINK ALUMINIUM ENCLOSURE



- IP67 and heat dissipation enclosure design. Selectable in both Normal or EMC Shielded type.
- The extruded aluminium frame and diecast aluminium panels makes it extremely suitable to be used in harsh environments where waterproofing and heat dissipation is essential.
- PCB or chassis can be mounted by sliding it horizontally into inner-grooved body frame.
- Suitable for measuring instruments, industrial control box, and industrial camera housing, among others.

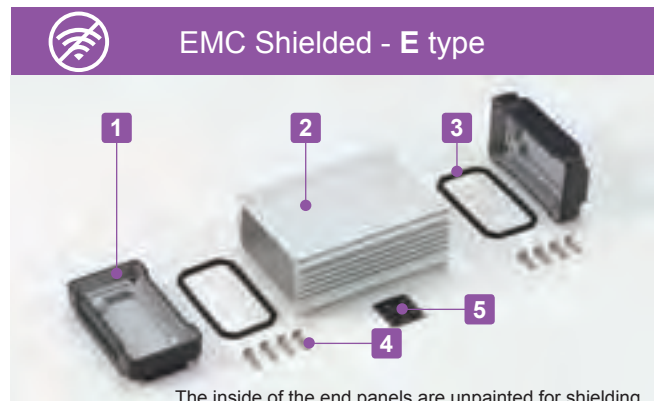
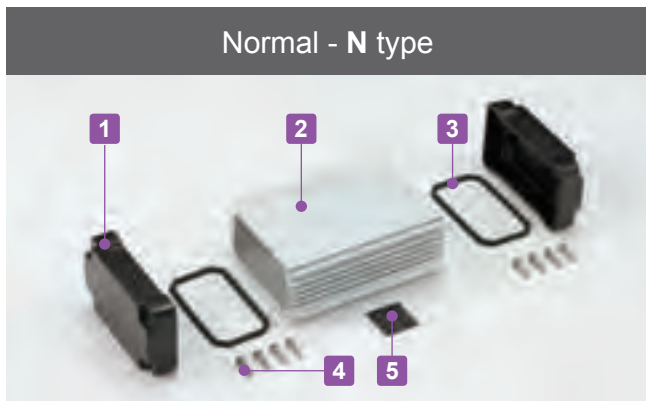
| Technical Data                               |
|--|
| Protection class: IP67                       |
| Operating temperature: -40°C ~ +105°C        |
| Recommended torque:<br>1.0N • m (10kgf • cm) |

### Normal N type Components

| No. | Part name   | Pcs | Material                     | Color / Finish                        |
|-----|-------------|-----|------------------------------|---------------------------------------|
| 1   | End panel   | 2   | Diecast aluminium ADC12      | Metallic gray • Black / Powder coated |
| 2   | Body frame  | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized             |
| 3   | Gasket      | 2   | Silicone                     | Black                                 |
| 4   | Screw       | 8   | Stainless steel              | Unfinished                            |
| 5   | Rubber feet | 4   | Polyurethane                 | Black                                 |

### EMC Shielded E type Components

| No. | Part name         | Pcs | Material                     | Color / Finish                               |
|-----|-------------------|-----|------------------------------|--|
| 1   | Flanged end panel | 2   | Diecast aluminium ADC12      | Silver • Black / Painted (unfinished inside) |
| 2   | Body frame        | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                    |
| 3   | Conductive gasket | 2   | Conductive silicone          | Black  |
| 4   | Screw             | 8   | Stainless steel              | Unfinished                                   |
| 5   | Rubber            | 4   | Polyurethane                 | Black  |



Accessories (Optional parts)



Mounting plate  
AWC series  
See page 180



Hexagon socket head screw  
HCS series  
See page 180



Cable gland  
See page 308 ~ 314



Silicone protector  
AWSP series  
See page 179



Protective vent  
PMF Series  
See page 301 ~ 302

Normal / EMC Shielded • Color Code

Normal - N type



Metallic gray / Silver

N G S



Black / Silver

N B S



Black / Black

N B B

EMC Shielded - E type



Silver / Silver

E S S



Black / Silver

E B S



Black / Black

E B B

- ※ Thermal resistance test condition
- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminium extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

Product no. / Dimensions

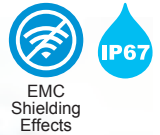
■ Please suffix color code at the end of the product number.

| Product no.   | W     | H    | D     | ※Thermal resistance (°C/W) | Weight (g) |
|---------------|-------|------|-------|----------------------------|------------|
| AWN 5-4- 7□□□ | 54.6  | 34.6 | 65    | 11.2                       | 118.5      |
| AWN 5-4- 9□□□ | 54.6  | 34.6 | 85    | 9.18                       | 139        |
| AWN 5-4-11□□□ | 54.6  | 34.6 | 110   | 7.64                       | 165        |
| AWN 5-4-14□□□ | 54.6  | 34.6 | 135   | 6.63                       | 191.5      |
| AWN 7-7- 8□□□ | 65.8  | 65.8 | 80    | 4.41                       | 272.5      |
| AWN 7-7-11□□□ | 65.8  | 65.8 | 110   | 3.5                        | 328        |
| AWN 7-7-15□□□ | 65.8  | 65.8 | 150   | 2.83                       | 402.5      |
| AWN 7-7-20□□□ | 65.8  | 65.8 | 200   | 2.33                       | 495        |
| AWN 7-7-25□□□ | 65.8  | 65.8 | 250   | 2.02                       | 588        |
| AWN 8-5- 9□□□ | 80.8  | 45.8 | 90    | 5.97                       | 259.5      |
| AWN 8-5-12□□□ | 80.8  | 45.8 | 115   | 5.01                       | 300.5      |
| AWN 8-5-14□□□ | 80.8  | 45.8 | 140   | 4.37                       | 342        |
| AWN 8-5-18□□□ | 80.8  | 45.8 | 175   | 3.76                       | 399.5      |
| AWN 9-9-10□□□ | 86.3  | 86.3 | 100   | 3.1                        | 521.5      |
| AWN 9-9-13□□□ | 86.3  | 86.3 | 125   | 2.63                       | 594.5      |
| AWN 9-9-17□□□ | 86.3  | 86.3 | 170   | 2.12                       | 725.5      |
| AWN 9-9-22□□□ | 86.3  | 86.3 | 220   | 1.79                       | 871.5      |
| AWN 9-9-28□□□ | 86.3  | 86.3 | 275   | 1.54                       | 1,032      |
| AWN11-6-11□□□ | 106.3 | 56.3 | 110   | 4.52                       | 479.5      |
| AWN11-6-15□□□ | 106.3 | 56.3 | 150   | 3.62                       | 578        |
| AWN11-6-19□□□ | 106.3 | 56.3 | 190   | 3.08                       | 676.5      |
| AWN11-6-24□□□ | 106.3 | 56.3 | 240   | 2.64                       | 800        |
| AWN12-8-11□□□ | 120   | 71.3 | 105   | 3.6                        | 590.5      |
| AWN12-8-14□□□ | 120   | 71.3 | 140   | 2.93                       | 696.5      |
| AWN12-8-17□□□ | 120   | 71.3 | 179.5 | 2.47                       | 816        |
| AWN12-8-22□□□ | 120   | 71.3 | 215   | 2.18                       | 923.5      |
| AWN16-9-14□□□ | 156.3 | 81.3 | 135   | 2.64                       | 871.5      |
| AWN16-9-18□□□ | 156.3 | 81.3 | 175   | 2.2                        | 1,018.5    |
| AWN16-9-23□□□ | 156.3 | 81.3 | 225   | 1.86                       | 1,201.5    |
| AWN16-9-28□□□ | 156.3 | 81.3 | 275   | 1.63                       | 1,385      |
| AWN21-9-17□□□ | 206.3 | 81.3 | 170   | 2.3                        | 1,261      |
| AWN21-9-21□□□ | 206.3 | 81.3 | 210   | 1.99                       | 1,431.5    |
| AWN21-9-26□□□ | 206.3 | 81.3 | 260   | 1.72                       | 1,644.5    |
| AWN21-9-31□□□ | 206.3 | 81.3 | 310   | 1.54                       | 1,857.5    |

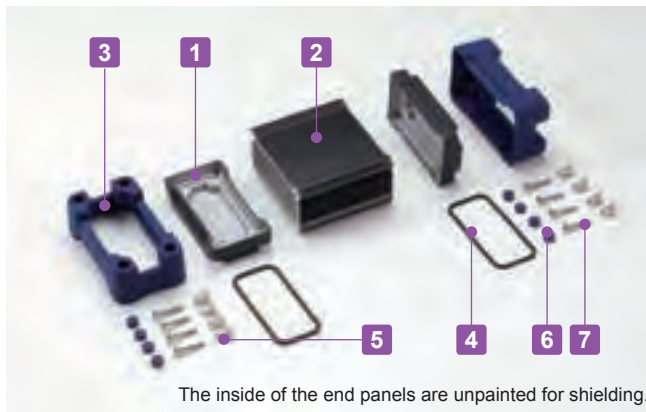
■ Dimensions on page 167 ~ 170

# AWP SERIES

# IP67 ALUMINIUM ENCLOSURE with SILICONE PROTECTOR



| Technical Data                            |
|---|
| Protection class: IP67                    |
| Operating temperature: -40°C ~ +105°C     |
| Recommended torque: 1.0N • m (10kgf • cm) |



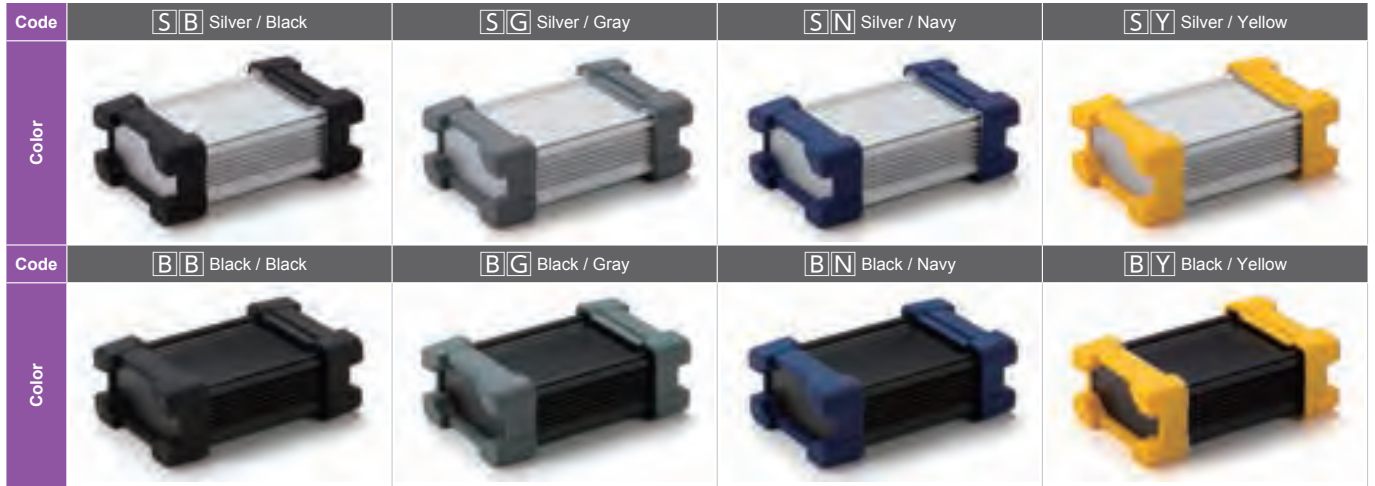
- Strong impact resistant enclosure with tough silicone boot protectors.
- Specifically designed with heat dissipation effect, EMC shielding and IP67 rating.
- PCB or chassis can be horizontally mounted by sliding into an inner-grooved body frame.
- Available in 30 sizes and 8 different color combinations. Selectable from a total of 240 different combinations.
- Suitable for measuring instruments, industrial control box, industrial camera housing, etc.

### Components

| No. | Part name         | Pcs | Material                     | Color / Finish                               |
|-----|-------------------|-----|------------------------------|--|
| 1   | End panel         | 2   | Diecast aluminium ADC12      | Silver • Black / Painted (unfinished inside) |
| 2   | Body frame        | 1   | Extruded aluminium A6063S-T5 | Siver • Black / Anodized                     |
| 3   | Protector         | 2   | Silicone                     | Black • Gray • Navy • Yellow                 |
| 4   | Conductive gasket | 2   | Conductive silicone          | Black  |
| 5   | Spacer            | 8   | Brass                        | Nickel plated                                |
| 6   | Blind cap         | 8   | Silicone                     | Black • Gray • Navy • Yellow                 |
| 7   | Screw             | 8   | Stainless steel              | Unfinished                                   |



Color Type



Ordering Number

For example, in case of ordering AWP7-7-8 size, Black enclosure and Navy silicone protector.

Product no. : AWP7-7-8



Put a color code SB, SG, SN, SY, BB, BG, BN or BY.

- ※ Thermal resistance test condition
- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminium extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

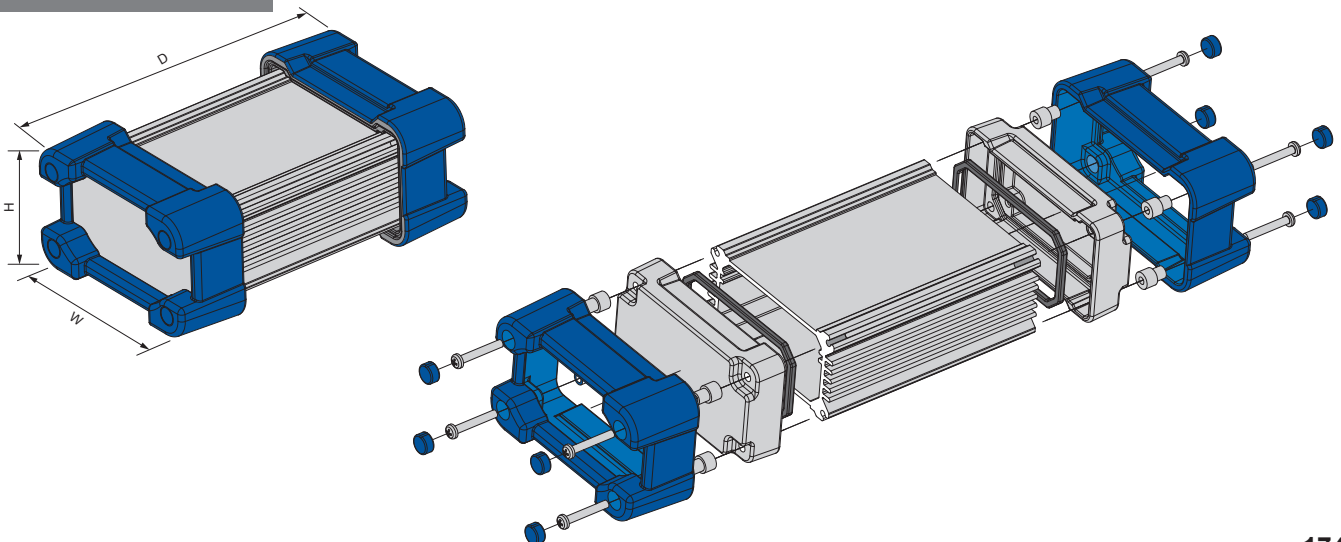
Product no. / Dimensions

| Product no.  | W            | H          | D            | ※Thermal resistance rate (°C/W) | Weight (g) |
|--------------|--------------|------------|--------------|---------------------------------|------------|
| AWP 7-7- 8□□ | 72.4(65.8)   | 73.6(65.8) | 104 (80)     | 4.41                            | 363.5      |
| AWP 7-7-11□□ | 72.4(65.8)   | 73.6(65.8) | 134(110)     | 3.5                             | 419        |
| AWP 7-7-15□□ | 72.4(65.8)   | 73.6(65.8) | 174(150)     | 2.83                            | 493.5      |
| AWP 7-7-20□□ | 72.4(65.8)   | 73.6(65.8) | 224(200)     | 2.33                            | 586        |
| AWP 7-7-25□□ | 72.4(65.8)   | 73.6(65.8) | 274(250)     | 2.02                            | 679        |
| AWP 8-5- 9□□ | 87.4(80.8)   | 53.6(45.8) | 114 (90)     | 5.97                            | 353.5      |
| AWP 8-5-12□□ | 87.4(80.8)   | 53.6(45.8) | 139(115)     | 5.01                            | 394.5      |
| AWP 8-5-14□□ | 87.4(80.8)   | 53.6(45.8) | 164(140)     | 4.37                            | 436        |
| AWP 8-5-18□□ | 87.4(80.8)   | 53.6(45.8) | 199(175)     | 3.76                            | 493.5      |
| AWP 9-9-10□□ | 93.9(86.3)   | 95.1(86.3) | 130(100)     | 3.1                             | 693        |
| AWP 9-9-13□□ | 93.9(86.3)   | 95.1(86.3) | 155(125)     | 2.63                            | 766        |
| AWP 9-9-17□□ | 93.9(86.3)   | 95.1(86.3) | 200(170)     | 2.12                            | 897        |
| AWP 9-9-22□□ | 93.9(86.3)   | 95.1(86.3) | 250(220)     | 1.79                            | 1,043      |
| AWP 9-9-28□□ | 93.9(86.3)   | 95.1(86.3) | 305(275)     | 1.54                            | 1,203.5    |
| AWP11-6-11□□ | 113.9(106.3) | 65.1(56.3) | 140(110)     | 4.52                            | 652.5      |
| AWP11-6-15□□ | 113.9(106.3) | 65.1(56.3) | 180(150)     | 3.62                            | 751.5      |
| AWP11-6-19□□ | 113.9(106.3) | 65.1(56.3) | 220(190)     | 3.08                            | 850        |
| AWP11-6-24□□ | 113.9(106.3) | 65.1(56.3) | 270(240)     | 2.64                            | 973        |
| AWP12-8-11□□ | 127.6(120)   | 80.1(71.3) | 135(105)     | 3.6                             | 778.5      |
| AWP12-8-14□□ | 127.6(120)   | 80.1(71.3) | 170(140)     | 2.93                            | 885        |
| AWP12-8-17□□ | 127.6(120)   | 80.1(71.3) | 209.5(179.5) | 2.47                            | 1,004.5    |
| AWP12-8-22□□ | 127.6(120)   | 80.1(71.3) | 245(215)     | 2.18                            | 1,112      |
| AWP16-9-14□□ | 163.9(156.3) | 90.1(81.3) | 165(135)     | 2.64                            | 1,094      |
| AWP16-9-18□□ | 163.9(156.3) | 90.1(81.3) | 205(175)     | 2.2                             | 1,240.5    |
| AWP16-9-23□□ | 163.9(156.3) | 90.1(81.3) | 255(225)     | 1.86                            | 1,424      |
| AWP16-9-28□□ | 163.9(156.3) | 90.1(81.3) | 305(275)     | 1.63                            | 1,607.5    |
| AWP21-9-17□□ | 213.9(206.3) | 90.1(81.3) | 202(170)     | 2.3                             | 1,571.5    |
| AWP21-9-21□□ | 213.9(206.3) | 90.1(81.3) | 242(210)     | 1.99                            | 1,742      |
| AWP21-9-26□□ | 213.9(206.3) | 90.1(81.3) | 292(260)     | 1.72                            | 1,955.5    |
| AWP21-9-31□□ | 213.9(206.3) | 90.1(81.3) | 342(310)     | 1.54                            | 2,168.5    |

■ ( ) value = enclosure dimension.

AWP dimensions

■ Refer to page 175 ~ 180 for detailed dimensions.



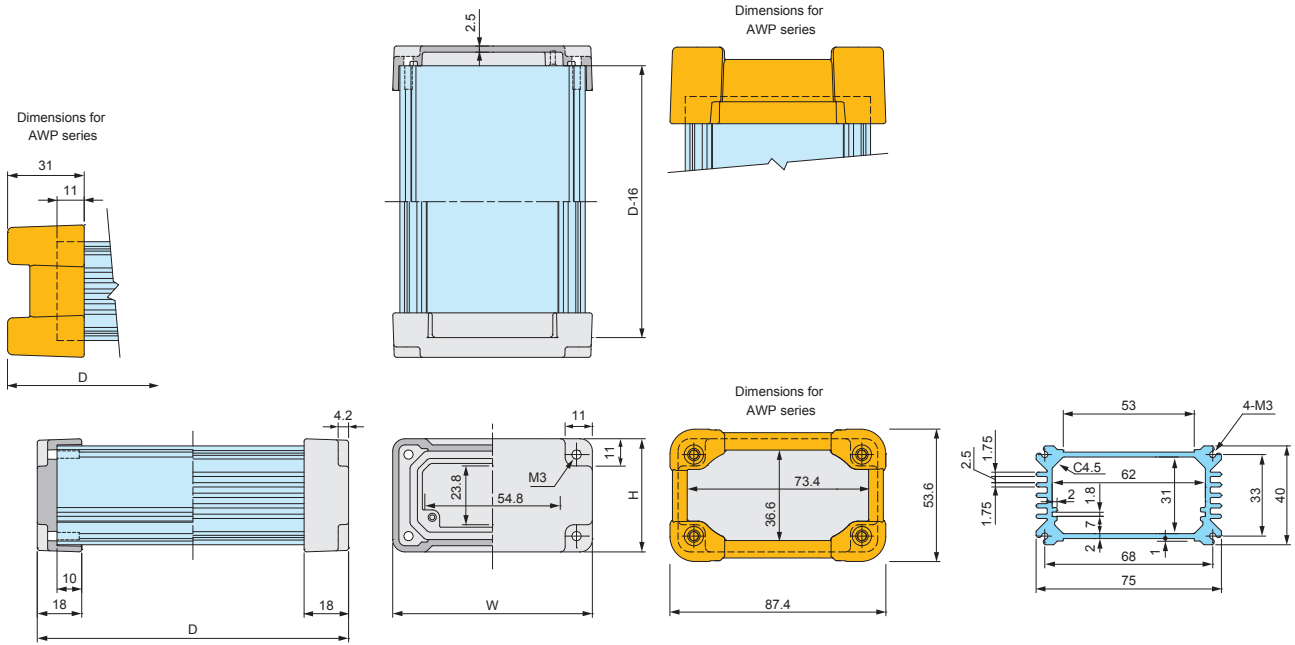




AWN / AWP8-5-□

| Product no.      | W    | H    | D         |
|------------------|------|------|-----------|
| AWN / AWP 8-5- 9 | 80.8 | 45.8 | 90 (114)  |
| AWN / AWP 8-5-12 | 80.8 | 45.8 | 115 (139) |
| AWN / AWP 8-5-14 | 80.8 | 45.8 | 140 (164) |
| AWN / AWP 8-5-18 | 80.8 | 45.8 | 175 (199) |

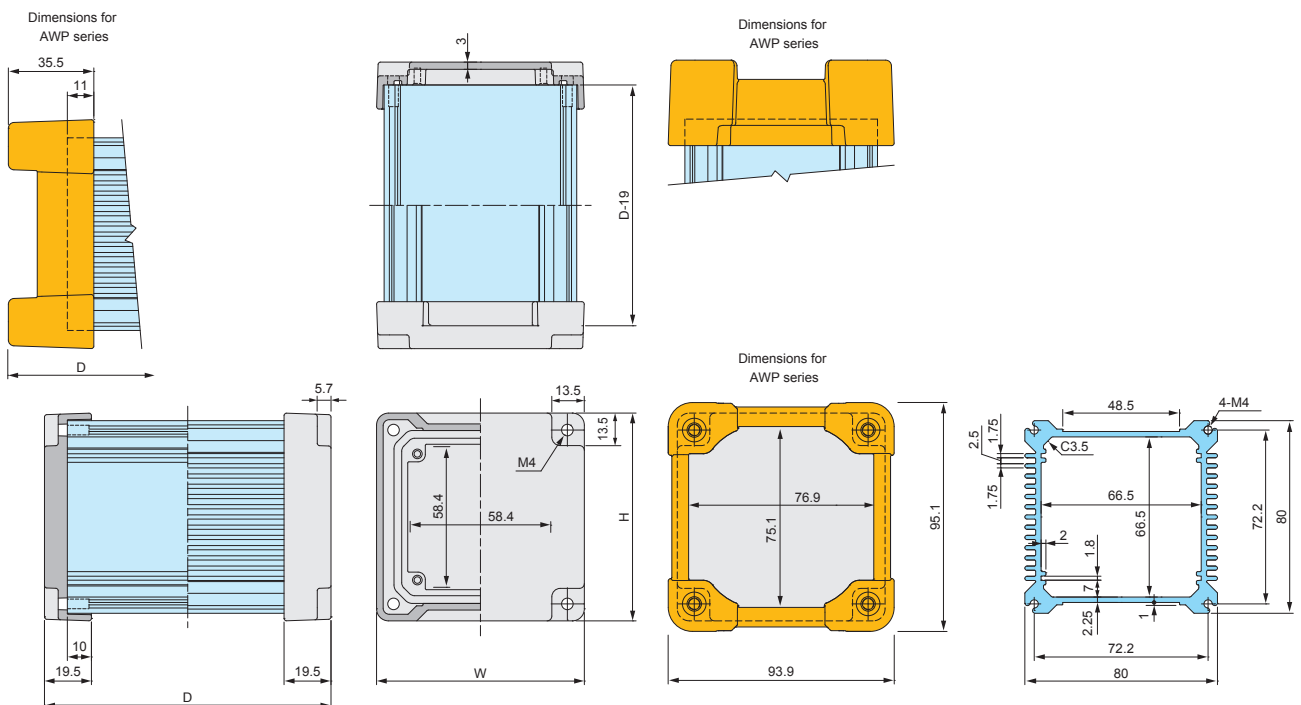
- ( ) value = enclosure length with silicone cover.
- Body frame length = D - 16



AWN / AWP9-9-□

| Product no.      | W    | H    | D         |
|------------------|------|------|-----------|
| AWN / AWP 9-9-10 | 86.3 | 86.3 | 100 (130) |
| AWN / AWP 9-9-13 | 86.3 | 86.3 | 125 (155) |
| AWN / AWP 9-9-17 | 86.3 | 86.3 | 170 (200) |
| AWN / AWP 9-9-22 | 86.3 | 86.3 | 220 (250) |
| AWN / AWP 9-9-28 | 86.3 | 86.3 | 275 (305) |

- ( ) value = enclosure length with silicone cover.
- Body frame length = D - 19



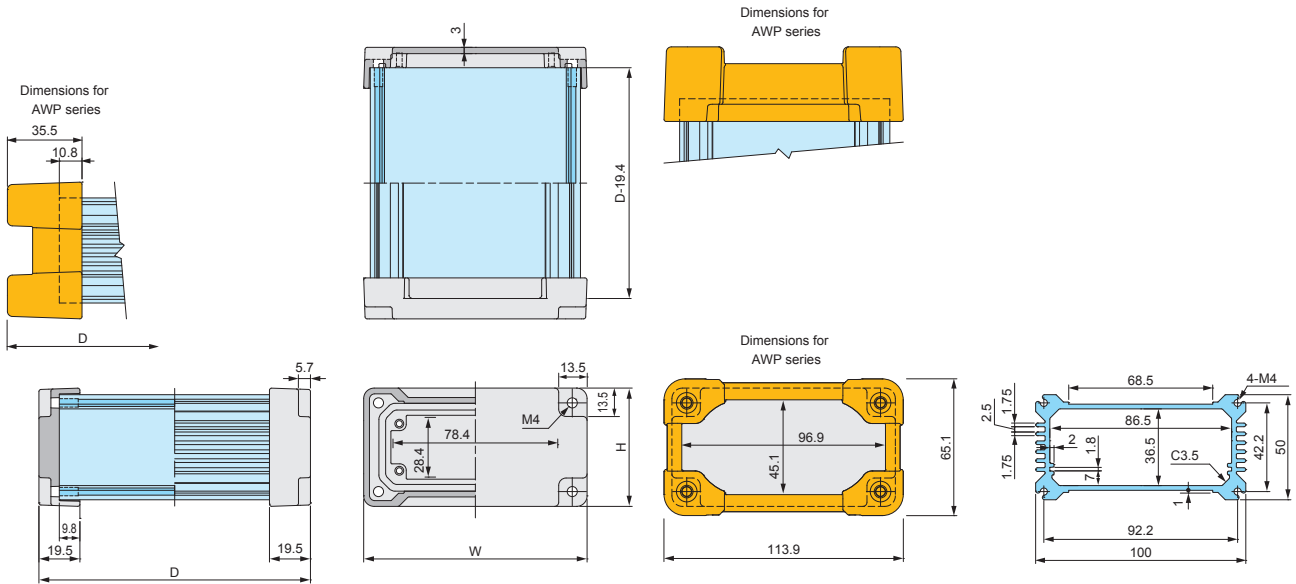
**AWN • AWP dimensions**

■ DXF/DWG/PDF drawings available on our website.

**AWN / AWP11-6-□**

| Product no.      | W     | H    | D         |
|------------------|-------|------|-----------|
| AWN / AWP11-6-11 | 106.3 | 56.3 | 110 (140) |
| AWN / AWP11-6-15 | 106.3 | 56.3 | 150 (180) |
| AWN / AWP11-6-19 | 106.3 | 56.3 | 190 (220) |
| AWN / AWP11-6-24 | 106.3 | 56.3 | 240 (270) |

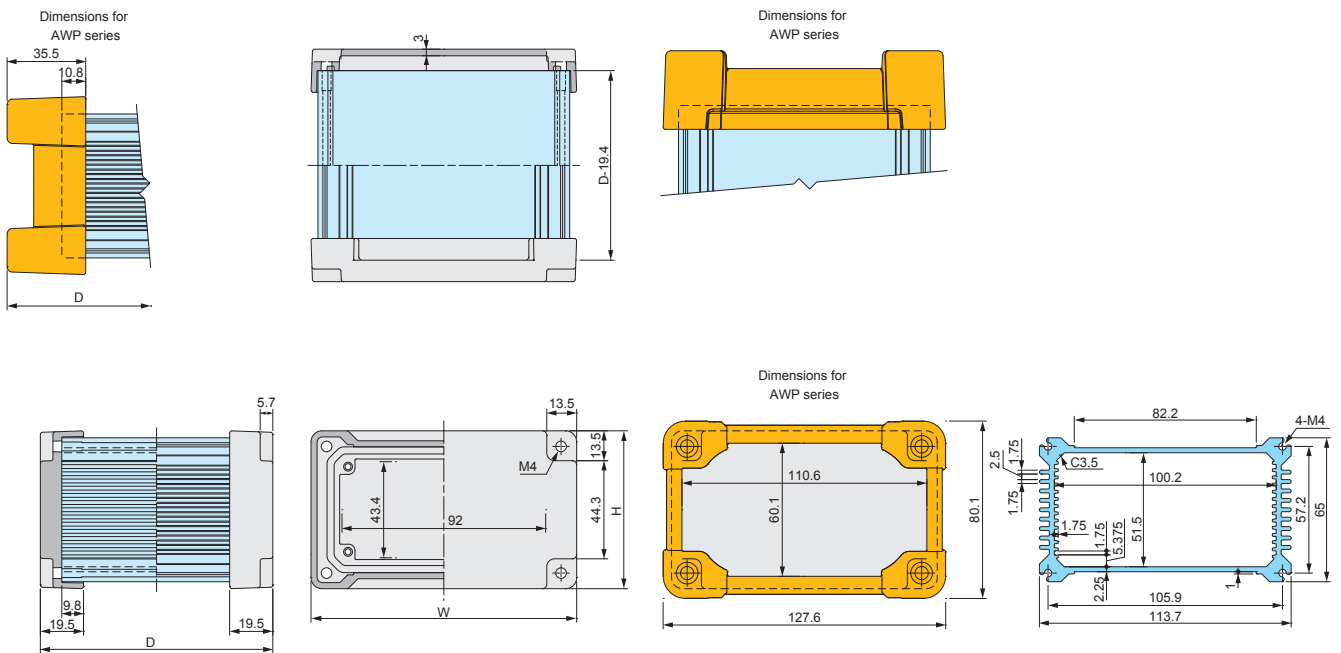
- ( ) value = enclosure length with silicone cover.
- Body frame length = D - 19.4



**AWN / AWP12-8-□**

| Product no.      | W   | H    | D             |
|------------------|-----|------|---------------|
| AWN / AWP12-8-11 | 120 | 71.3 | 105 (135)     |
| AWN / AWP12-8-14 | 120 | 71.3 | 140 (170)     |
| AWN / AWP12-8-17 | 120 | 71.3 | 179.5 (209.5) |
| AWN / AWP12-8-22 | 120 | 71.3 | 215 (245)     |

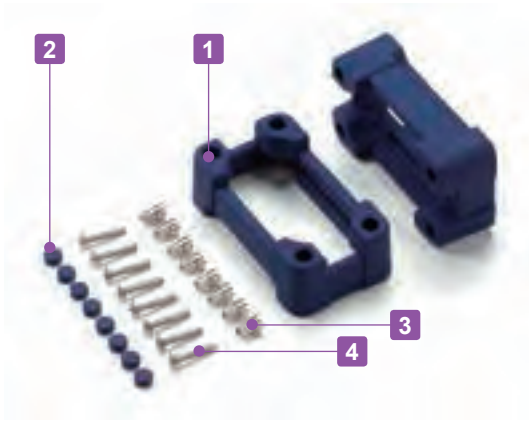
- ( ) value = enclosure length with silicone cover.
- Body frame length = D - 19.4





**AWSP SERIES**

**SILICONE PROTECTOR**

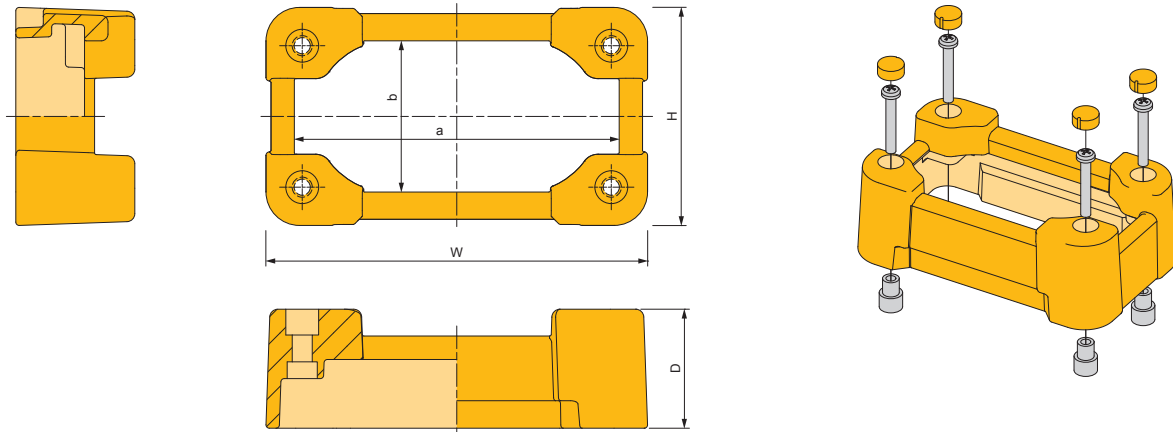


**Color Type**

| Code  | B Black | G Gray | N Navy | Y Yellow |
|-------|---------|--------|--------|----------|
| Color |         |        |        |          |

- Silicone protector for AWN series.
- Protect switches and/or connectors on end panels from impact when dropped, etc.

**AWSP dimensions**



**Components**

| No. | Part name | Pcs | Material        | Color / Finish               |
|-----|-----------|-----|-----------------|------------------------------|
| 1   | Protector | 2   | Silicone        | Black • Gray • Navy • Yellow |
| 2   | Blind cap | 8   | Silicone        | Black • Gray • Navy • Yellow |
| 3   | Spacer    | 8   | Brass           | Nickel plated                |
| 4   | Screw     | 8   | Stainless steel | Unfinished                   |

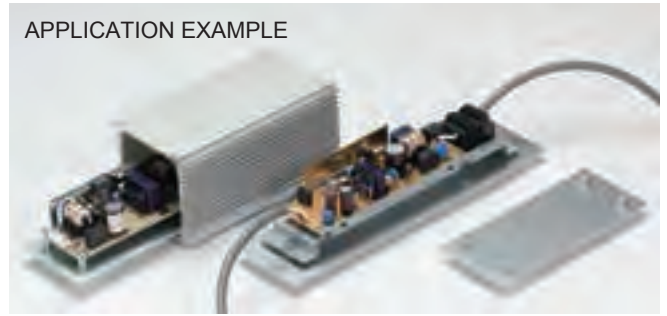
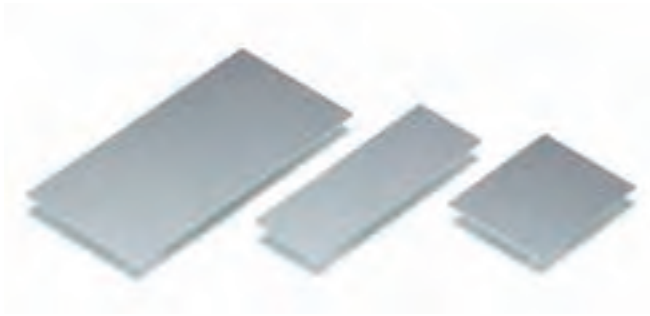
**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no. | W     | H    | D    | a     | b    | Screw size | Suitable enclosure | Weight (g) |
|-------------|-------|------|------|-------|------|------------|--------------------|------------|
| AWSP 7-7□   | 72.4  | 73.6 | 31   | 58.4  | 56.6 | M3         | AWN 7-7-□          | 99         |
| AWSP 8-5□   | 87.4  | 53.6 | 31   | 73.4  | 36.6 | M3         | AWN 8-5-□          | 100.5      |
| AWSP 9-9□   | 93.9  | 95.1 | 35.5 | 76.9  | 75.1 | M4         | AWN 9-9-□          | 184.5      |
| AWSP11-6□   | 113.9 | 65.1 | 35.5 | 96.9  | 45.1 | M4         | AWN11-6-□          | 186        |
| AWSP12-8□   | 127.6 | 80.1 | 35.5 | 110.6 | 60.1 | M4         | AWN12-8-□          | 201        |
| AWSP16-9□   | 163.9 | 90.1 | 35.5 | 145.9 | 69.1 | M4         | AWN16-9-□          | 235        |
| AWSP21-9□   | 213.9 | 90.1 | 39.5 | 192.9 | 66.1 | M5         | AWN21-9-□          | 333        |

**AWC SERIES**

**ALUMINIUM MOUNTING PLATE**

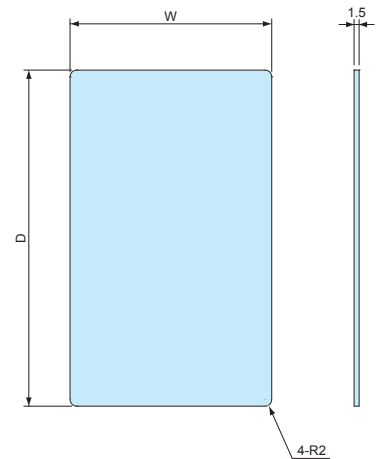


- Material: Aluminium A1050P t=1.5 / Silver anodized
- Mounting plate for AW, AWN, and AWP series enclosures.
- Utilize for mounting PCB, power supply, terminal blocks, etc.

■ DXF/DWG/PDF drawings available on our website.

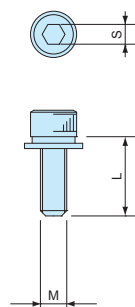
**Product no. / Dimensions**

| Product no. | W     | D     | Suitable enclosure    |
|-------------|-------|-------|-----------------------|
| AWC 5- 7    | 38.9  | 49.2  | AW • AWN 5-4-7        |
| AWC 5- 9    | 38.9  | 69.2  | AW • AWN 5-4-9        |
| AWC 5-11    | 38.9  | 94.2  | AW • AWN 5-4-11       |
| AWC 5-14    | 38.9  | 119.2 | AW • AWN 5-4-14       |
| AWC 7- 8    | 47    | 64    | AW • AWN • AWP 7-7-8  |
| AWC 7-11    | 47    | 94    | AW • AWN • AWP 7-7-11 |
| AWC 7-15    | 47    | 134   | AW • AWN • AWP 7-7-15 |
| AWC 7-20    | 47    | 184   | AW • AWN • AWP 7-7-20 |
| AWC 7-25    | 47    | 234   | AW • AWN • AWP 7-7-25 |
| AWC 8- 9    | 61.8  | 74    | AW • AWN • AWP 8-5-9  |
| AWC 8-12    | 61.8  | 99    | AW • AWN • AWP 8-5-12 |
| AWC 8-14    | 61.8  | 124   | AW • AWN • AWP 8-5-14 |
| AWC 8-18    | 61.8  | 159   | AW • AWN • AWP 8-5-18 |
| AWC 9-10    | 66.5  | 81    | AW • AWN • AWP 9-9-10 |
| AWC 9-13    | 66.5  | 106   | AW • AWN • AWP 9-9-13 |
| AWC 9-17    | 66.5  | 151   | AW • AWN • AWP 9-9-17 |
| AWC 9-22    | 66.5  | 201   | AW • AWN • AWP 9-9-22 |
| AWC 9-28    | 66.5  | 256   | AW • AWN • AWP 9-9-28 |
| AWC11-11    | 86.5  | 90.6  | AW • AWN • AWP11-6-11 |
| AWC11-15    | 86.5  | 130.6 | AW • AWN • AWP11-6-15 |
| AWC11-19    | 86.5  | 170.6 | AW • AWN • AWP11-6-19 |
| AWC11-24    | 86.5  | 220.6 | AW • AWN • AWP11-6-24 |
| AWC12-11    | 100.2 | 85.6  | AW • AWN • AWP12-8-11 |
| AWC12-14    | 100.2 | 120.6 | AW • AWN • AWP12-8-14 |
| AWC12-17    | 100.2 | 160.1 | AW • AWN • AWP12-8-17 |
| AWC12-22    | 100.2 | 195.6 | AW • AWN • AWP12-8-22 |
| AWC16-14    | 136.3 | 115.6 | AW • AWN • AWP16-9-14 |
| AWC16-18    | 136.3 | 155.6 | AW • AWN • AWP16-9-18 |
| AWC16-23    | 136.3 | 205.6 | AW • AWN • AWP16-9-23 |
| AWC16-28    | 136.3 | 255.6 | AW • AWN • AWP16-9-28 |
| AWC21-17    | 186.1 | 147.8 | AW • AWN • AWP21-9-17 |
| AWC21-21    | 186.1 | 187.8 | AW • AWN • AWP21-9-21 |
| AWC21-26    | 186.1 | 237.8 | AW • AWN • AWP21-9-26 |
| AWC21-31    | 186.1 | 287.8 | AW • AWN • AWP21-9-31 |



**HCS SERIES**

**HEXAGON SOCKET HEAD SCREW**



- Hexagon socket head screws for fastening the end panels of AW and AWN enclosures.
- Utilize for tamper-resistance functionality or for an elegant sleek look.

**Product no. / Dimensions**

| Product no. | M | L  | S   | Material        | Pack of |
|-------------|---|----|-----|-----------------|---------|
| HCS3-12S    | 3 | 12 | 2.5 | Stainless steel | 8       |
| HCS4-12S    | 4 | 12 | 3   | Stainless steel | 8       |
| HCS5-12S    | 5 | 12 | 4   | Stainless steel | 8       |

# FC ALUMINIUM CONTROL BOX

FC, FCW and FCH series are applicable for various purposes such as control and switch box, touch panel display, monitor box, and so on.

## APPLICATION EXAMPLE

### COIL WINDING MACHINE

Product by TNK Co.,Ltd. (Japan) Website : [tnk-ltd.com](http://tnk-ltd.com)



### CONTROL BOX

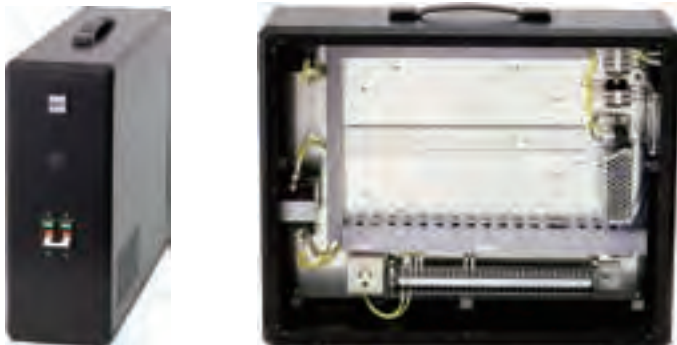


### STREAMING VIDEO PROVIDER



Product by StreamingVideoProvider (UK)  
Website : [streamingvideoprovider.com](http://streamingvideoprovider.com)

### HAND-CARRY CONTROL BOX



Product by Coms Co. Ltd. (Japan)  
Website : [coms-corp.co.jp](http://coms-corp.co.jp)

### SPEED CONTROLLER



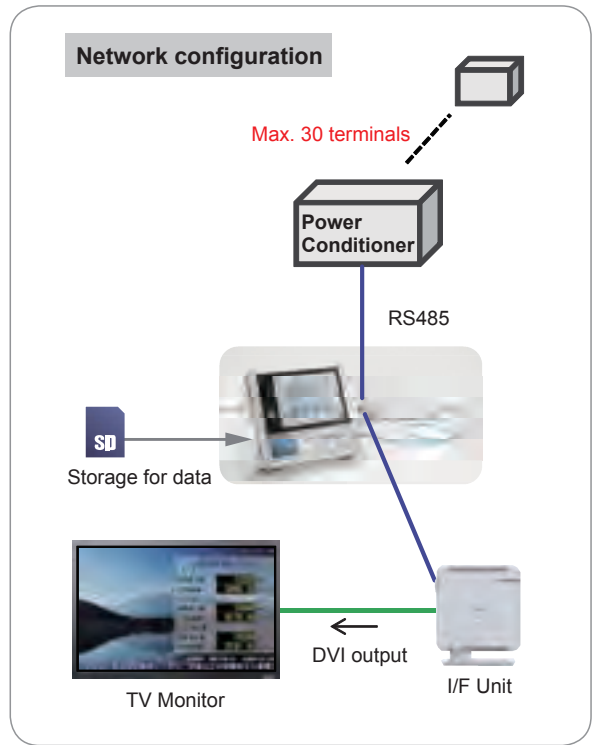


**SOLAR MONITORING SYSTEM**



A functional monitor enables warning record save and operation status monitoring via direct communication with a power conditioner. Easy touch panel operation displays the current and integrated power generation, solar radiation, temperature graph, and warning records etc.

Product by Tokai EC Co., Ltd. (Japan)  
 Website: [tokaieco.co.jp](http://tokaieco.co.jp)



**TAG READER • TRIGGER**



Easy installation as an all-in-one box.  
 Hands-free type with both transmitting and receiving antennas in a box.  
 Possible to receive RF signal within 140m distance if using a high-sensitive active tag.  
 Touch type is useful as an access control system for tracking and monitoring purposes.

Product by Matrix Co., Ltd. (Japan) Website: [matrix-inc.co.jp](http://matrix-inc.co.jp)

**COMPACT SOLAR POWER SUPPLY**



A compact power unit enables the storing of electric power by connecting to the solar cells. Also equipped with a display function showing current charge level, power consumption, and battery status.

Product by Elenagic Co., Ltd. (Japan) Website: [elenagic.co.jp](http://elenagic.co.jp)

**FC SERIES**

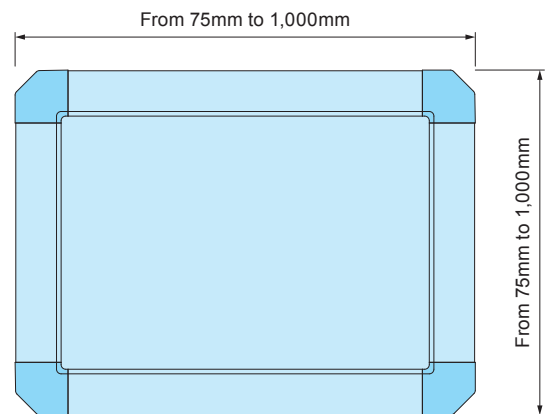
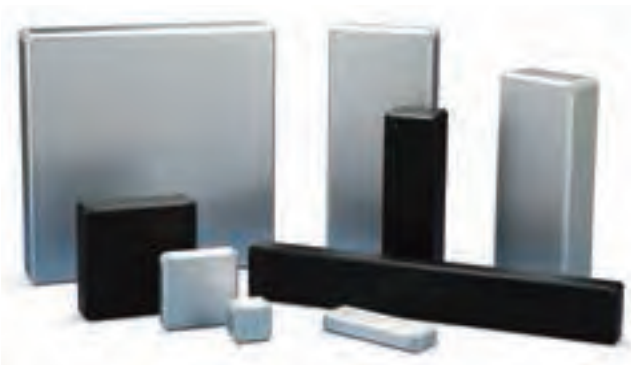
**ALUMINIUM CONTROL BOX**



| Technical Data         |
|------------------------|
| Protection class: IP40 |

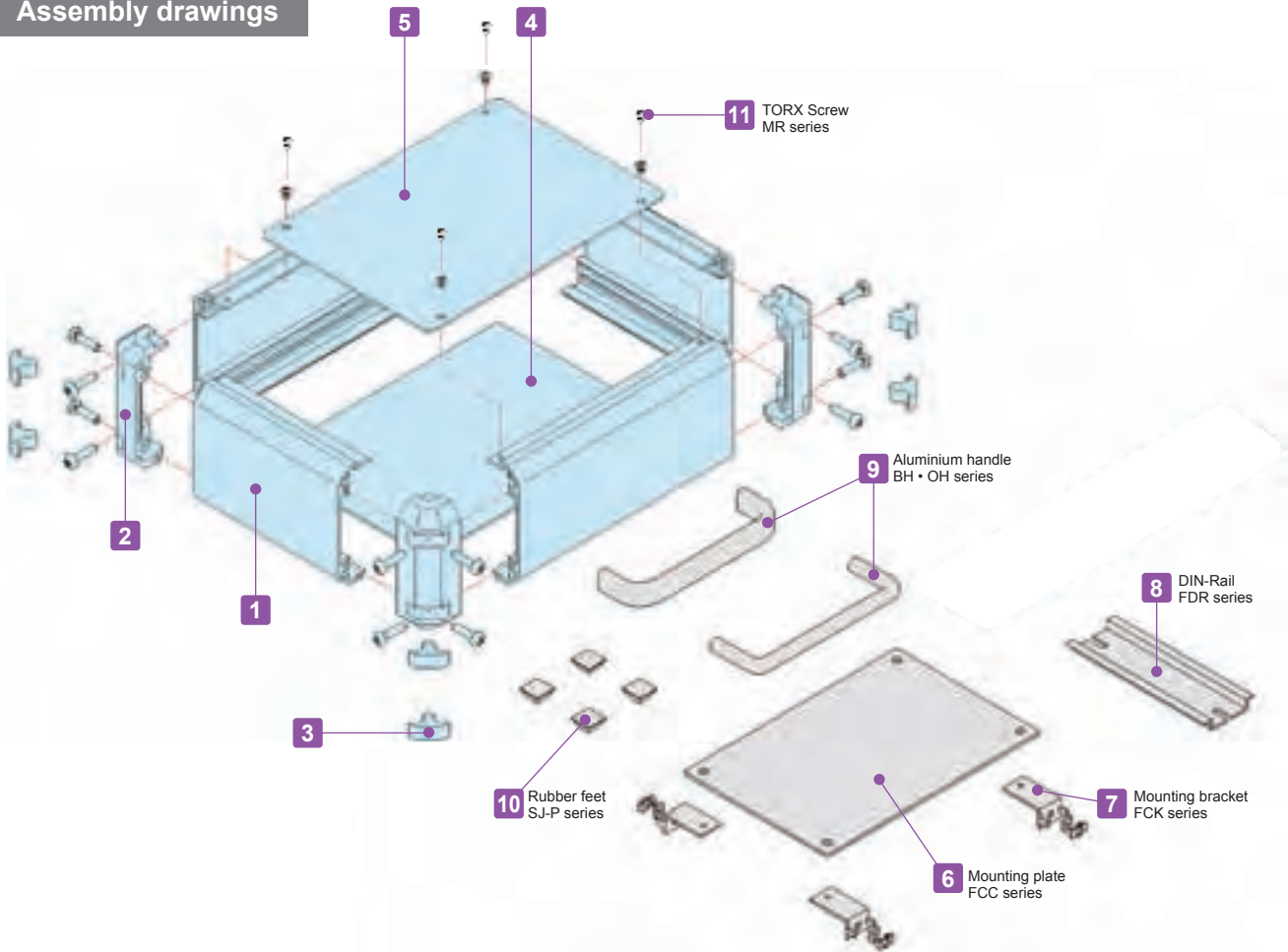
- 175 different sizes in 4 different color variations available.
- Simple designed aluminium utility box composed of extruded aluminium frames, aluminium panels and ABS corner joints.
- Suitable for touch panel display, industrial control equipment, and various other devices.

**Custom width / length available in 1mm intervals**



- Flexible frame width / length from 75mm to 1,000mm in 1mm intervals.
- No minimum order quantity and short lead time for small quantity order.

Assembly drawings

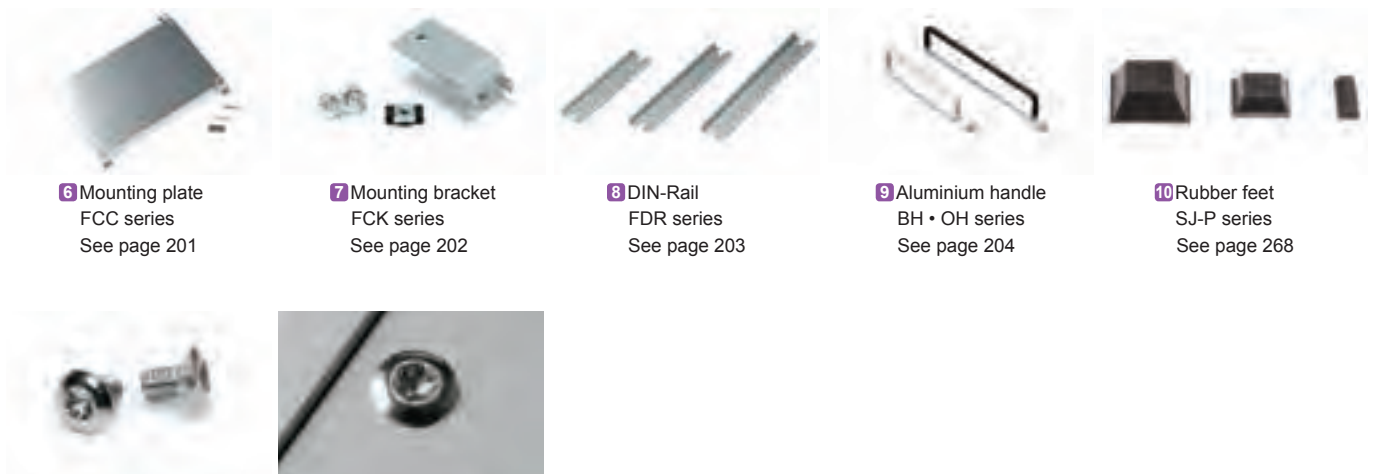


Included screws  
 M4-15 Trivalent chromate  
 (M3-15 for FC4 series)  
 M3-5 Slotted raised countersunk / Silver = Nickel plated, Black = Trivalent chromate

Components

| No. | Part name     | Pcs | Material                     | Color / Finish                       |
|-----|---------------|-----|------------------------------|--------------------------------------|
| 1   | Frame         | 4   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized            |
| 2   | Corner block  | 4   | ABS UL94HB                   | Light gray • Black                   |
| 3   | Blind plug    | 8   | TPE                          | Light gray • Black                   |
| 4   | Slide panel   | 1   | Aluminium A1050P t=1.5       | Silver / Hairline brushed & Anodized |
|     |               |     | Aluminium A1100P t=1.5       | Black / painted                      |
| 5   | Screwed panel | 1   | Aluminium A1050P t=1.5       | Silver / Hairline brushed & Anodized |
|     |               |     | Aluminium A1100P t=1.5       | Black / painted                      |

Accessories (Optional parts)



6 Mounting plate  
 FCC series  
 See page 201

7 Mounting bracket  
 FCK series  
 See page 202

8 DIN-Rail  
 FDR series  
 See page 203

9 Aluminium handle  
 BH • OH series  
 See page 204

10 Rubber feet  
 SJ-P series  
 See page 268



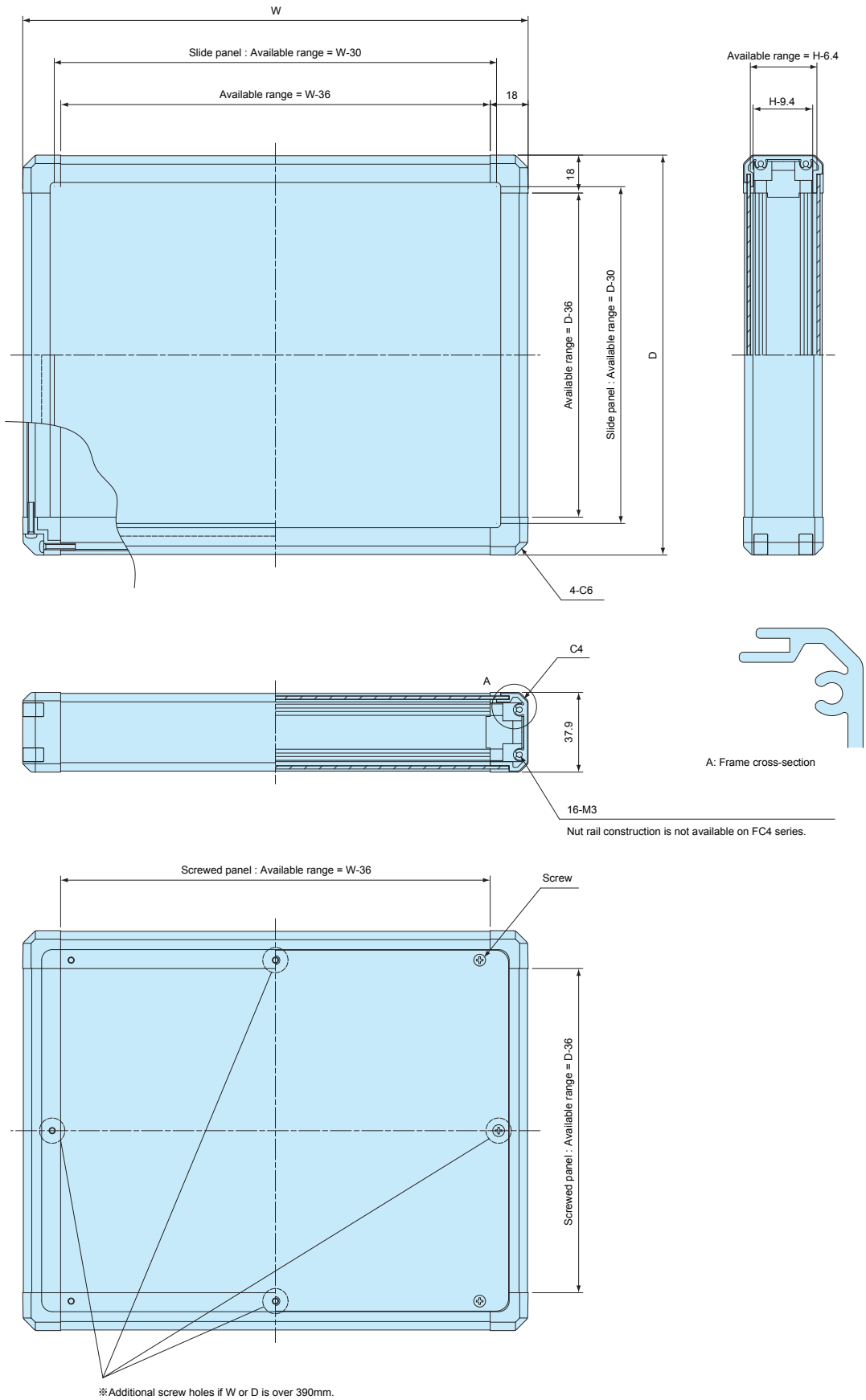
11 TORX screw  
 MR3-5Z  
 See page 220, 230

FC dimensions

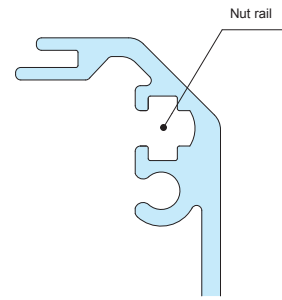
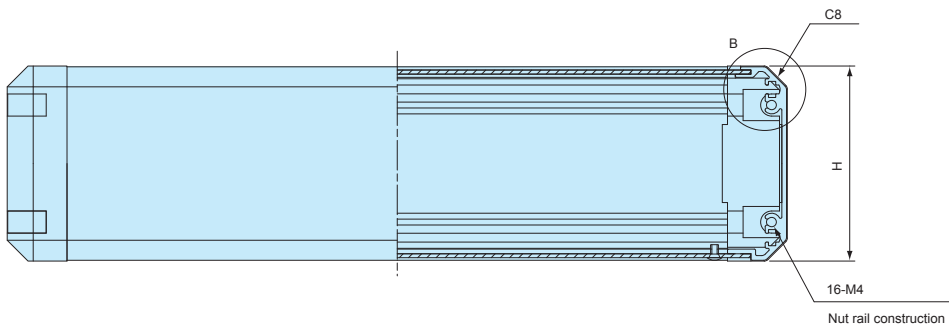
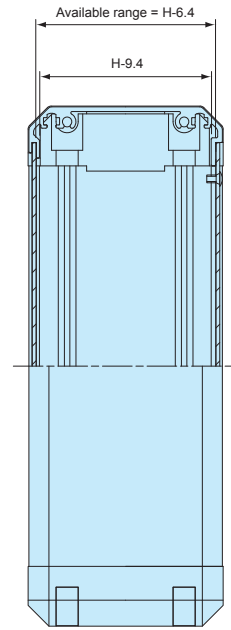
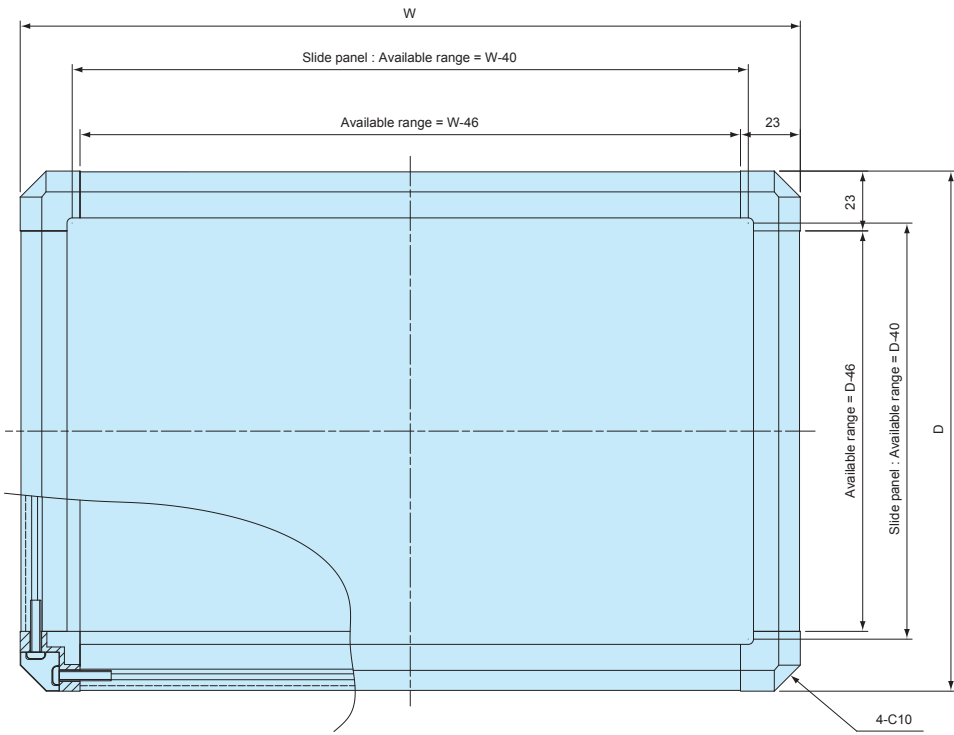
DXF/DWG/PDF drawings available on our website.

FC4 series

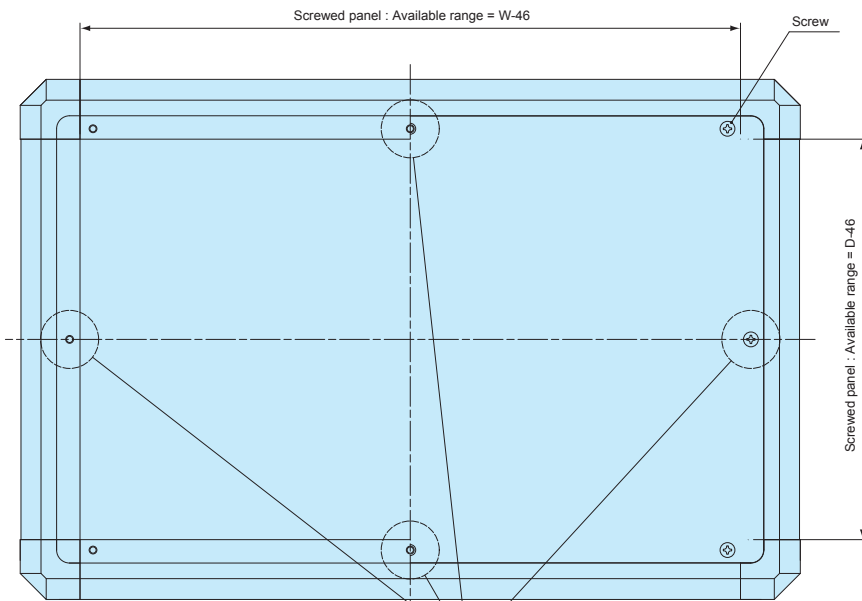
Refer to page 187 ~ 188 for enclosure dimensions.



FC5 • FC6 • FC8 • FC10 • FC13 • FC15 series




A: Frame cross-section



※Additional screw holes if W or D is over 400mm.

**Color Type**

| GS  |            | BS  |        | BX   |        | BB  |       |
|---|------------|---|--------|--|--------|---|-------|
|  |            |  |        |  |        |  |       |
| Panel   | Silver     | Panel   | Silver | Panel  | Silver | Panel   | Black |
| Frame   | Silver     | Frame   | Silver | Frame  | Black  | Frame   | Black |
| Corner  | Light gray | Corner  | Black  | Corner   | Black  | Corner  | Black |

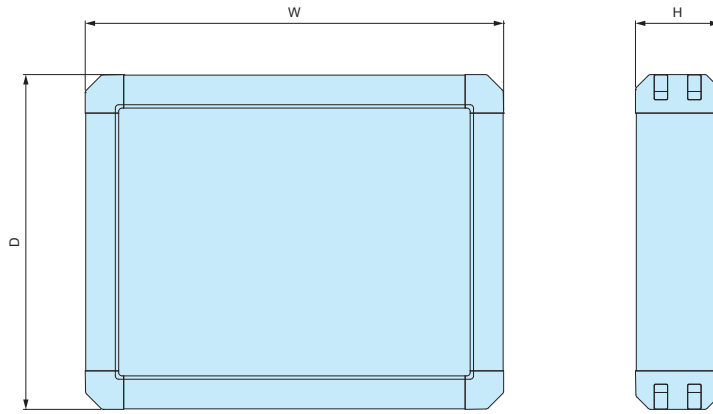
**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no. | H    | W   | D   | Weight (kg) | Panel mount screw pcs |
|-------------|------|-----|-----|-------------|-----------------------|
| FC4-9-9□    | 37.9 | 90  | 90  | 0.17        | 4                     |
| FC4-14-9□   | 37.9 | 140 | 90  | 0.24        | 4                     |
| FC4-14-14□  | 37.9 | 140 | 140 | 0.33        | 4                     |
| FC4-19-9□   | 37.9 | 190 | 90  | 0.31        | 4                     |
| FC4-19-14□  | 37.9 | 190 | 140 | 0.50        | 4                     |
| FC4-19-19□  | 37.9 | 190 | 190 | 0.53        | 4                     |
| FC4-24-14□  | 37.9 | 240 | 140 | 0.51        | 4                     |
| FC4-24-19□  | 37.9 | 240 | 190 | 0.64        | 4                     |
| FC4-24-24□  | 37.9 | 240 | 240 | 0.78        | 4                     |
| FC4-29-14□  | 37.9 | 290 | 140 | 0.60        | 4                     |
| FC4-29-19□  | 37.9 | 290 | 190 | 0.75        | 4                     |
| FC4-29-24□  | 37.9 | 290 | 240 | 0.91        | 4                     |
| FC4-29-29□  | 37.9 | 290 | 290 | 1.07        | 4                     |
| FC4-34-19□  | 37.9 | 340 | 190 | 0.87        | 4                     |
| FC4-34-24□  | 37.9 | 340 | 240 | 1.04        | 4                     |
| FC4-34-29□  | 37.9 | 340 | 290 | 0.94        | 4                     |
| FC4-39-19□  | 37.9 | 390 | 190 | 0.97        | 6                     |
| FC4-39-24□  | 37.9 | 390 | 240 | 1.17        | 6                     |
| FC4-39-29□  | 37.9 | 390 | 290 | 1.37        | 6                     |
| FC4-39-39□  | 37.9 | 390 | 390 | 1.77        | 8                     |
| FC4-49-24□  | 37.9 | 490 | 240 | 1.39        | 6                     |
| FC4-49-29□  | 37.9 | 490 | 290 | 1.64        | 6                     |
| FC4-49-39□  | 37.9 | 490 | 390 | 2.12        | 8                     |
| FC4-59-29□  | 37.9 | 590 | 290 | 1.92        | 6                     |
| FC4-59-39□  | 37.9 | 590 | 390 | 2.46        | 8                     |
| FC5-10-10□  | 50.4 | 100 | 100 | 0.24        | 4                     |
| FC5-15-10□  | 50.4 | 150 | 100 | 0.33        | 4                     |
| FC5-15-15□  | 50.4 | 150 | 150 | 0.44        | 4                     |
| FC5-20-10□  | 50.4 | 200 | 100 | 0.42        | 4                     |
| FC5-20-15□  | 50.4 | 200 | 150 | 0.55        | 4                     |
| FC5-20-20□  | 50.4 | 200 | 200 | 0.68        | 4                     |
| FC5-25-15□  | 50.4 | 250 | 150 | 0.66        | 4                     |
| FC5-25-20□  | 50.4 | 250 | 200 | 0.81        | 4                     |
| FC5-25-25□  | 50.4 | 250 | 250 | 0.97        | 4                     |
| FC5-30-15□  | 50.4 | 300 | 150 | 0.77        | 4                     |
| FC5-30-20□  | 50.4 | 300 | 200 | 0.94        | 4                     |
| FC5-30-25□  | 50.4 | 300 | 250 | 1.11        | 4                     |
| FC5-30-30□  | 50.4 | 300 | 300 | 1.29        | 4                     |
| FC5-35-20□  | 50.4 | 350 | 200 | 1.07        | 4                     |
| FC5-35-25□  | 50.4 | 350 | 250 | 1.26        | 4                     |
| FC5-35-30□  | 50.4 | 350 | 300 | 1.46        | 4                     |
| FC5-40-20□  | 50.4 | 400 | 200 | 1.20        | 6                     |
| FC5-40-25□  | 50.4 | 400 | 250 | 1.42        | 6                     |
| FC5-40-30□  | 50.4 | 400 | 300 | 1.64        | 6                     |

| Product no. | H    | W   | D   | Weight (kg) | Panel mount screw pcs |
|-------------|------|-----|-----|-------------|-----------------------|
| FC5-40-40□  | 50.4 | 400 | 400 | 2.07        | 8                     |
| FC5-50-25□  | 50.4 | 500 | 250 | 1.66        | 6                     |
| FC5-50-30□  | 50.4 | 500 | 300 | 1.92        | 6                     |
| FC5-50-40□  | 50.4 | 500 | 400 | 2.44        | 8                     |
| FC5-60-30□  | 50.4 | 600 | 300 | 2.22        | 6                     |
| FC5-60-40□  | 50.4 | 600 | 400 | 2.81        | 8                     |
| FC6-10-10□  | 62.9 | 100 | 100 | 0.26        | 4                     |
| FC6-15-10□  | 62.9 | 150 | 100 | 0.35        | 4                     |
| FC6-15-15□  | 62.9 | 150 | 150 | 0.47        | 4                     |
| FC6-20-10□  | 62.9 | 200 | 100 | 0.45        | 4                     |
| FC6-20-15□  | 62.9 | 200 | 150 | 0.58        | 4                     |
| FC6-20-20□  | 62.9 | 200 | 200 | 0.72        | 4                     |
| FC6-25-15□  | 62.9 | 250 | 150 | 0.70        | 4                     |
| FC6-25-20□  | 62.9 | 250 | 200 | 0.85        | 4                     |
| FC6-25-25□  | 62.9 | 250 | 250 | 1.01        | 4                     |
| FC6-30-15□  | 62.9 | 300 | 150 | 0.81        | 4                     |
| FC6-30-20□  | 62.9 | 300 | 200 | 0.99        | 4                     |
| FC6-30-25□  | 62.9 | 300 | 250 | 1.16        | 4                     |
| FC6-30-30□  | 62.9 | 300 | 300 | 1.35        | 4                     |
| FC6-35-20□  | 62.9 | 350 | 200 | 1.12        | 4                     |
| FC6-35-25□  | 62.9 | 350 | 250 | 1.32        | 4                     |
| FC6-35-30□  | 62.9 | 350 | 300 | 1.52        | 4                     |
| FC6-40-20□  | 62.9 | 400 | 200 | 1.25        | 6                     |
| FC6-40-25□  | 62.9 | 400 | 250 | 1.47        | 6                     |
| FC6-40-30□  | 62.9 | 400 | 300 | 1.70        | 6                     |
| FC6-40-40□  | 62.9 | 400 | 400 | 2.15        | 8                     |
| FC6-50-25□  | 62.9 | 500 | 250 | 1.72        | 6                     |
| FC6-50-30□  | 62.9 | 500 | 300 | 1.99        | 6                     |
| FC6-50-40□  | 62.9 | 500 | 400 | 2.52        | 8                     |
| FC6-60-30□  | 62.9 | 600 | 300 | 2.29        | 6                     |
| FC6-60-40□  | 62.9 | 600 | 400 | 2.43        | 8                     |
| FC8-10-10□  | 75.4 | 100 | 100 | 0.28        | 4                     |
| FC8-15-10□  | 75.4 | 150 | 100 | 0.38        | 4                     |
| FC8-15-15□  | 75.4 | 150 | 150 | 0.50        | 4                     |
| FC8-20-10□  | 75.4 | 200 | 100 | 0.48        | 4                     |
| FC8-20-15□  | 75.4 | 200 | 150 | 0.62        | 4                     |
| FC8-20-20□  | 75.4 | 200 | 200 | 0.76        | 4                     |
| FC8-25-15□  | 75.4 | 250 | 150 | 0.74        | 4                     |
| FC8-25-20□  | 75.4 | 250 | 200 | 0.90        | 4                     |
| FC8-25-25□  | 75.4 | 250 | 250 | 1.07        | 4                     |
| FC8-30-15□  | 75.4 | 300 | 150 | 0.86        | 4                     |
| FC8-30-20□  | 75.4 | 300 | 200 | 1.04        | 4                     |
| FC8-30-25□  | 75.4 | 300 | 250 | 1.23        | 4                     |
| FC8-30-30□  | 75.4 | 300 | 300 | 1.42        | 4                     |





| Product no. | H     | W   | D   | Weight (kg) | Panel mount screw pcs |
|-------------|-------|-----|-----|-------------|-----------------------|
| FC 8-35-20□ | 75.4  | 350 | 200 | 1.19        | 4                     |
| FC 8-35-25□ | 75.4  | 350 | 250 | 1.39        | 4                     |
| FC 8-35-30□ | 75.4  | 350 | 300 | 1.51        | 4                     |
| FC 8-40-20□ | 75.4  | 400 | 200 | 1.32        | 6                     |
| FC 8-40-25□ | 75.4  | 400 | 250 | 1.46        | 6                     |
| FC 8-40-30□ | 75.4  | 400 | 300 | 1.78        | 6                     |
| FC 8-40-40□ | 75.4  | 400 | 400 | 2.24        | 8                     |
| FC 8-50-25□ | 75.4  | 500 | 250 | 1.81        | 6                     |
| FC 8-50-30□ | 75.4  | 500 | 300 | 2.08        | 6                     |
| FC 8-50-40□ | 75.4  | 500 | 400 | 2.62        | 8                     |
| FC 8-60-30□ | 75.4  | 600 | 300 | 2.39        | 6                     |
| FC 8-60-40□ | 75.4  | 600 | 400 | 3.00        | 8                     |
| FC10-10-10□ | 100.4 | 100 | 100 | 0.31        | 4                     |
| FC10-15-10□ | 100.4 | 150 | 100 | 0.43        | 4                     |
| FC10-15-15□ | 100.4 | 150 | 150 | 0.56        | 4                     |
| FC10-20-10□ | 100.4 | 200 | 100 | 0.54        | 4                     |
| FC10-20-15□ | 100.4 | 200 | 150 | 0.70        | 4                     |
| FC10-20-20□ | 100.4 | 200 | 200 | 0.85        | 4                     |
| FC10-25-15□ | 100.4 | 250 | 150 | 0.83        | 4                     |
| FC10-25-20□ | 100.4 | 250 | 200 | 1.01        | 4                     |
| FC10-25-25□ | 100.4 | 250 | 250 | 1.19        | 4                     |
| FC10-30-15□ | 100.4 | 300 | 150 | 0.97        | 4                     |
| FC10-30-20□ | 100.4 | 300 | 200 | 1.16        | 4                     |
| FC10-30-25□ | 100.4 | 300 | 250 | 1.36        | 4                     |
| FC10-30-30□ | 100.4 | 300 | 300 | 1.57        | 4                     |
| FC10-35-20□ | 100.4 | 350 | 200 | 1.32        | 4                     |
| FC10-35-25□ | 100.4 | 350 | 250 | 1.54        | 4                     |
| FC10-35-30□ | 100.4 | 350 | 300 | 1.77        | 4                     |
| FC10-40-20□ | 100.4 | 400 | 200 | 1.47        | 6                     |
| FC10-40-25□ | 100.4 | 400 | 250 | 1.72        | 6                     |
| FC10-40-30□ | 100.4 | 400 | 300 | 1.96        | 6                     |
| FC10-40-40□ | 100.4 | 400 | 400 | 2.45        | 8                     |
| FC10-50-25□ | 100.4 | 500 | 250 | 1.99        | 6                     |
| FC10-50-30□ | 100.4 | 500 | 300 | 2.27        | 6                     |
| FC10-50-40□ | 100.4 | 500 | 400 | 2.84        | 8                     |
| FC10-60-30□ | 100.4 | 600 | 300 | 2.60        | 6                     |
| FC10-60-40□ | 100.4 | 600 | 400 | 2.70        | 8                     |
| FC13-10-10□ | 125.4 | 100 | 100 | 0.35        | 4                     |
| FC13-15-10□ | 125.4 | 150 | 100 | 0.47        | 4                     |
| FC13-15-15□ | 125.4 | 150 | 150 | 0.61        | 4                     |
| FC13-20-10□ | 125.4 | 200 | 100 | 0.59        | 4                     |
| FC13-20-15□ | 125.4 | 200 | 150 | 0.75        | 4                     |
| FC13-20-20□ | 125.4 | 200 | 200 | 0.92        | 4                     |
| FC13-25-15□ | 125.4 | 250 | 150 | 0.90        | 4                     |

| Product no. | H     | W   | D   | Weight (kg) | Panel mount screw pcs |
|-------------|-------|-----|-----|-------------|-----------------------|
| FC13-25-20□ | 125.4 | 250 | 200 | 1.08        | 4                     |
| FC13-25-25□ | 125.4 | 250 | 250 | 1.27        | 4                     |
| FC13-30-15□ | 125.4 | 300 | 150 | 1.04        | 4                     |
| FC13-30-20□ | 125.4 | 300 | 200 | 1.24        | 4                     |
| FC13-30-25□ | 125.4 | 300 | 250 | 1.44        | 4                     |
| FC13-30-30□ | 125.4 | 300 | 300 | 1.66        | 4                     |
| FC13-35-20□ | 125.4 | 350 | 200 | 1.40        | 4                     |
| FC13-35-25□ | 125.4 | 350 | 250 | 1.63        | 4                     |
| FC13-35-30□ | 125.4 | 350 | 300 | 1.86        | 4                     |
| FC13-40-20□ | 125.4 | 400 | 200 | 1.56        | 6                     |
| FC13-40-25□ | 125.4 | 400 | 250 | 1.81        | 6                     |
| FC13-40-30□ | 125.4 | 400 | 300 | 2.06        | 6                     |
| FC13-40-40□ | 125.4 | 400 | 400 | 2.56        | 8                     |
| FC13-50-25□ | 125.4 | 500 | 250 | 2.09        | 6                     |
| FC13-50-30□ | 125.4 | 500 | 300 | 2.38        | 6                     |
| FC13-50-40□ | 125.4 | 500 | 400 | 2.96        | 8                     |
| FC13-60-30□ | 125.4 | 600 | 300 | 2.89        | 6                     |
| FC13-60-40□ | 125.4 | 600 | 400 | 3.36        | 8                     |
| FC15-10-10□ | 150.4 | 100 | 100 | 0.40        | 4                     |
| FC15-15-10□ | 150.4 | 150 | 100 | 0.54        | 4                     |
| FC15-15-15□ | 150.4 | 150 | 150 | 0.70        | 4                     |
| FC15-20-10□ | 150.4 | 200 | 100 | 0.68        | 4                     |
| FC15-20-15□ | 150.4 | 200 | 150 | 0.85        | 4                     |
| FC15-20-20□ | 150.4 | 200 | 200 | 1.04        | 4                     |
| FC15-25-15□ | 150.4 | 250 | 150 | 1.02        | 4                     |
| FC15-25-20□ | 150.4 | 250 | 200 | 1.22        | 4                     |
| FC15-25-25□ | 150.4 | 250 | 250 | 1.42        | 4                     |
| FC15-30-15□ | 150.4 | 300 | 150 | 1.17        | 4                     |
| FC15-30-20□ | 150.4 | 300 | 200 | 1.40        | 4                     |
| FC15-30-25□ | 150.4 | 300 | 250 | 1.62        | 4                     |
| FC15-30-30□ | 150.4 | 300 | 300 | 1.85        | 4                     |
| FC15-35-20□ | 150.4 | 350 | 200 | 1.58        | 4                     |
| FC15-35-25□ | 150.4 | 350 | 250 | 1.82        | 4                     |
| FC15-35-30□ | 150.4 | 350 | 300 | 2.07        | 4                     |
| FC15-40-20□ | 150.4 | 400 | 200 | 1.76        | 6                     |
| FC15-40-25□ | 150.4 | 400 | 250 | 2.02        | 6                     |
| FC15-40-30□ | 150.4 | 400 | 300 | 2.29        | 6                     |
| FC15-40-40□ | 150.4 | 400 | 400 | 2.83        | 8                     |
| FC15-50-25□ | 150.4 | 500 | 250 | 2.32        | 6                     |
| FC15-50-30□ | 150.4 | 500 | 300 | 2.63        | 6                     |
| FC15-50-40□ | 150.4 | 500 | 400 | 3.25        | 8                     |
| FC15-60-30□ | 150.4 | 600 | 300 | 2.98        | 6                     |
| FC15-60-40□ | 150.4 | 600 | 400 | 3.66        | 8                     |

# FCW SERIES

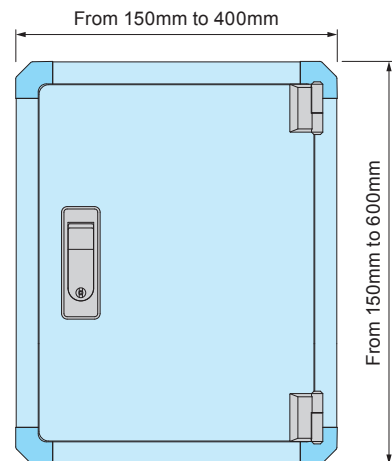
# OPEN-CLOSING CONTROL BOX



- 108 different sizes in 4 different color variations available.
- Easy access to the inside of the case with open/closing cover.
- Both with and without key lock types are available.
- Suitable for touch panel display, industrial control equipment and many others.

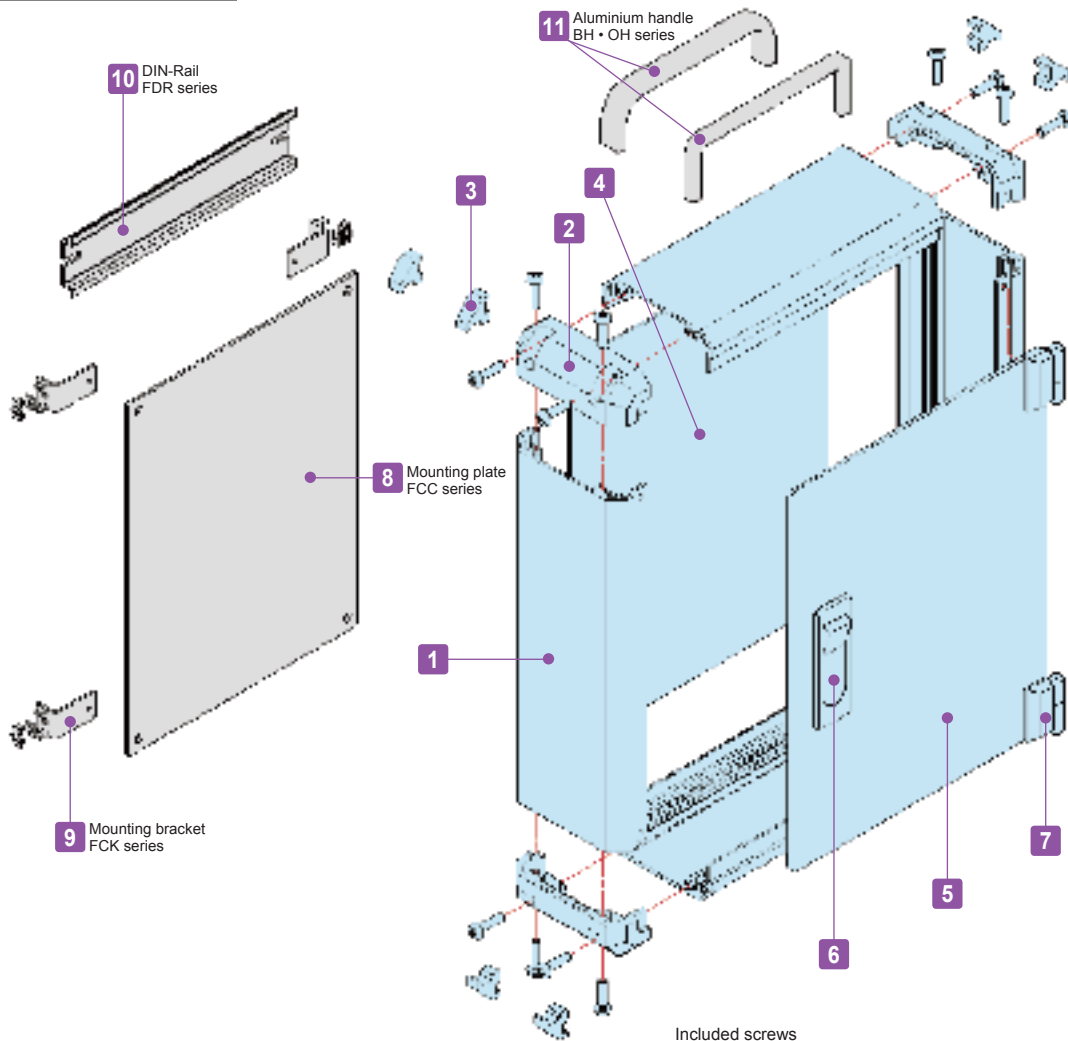
| Technical Data         |
|------------------------|
| Protection class: IP40 |

## Custom width / length available



- Flexible frame width / length in 1mm intervals.
- No minimum order quantity and short lead time for small quantity order.

Assembly drawings



Included screws  
 M4-15 pan head, trivalent chromate / black trivalent chromate x 16 pcs  
 M3-5 pan head, trivalent chromate / black trivalent chromate x 2 pcs or 3 pcs  
 M3-5 countersunk trivalent chromate / black trivalent chromate x 2 pcs or 3 pcs  
 M4-8 trivalent chromate with washer x 2 pcs or 4 pcs  
 M4-6 trivalent chromate with washer x 2 pcs or 4 pcs

Components

| No. | Part name            | Pcs   | Material                     | Color / Finish                       |
|-----|----------------------|-------|------------------------------|--------------------------------------|
| 1   | Frame                | 4     | Extruded aluminium A6063S-T5 | Silver • Black / Anodized            |
| 2   | Corner block         | 4     | ABS UL94HB                   | Light gray • Black                   |
| 3   | Blind plug           | 8     | TPE                          | Light gray • Black                   |
| 4   | Slide panel          | 1     | Aluminium A1050P t=1.5       | Silver / Hairline brushed & Anodized |
|     |                      |       | Aluminium A1100P t=1.5       | Black / Painted                      |
| 5   | Open-closing panel   | 1     | Aluminium A1050P t=2.0       | Silver / Hairline brushed & Anodized |
|     |                      |       | Aluminium A1050P t=2.0       | Black / Anodized                     |
| 6   | Flat handle          | 1 set | Diecast zinc                 | Silver • Black / Painted             |
| 7   | Hinge                | 1 set | Diecast zinc                 | Silver • Black / Painted             |
| -   | Panel protection pad | 6     | Polyolefin foam              | Black                                |

Accessories (Optional parts)



8) Mounting plate  
 FCC series  
 See page 201

9) Mounting bracket  
 FCK series  
 See page 202

10) DIN-Rail  
 FDR series  
 See page 203

11) Aluminium handle  
 BH • OH series  
 See page 204

**Flat Handle Type**



**Color Type**

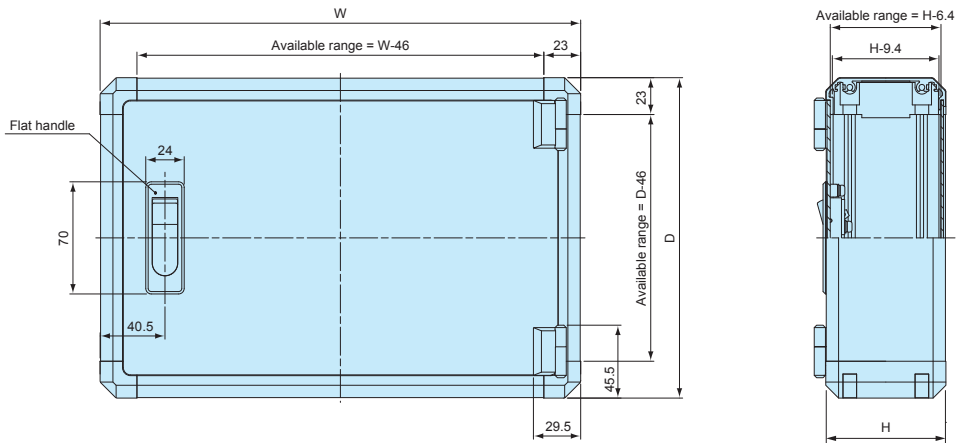
| GS          |            | BS          |        | BX          |        | BB          |       |
|-------------|------------|-------------|--------|-------------|--------|-------------|-------|
|             |            |             |        |             |        |             |       |
| Panel       | Silver     | Panel       | Silver | Panel       | Silver | Panel       | Black |
| Frame       | Silver     | Frame       | Silver | Frame       | Black  | Frame       | Black |
| Corner      | Light gray | Corner      | Black  | Corner      | Black  | Corner      | Black |
| Flat handle | Silver     | Flat handle | Silver | Flat handle | Black  | Flat handle | Black |

**FCW dimensions**

■ DXF/DWG/PDF drawings available on our website.

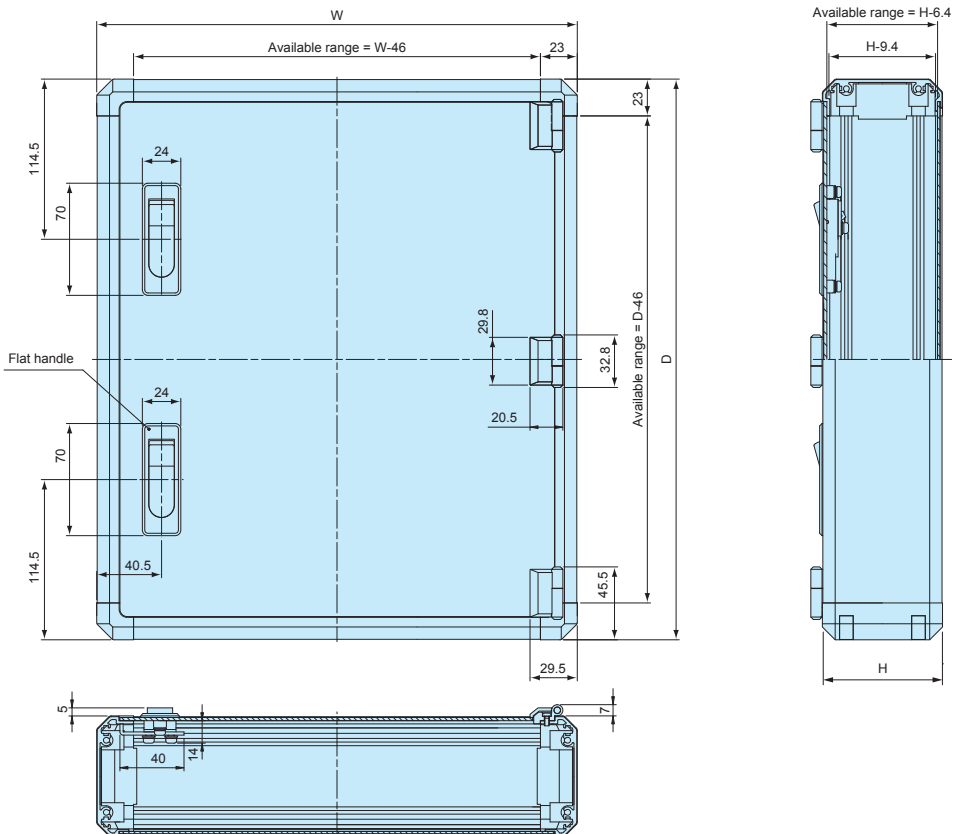
**Handle - 1 pc / Hinge - 2 pcs type**

Not applicable for FCW□-30-50, FCW□-40-50, and FCW□-40-60 models.



**Handle - 2 pcs / Hinge - 3 pcs type**

Applicable for FCW□-30-50, FCW□-40-50, and FCW□-40-60 models.



Specify your order with complete combination product number as per below

# FCW 5 - 20 - 15



Flat Handle Type  
( N or K )



Color Code  
( GS, BS, BX, or BB )

## Product no. / Dimensions

| Product no.  | H    | W   | D   | Weight (kg) | Flat handle / Hinge pcs |
|--------------|------|-----|-----|-------------|-------------------------|
| FCW5-15-20□□ | 50.4 | 150 | 200 | 0.69        | 1 / 2                   |
| FCW5-15-25□□ | 50.4 | 150 | 250 | 0.80        | 1 / 2                   |
| FCW5-20-15□□ | 50.4 | 200 | 150 | 0.69        | 1 / 2                   |
| FCW5-20-20□□ | 50.4 | 200 | 200 | 0.83        | 1 / 2                   |
| FCW5-20-25□□ | 50.4 | 200 | 250 | 0.97        | 1 / 2                   |
| FCW5-20-30□□ | 50.4 | 200 | 300 | 1.11        | 1 / 2                   |
| FCW5-25-25□□ | 50.4 | 250 | 250 | 1.14        | 1 / 2                   |
| FCW5-25-30□□ | 50.4 | 250 | 300 | 1.30        | 1 / 2                   |
| FCW5-25-40□□ | 50.4 | 250 | 400 | 1.63        | 1 / 2                   |
| FCW5-30-20□□ | 50.4 | 300 | 200 | 1.11        | 1 / 2                   |
| FCW5-30-30□□ | 50.4 | 300 | 300 | 1.50        | 1 / 2                   |
| FCW5-30-40□□ | 50.4 | 300 | 400 | 1.87        | 1 / 2                   |
| FCW5-30-50□□ | 50.4 | 300 | 500 | 2.28        | 2 / 3                   |
| FCW5-35-25□□ | 50.4 | 350 | 250 | 1.47        | 1 / 2                   |
| FCW5-40-30□□ | 50.4 | 400 | 300 | 1.88        | 1 / 2                   |
| FCW5-40-40□□ | 50.4 | 400 | 400 | 2.37        | 1 / 2                   |
| FCW5-40-50□□ | 50.4 | 400 | 500 | 2.82        | 2 / 3                   |
| FCW5-40-60□□ | 50.4 | 400 | 600 | 3.28        | 2 / 3                   |
| FCW6-15-20□□ | 62.9 | 150 | 200 | 0.72        | 1 / 2                   |
| FCW6-15-25□□ | 62.9 | 150 | 250 | 0.84        | 1 / 2                   |
| FCW6-20-15□□ | 62.9 | 200 | 150 | 0.72        | 1 / 2                   |
| FCW6-20-20□□ | 62.9 | 200 | 200 | 0.86        | 1 / 2                   |
| FCW6-20-25□□ | 62.9 | 200 | 250 | 1.01        | 1 / 2                   |
| FCW6-20-30□□ | 62.9 | 200 | 300 | 1.16        | 1 / 2                   |
| FCW6-25-25□□ | 62.9 | 250 | 250 | 1.18        | 1 / 2                   |
| FCW6-25-30□□ | 62.9 | 250 | 300 | 1.35        | 1 / 2                   |
| FCW6-25-40□□ | 62.9 | 250 | 400 | 1.69        | 1 / 2                   |
| FCW6-30-20□□ | 62.9 | 300 | 200 | 1.16        | 1 / 2                   |
| FCW6-30-30□□ | 62.9 | 300 | 300 | 1.55        | 1 / 2                   |
| FCW6-30-40□□ | 62.9 | 300 | 400 | 1.93        | 1 / 2                   |
| FCW6-30-50□□ | 62.9 | 300 | 500 | 2.35        | 2 / 3                   |
| FCW6-35-25□□ | 62.9 | 350 | 250 | 1.46        | 1 / 2                   |
| FCW6-40-30□□ | 62.9 | 400 | 300 | 1.94        | 1 / 2                   |
| FCW6-40-40□□ | 62.9 | 400 | 400 | 2.44        | 1 / 2                   |
| FCW6-40-50□□ | 62.9 | 400 | 500 | 2.94        | 2 / 3                   |
| FCW6-40-60□□ | 62.9 | 400 | 600 | 3.36        | 2 / 3                   |
| FCW8-15-20□□ | 75.4 | 150 | 200 | 0.76        | 1 / 2                   |
| FCW8-15-25□□ | 75.4 | 150 | 250 | 0.88        | 1 / 2                   |
| FCW8-20-15□□ | 75.4 | 200 | 150 | 0.76        | 1 / 2                   |
| FCW8-20-20□□ | 75.4 | 200 | 200 | 0.91        | 1 / 2                   |
| FCW8-20-25□□ | 75.4 | 200 | 250 | 1.06        | 1 / 2                   |
| FCW8-20-30□□ | 75.4 | 200 | 300 | 1.21        | 1 / 2                   |
| FCW8-25-25□□ | 75.4 | 250 | 250 | 1.24        | 1 / 2                   |
| FCW8-25-30□□ | 75.4 | 250 | 300 | 1.41        | 1 / 2                   |
| FCW8-25-40□□ | 75.4 | 250 | 400 | 1.76        | 1 / 2                   |
| FCW8-30-20□□ | 75.4 | 300 | 200 | 1.21        | 1 / 2                   |
| FCW8-30-30□□ | 75.4 | 300 | 300 | 1.62        | 1 / 2                   |
| FCW8-30-40□□ | 75.4 | 300 | 400 | 2.02        | 1 / 2                   |
| FCW8-30-50□□ | 75.4 | 300 | 500 | 2.44        | 2 / 3                   |
| FCW8-35-25□□ | 75.4 | 350 | 250 | 1.59        | 1 / 2                   |
| FCW8-40-30□□ | 75.4 | 400 | 300 | 2.02        | 1 / 2                   |
| FCW8-40-40□□ | 75.4 | 400 | 400 | 2.53        | 1 / 2                   |
| FCW8-40-50□□ | 75.4 | 400 | 500 | 3.05        | 2 / 3                   |
| FCW8-40-60□□ | 75.4 | 400 | 600 | 3.47        | 2 / 3                   |

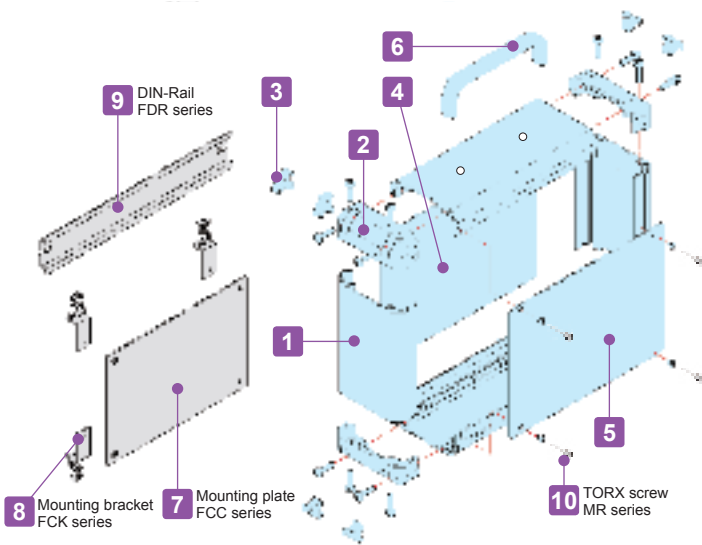
| Product no.   | H     | W   | D   | Weight (kg) | Flat handle / Hinge pcs |
|---------------|-------|-----|-----|-------------|-------------------------|
| FCW10-15-20□□ | 100.4 | 150 | 200 | 0.83        | 1 / 2                   |
| FCW10-15-25□□ | 100.4 | 150 | 250 | 0.97        | 1 / 2                   |
| FCW10-20-15□□ | 100.4 | 200 | 150 | 0.83        | 1 / 2                   |
| FCW10-20-20□□ | 100.4 | 200 | 200 | 1.00        | 1 / 2                   |
| FCW10-20-25□□ | 100.4 | 200 | 250 | 1.17        | 1 / 2                   |
| FCW10-20-30□□ | 100.4 | 200 | 300 | 1.33        | 1 / 2                   |
| FCW10-25-25□□ | 100.4 | 250 | 250 | 1.36        | 1 / 2                   |
| FCW10-25-30□□ | 100.4 | 250 | 300 | 1.55        | 1 / 2                   |
| FCW10-25-40□□ | 100.4 | 250 | 400 | 1.93        | 1 / 2                   |
| FCW10-30-20□□ | 100.4 | 300 | 200 | 1.34        | 1 / 2                   |
| FCW10-30-30□□ | 100.4 | 300 | 300 | 1.77        | 1 / 2                   |
| FCW10-30-40□□ | 100.4 | 300 | 400 | 2.20        | 1 / 2                   |
| FCW10-30-50□□ | 100.4 | 300 | 500 | 2.64        | 2 / 3                   |
| FCW10-35-25□□ | 100.4 | 350 | 250 | 1.74        | 1 / 2                   |
| FCW10-40-30□□ | 100.4 | 400 | 300 | 2.21        | 1 / 2                   |
| FCW10-40-40□□ | 100.4 | 400 | 400 | 2.74        | 1 / 2                   |
| FCW10-40-50□□ | 100.4 | 400 | 500 | 3.27        | 2 / 3                   |
| FCW10-40-60□□ | 100.4 | 400 | 600 | 3.71        | 2 / 3                   |
| FCW13-15-20□□ | 125.4 | 150 | 200 | 0.89        | 1 / 2                   |
| FCW13-15-25□□ | 125.4 | 150 | 250 | 1.04        | 1 / 2                   |
| FCW13-20-15□□ | 125.4 | 200 | 150 | 0.89        | 1 / 2                   |
| FCW13-20-20□□ | 125.4 | 200 | 200 | 1.06        | 1 / 2                   |
| FCW13-20-25□□ | 125.4 | 200 | 250 | 1.32        | 1 / 2                   |
| FCW13-20-30□□ | 125.4 | 200 | 300 | 1.41        | 1 / 2                   |
| FCW13-25-25□□ | 125.4 | 250 | 250 | 1.44        | 1 / 2                   |
| FCW13-25-30□□ | 125.4 | 250 | 300 | 1.63        | 1 / 2                   |
| FCW13-25-40□□ | 125.4 | 250 | 400 | 2.02        | 1 / 2                   |
| FCW13-30-20□□ | 125.4 | 300 | 200 | 1.41        | 1 / 2                   |
| FCW13-30-30□□ | 125.4 | 300 | 300 | 1.94        | 1 / 2                   |
| FCW13-30-40□□ | 125.4 | 300 | 400 | 2.30        | 1 / 2                   |
| FCW13-30-50□□ | 125.4 | 300 | 500 | 2.74        | 2 / 3                   |
| FCW13-35-25□□ | 125.4 | 350 | 250 | 1.83        | 1 / 2                   |
| FCW13-40-30□□ | 125.4 | 400 | 300 | 2.30        | 1 / 2                   |
| FCW13-40-40□□ | 125.4 | 400 | 400 | 2.86        | 1 / 2                   |
| FCW13-40-50□□ | 125.4 | 400 | 500 | 3.39        | 2 / 3                   |
| FCW13-40-60□□ | 125.4 | 400 | 600 | 3.84        | 2 / 3                   |
| FCW15-15-20□□ | 150.4 | 150 | 200 | 0.96        | 1 / 2                   |
| FCW15-15-25□□ | 150.4 | 150 | 250 | 1.07        | 1 / 2                   |
| FCW15-20-15□□ | 150.4 | 200 | 150 | 0.91        | 1 / 2                   |
| FCW15-20-20□□ | 150.4 | 200 | 200 | 1.18        | 1 / 2                   |
| FCW15-20-25□□ | 150.4 | 200 | 250 | 1.37        | 1 / 2                   |
| FCW15-20-30□□ | 150.4 | 200 | 300 | 1.57        | 1 / 2                   |
| FCW15-25-25□□ | 150.4 | 250 | 250 | 1.59        | 1 / 2                   |
| FCW15-25-30□□ | 150.4 | 250 | 300 | 1.80        | 1 / 2                   |
| FCW15-25-40□□ | 150.4 | 250 | 400 | 2.23        | 1 / 2                   |
| FCW15-30-20□□ | 150.4 | 300 | 200 | 1.57        | 1 / 2                   |
| FCW15-30-30□□ | 150.4 | 300 | 300 | 2.05        | 1 / 2                   |
| FCW15-30-40□□ | 150.4 | 300 | 400 | 2.53        | 1 / 2                   |
| FCW15-30-50□□ | 150.4 | 300 | 500 | 2.99        | 2 / 3                   |
| FCW15-35-25□□ | 150.4 | 350 | 250 | 2.02        | 1 / 2                   |
| FCW15-40-30□□ | 150.4 | 400 | 300 | 2.53        | 1 / 2                   |
| FCW15-40-40□□ | 150.4 | 400 | 400 | 3.12        | 1 / 2                   |
| FCW15-40-50□□ | 150.4 | 400 | 500 | 3.68        | 2 / 3                   |
| FCW15-40-60□□ | 150.4 | 400 | 600 | 4.14        | 2 / 3                   |

# FCH SERIES

# CONTROL BOX with CARRYING HANDLE



| Technical Data         |
|------------------------|
| Protection class: IP40 |



- 23 different sizes in 4 different color variations available.
- Equipped with an aluminium carrying handle for mobile use.
- Comes with a 25kg maximum load carrying handle attachment.
- Simple designed aluminium utility box composed of extruded aluminium frames, aluminium panels and ABS corner joints.

**Included screws**

M4-15 pan head trivalent chromate x 16 pcs

M3-5 slotted raised countersunk / Silver = Nickel plated, Black = Trivalent chromate x 8 pcs

M4-10 pan head trivalent chromate with spring washer x 2 pcs

**Components**

| No. | Part name       | Pcs | Material                     | Color / Finish                       |
|-----|-----------------|-----|------------------------------|--------------------------------------|
| 1   | Frame           | 4   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized            |
| 2   | Corner block    | 4   | ABS UL94HB                   | Light gray • Black                   |
| 3   | Blind plug      | 8   | TPE                          | Light gray • Black                   |
| 4   | Slide panel     | 1   | Aluminium A1050P t=1.5       | Silver / Hairline brushed & Anodized |
|     |                 |     | Aluminium A1100P t=1.5       | Black / Painted                      |
| 5   | Screwed panel   | 1   | Aluminium A1050P t=1.5       | Silver / Hairline brushed & Anodized |
|     |                 |     | Aluminium A1100P t=1.5       | Black / Painted                      |
| 6   | Carrying handle | 1   | Aluminium A6063S-T5          | Silver • Black / Anodized            |

**Accessories (Optional parts)**



7 Mounting plate  
FCC series  
See page 201



8 Mounting bracket  
FCK series  
See page 202



9 DIN-Rail  
FDR series  
See page 203



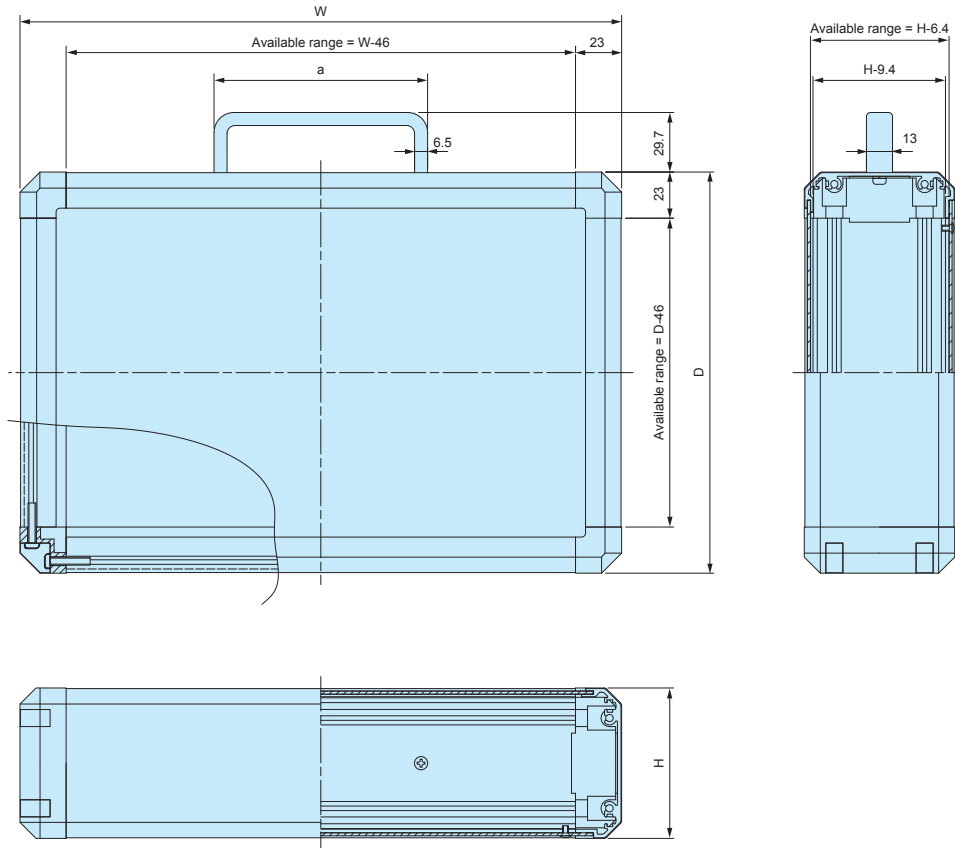
10 TORX screw  
MR3-5Z  
See page 220, 230





FCH dimensions

■ DXF/DWG/PDF drawings available on our website.



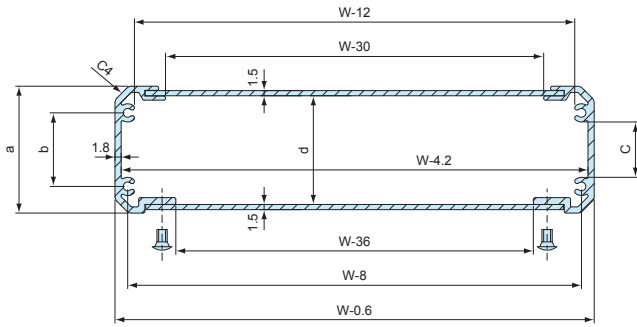
Product no. / Dimensions

| Product no.           |                 | H     | W   | D   | a     | Weight (kg) |
|-----------------------|-----------------|-------|-----|-----|-------|-------------|
| ● Light gray • Silver | ● Black • Black |       |     |     |       |             |
| FCH 8-20-15GS         | FCH 8-20-15BB   | 75.4  | 200 | 150 | 106.5 | 0.65        |
| FCH 8-20-20GS         | FCH 8-20-20BB   | 75.4  | 200 | 200 | 106.5 | 0.79        |
| FCH 8-25-15GS         | FCH 8-25-15BB   | 75.4  | 250 | 150 | 106.5 | 0.77        |
| FCH 8-25-20GS         | FCH 8-25-20BB   | 75.4  | 250 | 200 | 106.5 | 0.93        |
| FCH 8-25-25GS         | FCH 8-25-25BB   | 75.4  | 250 | 250 | 106.5 | 1.10        |
| FCH 8-30-20GS         | FCH 8-30-20BB   | 75.4  | 300 | 200 | 126.5 | 1.07        |
| FCH 8-30-25GS         | FCH 8-30-25BB   | 75.4  | 300 | 250 | 126.5 | 1.26        |
| FCH 8-30-30GS         | FCH 8-30-30BB   | 75.4  | 300 | 300 | 126.5 | 1.45        |
| FCH 8-35-20GS         | FCH 8-35-20BB   | 75.4  | 350 | 200 | 126.5 | 1.22        |
| FCH 8-35-25GS         | FCH 8-35-25BB   | 75.4  | 350 | 250 | 126.5 | 1.42        |
| FCH 8-35-30GS         | FCH 8-35-30BB   | 75.4  | 350 | 300 | 126.5 | 1.54        |
| FCH 8-40-25GS         | FCH 8-40-25BB   | 75.4  | 400 | 250 | 126.5 | 1.49        |
| FCH 8-40-30GS         | FCH 8-40-30BB   | 75.4  | 400 | 300 | 126.5 | 1.81        |
| FCH 8-40-40GS         | FCH 8-40-40BB   | 75.4  | 400 | 400 | 126.5 | 2.27        |
| FCH10-30-20GS         | FCH10-30-20BB   | 100.4 | 300 | 200 | 126.5 | 1.19        |
| FCH10-30-25GS         | FCH10-30-25BB   | 100.4 | 300 | 250 | 126.5 | 1.39        |
| FCH10-30-30GS         | FCH10-30-30BB   | 100.4 | 300 | 300 | 126.5 | 1.60        |
| FCH10-35-20GS         | FCH10-35-20BB   | 100.4 | 350 | 200 | 126.5 | 1.35        |
| FCH10-35-25GS         | FCH10-35-25BB   | 100.4 | 350 | 250 | 126.5 | 1.57        |
| FCH10-35-30GS         | FCH10-35-30BB   | 100.4 | 350 | 300 | 126.5 | 1.80        |
| FCH10-40-25GS         | FCH10-40-25BB   | 100.4 | 400 | 250 | 126.5 | 1.75        |
| FCH10-40-30GS         | FCH10-40-30BB   | 100.4 | 400 | 300 | 126.5 | 1.99        |
| FCH10-40-40GS         | FCH10-40-40BB   | 100.4 | 400 | 400 | 126.5 | 2.48        |

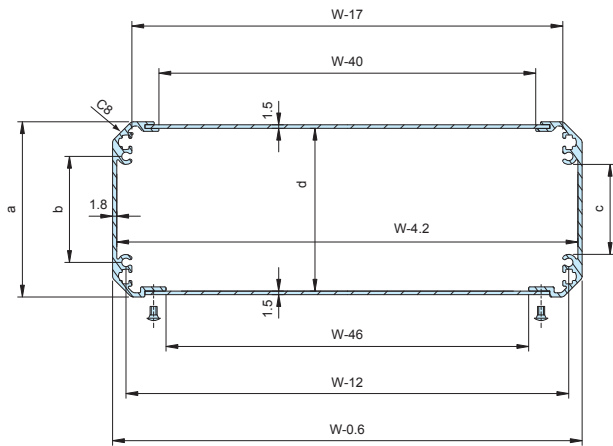
**FC • FCW • FCH cross-section view**

■ DXF/DWG/PDF drawings available on our website.

FC4 Model

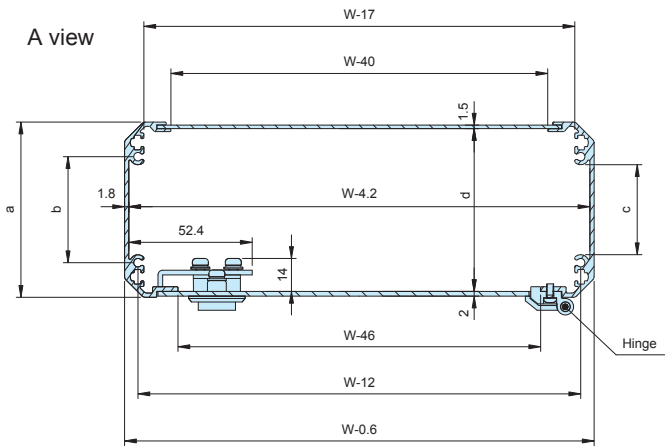


FC5 • FC6 • FC8 • FC10 • FC13 • FC15 • FCH Series

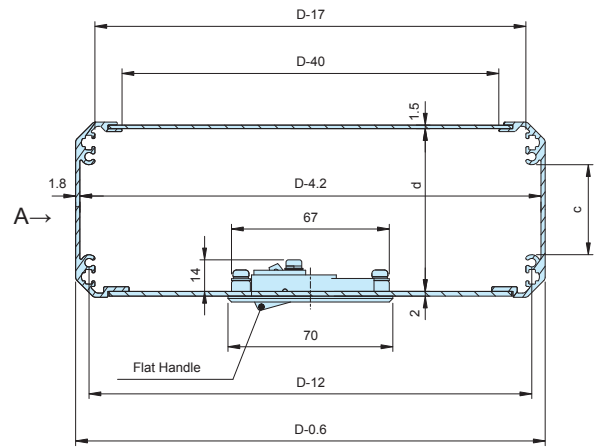


FCW Series

A view



W Side



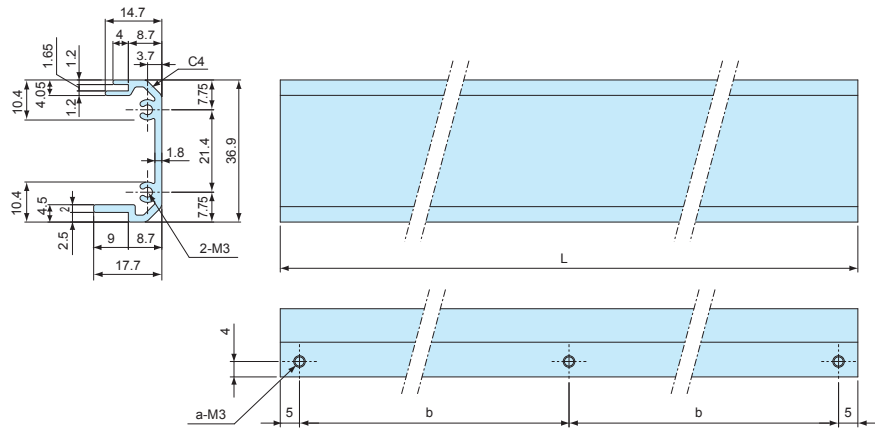
D Side

| Box height | a     | b    | c     | d    |
|------------|-------|------|-------|------|
| 37.9       | 36.9  | 21.4 | 16    | 31.5 |
| 50.4       | 49.4  | 20   | 13.2  | 44   |
| 62.9       | 61.9  | 32.5 | 25.7  | 56.5 |
| 75.4       | 74.4  | 45   | 38.2  | 69   |
| 100.4      | 99.4  | 70   | 63.2  | 94   |
| 125.4      | 124.4 | 95   | 88.2  | 119  |
| 150.4      | 149.4 | 120  | 113.2 | 144  |

# Component Drawings

## FC • FCW • FCH frame

FC4

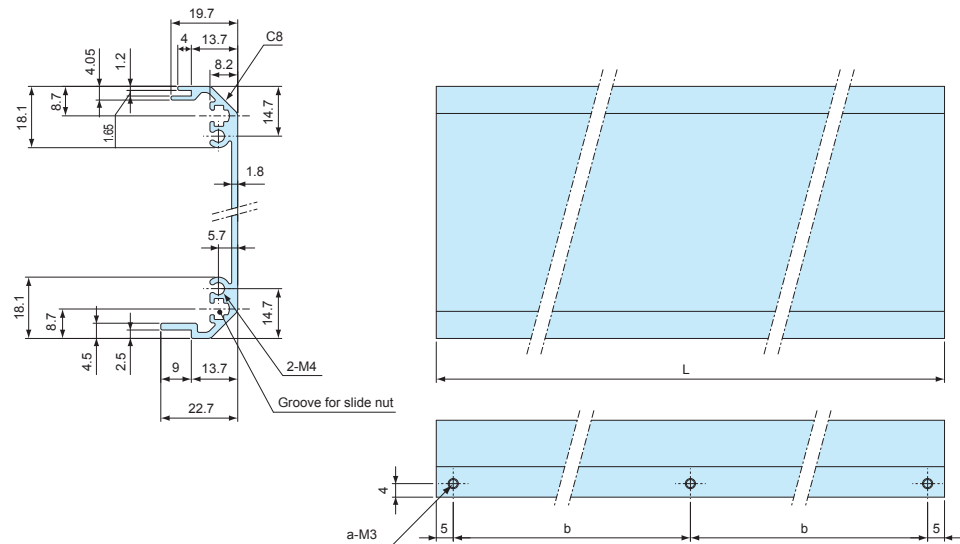


### Part Details

| Color code | Material                     | Color / Finish    |
|------------|------------------------------|-------------------|
| GS • BS    | Extruded aluminium A6063S-T5 | Silver / Anodized |
| BX • BB    | Extruded aluminium A6063S-T5 | Black / Anodized  |

| Box W / D size | L   | a | b   |
|----------------|-----|---|-----|
| 90             | 54  | 2 | -   |
| 140            | 104 | 2 | -   |
| 190            | 154 | 2 | -   |
| 240            | 204 | 2 | -   |
| 290            | 254 | 2 | -   |
| 340            | 304 | 2 | -   |
| 390            | 354 | 3 | 172 |
| 490            | 454 | 3 | 222 |
| 590            | 554 | 3 | 272 |

FC5 • FC6 • FC8 • FC10 • FC13 • FC15 • FCW • FCH



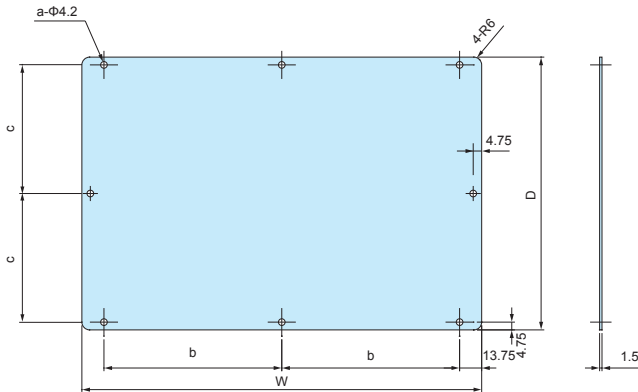
### Part Details

| Color code | Material                     | Color / Finish    |
|------------|------------------------------|-------------------|
| GS • BS    | Extruded aluminium A6063S-T5 | Silver / Anodized |
| BX • BB    | Extruded aluminium A6063S-T5 | Black / Anodized  |

| Box W / D size | L   | a | b   |
|----------------|-----|---|-----|
| 100            | 54  | 2 | -   |
| 150            | 104 | 2 | -   |
| 200            | 154 | 2 | -   |
| 250            | 204 | 2 | -   |
| 300            | 254 | 2 | -   |
| 350            | 304 | 2 | -   |
| 400            | 354 | 3 | 172 |
| 500            | 454 | 3 | 222 |
| 600            | 554 | 3 | 272 |

FC • FCH screwed panel

DXF/DWG/PDF drawings available on our website.



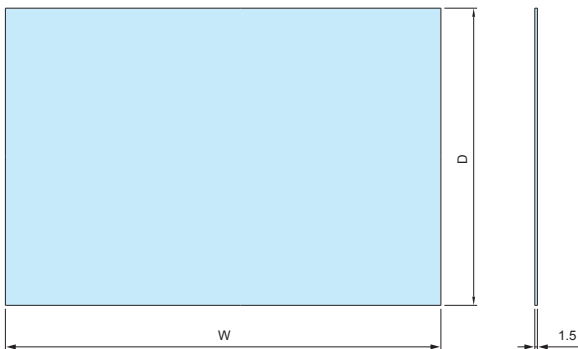
Part Details

| Color code | Material               | Color / Finish                       |
|------------|------------------------|--------------------------------------|
| GS • BS    | Aluminium A1050P t=1.5 | Silver / Hairline brushed & Anodized |
| BX • BB    | Aluminium A1100P t=1.5 | Black / Painted                      |

| Box W / D size    | W     | D     | a | b   | c   |
|-------------------|-------|-------|---|-----|-----|
| 100×100 ( 90× 90) | 71.5  | 71.5  | 4 | -   | -   |
| 150×100 (140× 90) | 121.5 | 71.5  | 4 | -   | -   |
| 150×150 (140×140) | 121.5 | 121.5 | 4 | -   | -   |
| 200×100 (190× 90) | 171.5 | 71.5  | 4 | -   | -   |
| 200×150 (190×140) | 171.5 | 121.5 | 4 | -   | -   |
| 200×200 (190×190) | 171.5 | 171.5 | 4 | -   | -   |
| 250×150 (240×140) | 221.5 | 121.5 | 4 | -   | -   |
| 250×200 (240×190) | 221.5 | 171.5 | 4 | -   | -   |
| 250×250 (240×240) | 221.5 | 221.5 | 4 | -   | -   |
| 300×150 (290×140) | 271.5 | 121.5 | 4 | -   | -   |
| 300×200 (290×190) | 271.5 | 171.5 | 4 | -   | -   |
| 300×250 (290×240) | 271.5 | 221.5 | 4 | -   | -   |
| 300×300 (290×290) | 271.5 | 271.5 | 4 | -   | -   |
| 350×200 (340×190) | 321.5 | 171.5 | 4 | -   | -   |
| 350×250 (340×240) | 321.5 | 221.5 | 4 | -   | -   |
| 350×300 (340×290) | 321.5 | 271.5 | 4 | -   | -   |
| 400×200 (390×190) | 371.5 | 171.5 | 6 | 172 | -   |
| 400×250 (390×240) | 371.5 | 221.5 | 6 | 172 | -   |
| 400×300 (390×290) | 371.5 | 271.5 | 6 | 172 | -   |
| 400×400 (390×390) | 371.5 | 371.5 | 8 | 172 | 181 |
| 500×250 (490×240) | 471.5 | 221.5 | 6 | 222 | -   |
| 500×300 (490×290) | 471.5 | 271.5 | 6 | 222 | -   |
| 500×400 (490×390) | 471.5 | 371.5 | 8 | 222 | 181 |
| 600×300 (590×290) | 571.5 | 271.5 | 6 | 272 | -   |
| 600×400 (590×390) | 571.5 | 371.5 | 8 | 272 | 181 |

Values in ( ) = FC4 model.

FC • FCW • FCH slide panel



Part Details

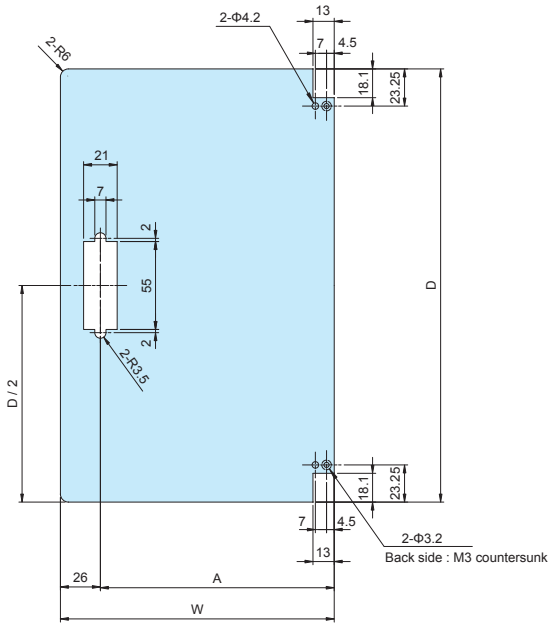
| Color code | Material               | Color / Finish                       |
|------------|------------------------|--------------------------------------|
| GS • BS    | Aluminium A1050P t=1.5 | Silver / Hairline brushed & Anodized |
| BX • BB    | Aluminium A1100P t=1.5 | Black / Painted                      |

| Box W / D size    | W     | D     |
|-------------------|-------|-------|
| 100×100 ( 90× 90) | 71.9  | 71.9  |
| 150×100 (140× 90) | 121.9 | 71.9  |
| 150×150 (140×140) | 121.9 | 121.9 |
| 200×100 (190× 90) | 171.9 | 71.9  |
| 200×150 (190×140) | 171.9 | 121.9 |
| 200×200 (190×190) | 171.9 | 171.9 |
| 250×150 (240×140) | 221.9 | 121.9 |
| 250×200 (240×190) | 221.9 | 171.9 |
| 250×250 (240×240) | 221.9 | 221.9 |
| 300×150 (290×140) | 271.9 | 121.9 |
| 300×200 (290×190) | 271.9 | 171.9 |
| 300×250 (290×240) | 271.9 | 221.9 |
| 300×300 (290×290) | 271.9 | 271.9 |
| 350×200 (340×190) | 321.9 | 171.9 |
| 350×250 (340×240) | 321.9 | 221.9 |
| 350×300 (340×290) | 321.9 | 271.9 |
| 400×200 (390×190) | 371.9 | 171.9 |
| 400×250 (390×240) | 371.9 | 221.9 |
| 400×300 (390×290) | 371.9 | 271.9 |
| 400×400 (390×390) | 371.9 | 371.9 |
| 500×250 (490×240) | 471.9 | 221.9 |
| 500×300 (490×290) | 471.9 | 271.9 |
| 500×400 (490×390) | 471.9 | 371.9 |
| 600×300 (590×290) | 571.9 | 271.9 |
| 600×400 (590×390) | 571.9 | 371.9 |

Values in ( ) = FC4 model.

# FCW open-closing panel

Handle - 1 pc / Hinge - 2 pcs type

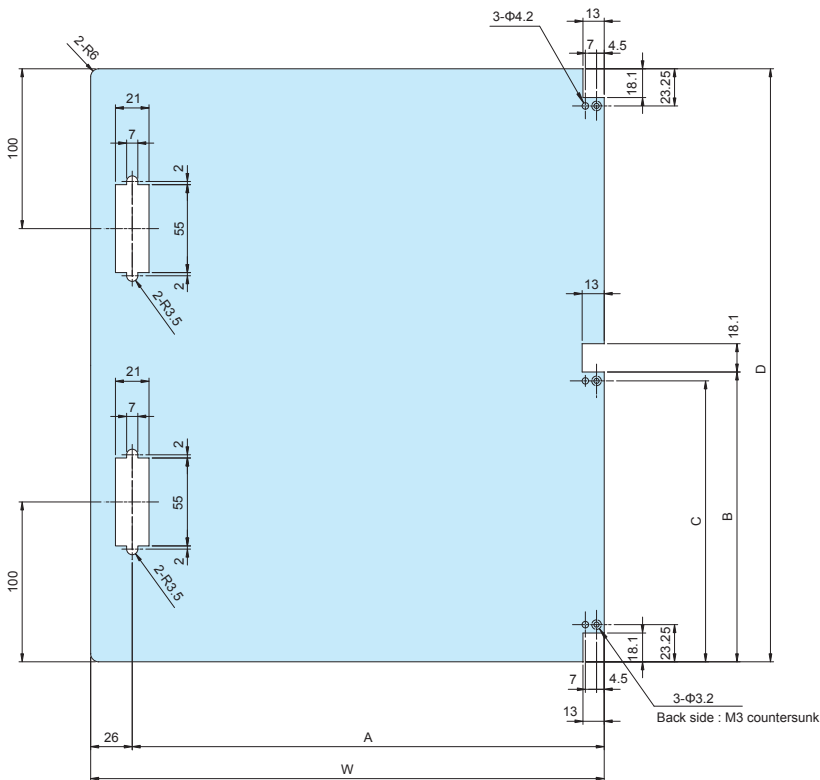


## Part Details

| Color code | Material               | Color / Finish                       |
|------------|------------------------|--------------------------------------|
| GS • BS    | Aluminium A1050P t=2.0 | Silver / Hairline brushed & Anodized |
| BX • BB    | Aluminium A1050P t=2.0 | Black / Anodized                     |

| Box W / D size | W   | D   | A   |
|----------------|-----|-----|-----|
| 150×200        | 121 | 171 | 95  |
| 150×250        | 121 | 221 | 95  |
| 200×150        | 171 | 121 | 145 |
| 200×200        | 171 | 171 | 145 |
| 200×250        | 171 | 221 | 145 |
| 200×300        | 171 | 271 | 145 |
| 250×250        | 221 | 221 | 195 |
| 250×300        | 221 | 271 | 195 |
| 250×400        | 221 | 371 | 195 |
| 300×200        | 271 | 171 | 245 |
| 300×300        | 271 | 271 | 245 |
| 300×400        | 271 | 371 | 245 |
| 350×250        | 321 | 221 | 295 |
| 400×300        | 371 | 271 | 345 |
| 400×400        | 371 | 371 | 345 |

Handle - 2 pcs / Hinge - 3 pcs type

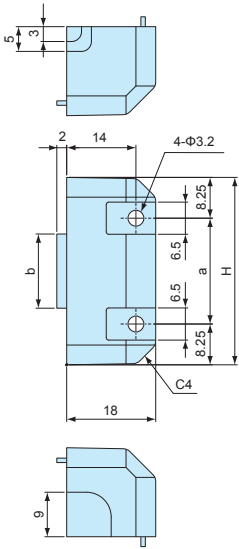


| Box W / D size | W   | D   | A   | B     | C      |
|----------------|-----|-----|-----|-------|--------|
| 300×500        | 271 | 471 | 245 | 231.3 | 225.75 |
| 400×500        | 371 | 471 | 345 | 231.3 | 225.75 |
| 400×600        | 371 | 571 | 345 | 281.3 | 275.75 |

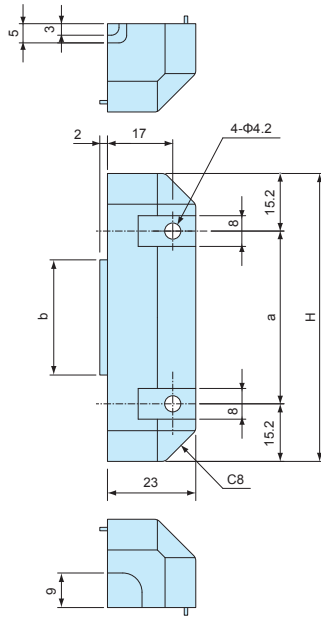
FC • FCW • FCH corner block

■ DXF/DWG/PDF drawings available on our website.

FC4



FC5 • FC6 • FC8 • FC10 • FC13 • FC15 • FCW • FCH



Part Details

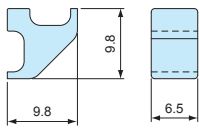
| Color code | Material   | Color / Finish |
|------------|------------|----------------|
| GS • BS    | ABS UL94HB | Light gray     |
| BX • BB    | ABS UL94HB | Black          |

| Box height | H     | a    | b   |
|------------|-------|------|-----|
| 37.9       | 37.9  | 21.4 | 15  |
| 50.4       | 50.4  | 20   | 10  |
| 62.9       | 62.9  | 32.5 | 20  |
| 75.4       | 75.4  | 45   | 30  |
| 100.4      | 100.4 | 70   | 55  |
| 125.4      | 125.4 | 95   | 80  |
| 150.4      | 150.4 | 120  | 105 |

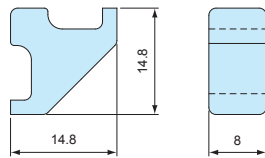
FC • FCW • FCH blind plug

■ FC-BK-SG and FC-BK-SB are for FC4 model only.  
For other height boxes, use FC-BK-G or FC-BK-B

FC-BK-S□

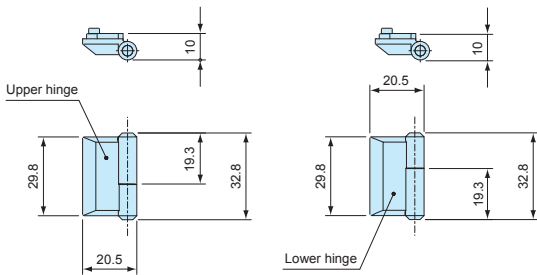


FC-BK-□



| Product no. | Material | Color      | Pack of       |
|-------------|----------|------------|---------------|
| FC-BK-SG    | TPE      | Light gray | 1 set (4 pcs) |
| FC-BK-SB    | TPE      | Black      | 1 set (4 pcs) |
| FC-BK-G     | TPE      | Light gray | 1 set (4 pcs) |
| FC-BK-B     | TPE      | Black      | 1 set (4 pcs) |

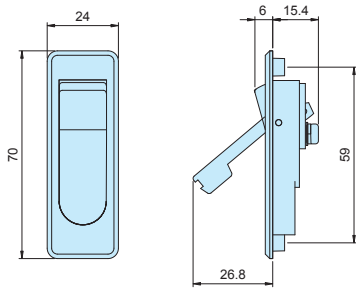
FCW hinge



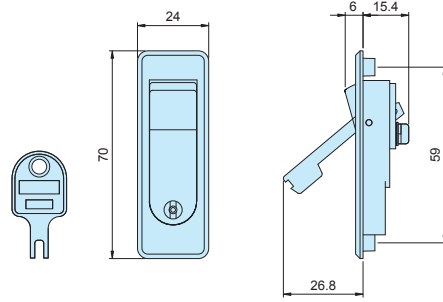
| Product no. | Material     | Color            | Pack of             |
|-------------|--------------|------------------|---------------------|
| FW-2S       | Diecast zinc | Silver / Painted | 1 set (Upper/Lower) |
| FW-2B       | Diecast zinc | Black / Painted  | 1 set (Upper/Lower) |



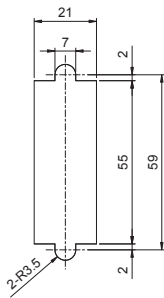
**FCW flat handle**



Normal type



Key lock type

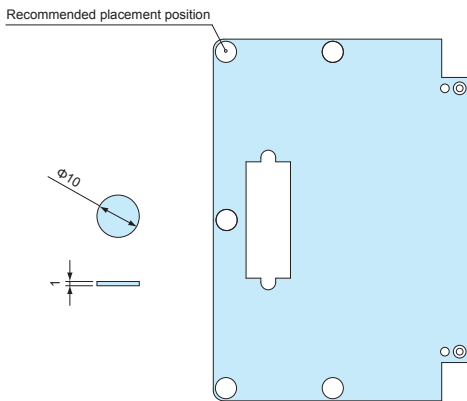


Mounting hole dimensions

| Product no. | Key | Material     | Color / Finish   |
|-------------|-----|--------------|------------------|
| PH-88A-2S   | No  | Diecast zinc | Silver / Painted |
| PH-88A-2B   | No  | Diecast zinc | Black / Painted  |
| PH-88 -2S   | Yes | Diecast zinc | Silver / Painted |
| PH-88 -2B   | Yes | Diecast zinc | Black / Painted  |

**FCW panel protection pad**

- Used to protect the panel from impact when closing, and to prevent wobbling or rattling when closed.
- Refer to illustration on recommended placement position.



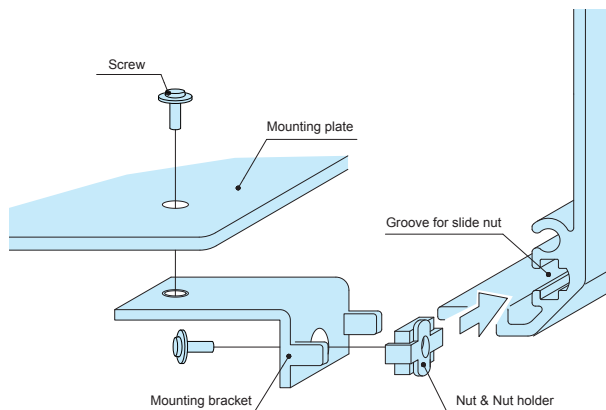
Back side of open / closing panel

**Part Details**

| Material        | Color |
|-----------------|-------|
| Polyolefin foam | Black |

FCC SERIES

MOUNTING PLATE for FC • FCW • FCH



How to assemble

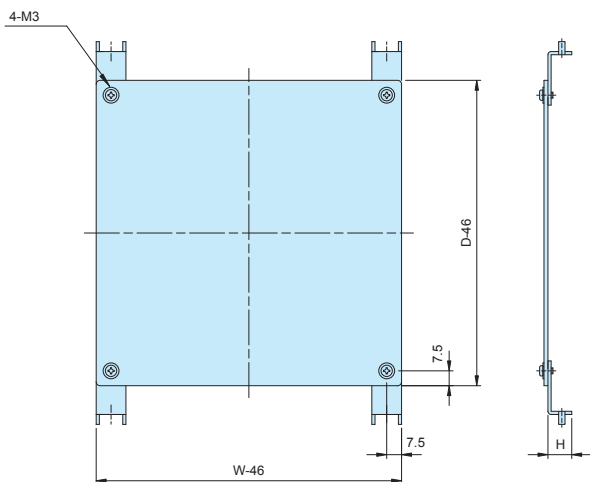
- ① Slide a M3 nut and nut holder into the groove on the frame.
- ② Screw the mounting bracket into the nut holder.
- ③ Screw the mounting plate onto the mounting bracket.

- The mounting bracket comes in 2 different height versions, 12mm and 22mm.
- Use 22mm height version when set on the open/close panel side of FCW series.
- Not suitable for FC4 (H = 37.9mm)
- Mounting brackets (FCK) are included with FCC series.
- DXF/DWG/PDF drawings available on our website.

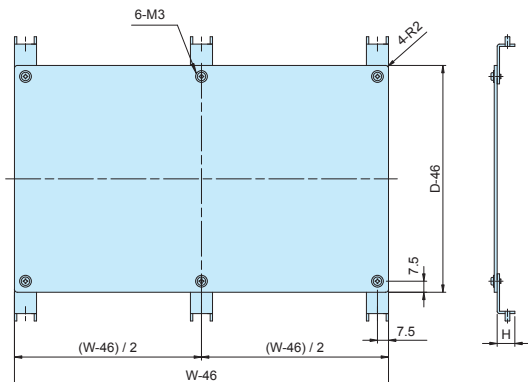
Components

| No. | Part name        | Material               | Color / Finish     |
|-----|------------------|------------------------|--------------------|
| 1   | Mounting plate   | Aluminium A1050P t=2.0 | Unfinished         |
| 2   | Mounting bracket | Steel SECC t=1.6       | Zinc coated        |
| 3   | M3 nut           | Steel SPCC t=1.6       | Trivalent chromate |
| 4   | Nut holder       | POM                    | Black              |
| 5   | Screw            | Steel M3-6             | Trivalent chromate |

For box size (W x D or D x W) 100 x 100mm to 350 x 300mm



For box size (W x D or D x W) 400/500/600 x 200/250/300 mm



Product no. / Dimensions

| Product no. | H  | Box W x D or D x W | Product no. | H  | Box W x D or D x W |
|-------------|----|--------------------|-------------|----|--------------------|
| FCC10-10-1  | 12 | 100×100            | FCC10-10-2  | 22 | 100×100            |
| FCC15-10-1  | 12 | 150×100            | FCC15-10-2  | 22 | 150×100            |
| FCC15-15-1  | 12 | 150×150            | FCC15-15-2  | 22 | 150×150            |
| FCC20-10-1  | 12 | 200×100            | FCC20-10-2  | 22 | 200×100            |
| FCC20-15-1  | 12 | 200×150            | FCC20-15-2  | 22 | 200×150            |
| FCC20-20-1  | 12 | 200×200            | FCC20-20-2  | 22 | 200×200            |
| FCC25-15-1  | 12 | 250×150            | FCC25-15-2  | 22 | 250×150            |
| FCC25-20-1  | 12 | 250×200            | FCC25-20-2  | 22 | 250×200            |
| FCC25-25-1  | 12 | 250×250            | FCC25-25-2  | 22 | 250×250            |
| FCC30-15-1  | 12 | 300×150            | FCC30-15-2  | 22 | 300×150            |
| FCC30-20-1  | 12 | 300×200            | FCC30-20-2  | 22 | 300×200            |
| FCC30-25-1  | 12 | 300×250            | FCC30-25-2  | 22 | 300×250            |
| FCC30-30-1  | 12 | 300×300            | FCC30-30-2  | 22 | 300×300            |
| FCC35-20-1  | 12 | 350×200            | FCC35-20-2  | 22 | 350×200            |
| FCC35-25-1  | 12 | 350×250            | FCC35-25-2  | 22 | 350×250            |
| FCC35-30-1  | 12 | 350×300            | FCC35-30-2  | 22 | 350×300            |

Included screws: M3-6 pan head trivalent chromate with flat washer x 8 pcs

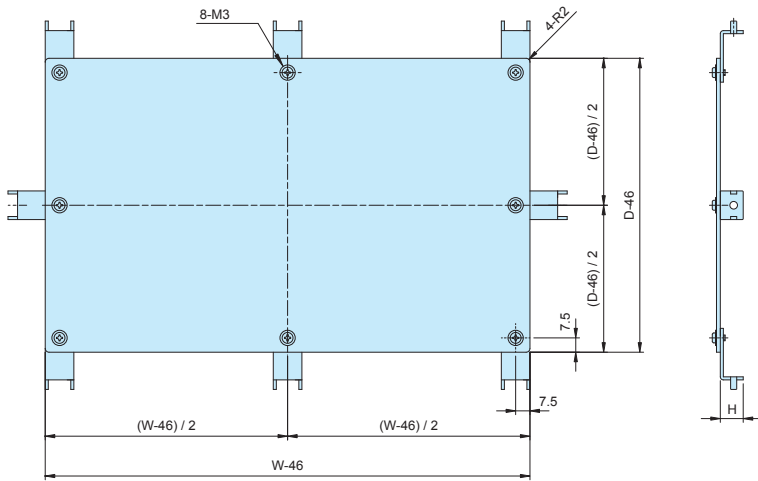
Product no. / Dimensions

| Product no. | H  | Box W x D or D x W | Product no. | H  | Box W x D or D x W |
|-------------|----|--------------------|-------------|----|--------------------|
| FCC40-20-1  | 12 | 400×200            | FCC40-20-2  | 22 | 400×200            |
| FCC40-25-1  | 12 | 400×250            | FCC40-25-2  | 22 | 400×250            |
| FCC40-30-1  | 12 | 400×300            | FCC40-30-2  | 22 | 400×300            |
| FCC50-25-1  | 12 | 500×250            | FCC50-25-2  | 22 | 500×250            |
| FCC50-30-1  | 12 | 500×300            | FCC50-30-2  | 22 | 500×300            |
| FCC60-30-1  | 12 | 600×300            | FCC60-30-2  | 22 | 600×300            |

Included screws: M3-6 pan head trivalent chromate with flat washer x 12 pcs

For box size (W x D or D x W) 400/500/600 x 400mm

DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

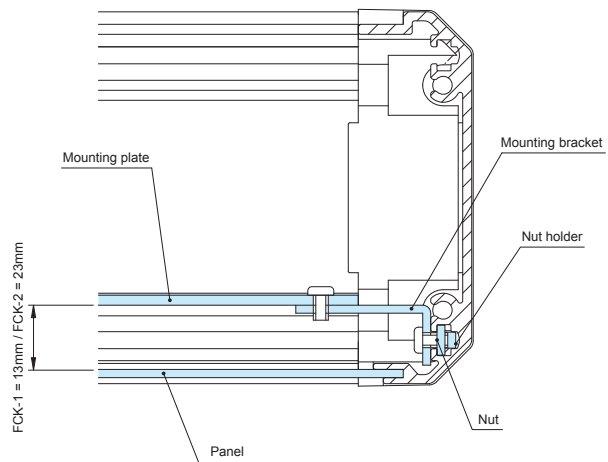
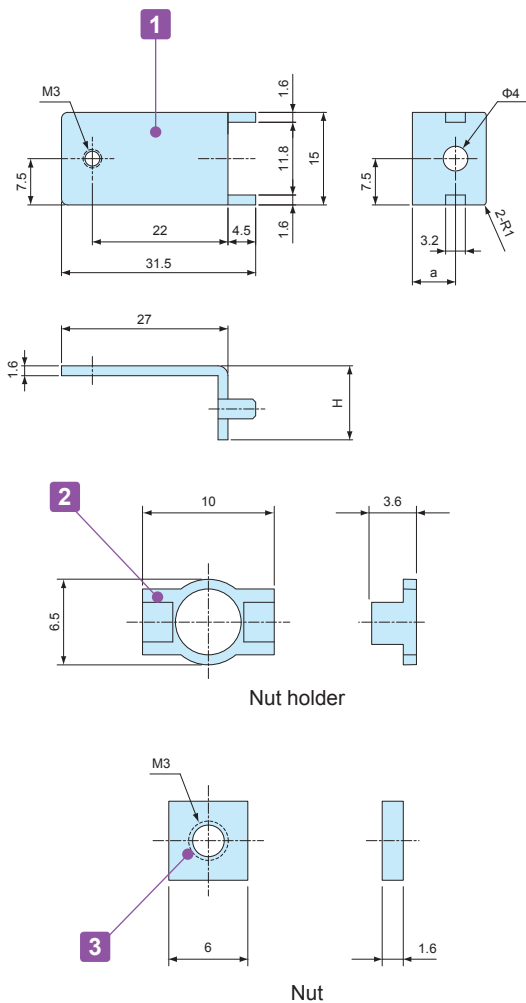
| Product no. | H  | Box W x D or D x W | Product no. | H  | Box W x D or D x W |
|-------------|----|--------------------|-------------|----|--------------------|
| FCC40-40-1  | 12 | 400x400            | FCC40-40-2  | 22 | 400x400            |
| FCC50-40-1  | 12 | 500x400            | FCC50-40-2  | 22 | 500x400            |
| FCC60-40-1  | 12 | 600x400            | FCC60-40-2  | 22 | 600x400            |

Included screws: M3-6 pan head trivalent chromate with flat washer x 16 pcs

Accessories (Optional parts)

FCK SERIES MOUNTING BRACKET

DXF/DWG/PDF drawings available on our website.



- 2 mounting brackets for PCB or DIN-Rail.
- FCK mounting bracket comes with FCC mounting plate. Additional FCK is not necessary when purchasing FCC series.
- Not suitable for FC4 (H = 37.9mm).

Components

| No. | Part name        | Material         | Color / Finish     |
|-----|------------------|------------------|--------------------|
| 1   | Mounting bracket | Steel SECC t=1.6 | Zinc coated        |
| 2   | Nut holder       | POM              | Black              |
| 3   | M3 nut           | Steel SPCC t=1.6 | Trivalent chromate |

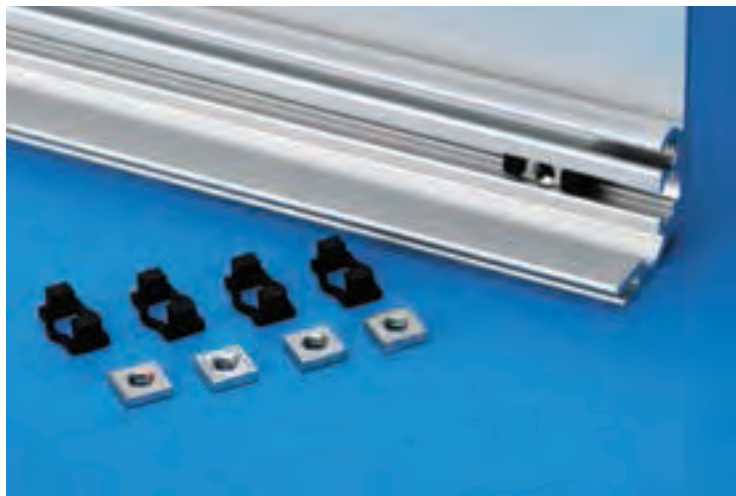
Product no. / Dimensions

| Product no. | H  | a  | Pack of |
|-------------|----|----|---------|
| FCK-1       | 12 | 7  | 10      |
| FCK-2       | 22 | 17 | 10      |

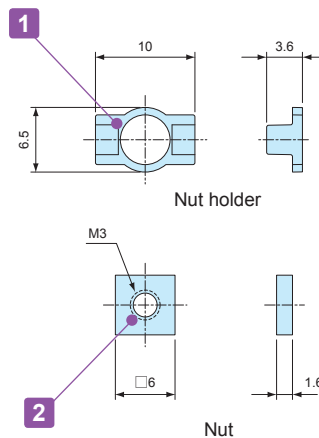
Included screws: M3-6 pan head trivalent chromate with flat washer x 20 pcs

**FZ-3 SLIDE NUT**

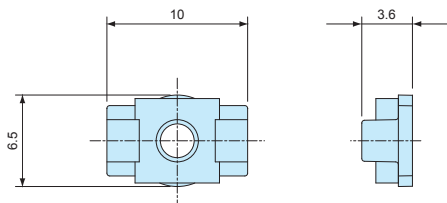
■ M3 slide nut set for FC • FCW • FCH series.



■ DXF/DWG/PDF drawings available on our website.



**FZ-3 dimensions**



- FZ-3 slide nut comes with FCC mounting plate. Additional FZ-3 is not necessary when purchasing FCC series.
- FZ-3 slide nut comes with FCK mounting bracket. Additional FZ-3 is not necessary when purchasing FCK series.
- Not suitable for FC4 (H = 37.9mm).

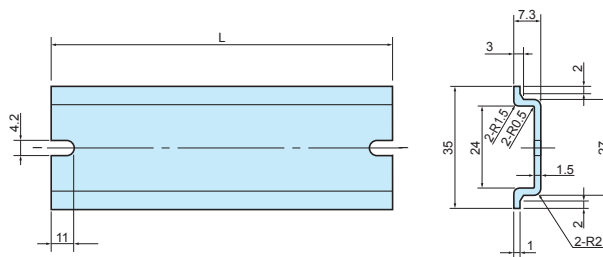
**Components**

| No. | Part name  | Material         | Color / Finish     |
|-----|------------|------------------|--------------------|
| 1   | Nut holder | POM              | Black              |
| 2   | M3 nut     | Steel SPCC t=1.6 | Trivalent chromate |

**Product no. / Dimensions**

| Product no. | Screw size | Pack of |
|-------------|------------|---------|
| FZ-3        | M3         | 10      |

**FDR SERIES DIN-RAIL**



- FCK mounting bracket is required for installation. (See page 202 for FCK mounting bracket).
- Not suitable for FC4 (H = 37.9mm).

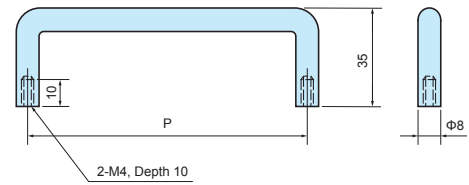
**Components**

| Material            | Color / Finish    |
|---------------------|-------------------|
| Aluminium A6063S-T5 | Silver / Anodized |

**Product no. / Dimensions**

| Product no. | L   | Box length |
|-------------|-----|------------|
| FDR- 50     | 50  | 100        |
| FDR-100     | 100 | 150        |
| FDR-150     | 150 | 200        |
| FDR-205     | 205 | 250        |
| FDR-249     | 249 | 300        |
| FDR-300     | 300 | 350        |
| FDR-350     | 350 | 400        |
| FDR-450     | 450 | 500        |
| FDR-550     | 550 | 600        |

**BH SERIES ALUMINIUM HANDLE**



- Rounded aluminium handle for FC series.
- Hole milling is required for installation.

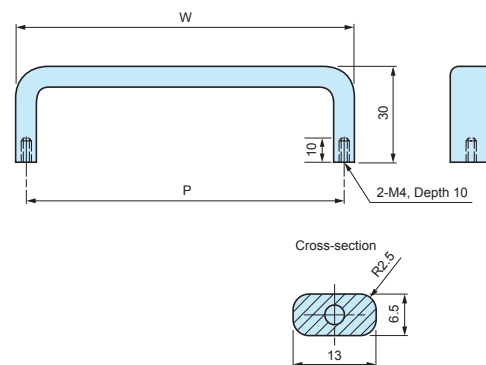
**Components**

| No. | Part name | PCS | Material                         | Color / Finish            |
|-----|-----------|-----|----------------------------------|---------------------------|
| 1   | Handle    | 1   | Aluminium A5056S                 | Silver • Black / Anodized |
| 2   | Screw     | 2   | Steel M4-10 (with spring washer) | Trivalent chromate        |

**Product no. / Dimensions**

| Product no. |         | P   | Pack of |
|-------------|---------|-----|---------|
| ● Silver    | ● Black |     |         |
| BH-100K     | BH-100B | 100 | 2       |
| BH-120K     | BH-120B | 120 | 2       |
| BH-150K     | BH-150B | 150 | 2       |
| BH-180K     | BH-180B | 180 | 2       |

**OH SERIES ALUMINIUM HANDLE**



- Aluminium flat bar shaped handle for FC series.
- Hole milling is required for installation.

**Components**

| No. | Part name | PCS | Material                         | Color / Finish            |
|-----|-----------|-----|----------------------------------|---------------------------|
| 1   | Handle    | 1   | Aluminium A5056S                 | Silver • Black / Anodized |
| 2   | Screw     | 2   | Steel M4-10 (with spring washer) | Trivalent chromate        |

**Product no. / Dimensions**

| Product no. |         | P   | W     | Pack of |
|-------------|---------|-----|-------|---------|
| ● Silver    | ● Black |     |       |         |
| OH-100K     | OH-100B | 100 | 106.5 | 2       |
| OH-120K     | OH-120B | 120 | 126.5 | 2       |
| OH-140K     | OH-140B | 140 | 146.5 | 2       |
| OH-170K     | OH-170B | 170 | 176.5 | 2       |

# EXH HEAT-SINK ALUMINIUM ENCLOSURE

EXH series is an aluminium enclosure with a highly efficient heat-sink top cover.

Suitable to be used as fanless PC, power amplifier, and power supply box where heat dissipation is required.

Wide range, 30 different sizes available.



## Waved surface heat-sink fins for maximum cooling performance!

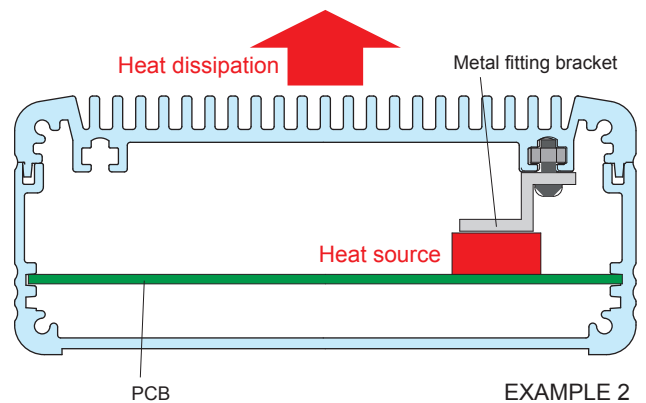
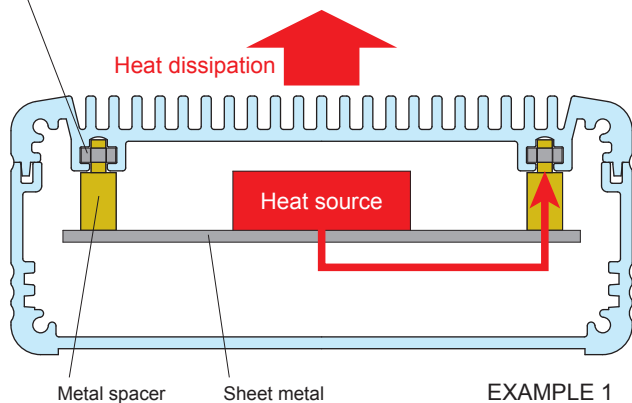
- Each heat-sink fin has a waved surface construction for maximum cooling performance.

Waved Surface



## HEAT DISSIPATION EXAMPLE

- EXH series has grooves to put M3 nuts inside its heat-sink cover. It is possible to construct a heat conduction route from your heat source to heat-sink cover easily for better heat dissipation performance.





# APPLICATION EXAMPLE

## INDUSTRIAL FANLESS PC

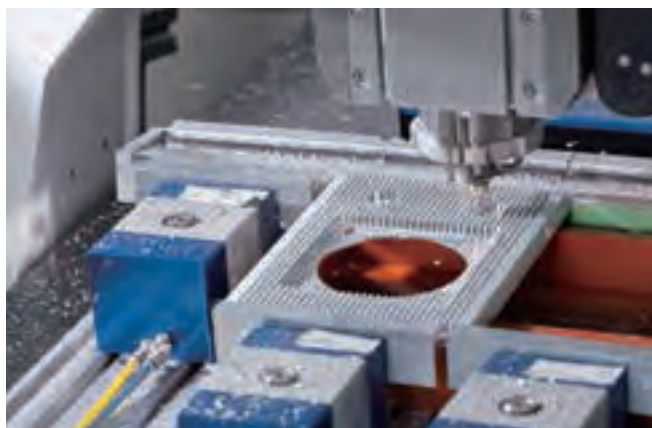


## POWER AMPLIFIER



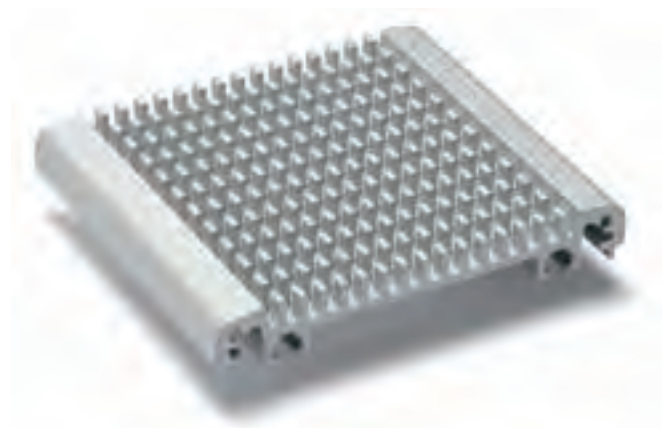
# CUSTOMIZATION EXAMPLE

## CNC MACHINING on HEAT-SINK COVER



Heat-sink plates can be customized with our high speed CNC machines.

## PIN TYPE FIN CUSTOMIZATION



Pin type heat-sink fin can be customized for better cooling performance.

## VENTILATION SLITS



Heat-sink plate can be customized as ventilation slit for better cooling / ventilation performance.

## COLOR ANODIZING



Various colors, such as blue, red, orange, green or purple can be anodized as per your requirements.

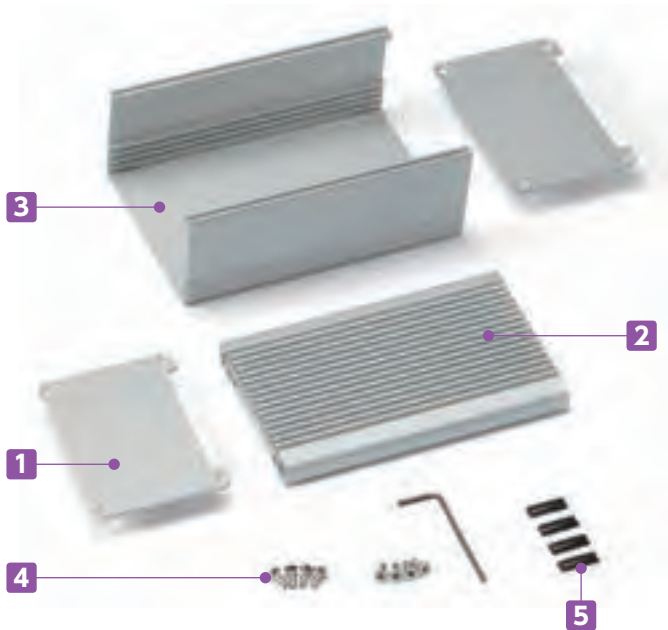
■ Not all colors and shades of colors are possible.

EXH SERIES

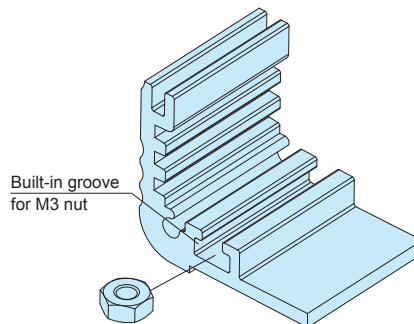
HEAT-SINK ALUMINIUM ENCLOSURE



|                        |
|------------------------|
| <b>Technical Data</b>  |
| Protection class: IP40 |



- Aluminium enclosure equipped with a highly efficient heat-sink top cover.
- Suitable to be used as a fanless PC, power amplifier, power supply etc. where heat dissipation is required.
- Selectable in 30 different sizes and 4 color types.
- Grooves are built into the heat-sink top cover and bottom frame for M3 nut insertion.



Components

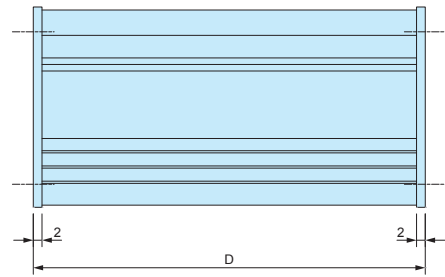
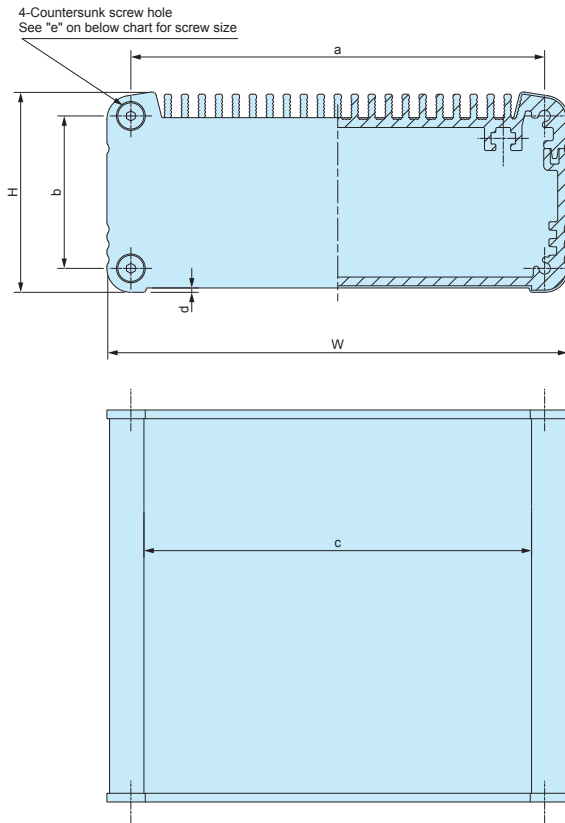
| No. | Part name           | Pcs | Material                     | Color / Finish            |
|-----|---------------------|-----|------------------------------|---------------------------|
| 1   | Panel               | 2   | Aluminium A1050P             | Silver • Black / Anodized |
| 2   | Heat-sink top cover | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized |
| 3   | Bottom frame        | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized |
| 4   | Screw               | 8   | Stainless steel              | Unfinished                |
| 5   | Rubber feet         | 4   | Polyurethane                 | Black                     |

Color Type

| Code  | S S Silver / Silver | S B Silver / Black | B S Black / Silver | B B Black / Black |
|-------|---------------------|--------------------|--------------------|-------------------|
| Color |                     |                    |                    |                   |

EXH dimensions

■ See page 209 ~ 210 for detailed dimensions.



Included screws  
EXH8 series : M2.5-8 x 8 pcs  
EXH11 and EXH14 series : M3-8 x 8 pcs  
※Hexagonal wrench included.

- ※Thermal resistance test condition
- Ambient air cooling
  - Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
  - Anodized aluminium extrusion
  - Heat source is applied on the opposite side (inner side) of the fins.

Product no. / Dimensions

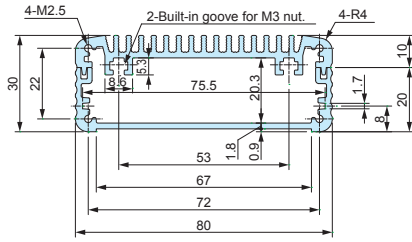
■ Please suffix color code at the end of the product number.

| Product no.  | W    | H    | D   | a   | b  | c   | d   | e   | ※Thermal resistance rate (°C/W) |
|--------------|------|------|-----|-----|----|-----|-----|-----|---------------------------------|
| EXH 8-3- 6□□ | 80.6 | 30.7 | 60  | 72  | 22 | 67  | 0.9 | 2.5 | 7.32                            |
| EXH 8-3- 9□□ | 80.6 | 30.7 | 90  | 72  | 22 | 67  | 0.9 | 2.5 | 5.65                            |
| EXH 8-3-12□□ | 80.6 | 30.7 | 120 | 72  | 22 | 67  | 0.9 | 2.5 | 4.72                            |
| EXH 8-4- 6□□ | 80.6 | 40.7 | 60  | 72  | 32 | 67  | 0.9 | 2.5 | 7.32                            |
| EXH 8-4- 9□□ | 80.6 | 40.7 | 90  | 72  | 32 | 67  | 0.9 | 2.5 | 5.65                            |
| EXH 8-4-12□□ | 80.6 | 40.7 | 120 | 72  | 32 | 67  | 0.9 | 2.5 | 4.72                            |
| EXH 8-6- 6□□ | 80.6 | 55.7 | 60  | 72  | 47 | 67  | 0.9 | 2.5 | 7.32                            |
| EXH 8-6- 9□□ | 80.6 | 55.7 | 90  | 72  | 47 | 67  | 0.9 | 2.5 | 5.65                            |
| EXH 8-6-12□□ | 80.6 | 55.7 | 120 | 72  | 47 | 67  | 0.9 | 2.5 | 4.72                            |
| EXH11-3- 8□□ | 106  | 31.1 | 78  | 95  | 20 | 89  | 1   | 3   | 4.82                            |
| EXH11-3-12□□ | 106  | 31.1 | 118 | 95  | 20 | 89  | 1   | 3   | 3.72                            |
| EXH11-3-16□□ | 106  | 31.1 | 164 | 95  | 20 | 89  | 1   | 3   | 3.03                            |
| EXH11-5- 8□□ | 106  | 46.1 | 78  | 95  | 35 | 89  | 1   | 3   | 4.82                            |
| EXH11-5-12□□ | 106  | 46.1 | 118 | 95  | 35 | 89  | 1   | 3   | 3.72                            |
| EXH11-5-16□□ | 106  | 46.1 | 164 | 95  | 35 | 89  | 1   | 3   | 3.03                            |
| EXH11-6- 8□□ | 106  | 61.1 | 78  | 95  | 50 | 89  | 1   | 3   | 4.82                            |
| EXH11-6-12□□ | 106  | 61.1 | 118 | 95  | 50 | 89  | 1   | 3   | 3.72                            |
| EXH11-6-16□□ | 106  | 61.1 | 164 | 95  | 50 | 89  | 1   | 3   | 3.03                            |
| EXH14-4-10□□ | 141  | 36.1 | 97  | 130 | 25 | 124 | 1   | 3   | 3.4                             |
| EXH14-4-14□□ | 141  | 36.1 | 137 | 130 | 25 | 124 | 1   | 3   | 2.75                            |
| EXH14-4-19□□ | 141  | 36.1 | 187 | 130 | 25 | 124 | 1   | 3   | 2.27                            |
| EXH14-5-10□□ | 141  | 51.1 | 97  | 130 | 40 | 124 | 1   | 3   | 3.4                             |
| EXH14-5-14□□ | 141  | 51.1 | 137 | 130 | 40 | 124 | 1   | 3   | 2.75                            |
| EXH14-5-19□□ | 141  | 51.1 | 187 | 130 | 40 | 124 | 1   | 3   | 2.27                            |
| EXH14-7-10□□ | 141  | 71.1 | 97  | 130 | 60 | 124 | 1   | 3   | 3.4                             |
| EXH14-7-14□□ | 141  | 71.1 | 137 | 130 | 60 | 124 | 1   | 3   | 2.75                            |
| EXH14-7-19□□ | 141  | 71.1 | 187 | 130 | 60 | 124 | 1   | 3   | 2.27                            |
| EXH14-9-10□□ | 141  | 91.1 | 97  | 130 | 80 | 124 | 1   | 3   | 3.4                             |
| EXH14-9-14□□ | 141  | 91.1 | 137 | 130 | 80 | 124 | 1   | 3   | 2.75                            |
| EXH14-9-19□□ | 141  | 91.1 | 187 | 130 | 80 | 124 | 1   | 3   | 2.27                            |

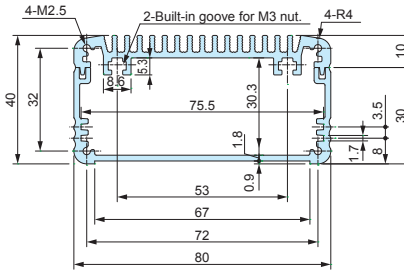
Cross-section View

EXH heat-sink top cover / bottom frame

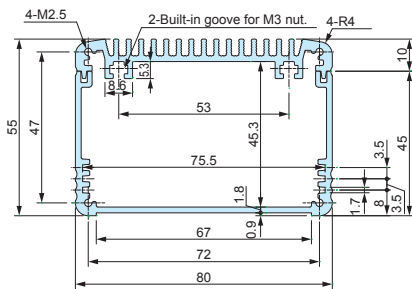
8-3-□



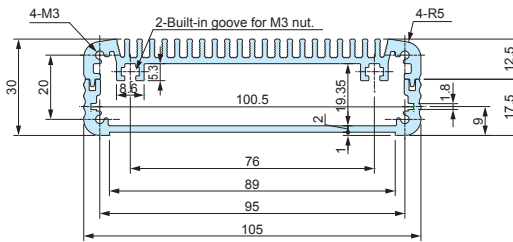
8-4-□



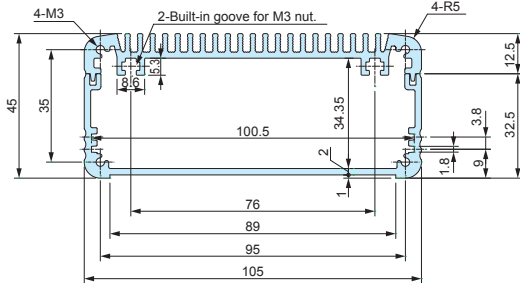
8-6-□



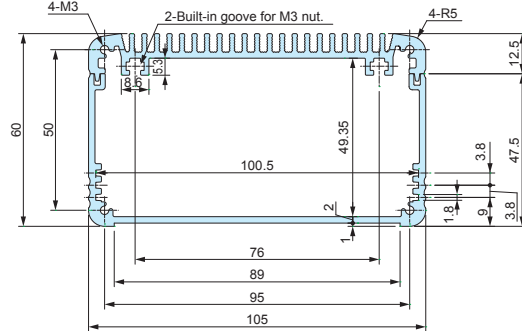
11-3-□



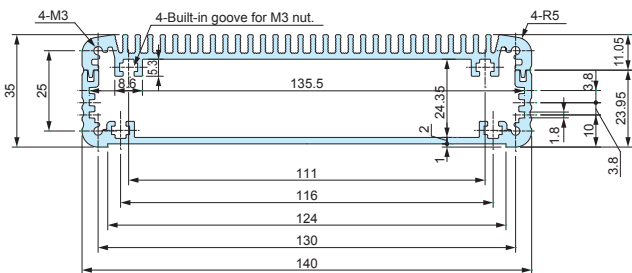
11-5-□



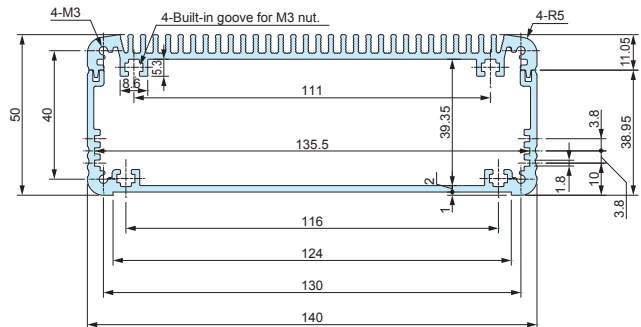
11-6-□



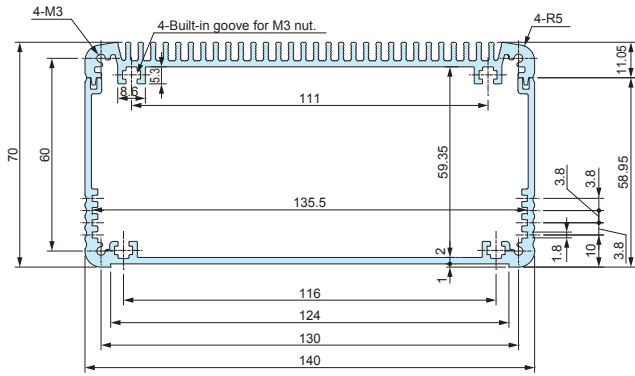
14-4-□



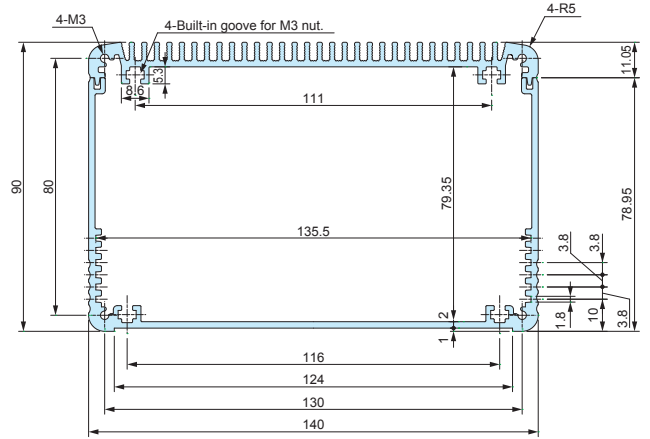
14-5-□



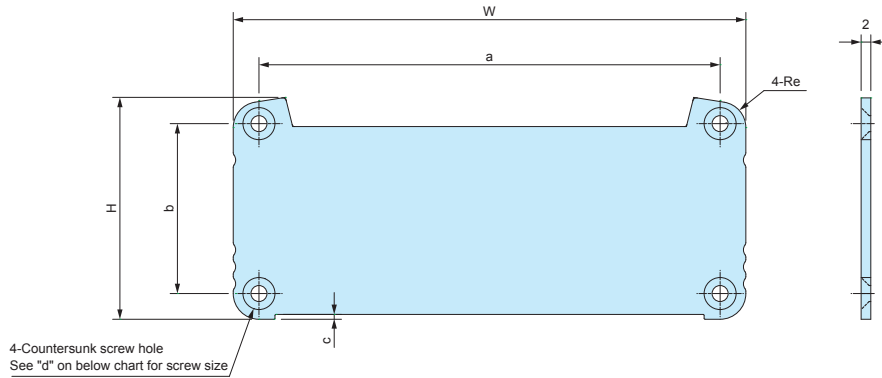
14-7-□



14-9-□



**EXH panel**

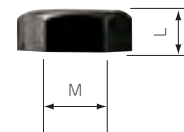
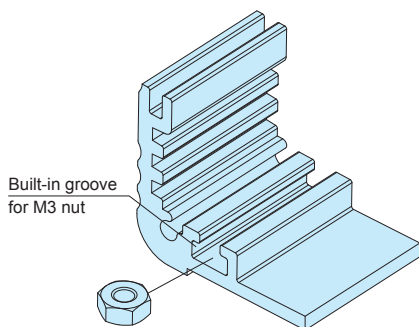


| Product no. | W    | H    | a   | b  | c   | d   | e   |
|-------------|------|------|-----|----|-----|-----|-----|
| EXH 8-3-□   | 80.6 | 30.7 | 72  | 22 | 0.9 | 2.5 | 4.3 |
| EXH 8-4-□   | 80.6 | 40.7 | 72  | 32 | 0.9 | 2.5 | 4.3 |
| EXH 8-6-□   | 80.6 | 55.7 | 72  | 47 | 0.9 | 2.5 | 4.3 |
| EXH11-3-□   | 106  | 31.1 | 95  | 20 | 1   | 3   | 5.5 |
| EXH11-5-□   | 106  | 46.1 | 95  | 35 | 1   | 3   | 5.5 |
| EXH11-6-□   | 106  | 61.1 | 95  | 50 | 1   | 3   | 5.5 |
| EXH14-4-□   | 141  | 36.1 | 130 | 25 | 1   | 3   | 5.5 |
| EXH14-5-□   | 141  | 51.1 | 130 | 40 | 1   | 3   | 5.5 |
| EXH14-7-□   | 141  | 71.1 | 130 | 60 | 1   | 3   | 5.5 |
| EXH14-9-□   | 141  | 91.1 | 130 | 80 | 1   | 3   | 5.5 |

**Accessories (Optional parts)**

**MT-3N**

**SLIDING NUT for EXH**



**Product no. / Dimensions**

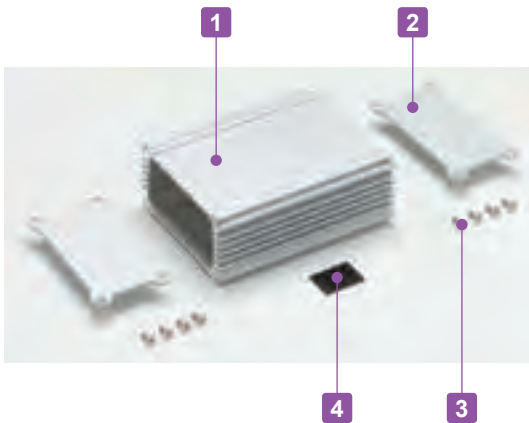
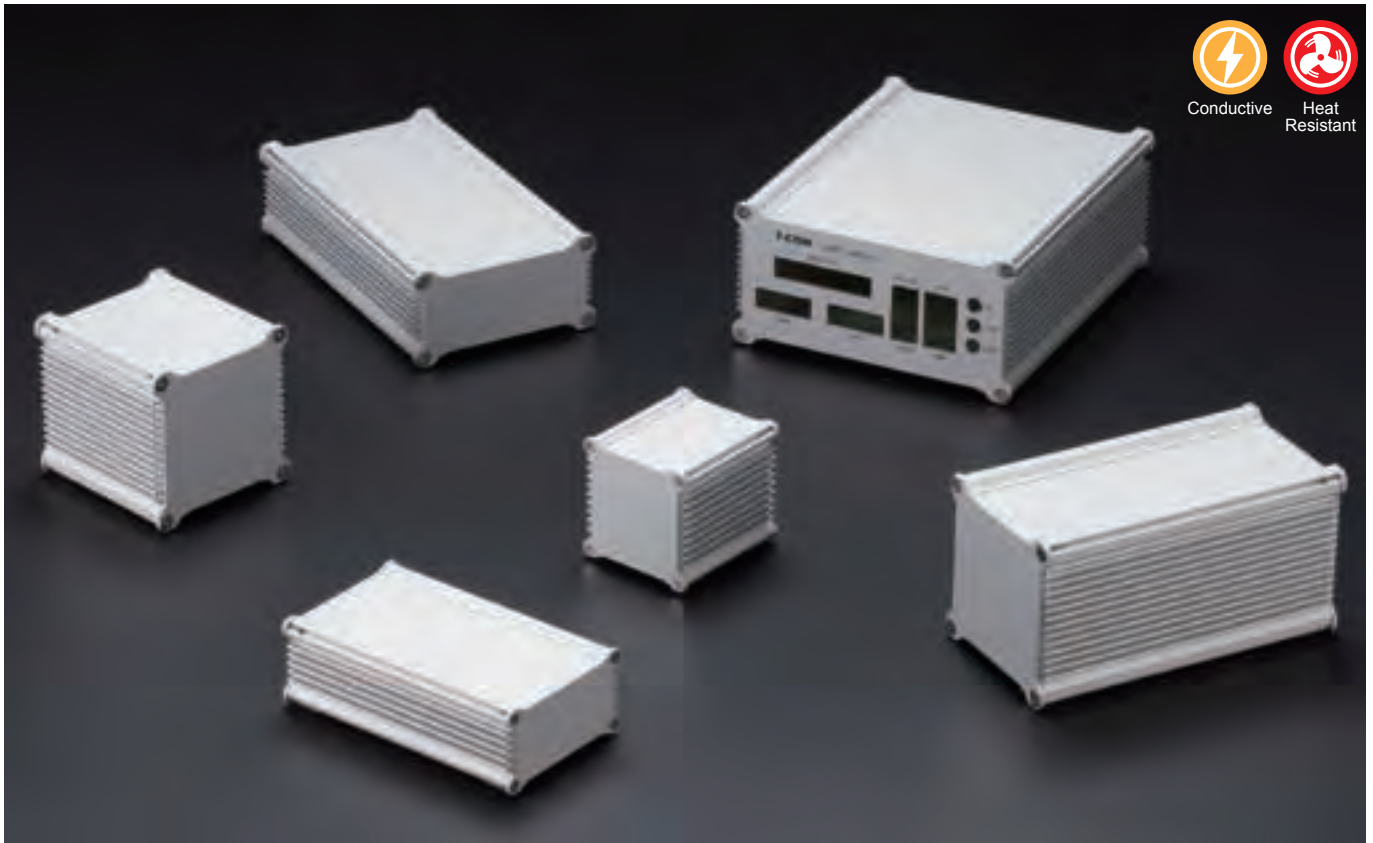
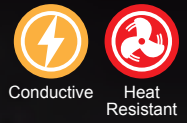
| Product no. | M | L   | Material | Finish                   | Pack of |
|-------------|---|-----|----------|--------------------------|---------|
| MT-3N       | 3 | 2.4 | Steel    | Black trivalent chromate | 50      |

■ Sliding nut can be used on all EXH heat-sink top covers and EXH14 bottom frames.



# AWA SERIES

# HEAT-SINK ALUMINIUM ENCLOSURE



| Technical Data                            |
|---|
| Protection class: IP40                    |
| Operating temperature: -40°C ~ +105°C     |
| Recommended torque: 1.0N • m (10kgf • cm) |

- Extruded aluminium frame manufactured with heat-sink sides.
- Silver anodized end panels makes for a luxurious finish.
- Conductivity is achieved by utilizing the contact between the unfinished end panels backside and inside of the frame.
- PCB or chassis can be horizontally mounted by sliding into an inner-grooved body frame.
- Suitable for industrial fanless PC, measuring instrument, digital audio amplifier and so on.

### Components

| No. | Part name        | Pcs | Material                     | Color / Finish                                      |
|-----|------------------|-----|------------------------------|---|
| 1   | Body frame       | 1   | Extruded aluminium A6063S-T5 | Silver / Anodized (outside) : Unfinished (inside)   |
| 2   | End panel        | 2   | Aluminium                    | Silver / Anodized (outside) : Unfinished (backside) |
| 3   | Hex socket screw | 8   | Stainless steel              | Unfinished  |
| 4   | Rubber feet      | 4   | Polyurethane                 | Black   |

### Accessories (Optional parts)



Mounting plate  
AWC series  
See page 216



Aluminium isolation feet  
AFS • AFM series  
See page 265 ~ 266



※ Thermal resistance test condition

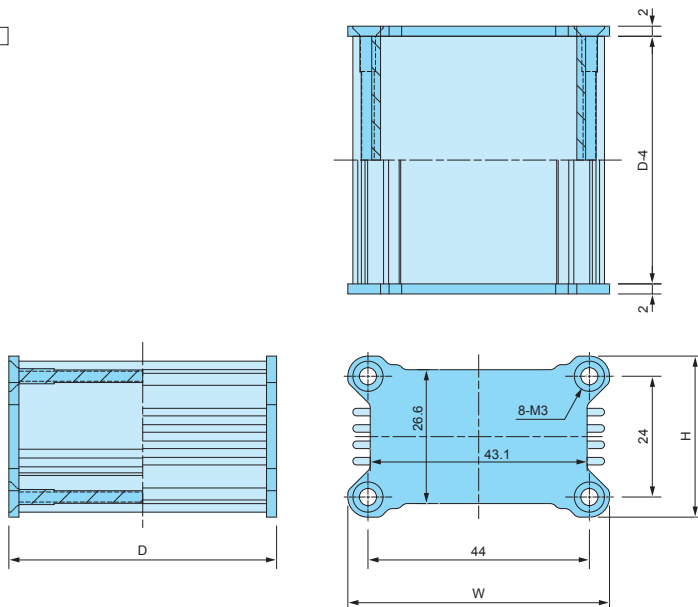
- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminium extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

Product no. / Dimensions

| Product no.  | W     | H    | D     | ※ Thermal resistance rate (°C/W) | Weight (g) |
|--------------|-------|------|-------|----------------------------------|------------|
| AWA 5-3- 5SS | 52    | 32   | 53.2  | 11.2                             | 69.5       |
| AWA 5-3- 7SS | 52    | 32   | 73.2  | 9.18                             | 90.5       |
| AWA 5-3-10SS | 52    | 32   | 98.2  | 7.64                             | 116.5      |
| AWA 5-3-12SS | 52    | 32   | 123.2 | 6.63                             | 142.5      |
| AWA 6-6- 7SS | 61    | 61   | 68    | 4.41                             | 156        |
| AWA 6-6-10SS | 61    | 61   | 98    | 3.5                              | 212        |
| AWA 6-6-14SS | 61    | 61   | 138   | 2.83                             | 286        |
| AWA 6-6-19SS | 61    | 61   | 188   | 2.33                             | 379        |
| AWA 6-6-24SS | 61    | 61   | 238   | 2.02                             | 471.5      |
| AWA 8-4- 8SS | 76    | 41   | 78    | 5.97                             | 154        |
| AWA 8-4-10SS | 76    | 41   | 103   | 5.01                             | 195        |
| AWA 8-4-13SS | 76    | 41   | 128   | 4.37                             | 236.5      |
| AWA 8-4-16SS | 76    | 41   | 163   | 3.76                             | 294        |
| AWA 8-8- 9SS | 82    | 82   | 86    | 3.1                              | 319.5      |
| AWA 8-8-11SS | 82    | 82   | 111   | 2.63                             | 392.5      |
| AWA 8-8-16SS | 82    | 82   | 156   | 2.12                             | 523.5      |
| AWA 8-8-21SS | 82    | 82   | 206   | 1.79                             | 669.5      |
| AWA 8-8-26SS | 82    | 82   | 261   | 1.54                             | 829.5      |
| AWA10-5-10SS | 102   | 52   | 95.6  | 4.52                             | 288.5      |
| AWA10-5-14SS | 102   | 52   | 135.6 | 3.62                             | 387.5      |
| AWA10-5-18SS | 102   | 52   | 175.6 | 3.08                             | 486        |
| AWA10-5-23SS | 102   | 52   | 225.6 | 2.64                             | 609        |
| AWA12-7- 9SS | 115.7 | 67   | 90.6  | 3.6                              | 354        |
| AWA12-7-12SS | 115.7 | 67   | 125.6 | 2.93                             | 460        |
| AWA12-7-17SS | 115.7 | 67   | 165.1 | 2.47                             | 579.5      |
| AWA12-7-20SS | 115.7 | 67   | 200.6 | 2.18                             | 687        |
| AWA15-8-12SS | 152   | 77   | 120.6 | 2.64                             | 565.5      |
| AWA15-8-16SS | 152   | 77   | 160.6 | 2.2                              | 712        |
| AWA15-8-21SS | 152   | 77   | 210.6 | 1.86                             | 895.5      |
| AWA15-8-26SS | 152   | 77   | 260.6 | 1.63                             | 1,079      |
| AWA20-8-15SS | 202.4 | 77.4 | 153.8 | 2.3                              | 854.5      |
| AWA20-8-19SS | 202.4 | 77.4 | 193.8 | 1.99                             | 1,025      |
| AWA20-8-24SS | 202.4 | 77.4 | 243.8 | 1.72                             | 1,238      |
| AWA20-8-29SS | 202.4 | 77.4 | 293.8 | 1.54                             | 1,451.5    |

AWA dimensions

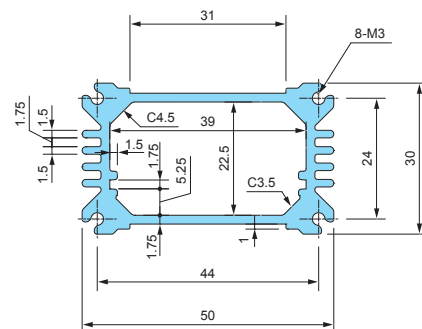
AWA5-3-□



■ DXF/DWG/PDF drawings available on our website.

| Product no.  | W  | H  | D     |
|--------------|----|----|-------|
| AWA 5-3- 5SS | 52 | 32 | 53.2  |
| AWA 5-3- 7SS | 52 | 32 | 73.2  |
| AWA 5-3-10SS | 52 | 32 | 98.2  |
| AWA 5-3-12SS | 52 | 32 | 123.2 |

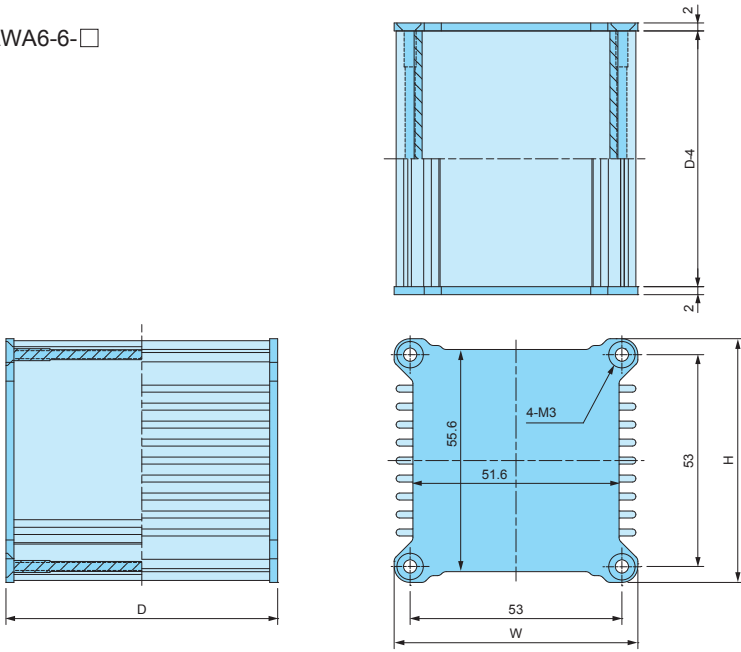
■ Body frame length = D - 4



AWA dimensions

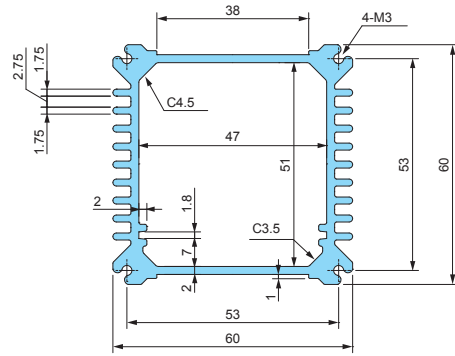
■ DXF/DWG/PDF drawings available on our website.

AWA6-6-□

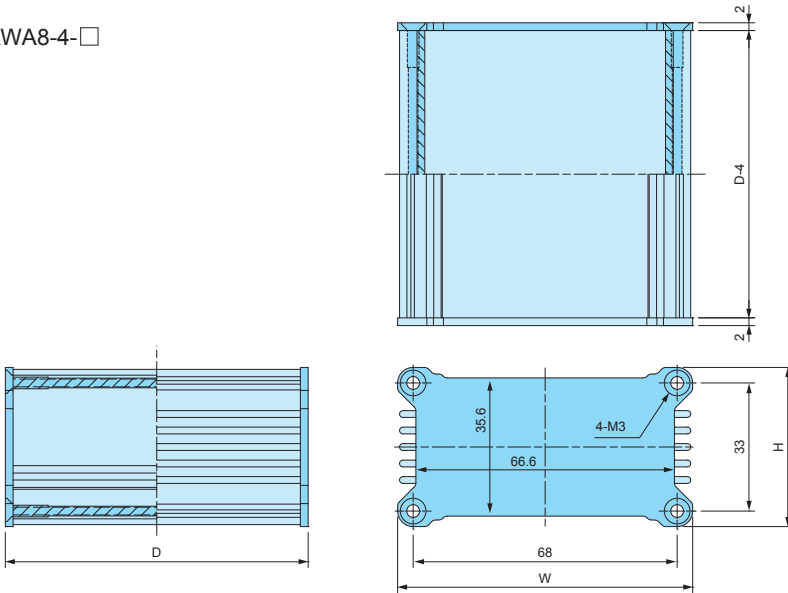


| Product no.  | W  | H  | D   |
|--------------|----|----|-----|
| AWA 6-6- 7SS | 61 | 61 | 68  |
| AWA 6-6-10SS | 61 | 61 | 98  |
| AWA 6-6-14SS | 61 | 61 | 138 |
| AWA 6-6-19SS | 61 | 61 | 188 |
| AWA 6-6-24SS | 61 | 61 | 238 |

■ Body frame length = D - 4

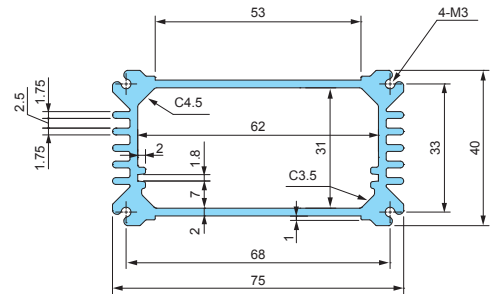


AWA8-4-□

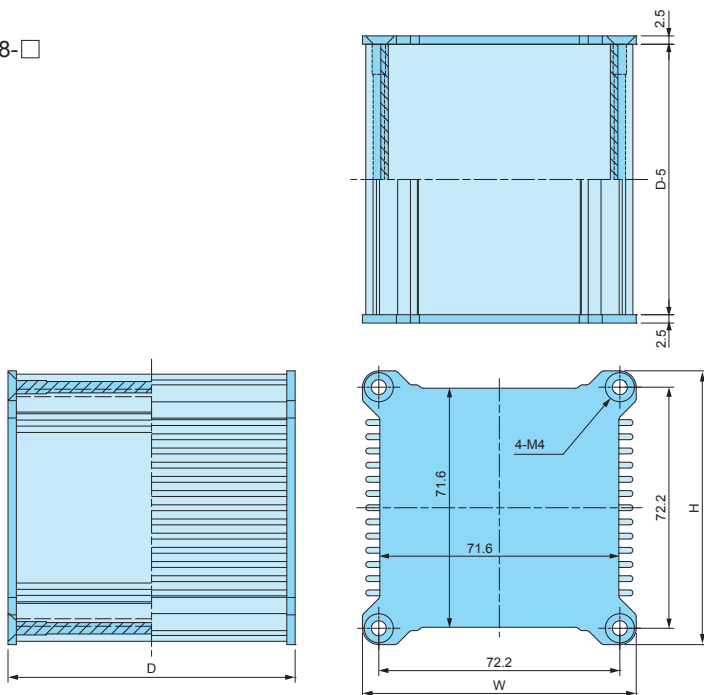


| Product no.  | W  | H  | D   |
|--------------|----|----|-----|
| AWA 8-4- 8SS | 76 | 41 | 78  |
| AWA 8-4-10SS | 76 | 41 | 103 |
| AWA 8-4-13SS | 76 | 41 | 128 |
| AWA 8-4-16SS | 76 | 41 | 163 |

■ Body frame length = D - 4

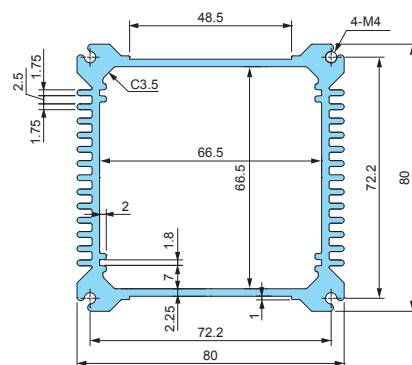


AWA8-8-□



| Product no.  | W  | H  | D   |
|--------------|----|----|-----|
| AWA 8-8- 9SS | 82 | 82 | 86  |
| AWA 8-8-11SS | 82 | 82 | 111 |
| AWA 8-8-16SS | 82 | 82 | 156 |
| AWA 8-8-21SS | 82 | 82 | 206 |
| AWA 8-8-26SS | 82 | 82 | 261 |

■ Body frame length = D - 5





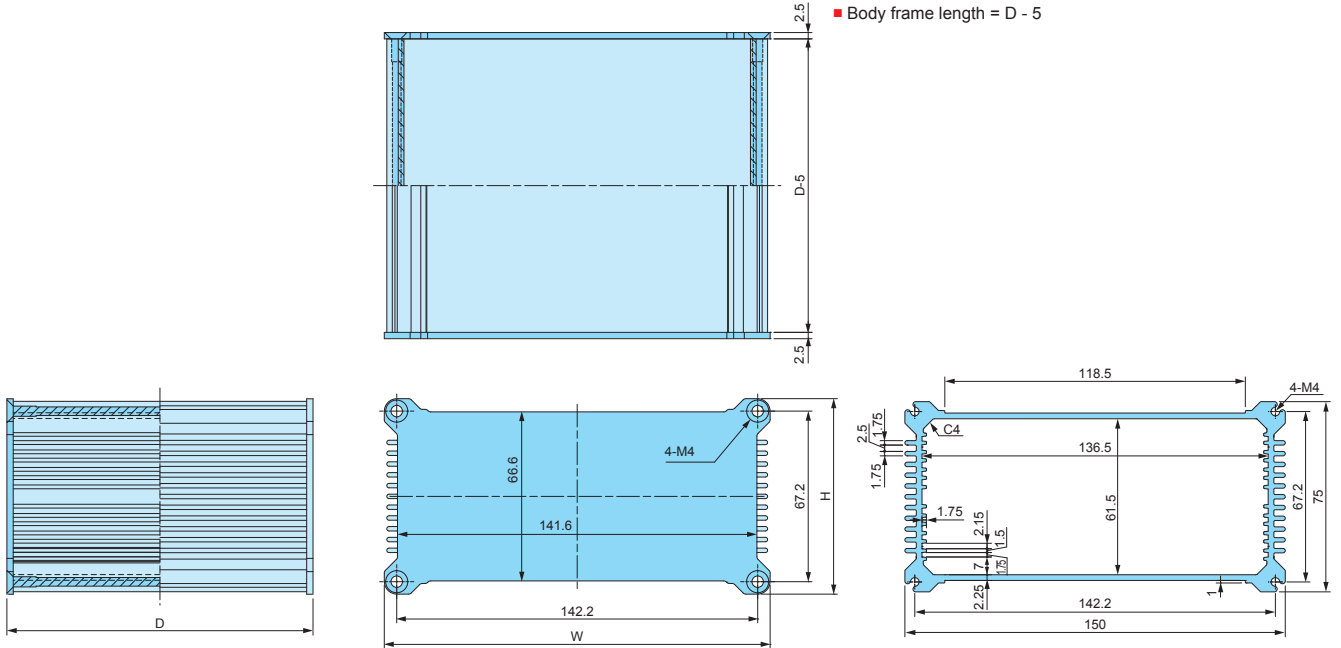
AWA dimensions

■ DXF/DWG/PDF drawings available on our website.

AWA15-8-□

| Product no.  | W   | H  | D     |
|--------------|-----|----|-------|
| AWA15-8-12SS | 152 | 77 | 120.6 |
| AWA15-8-16SS | 152 | 77 | 160.6 |
| AWA15-8-21SS | 152 | 77 | 210.6 |
| AWA15-8-26SS | 152 | 77 | 260.6 |

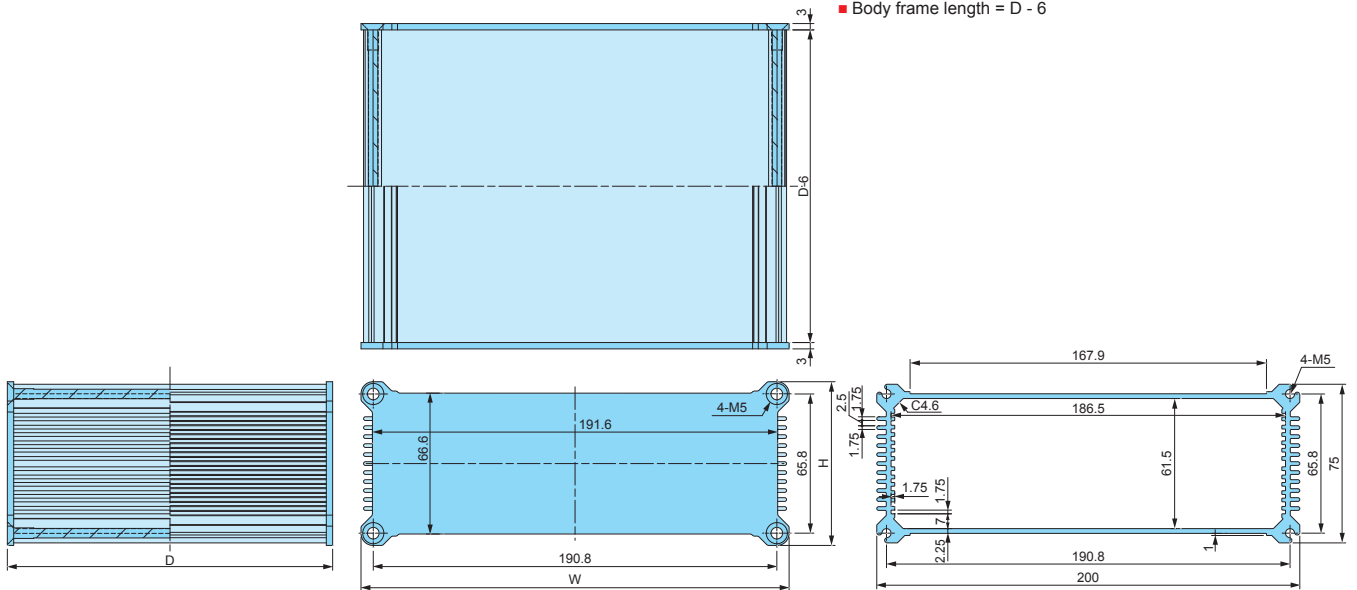
■ Body frame length = D - 5



AWA20-8-□

| Product no.  | W     | H    | D     |
|--------------|-------|------|-------|
| AWA20-8-15SS | 202.4 | 77.4 | 153.8 |
| AWA20-8-19SS | 202.4 | 77.4 | 193.8 |
| AWA20-8-24SS | 202.4 | 77.4 | 243.8 |
| AWA20-8-29SS | 202.4 | 77.4 | 293.8 |

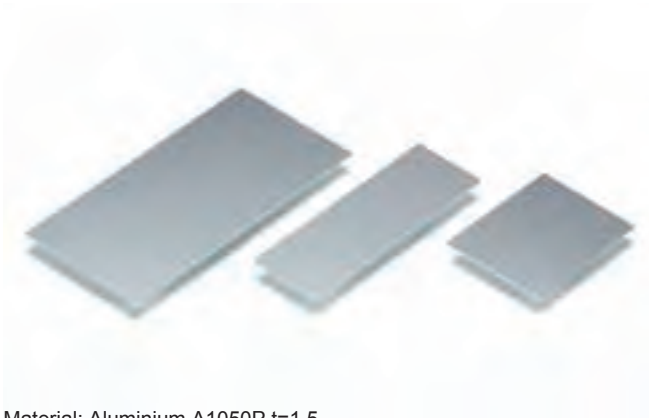
■ Body frame length = D - 6



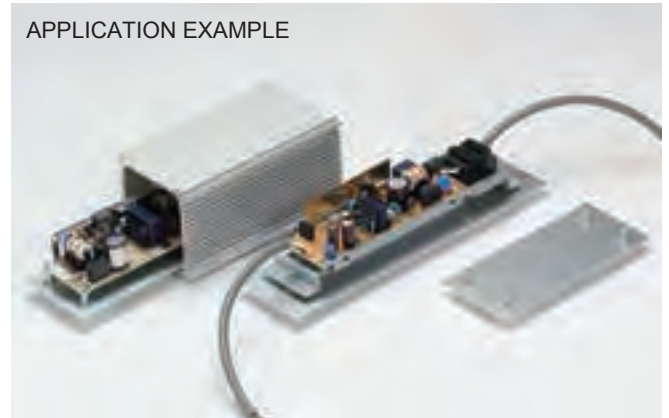
**AWC SERIES**

**ALUMINIUM MOUNTING PLATE**

- Mounting plate for AWA series.
- Utilize for mounting PCB, power supply, terminal blocks, etc.



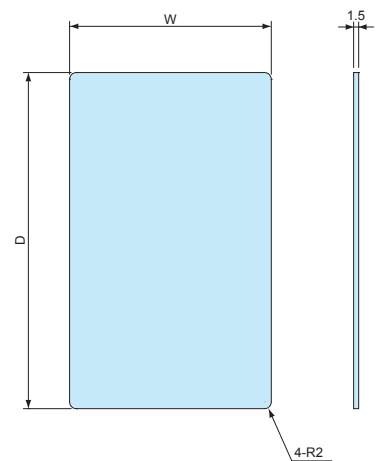
Material: Aluminium A1050P t=1.5  
Silver anodized



- DXF/DWG/PDF drawings available on our website.

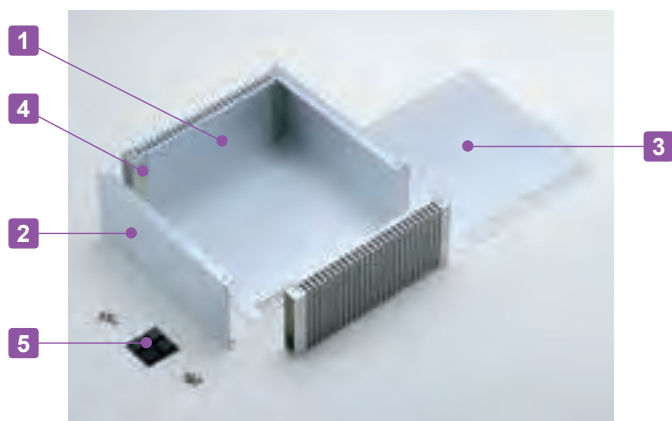
**Product no. / Dimensions**

| Product no. | W     | D     | Suitable enclosure |
|-------------|-------|-------|--------------------|
| AWC 5- 7    | 38.9  | 49.2  | AWA 5-3- 5         |
| AWC 5- 9    | 38.9  | 69.2  | AWA 5-3- 7         |
| AWC 5-11    | 38.9  | 94.2  | AWA 5-3-10         |
| AWC 5-14    | 38.9  | 119.2 | AWA 5-3-12         |
| AWC 7- 8    | 47    | 64    | AWA 6-6- 7         |
| AWC 7-11    | 47    | 94    | AWA 6-6-10         |
| AWC 7-15    | 47    | 134   | AWA 6-6-14         |
| AWC 7-20    | 47    | 184   | AWA 6-6-19         |
| AWC 7-25    | 47    | 234   | AWA 6-6-24         |
| AWC 8- 9    | 61.8  | 74    | AWA 8-4- 8         |
| AWC 8-12    | 61.8  | 99    | AWA 8-4-10         |
| AWC 8-14    | 61.8  | 124   | AWA 8-4-13         |
| AWC 8-18    | 61.8  | 159   | AWA 8-4-16         |
| AWC 9-10    | 66.5  | 81    | AWA 8-8- 9         |
| AWC 9-13    | 66.5  | 106   | AWA 8-8-11         |
| AWC 9-17    | 66.5  | 151   | AWA 8-8-16         |
| AWC 9-22    | 66.5  | 201   | AWA 8-8-21         |
| AWC 9-28    | 66.5  | 256   | AWA 8-8-26         |
| AWC11-11    | 86.5  | 90.6  | AWA10-5-10         |
| AWC11-15    | 86.5  | 130.6 | AWA10-5-14         |
| AWC11-19    | 86.5  | 170.6 | AWA10-5-18         |
| AWC11-24    | 86.5  | 220.6 | AWA10-5-23         |
| AWC12-11    | 100.2 | 85.6  | AWA12-7- 9         |
| AWC12-14    | 100.2 | 120.6 | AWA12-7-12         |
| AWC12-17    | 100.2 | 160.1 | AWA12-7-17         |
| AWC12-22    | 100.2 | 195.6 | AWA12-7-20         |
| AWC16-14    | 136.3 | 115.6 | AWA15-8-12         |
| AWC16-18    | 136.3 | 155.6 | AWA15-8-16         |
| AWC16-23    | 136.3 | 205.6 | AWA15-8-21         |
| AWC16-28    | 136.3 | 255.6 | AWA15-8-26         |
| AWC21-17    | 186.1 | 147.8 | AWA20-8-15         |
| AWC21-21    | 186.1 | 187.8 | AWA20-8-19         |
| AWC21-26    | 186.1 | 237.8 | AWA20-8-24         |
| AWC21-31    | 186.1 | 287.8 | AWA20-8-29         |





| Technical Data         |
|------------------------|
| Protection class: IP40 |



- Stylish and elegantly designed with a hairline finish.
- Excellent cooling performance with the heat-sink side plates.
- Now available in 56 sizes, and 2 different colors.
- Tough and robust enclosure from using aluminium extrusion parts.
- Simple and easy to assemble construction.
- Flat back heat-sink plates for more effective heat spreading.

Components

| No. | Part name            | Pcs   | Material                     | Color / Finish                               |
|-----|----------------------|-------|------------------------------|--|
| 1   | Heat-sink side plate | 2     | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                    |
| 2   | Panel                | 2     | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 3   | Top • Bottom cover   | 2     | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 4   | Corner support       | 4     | Steel SPCC t=1.6             | Trivalent chromate                           |
| 5   | Rubber feet          | 4     | Polyurethane                 | Black  |
| -   | Screw                | 1 set | Steel M3                     | Nickel plated • Black trivalent chromate     |

Accessories (Optional parts)



Mounting plate  
HYC series  
See page 226



L-bracket  
HYCL series  
See page 226



Aluminium isolation feet  
AFS • AFM series  
See page 265 ~ 266

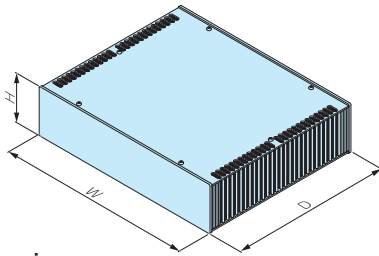


TORX screw - for top / bottom cover  
MR3-5Z series  
See page 220, 230





■ For more information on enclosure dimensions and drawings, please refer to page 219~220

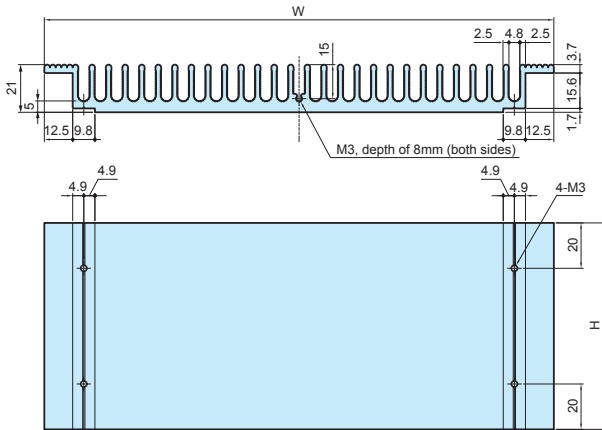


Product no. / Dimensions

| Product no.       |                   | W   | H     | D   | Weight (kg) |
|-------------------|-------------------|-----|-------|-----|-------------|
| ● Silver          | ● Black           |     |       |     |             |
| NEW HY 44-23-23SS | NEW HY 44-23-23BB | 230 | 44    | 231 | 1.1         |
| NEW HY 44-23-33SS | NEW HY 44-23-33BB | 230 | 44    | 330 | 1.6         |
| NEW HY 44-28-23SS | NEW HY 44-28-23BB | 280 | 44    | 231 | 1.4         |
| NEW HY 44-28-33SS | NEW HY 44-28-33BB | 280 | 44    | 330 | 1.9         |
| NEW HY 44-33-23SS | NEW HY 44-33-23BB | 330 | 44    | 231 | 1.5         |
| NEW HY 44-33-33SS | NEW HY 44-33-33BB | 330 | 44    | 330 | 2.2         |
| NEW HY 44-43-23SS | NEW HY 44-43-23BB | 430 | 44    | 231 | 1.9         |
| NEW HY 44-43-33SS | NEW HY 44-43-33BB | 430 | 44    | 330 | 2.6         |
| HY 70-23-23SS     | HY 70-23-23BB     | 230 | 70    | 231 | 1.6         |
| NEW HY 70-23-33SS | NEW HY 70-23-33BB | 230 | 70    | 330 | 2.2         |
| HY 70-28-23SS     | HY 70-28-23BB     | 280 | 70    | 231 | 1.8         |
| NEW HY 70-28-33SS | NEW HY 70-28-33BB | 280 | 70    | 330 | 2.5         |
| HY 70-33-23SS     | HY 70-33-23BB     | 330 | 70    | 231 | 2.0         |
| NEW HY 70-33-33SS | NEW HY 70-33-33BB | 330 | 70    | 330 | 2.8         |
| HY 70-43-23SS     | HY 70-43-23BB     | 430 | 70    | 231 | 2.3         |
| NEW HY 70-43-33SS | NEW HY 70-43-33BB | 430 | 70    | 330 | 3.2         |
| HY 88-23-23SS     | HY 88-23-23BB     | 230 | 88    | 231 | 1.9         |
| NEW HY 88-23-33SS | NEW HY 88-23-33BB | 230 | 88    | 330 | 2.6         |
| HY 88-28-23SS     | HY 88-28-23BB     | 280 | 88    | 231 | 2.1         |
| NEW HY 88-28-33SS | NEW HY 88-28-33BB | 280 | 88    | 330 | 2.8         |
| HY 88-33-23SS     | HY 88-33-23BB     | 330 | 88    | 231 | 2.3         |
| NEW HY 88-33-33SS | NEW HY 88-33-33BB | 330 | 88    | 330 | 3.1         |
| HY 88-43-23SS     | HY 88-43-23BB     | 430 | 88    | 231 | 2.7         |
| NEW HY 88-43-33SS | NEW HY 88-43-33BB | 430 | 88    | 330 | 3.6         |
| HY 99-23-23SS     | HY 99-23-23BB     | 230 | 99    | 231 | 2.1         |
| NEW HY 99-23-33SS | NEW HY 99-23-33BB | 230 | 99    | 330 | 2.7         |
| HY 99-28-23SS     | HY 99-28-23BB     | 280 | 99    | 231 | 2.3         |
| NEW HY 99-28-33SS | NEW HY 99-28-33BB | 280 | 99    | 330 | 3.1         |
| HY 99-33-23SS     | HY 99-33-23BB     | 330 | 99    | 231 | 2.5         |
| NEW HY 99-33-33SS | NEW HY 99-33-33BB | 330 | 99    | 330 | 3.4         |
| HY 99-43-23SS     | HY 99-43-23BB     | 430 | 99    | 231 | 2.9         |
| NEW HY 99-43-33SS | NEW HY 99-43-33BB | 430 | 99    | 330 | 3.9         |
| HY133-23-23SS     | HY133-23-23BB     | 230 | 132.5 | 231 | 2.6         |
| NEW HY133-23-33SS | NEW HY133-23-33BB | 230 | 132.5 | 330 | 3.4         |
| HY133-28-23SS     | HY133-28-23BB     | 280 | 132.5 | 231 | 2.8         |
| NEW HY133-28-33SS | NEW HY133-28-33BB | 280 | 132.5 | 330 | 3.8         |
| HY133-33-23SS     | HY133-33-23BB     | 330 | 132.5 | 231 | 3.0         |
| NEW HY133-33-33SS | NEW HY133-33-33BB | 330 | 132.5 | 330 | 4.1         |
| HY133-43-23SS     | HY133-43-23BB     | 430 | 132.5 | 231 | 3.5         |
| NEW HY133-43-33SS | NEW HY133-43-33BB | 430 | 132.5 | 330 | 4.7         |
| HY149-23-23SS     | HY149-23-23BB     | 230 | 149   | 231 | 2.8         |
| NEW HY149-23-33SS | NEW HY149-23-33BB | 230 | 149   | 330 | 3.8         |
| HY149-28-23SS     | HY149-28-23BB     | 280 | 149   | 231 | 3.1         |
| NEW HY149-28-33SS | NEW HY149-28-33BB | 280 | 149   | 330 | 4.2         |
| HY149-33-23SS     | HY149-33-23BB     | 330 | 149   | 231 | 3.3         |
| NEW HY149-33-33SS | NEW HY149-33-33BB | 330 | 149   | 330 | 4.5         |
| HY149-43-23SS     | HY149-43-23BB     | 430 | 149   | 231 | 3.8         |
| NEW HY149-43-33SS | NEW HY149-43-33BB | 430 | 149   | 330 | 5.1         |
| NEW HY177-23-23SS | NEW HY177-23-23BB | 230 | 177   | 231 | 3.4         |
| NEW HY177-23-33SS | NEW HY177-23-33BB | 230 | 177   | 330 | 4.5         |
| NEW HY177-28-23SS | NEW HY177-28-23BB | 280 | 177   | 231 | 3.6         |
| NEW HY177-28-33SS | NEW HY177-28-33BB | 280 | 177   | 330 | 4.8         |
| NEW HY177-33-23SS | NEW HY177-33-23BB | 330 | 177   | 231 | 3.9         |
| NEW HY177-33-33SS | NEW HY177-33-33BB | 330 | 177   | 330 | 5.2         |
| NEW HY177-43-23SS | NEW HY177-43-23BB | 430 | 177   | 231 | 4.5         |
| NEW HY177-43-33SS | NEW HY177-43-33BB | 430 | 177   | 330 | 5.8         |



**HY • HYR • HYRH heat-sink side plate**



**Color Type**

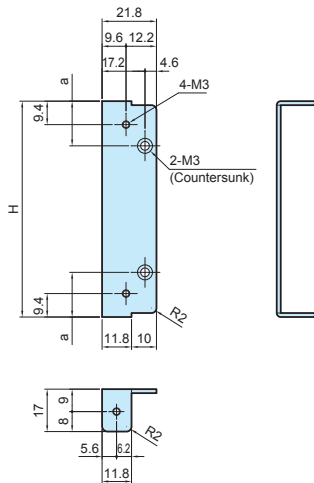
| Code | Material           | Color / Finish    |
|------|--------------------|-------------------|
| SS   | Extruded aluminium | Silver / Anodized |
| BB   | Extruded aluminium | Black / Anodized  |

**Dimensions**

| Enclosure D x H | W     | H     | Thermal resistance (°C/W) |
|-----------------|-------|-------|---------------------------|
| 231 × 44        | 224.6 | 36    | 2.41                      |
| 330 × 44        | 323.6 | 36    | 1.89                      |
| 231 × 70        | 224.6 | 62    | 1.49                      |
| 330 × 70        | 323.6 | 62    | 1.36                      |
| 231 × 88        | 224.6 | 80    | 1.49                      |
| 330 × 88        | 323.6 | 80    | 1.17                      |
| 231 × 99        | 224.6 | 91    | 1.38                      |
| 330 × 99        | 323.6 | 91    | 1.08                      |
| 231 × 132.5     | 224.6 | 124.5 | 1.14                      |
| 330 × 132.5     | 323.6 | 124.5 | 0.89                      |
| 231 × 149       | 224.6 | 141   | 1.06                      |
| 330 × 149       | 323.6 | 141   | 0.83                      |
| 231 × 177       | 224.6 | 169   | 0.95                      |
| 330 × 177       | 323.6 | 169   | 0.74                      |

■ Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

**HY • HYR • HYRH corner support**



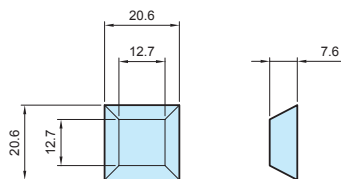
**Part Information**

| Part name      | Material    | Finish             |
|----------------|-------------|--------------------|
| Corner support | Steel t=1.6 | Trivalent chromate |

**Dimensions**

| Enclosure H | H     | a    |
|-------------|-------|------|
| 44          | 31.8  | 10.9 |
| 70          | 57.8  | 17.9 |
| 88          | 75.8  | 17.9 |
| 99          | 86.8  | 17.9 |
| 132.5       | 120.3 | 17.9 |
| 149         | 136.8 | 17.9 |
| 177         | 164.8 | 17.9 |

**HY • HYR • HYRH rubber feet**



**Part Information**

| Part name   | Material     | Color |
|-------------|--------------|-------|
| Rubber feet | Polyurethane | Black |

**Accessories (Optional parts)**

**MR SERIES**

**SLOTTED RAISED COUNTERSUNK TORX SCREW**



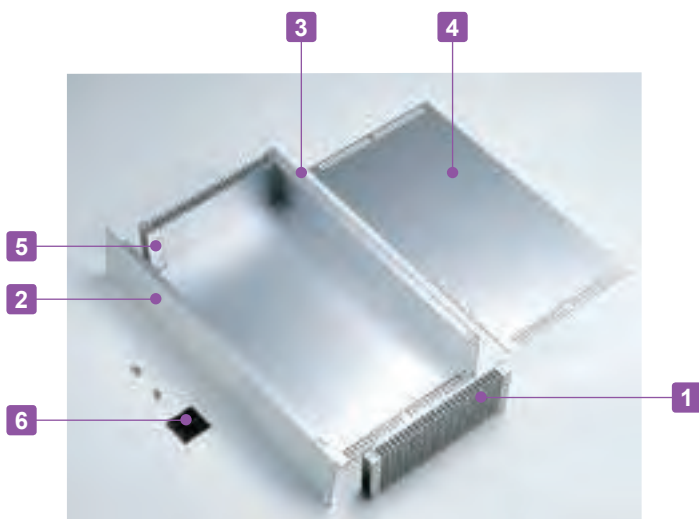
- For use with top/bottom cover.
- Recommended for aesthetic purposes, or for tampering resistance.
- Requires the use of a specialized screwdriver.

**Product no. / Dimensions**

| Product no. | M | L | TORX head no. | Material | Color / Finish           | Pack of |
|-------------|---|---|---------------|----------|--------------------------|---------|
| MR3-5ZS     | 3 | 5 | T10           | Steel    | Nickel plated            | 20      |
| MR3-5ZB     | 3 | 5 | T10           | Steel    | Black trivalent chromate | 20      |



| Technical Data         |
|------------------------|
| Protection class: IP40 |

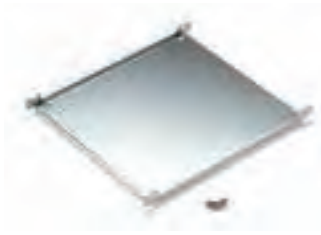


- Now available in 8 sizes, and 2 different colors.
- Stylish and elegantly designed with a hairline finish.
- Excellent cooling performance with the heat-sink side plates.
- Tough and robust enclosure from using aluminium extrusion parts.
- Simple and easy to assemble construction.

**Components**

| No. | Part name            | Pcs   | Material                     | Color / Finish                               |
|-----|----------------------|-------|------------------------------|--|
| 1   | Heat-sink side plate | 2     | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                    |
| 2   | Front panel          | 1     | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 3   | Rear panel           | 1     | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 4   | Top • Bottom cover   | 2     | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 5   | Corner support       | 4     | Steel SPCC t=1.6             | Trivalent chromate                           |
| 6   | Rubber feet          | 4     | Polyurethane                 | Black  |
| -   | Screw                | 1 set | Steel M3                     | Nickel plated • Black trivalent chromate     |

Accessories (Optional parts)



Mounting plate  
HYC series  
See page 226



L-bracket  
HYCL series  
See page 226

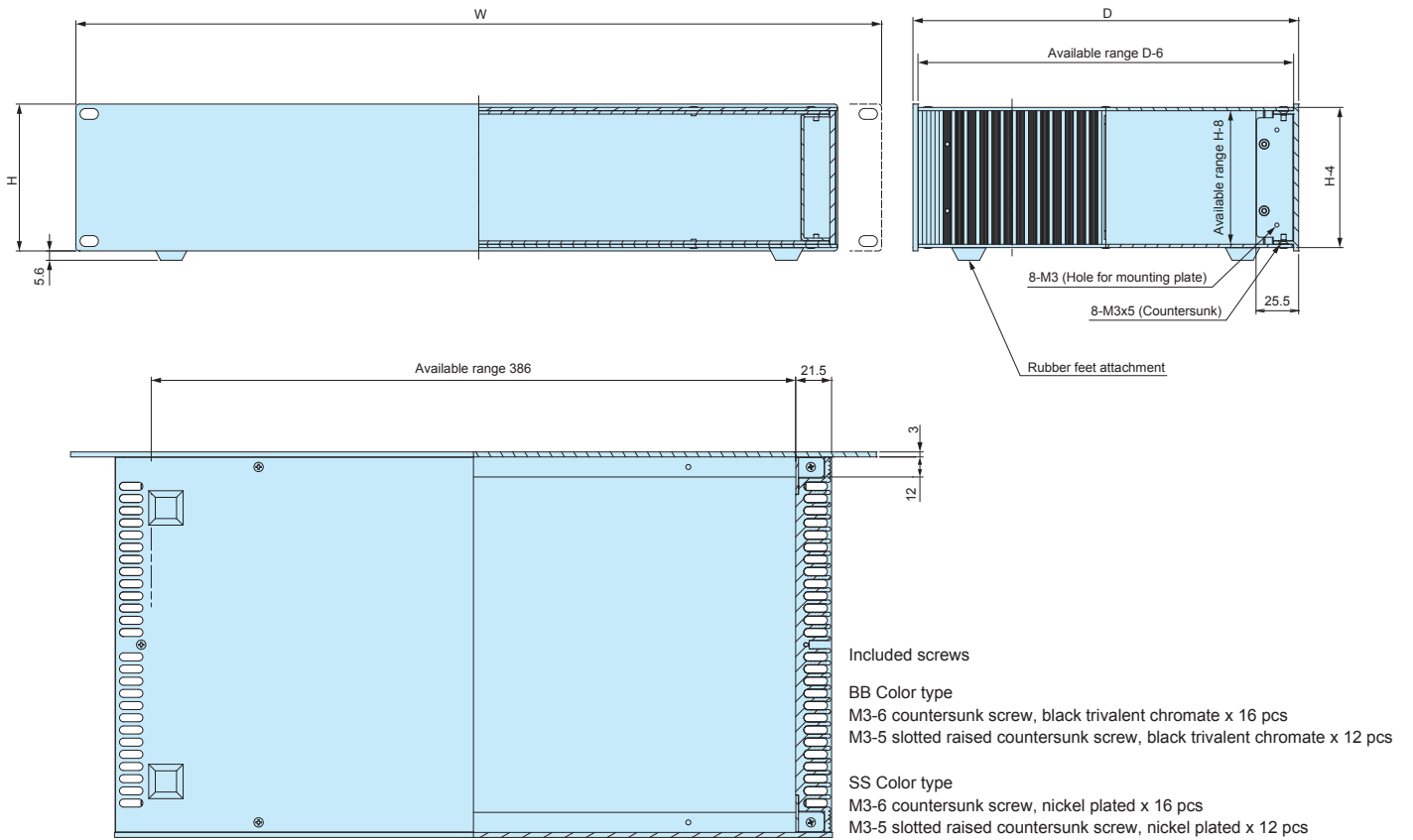


TORX screw - for top / bottom cover  
MR3-5Z series  
See page 220, 230



HYR dimensions (outside view)

■ DXF/DWG/PDF drawings available on our website.

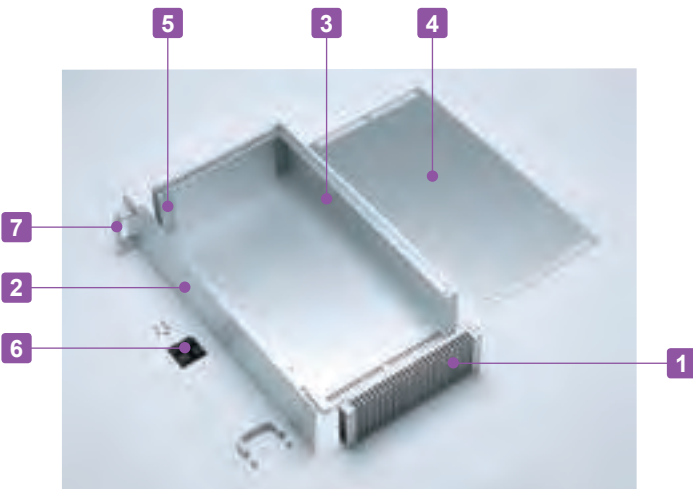


Product no. / Dimensions

| Product no.               |                           | W     | H   | D   | Standard | Weight (kg) |
|---------------------------|---------------------------|-------|-----|-----|----------|-------------|
| ● Silver                  | ● Black                   |       |     |     |          |             |
| <b>NEW</b> HYR 44-43-23SS | <b>NEW</b> HYR 44-43-23BB | 482.6 | 44  | 231 | EIA      | 1.9         |
| <b>NEW</b> HYR 44-43-33SS | <b>NEW</b> HYR 44-43-33BB | 482.6 | 44  | 330 | EIA      | 2.6         |
| HYR 88-43-23SS            | HYR 88-43-23BB            | 482.6 | 88  | 231 | EIA      | 2.8         |
| <b>NEW</b> HYR 88-43-33SS | <b>NEW</b> HYR 88-43-33BB | 482.6 | 88  | 330 | EIA      | 3.7         |
| HYR133-43-23SS            | HYR133-43-23BB            | 482.6 | 133 | 231 | EIA      | 3.6         |
| <b>NEW</b> HYR133-43-33SS | <b>NEW</b> HYR133-43-33BB | 482.6 | 133 | 330 | EIA      | 4.7         |
| <b>NEW</b> HYR177-43-23SS | <b>NEW</b> HYR177-43-23BB | 482.6 | 177 | 231 | EIA      | 4.5         |
| <b>NEW</b> HYR177-43-33SS | <b>NEW</b> HYR177-43-33BB | 482.6 | 177 | 330 | EIA      | 5.9         |



Heat Resistant



| Technical Data         |
|------------------------|
| Protection class: IP40 |

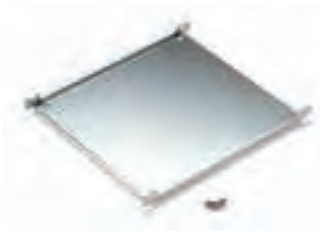
- Equipped with handy rack mount / pull out handles.
- Available in 8 sizes, and 2 different colors.
- Excellent cooling performance with the heat-sink side plates.
- Tough and robust enclosure from using aluminium extrusion parts.
- Simple and easy to assemble construction.

**Components**

| No. | Part name            | Pcs   | Material                     | Color / Finish                               |
|-----|----------------------|-------|------------------------------|--|
| 1   | Heat-sink side plate | 2     | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                    |
| 2   | Front panel          | 1     | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 3   | Rear panel           | 1     | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 4   | Top • Bottom cover   | 2     | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 5   | Corner support       | 4     | Steel SPCC t=1.6             | Trivalent chromate                           |
| 6   | Rubber feet          | 4     | Polyurethane                 | Black  |
| 7   | Handle               | 2     | Extruded aluminium           | Silver • Black / Anodized                    |
| -   | Screw                | 1 set | Steel M3                     | Nickel plated • Black trivalent chromate     |



Accessories (Optional parts)



Mounting plate  
HYC series  
See page 226



L-bracket  
HYCL series  
See page 226

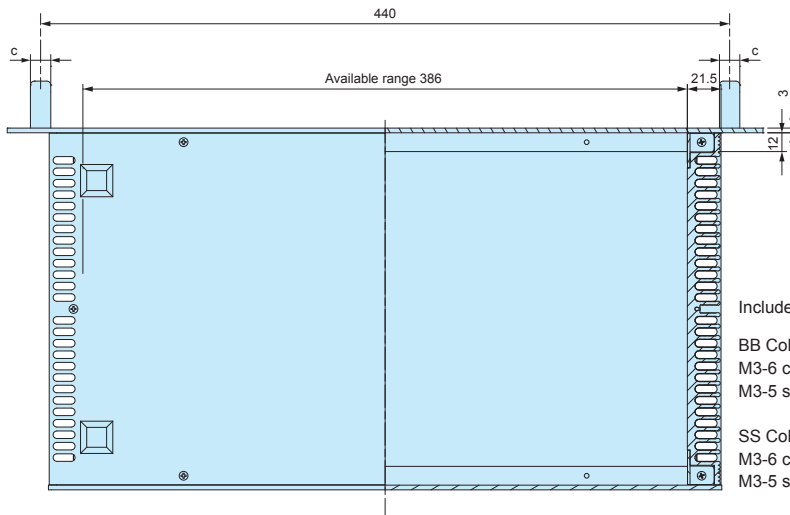
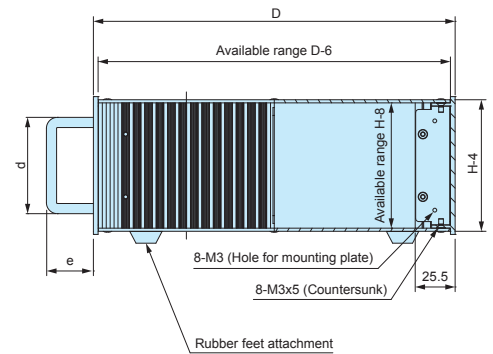
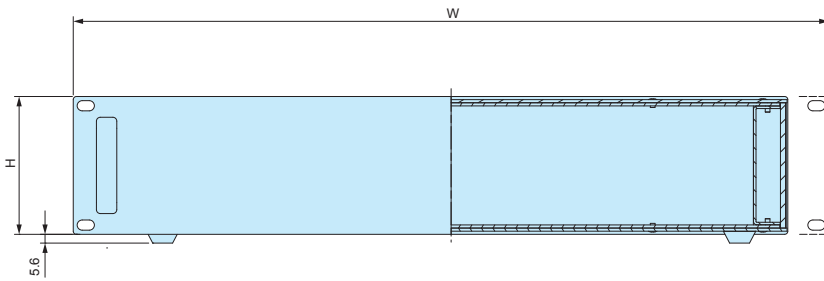


TORX screw - for top / bottom cover  
MR3-5Z series  
See page 220, 230



HYRH dimensions (outside view)

■ DXF/DWG/PDF drawings available on our website.



Included screws

BB Color type

M3-6 countersunk screw, black trivalent chromate x 16 pcs

M3-5 slotted raised countersunk screw, black trivalent chromate x 12 pcs

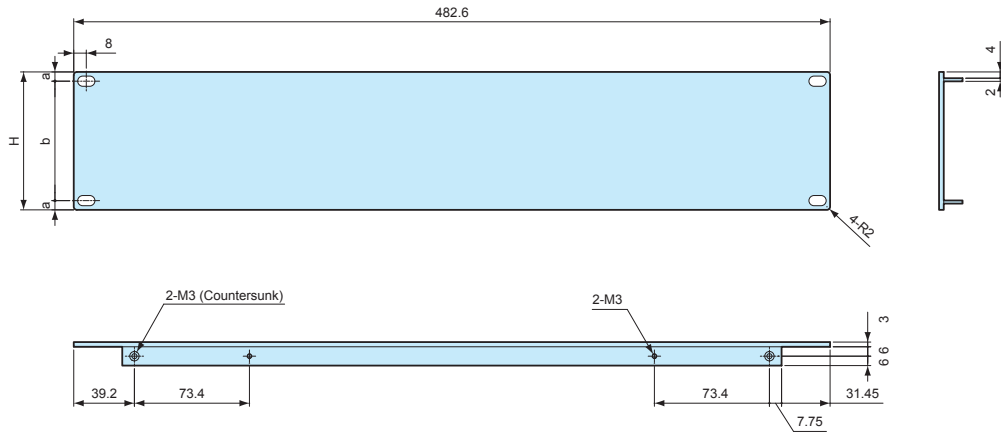
SS Color type

M3-6 countersunk screw, nickel plated x 16 pcs

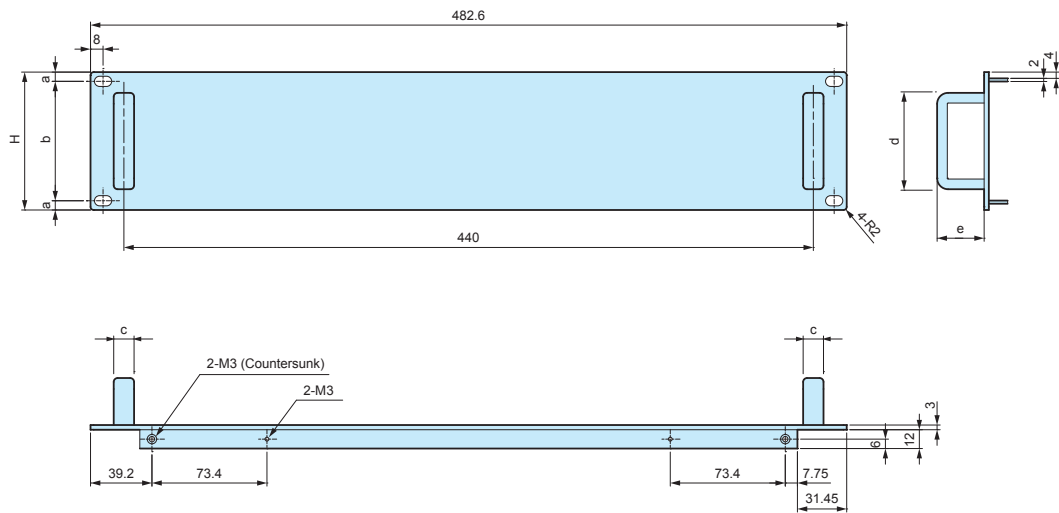
M3-5 slotted raised countersunk screw, nickel plated x 12 pcs

| Product no.     |                 | W     | H   | D   | c  | d     | e  | Standard | Weight (kg) |
|-----------------|-----------------|-------|-----|-----|----|-------|----|----------|-------------|
| ● Silver        | ● Black         |       |     |     |    |       |    |          |             |
| HYRH 44-43-23SS | HYRH 44-43-23BB | 482.6 | 44  | 231 | 12 | 41.0  | 40 | EIA      | 2.0         |
| HYRH 44-43-33SS | HYRH 44-43-33BB | 482.6 | 44  | 330 | 12 | 41.0  | 40 | EIA      | 2.6         |
| HYRH 88-43-23SS | HYRH 88-43-23BB | 482.6 | 88  | 231 | 13 | 61.5  | 30 | EIA      | 2.8         |
| HYRH 88-43-33SS | HYRH 88-43-33BB | 482.6 | 88  | 330 | 13 | 61.5  | 30 | EIA      | 3.7         |
| HYRH133-43-23SS | HYRH133-43-23BB | 482.6 | 133 | 231 | 13 | 106.5 | 30 | EIA      | 3.6         |
| HYRH133-43-33SS | HYRH133-43-33BB | 482.6 | 133 | 330 | 13 | 106.5 | 30 | EIA      | 4.8         |
| HYRH177-43-23SS | HYRH177-43-23BB | 482.6 | 177 | 231 | 13 | 126.5 | 30 | EIA      | 4.6         |
| HYRH177-43-33SS | HYRH177-43-33BB | 482.6 | 177 | 330 | 13 | 126.5 | 30 | EIA      | 5.9         |

HYR front panel



HYRH front panel



Color Type

| Code | Material           | Color / Finish                       |
|------|--------------------|--------------------------------------|
| SS   | Extruded aluminium | Silver / Hairline brushed & Anodized |
| BB   | Extruded aluminium | Black / Hairline brushed & Anodized  |

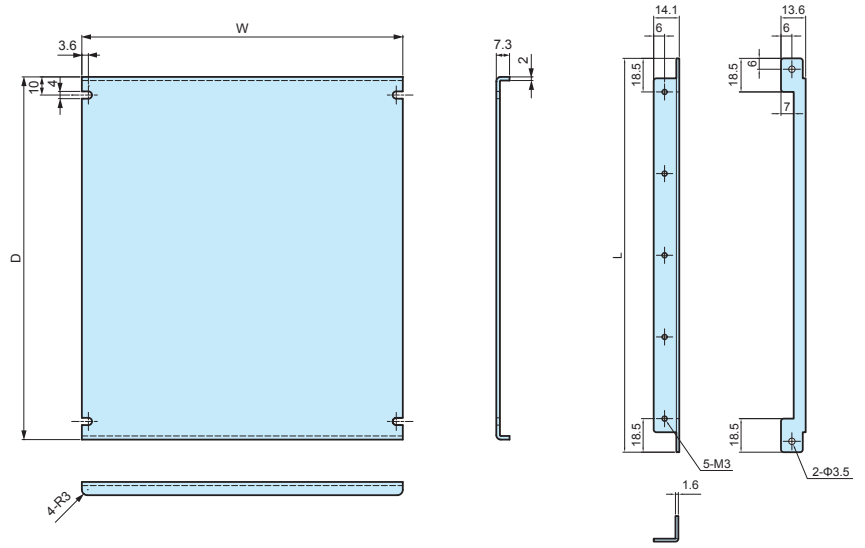
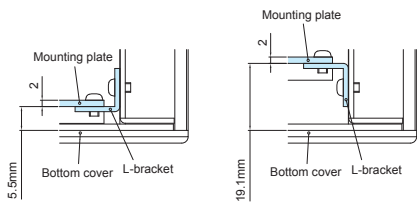
| Product no.        | H     | a    | b     | c  | d     | e  |
|--------------------|-------|------|-------|----|-------|----|
| HYR/HYRH 44-43-23□ | 44    | 6.1  | 31.8  | 12 | 41    | 40 |
| HYR/HYRH 44-43-33□ | 44    | 6.1  | 31.8  | 12 | 41    | 40 |
| HYR/HYRH 88-43-23□ | 88    | 5.9  | 76.2  | 13 | 61.5  | 30 |
| HYR/HYRH 88-43-33□ | 88    | 5.9  | 76.2  | 13 | 61.5  | 30 |
| HYR/HYRH133-43-23□ | 132.5 | 37.7 | 57.1  | 13 | 106.5 | 30 |
| HYR/HYRH133-43-33□ | 132.5 | 37.7 | 57.1  | 13 | 106.5 | 30 |
| HYR/HYRH177-43-23□ | 177   | 37.7 | 101.6 | 13 | 126.5 | 30 |
| HYR/HYRH177-43-33□ | 177   | 37.7 | 101.6 | 13 | 126.5 | 30 |

**HYC SERIES**

**MOUNTING PLATE for HY · HYR · HYRH**



■ Mounting plate and L-bracket set.

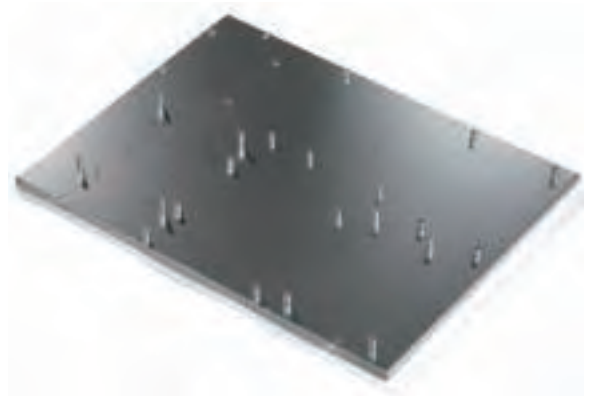


**Components**

| No. | Part name      | Pcs   | Material               | Color / Finish    |
|-----|----------------|-------|------------------------|-------------------|
| 1   | Mounting plate | 1     | Aluminium A1050P t=2.0 | Unfinished        |
| 2   | L-bracket      | 2     | Steel SPCC t=1.6       | Tivalent chromate |
| -   | Screw          | 1 set | Steel M3               | Tivalent chromate |

**Product no. / Dimensions**

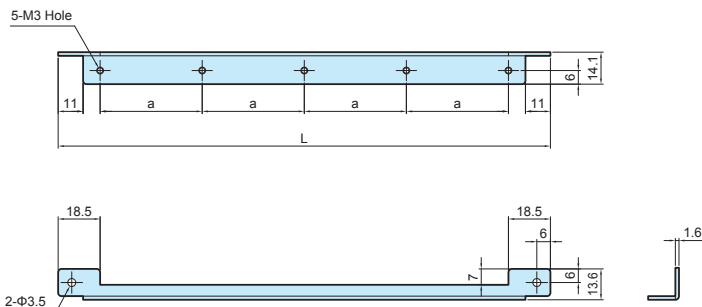
| Product no.         | W   | D   | L   | Enclosure D x W | Weight (g) |
|---------------------|-----|-----|-----|-----------------|------------|
| HYC23-23            | 177 | 200 | 217 | 231 × 230       | 300        |
| HYC23-28            | 227 | 200 | 217 | 231 × 280       | 350        |
| HYC23-33            | 277 | 200 | 217 | 231 × 330       | 410        |
| HYC23-43            | 377 | 200 | 217 | 231 × 430       | 520        |
| <b>NEW</b> HYC33-23 | 177 | 299 | 316 | 330 × 230       | 450        |
| <b>NEW</b> HYC33-28 | 227 | 299 | 316 | 330 × 280       | 550        |
| <b>NEW</b> HYC33-33 | 277 | 299 | 316 | 330 × 330       | 710        |
| <b>NEW</b> HYC33-43 | 377 | 299 | 316 | 330 × 430       | 800        |



Clinching stud customization service available.

**HYCL SERIES**

**L-bracket for HY · HYR · HYRH**



- Simple L-bracket and screw set.
- Use with your original mounting plate or PCB.

**Components**

| No. | Part name | Material    | Color / Finish    |
|-----|-----------|-------------|-------------------|
| 1   | L-bracket | Steel t=1.6 | Tivalent chromate |
| 2   | Screw     | Steel M3    | Tivalent chromate |

**Product no. / Dimensions**

| Product no.        | L   | a    | b | Pack of |
|--------------------|-----|------|---|---------|
| HYCL-23            | 217 | 45   | 5 | 2       |
| <b>NEW</b> HYCL-33 | 316 | 46.5 | 7 | 2       |

# HIT SERIES

# HEAT-SINK ALUMINIUM CASE



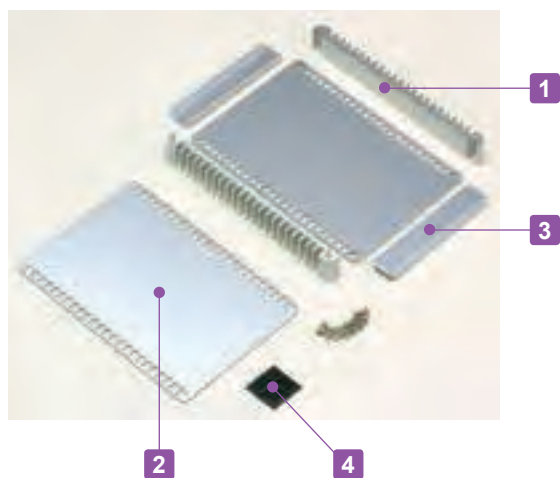
- Heat dissipation and cooling via the utilization of extruded aluminium heat-sink side plates.
- Rounded corners gives it an elegant feel.
- Aluminium extrusion parts provides high structural durability.
- Suitable for use as small-type fanless PC, digital audio equipment, and so on.
- Available in both Silver and Black color types.

## APPLICATION EXAMPLE

### FIBER OPTICS EXTENSION UNIT



Product by Sanritz Automation Co., Ltd. (Japan)  
 Website: [sanritz.co.jp](http://sanritz.co.jp)



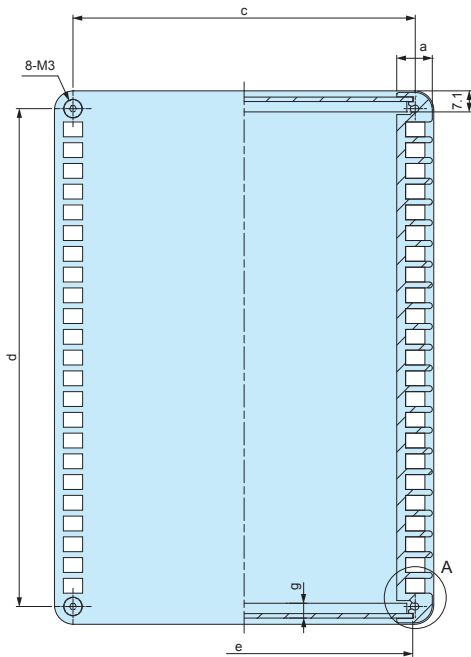
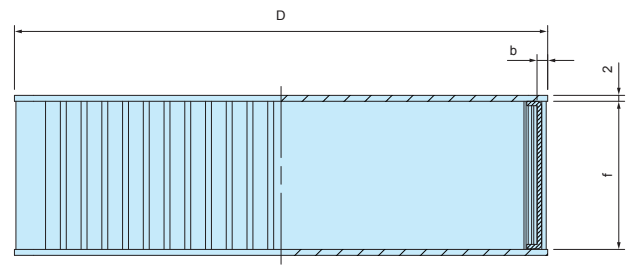
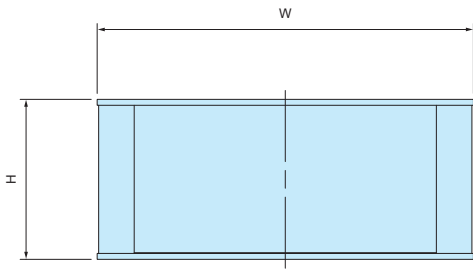
Included screws  
 Enclosure (Silver) M3-8 Hexagonal countersunk screw Stainless steel: Silver unfinished x 8 pcs  
 Enclosure (Black) M3-8 Hexagonal countersunk screw Stainless steel: Black trivalent chromate x 8 pcs  
 ※Hexagonal screwdriver included

### Components

| No. | Part name            | Pcs   | Material                     | Color / Finish                               |
|-----|----------------------|-------|------------------------------|--|
| 1   | Heat-sink side plate | 2     | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                    |
| 2   | Top • Bottom cover   | 2     | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 3   | Front • Rear panel   | 2     | Aluminium A1050P t=1.5       | Silver • Black / Hairline brushed & Anodized |
| 4   | Rubber feet          | 1 set | Polyurethane                 | Black  |

HIT dimensions

DXF/DWG/PDF drawings available on our website.



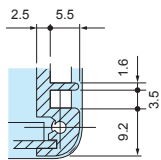
Optional aluminium isolation feet available  
See page 265 ~ 266



APPLICATION EXAMPLE

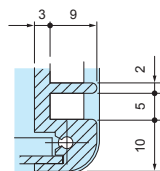


HIT□-□-13



A cross-section

HIT□-□-18



A cross-section

Product no. / Dimensions

Please suffix color code at the end of the product number.

| Product no.  |              | W   | H  | D   | a  | b   | c     | d     | e     | f  | g | Thermal resistance<br>(°C / W) | Weight (g) |
|--------------|--------------|-----|----|-----|----|-----|-------|-------|-------|----|---|--------------------------------|------------|
| ● Silver     | ● Black      |     |    |     |    |     |       |       |       |    |   |                                |            |
| HIT 9-2-13SS | HIT 9-2-13BB | 89  | 20 | 130 | 8  | 3.6 | 81    | 118.6 | 78.8  | 16 | 5 | 9.14                           | 183        |
| HIT 9-4-13SS | HIT 9-4-13BB | 89  | 40 | 130 | 8  | 3.6 | 81    | 118.6 | 78.8  | 36 | 5 | 5.6                            | 255        |
| HIT13-3-13SS | HIT13-3-13BB | 130 | 30 | 130 | 8  | 3.6 | 122   | 118.6 | 119.8 | 26 | 5 | 6.82                           | 289        |
| HIT13-5-13SS | HIT13-5-13BB | 130 | 50 | 130 | 8  | 3.6 | 122   | 118.6 | 119.8 | 46 | 5 | 4.83                           | 370        |
| HIT18-4-13SS | HIT18-4-13BB | 180 | 40 | 130 | 8  | 3.6 | 172   | 118.6 | 169.8 | 36 | 5 | 5.6                            | 414        |
| HIT18-6-13SS | HIT18-6-13BB | 180 | 60 | 130 | 8  | 3.6 | 172   | 118.6 | 169.8 | 56 | 5 | 4.29                           | 503        |
| HIT13-3-18SS | HIT13-3-18BB | 128 | 30 | 180 | 12 | 3.6 | 115.5 | 168   | 113.8 | 26 | 5 | 4.38                           | 411        |
| HIT13-5-18SS | HIT13-5-18BB | 128 | 50 | 180 | 12 | 3.6 | 115.5 | 168   | 113.8 | 46 | 5 | 3.1                            | 535        |
| HIT17-4-18SS | HIT17-4-18BB | 174 | 40 | 180 | 12 | 3.6 | 161.5 | 168   | 159.8 | 36 | 5 | 3.6                            | 578        |
| HIT17-6-18SS | HIT17-6-18BB | 174 | 60 | 180 | 12 | 3.6 | 161.5 | 168   | 159.8 | 56 | 5 | 2.76                           | 719        |
| HIT23-5-18SS | HIT23-5-18BB | 228 | 50 | 180 | 12 | 3.6 | 215.5 | 168   | 213.8 | 46 | 5 | 3.1                            | 772        |
| HIT23-7-18SS | HIT23-7-18BB | 228 | 70 | 180 | 12 | 3.6 | 215.5 | 168   | 213.8 | 66 | 5 | 2.5                            | 928        |

Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

# HS SERIES

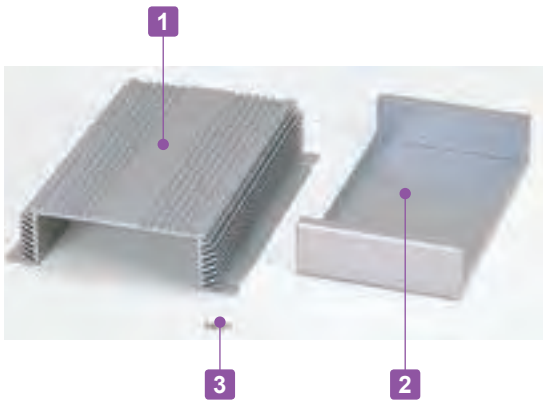
# HEAT-SINK ALUMINIUM CASE



- Aluminium case with heat dissipating heat-sink cover for superior cooling effect.
- Recommended for use with equipment requiring heat dissipation.
- Manufactured with mounting flange for easy attachment onto walls and other surfaces.

## APPLICATION EXAMPLE

### HIGH-END PERFORMANCE AUDIO AMPLIFIER



Product by: IC Technologies (Australia)  
 Website: [ictechnologies.com.au](http://ictechnologies.com.au)

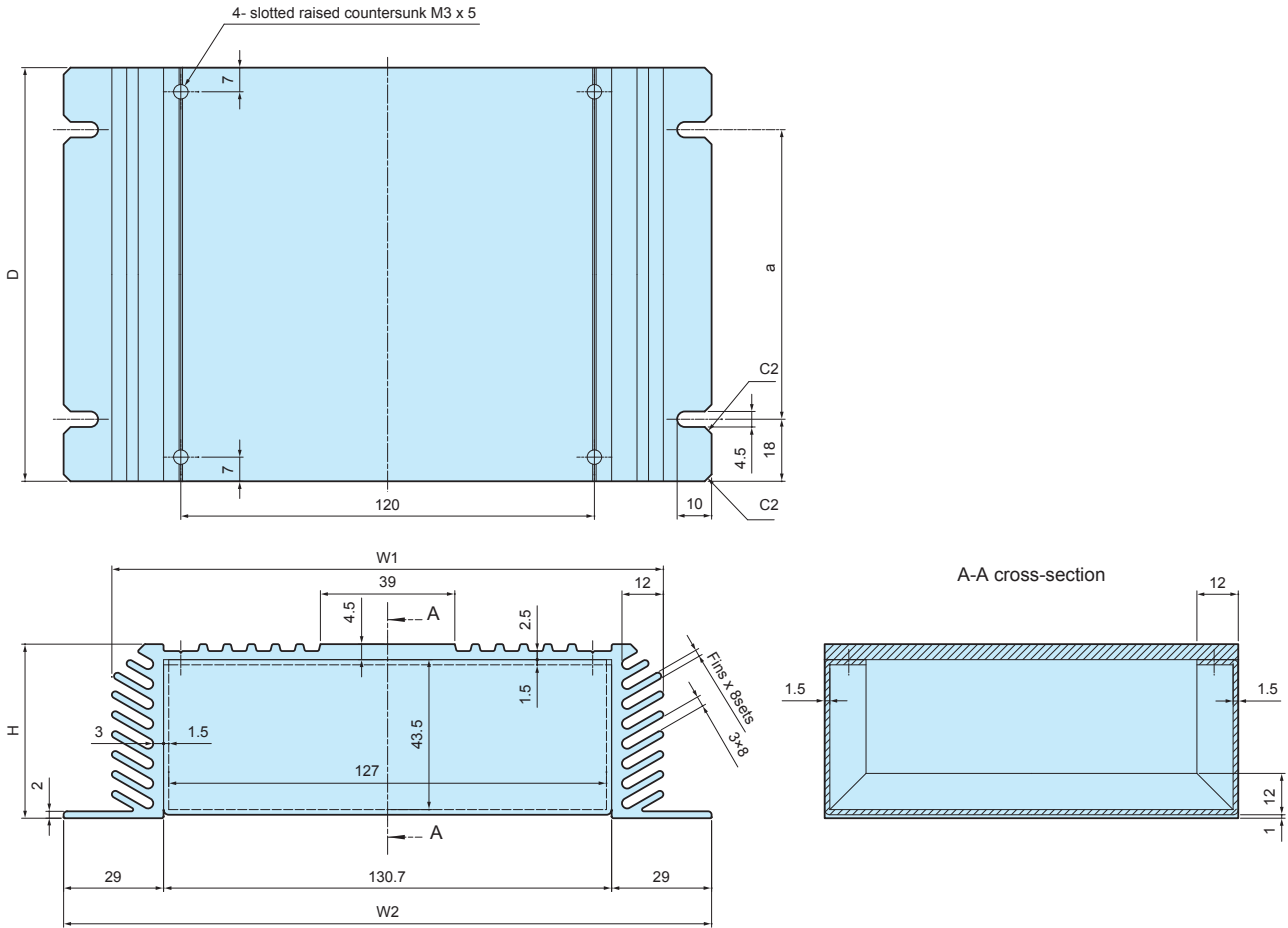
#### Components

| No. | Part name       | Pcs | Material                     | Color / Finish                           |
|-----|-----------------|-----|------------------------------|--|
| 1   | Heat-sink cover | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Anodized                |
| 2   | Bottom chassis  | 1   | Aluminium A1050P t=1.5       | Silver • Black / Anodized                |
| 3   | Screw           | 4   | Steel M3-5                   | Nickel plated • Black trivalent chromate |



HS dimensions

DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

| Product no. |            | W1  | W2    | H    | D   | a   | Thermal resistance (°C / W) | Weight (kg) |
|-------------|------------|-----|-------|------|-----|-----|-----------------------------|-------------|
| ● Silver    | ● Black    |     |       |      |     |     |                             |             |
| HS16-5-16S  | HS16-5-16B | 160 | 188.7 | 50.5 | 160 | 124 | 1.1                         | 0.72        |
| HS16-5-23S  | HS16-5-23B | 160 | 188.7 | 50.5 | 230 | 194 | 0.83                        | 1.0         |
| HS16-5-30S  | HS16-5-30B | 160 | 188.7 | 50.5 | 300 | 264 | 0.69                        | 1.29        |

Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

Accessories (Optional parts)

MR SERIES

SLOTTED RAISED COUNTERSUNK TORX SCREW



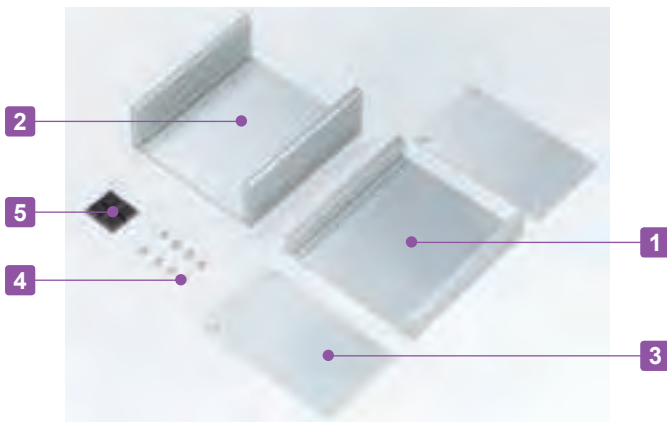
- For use with the heat-sink cover.
- Recommended for aesthetic purposes, or for tampering resistance.
- Requires the use of a specialized screwdriver.

Product no. / Dimensions

| Product no. | M | L | TORX head no. | Material | Color / Finish           | Pack of |
|-------------|---|---|---------------|----------|--------------------------|---------|
| MR3-5ZS     | 3 | 5 | T10           | Steel    | Nickel plated            | 20      |
| MR3-5ZB     | 3 | 5 | T10           | Steel    | Black trivalent chromate | 20      |

# HEN SERIES

# HEAT-SINK ALUMINIUM CASE



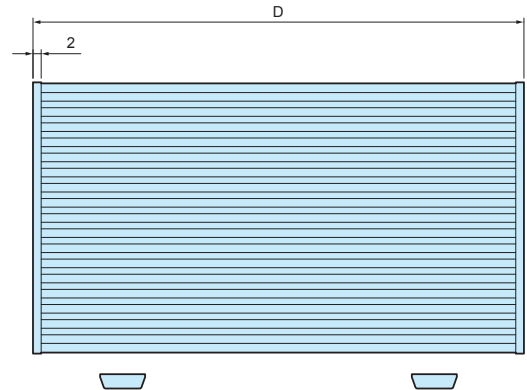
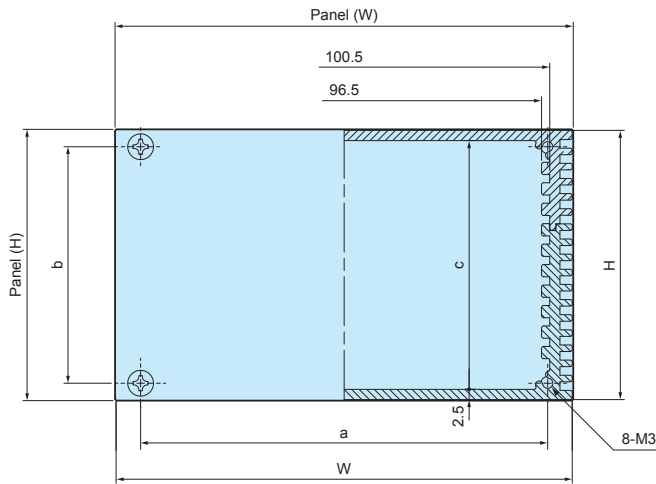
- Stylish design coupled with hairline brushed finish makes for a luxurious high-end case.
- Available in 18 sizes.
- Sturdy extruded case construction.

### Components

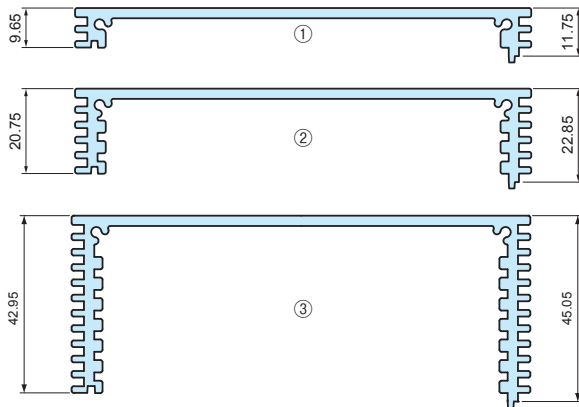
| No. | Part name    | Pcs | Material                     | Color / Finish                               |
|-----|--------------|-----|------------------------------|--|
| 1   | Top cover    | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 2   | Bottom cover | 1   | Extruded aluminium A6063S-T5 | Silver • Black / Hairline brushed & Anodized |
| 3   | Panel        | 2   | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 4   | Screw        | 8   | Steel M3-6                   | Nickel plated • Black trivalent chromate     |
| 5   | Rubber feet  | 4   | Polyurethane                 | Black  |

**HEN dimensions**

■ DXF/DWG/PDF drawings available on our website.



**Covers**



**Cover Type**

| Cover | Cover length (= D - 4) | Thermal resistance rate (°C / W) |
|-------|------------------------|----------------------------------|
| ①     | 56                     | 6.7                              |
|       | 116                    | 3.6                              |
|       | 196                    | 2.1                              |
| ②     | 56                     | 5                                |
|       | 116                    | 2.6                              |
|       | 196                    | 1.5                              |
| ③     | 56                     | 3.3                              |
|       | 116                    | 1.7                              |
|       | 196                    | 0.93                             |

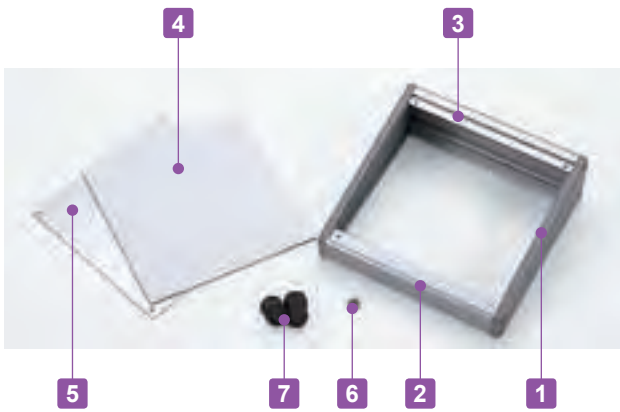
■ Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

**Product no. / Dimensions**

| Product no. |            | W     | H    | D   | Panel (W) | Panel (H) | a    | b    | c    | Cover combination | Weight (g) |
|-------------|------------|-------|------|-----|-----------|-----------|------|------|------|-------------------|------------|
| ● Silver    | ● Black    |       |      |     |           |           |      |      |      |                   |            |
| HEN110206S  | HEN110206B | 111.2 | 21.4 | 60  | 112       | 21.9      | 99.2 | 13.4 | 16.4 | ①×2               | 143        |
| HEN110212S  | HEN110212B | 111.2 | 21.4 | 120 | 112       | 21.9      | 99.2 | 13.4 | 16.4 |                   | 258        |
| HEN110220S  | HEN110220B | 111.2 | 21.4 | 200 | 112       | 21.9      | 99.2 | 13.4 | 16.4 |                   | 411        |
| HEN110306S  | HEN110306B | 111.2 | 32.5 | 60  | 112       | 33.0      | 99.2 | 24.5 | 27.5 | ①×1<br>②×1        | 179        |
| HEN110312S  | HEN110312B | 111.2 | 32.5 | 120 | 112       | 33.0      | 99.2 | 24.5 | 27.5 |                   | 311        |
| HEN110320S  | HEN110320B | 111.2 | 32.5 | 200 | 112       | 33.0      | 99.2 | 24.5 | 27.5 |                   | 488        |
| HEN110406S  | HEN110406B | 111.2 | 43.6 | 60  | 112       | 44.1      | 99.2 | 35.6 | 38.6 | ②×2               | 215        |
| HEN110412S  | HEN110412B | 111.2 | 43.6 | 120 | 112       | 44.1      | 99.2 | 35.6 | 38.6 |                   | 365        |
| HEN110420S  | HEN110420B | 111.2 | 43.6 | 200 | 112       | 44.1      | 99.2 | 35.6 | 38.6 |                   | 565        |
| HEN110506S  | HEN110506B | 111.2 | 54.7 | 60  | 112       | 55.2      | 99.2 | 46.7 | 49.7 | ①×1<br>③×1        | 250        |
| HEN110512S  | HEN110512B | 111.2 | 54.7 | 120 | 112       | 55.2      | 99.2 | 46.7 | 49.7 |                   | 417        |
| HEN110520S  | HEN110520B | 111.2 | 54.7 | 200 | 112       | 55.2      | 99.2 | 46.7 | 49.7 |                   | 640        |
| HEN110606S  | HEN110606B | 111.2 | 65.8 | 60  | 112       | 66.3      | 99.2 | 57.8 | 60.8 | ②×1<br>③×1        | 286        |
| HEN110612S  | HEN110612B | 111.2 | 65.8 | 120 | 112       | 66.3      | 99.2 | 57.8 | 60.8 |                   | 471        |
| HEN110620S  | HEN110620B | 111.2 | 65.8 | 200 | 112       | 66.3      | 99.2 | 57.8 | 60.8 |                   | 717        |
| HEN110806S  | HEN110806B | 111.2 | 88.0 | 60  | 112       | 88.5      | 99.2 | 80.8 | 83.0 | ③×2               | 358        |
| HEN110812S  | HEN110812B | 111.2 | 88.0 | 120 | 112       | 88.5      | 99.2 | 80.8 | 83.0 |                   | 577        |
| HEN110820S  | HEN110820B | 111.2 | 88.0 | 200 | 112       | 88.5      | 99.2 | 80.8 | 83.0 |                   | 869        |

# CF SERIES

# SLOPED ENCLOSURE



- Simple designed box with 10° angle of inclination for operational ease.
- Both the Slide or Screwed panel side can be utilized as a front panel.
- Rubber feet can be attached in any position based on your design requirements.



Low-cost digital printed overlay customization is available with a short lead time. Refer to page Custom 1 ~ 2 for more details.

### Components

| No. | Part name     | Pcs | Material                     | Color / Finish                           |
|-----|---------------|-----|------------------------------|--|
| 1   | Side plate    | 2   | ABS UL94V-0                  | Black • Gray                             |
| 2   | Front frame   | 1   | Extruded aluminium A6063S-T5 | Black • Silver / Anodized                |
| 3   | Rear frame    | 1   | Extruded aluminium A6063S-T5 | Black • Silver / Anodized                |
| 4   | Slide panel   | 1   | Aluminium A1100P t=1.5       | Black / Painted                          |
|     |               |     | Aluminium A1100P t=1.5       | Silver / Hairline brushed & Anodized     |
| 5   | Screwed panel | 1   | Aluminium A1100P t=1.5       | Black / Painted                          |
|     |               |     | Aluminium A1100P t=1.5       | Silver / Hairline brushed & Anodized     |
| 6   | Screw         | 12  | Steel                        | Black trivalent chromate • Nickel plated |
| 7   | Rubber feet   | 4   | Rubber                       | Black                                    |

■ Please peel off the protection sheet cover on both panels before application.

### Product no. / Dimensions

| Product no. |               | W   | H1   | H2   | D     | a   | Weight (kg) |
|-------------|---------------|-----|------|------|-------|-----|-------------|
| ● Black     | ● Gray/Silver |     |      |      |       |     |             |
| CF 7-11BB   | CF 7-11GS     | 70  | 28.4 | 48.3 | 111   | 57  | 0.15        |
| CF11-11BB   | CF11-11GS     | 110 | 28.4 | 48.3 | 111   | 97  | 0.21        |
| CF16-11BB   | CF16-11GS     | 160 | 28.4 | 48.3 | 111   | 147 | 0.29        |
| CF22-11BB   | CF22-11GS     | 220 | 28.4 | 48.3 | 111   | 207 | 0.38        |
| CF28-11BB   | CF28-11GS     | 280 | 28.4 | 48.3 | 111   | 267 | 0.47        |
| CF12-18BB   | CF12-18GS     | 120 | 32.4 | 66.2 | 181.3 | 104 | 0.38        |
| CF18-18BB   | CF18-18GS     | 180 | 32.4 | 66.2 | 181.3 | 164 | 0.53        |
| CF27-18BB   | CF27-18GS     | 270 | 32.4 | 66.2 | 181.3 | 254 | 0.76        |
| CF35-18BB   | CF35-18GS     | 350 | 32.4 | 66.2 | 181.3 | 334 | 0.97        |
| CF43-18BB   | CF43-18GS     | 430 | 32.4 | 66.2 | 181.3 | 414 | 1.17        |

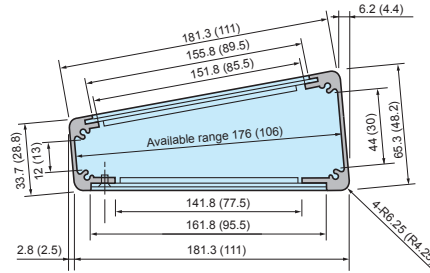
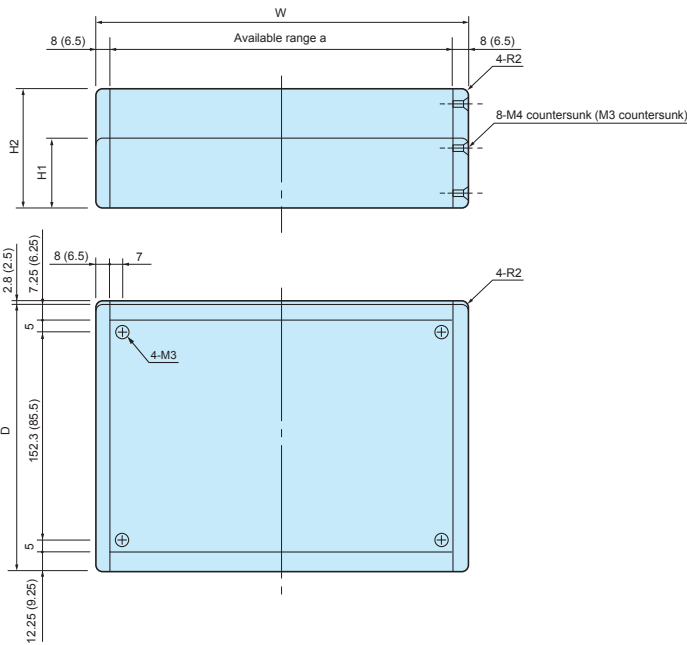
| Product no. |               | W   | H1   | H2   | D     | a   | Weight (kg) |
|-------------|---------------|-----|------|------|-------|-----|-------------|
| ● Black     | ● Gray/Silver |     |      |      |       |     |             |
| CF15-23BB   | CF15-23GS     | 150 | 39.6 | 79.7 | 230.9 | 131 | 0.52        |
| CF21-23BB   | CF21-23GS     | 210 | 39.6 | 79.7 | 230.9 | 191 | 0.7         |
| CF27-23BB   | CF27-23GS     | 270 | 39.6 | 79.7 | 230.9 | 251 | 0.88        |
| CF36-23BB   | CF36-23GS     | 360 | 39.6 | 79.7 | 230.9 | 341 | 1.14        |
| CF45-23BB   | CF45-23GS     | 450 | 39.6 | 79.7 | 230.9 | 431 | 1.41        |
| CF21-28BB   | CF21-28GS     | 210 | 49.8 | 98.6 | 281   | 191 | 0.93        |
| CF28-28BB   | CF28-28GS     | 280 | 49.8 | 98.6 | 281   | 261 | 1.17        |
| CF36-28BB   | CF36-28GS     | 360 | 49.8 | 98.6 | 281   | 341 | 1.46        |
| CF45-28BB   | CF45-28GS     | 450 | 49.8 | 98.6 | 281   | 431 | 1.77        |

CF dimensions

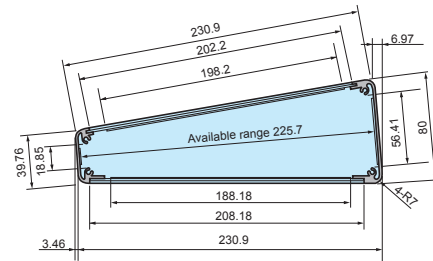
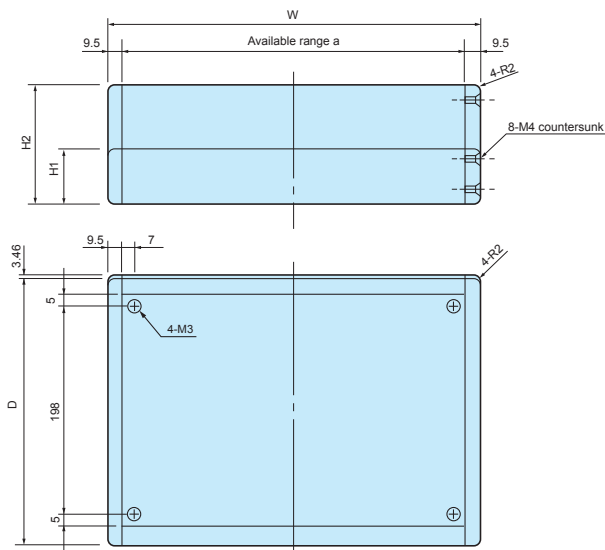
DXF/DWG/PDF drawings available on our website.

CF□-11 \* ( ) value = CF□-11 dimensions

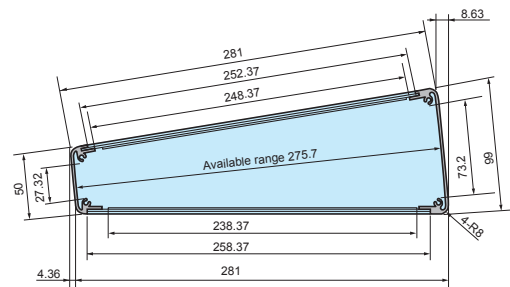
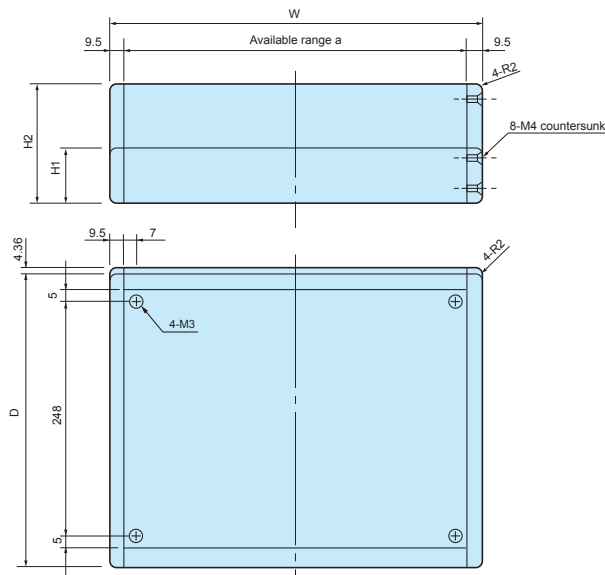
CF□-18



CF□-23



CF□-28



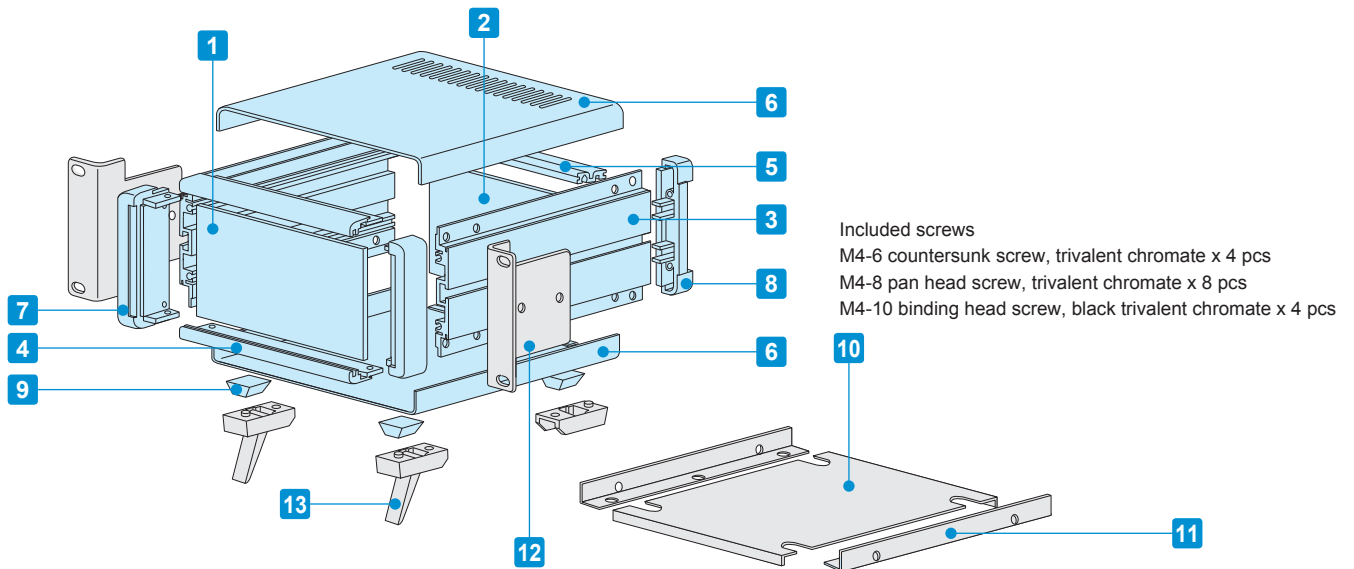
# MS SERIES

# DESKTOP ENCLOSURE



- Available in 3 different colors and 176 different sizes.
- Screws are hidden out of view for a sophisticated and elegant look.
- Suitable for use as measuring instruments, testing equipment, power supply controller, etc.

## Assembly drawings



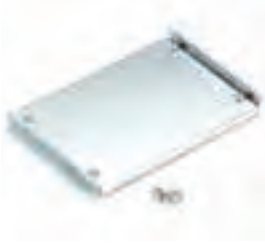
## Components

| No. | Part name          | Pcs    | Material                     | Color / Finish                               |
|-----|--------------------|--------|------------------------------|--|
| 1   | Front panel        | 1      | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 2   | Rear panel         | 1      | Aluminium A1050P t=2.0       | Silver • Black / Anodized                    |
| 3   | Side frame         | 2      | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |
| 4   | Front frame        | 2      | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |
| 5   | Rear frame         | 2      | Extruded aluminium A6063S-T5 | Silver / Anodized                            |
| 6   | Top • Bottom cover | 1 each | Steel SPCC t=1.0             | Light gray • Black / Painted                 |
| 7   | Corner block       | 2      | Diecast aluminium ADC12      | Gray • Black / Painted                       |
| 8   | Rear feet          | 2      | ABS UL94V-0                  | Gray • Black                                 |
| 9   | Rubber feet        | 4      | Polyurethane                 | Black  |

■ Front • Rear panels comes with a protective sheet cover.



Accessories (Optional parts)



10 Mounting plate  
MSC series  
See page 249



11 L-bracket  
MSCL series  
See page 249



12 Rack mounting  
MSM series  
See page 250



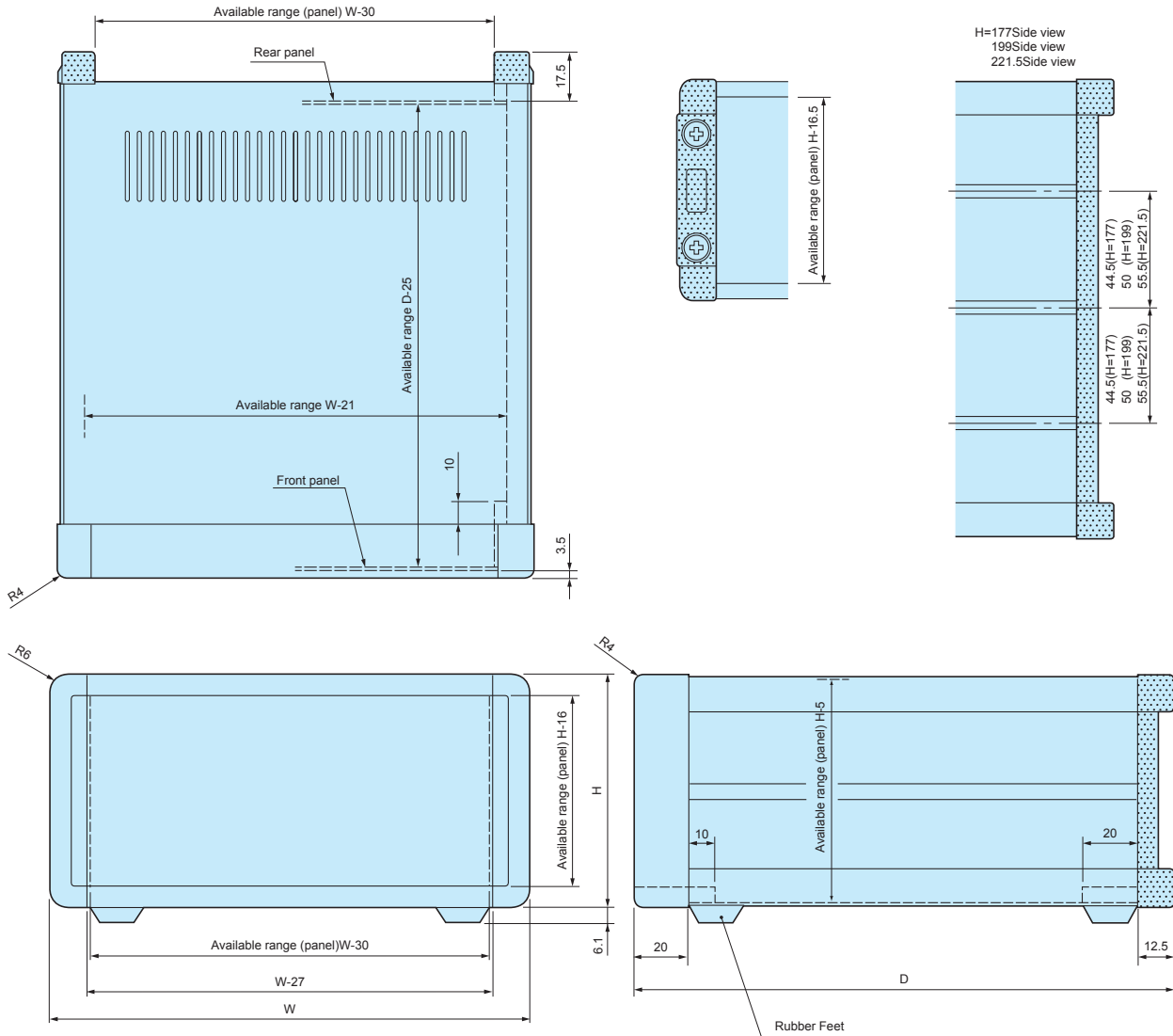
13 Tilt leg  
TL series  
See page 251



Cable hook  
CBF series  
See page 251

MS dimensions

DXF/DWG/PDF drawings available on our website.



Top • Bottom cover of sizes 160x160, 160x230, 160x280, 210x160 do not have ventilation holes.

Color Type

Please suffix color code at the end of the product number.

| ● G                |            | ● B                |       | ● BS               |        |
|--------------------|------------|--------------------|-------|--------------------|--------|
|                    |            |                    |       |                    |        |
| Panel              | Silver     | Panel              | Black | Panel              | Silver |
| Top • Bottom cover | Light gray | Top • Bottom cover | Black | Top • Bottom cover | Black  |
| Side frame         | Gray       | Side frame         | Black | Side frame         | Black  |

**Product no. / Dimensions**

| Product no.  | H  | W   | D   | Weight (kg) |
|--------------|----|-----|-----|-------------|
| MS 66-16-16□ | 66 | 160 | 160 | 1.0         |
| MS 66-16-23□ | 66 | 160 | 230 | 1.3         |
| MS 66-16-28□ | 66 | 160 | 280 | 1.6         |
| MS 66-21-16□ | 66 | 210 | 160 | 1.2         |
| MS 66-21-23□ | 66 | 210 | 230 | 1.6         |
| MS 66-21-28□ | 66 | 210 | 280 | 1.8         |
| MS 66-21-35□ | 66 | 210 | 350 | 2.2         |
| MS 66-26-23□ | 66 | 260 | 230 | 1.8         |
| MS 66-26-28□ | 66 | 260 | 280 | 2.1         |
| MS 66-26-35□ | 66 | 260 | 350 | 2.6         |
| MS 66-32-23□ | 66 | 320 | 230 | 2.1         |
| MS 66-32-28□ | 66 | 320 | 280 | 2.5         |
| MS 66-32-35□ | 66 | 320 | 350 | 3.0         |
| MS 66-32-45□ | 66 | 320 | 450 | 3.7         |
| MS 66-37-23□ | 66 | 370 | 230 | 2.4         |
| MS 66-37-28□ | 66 | 370 | 280 | 2.8         |
| MS 66-37-35□ | 66 | 370 | 350 | 3.3         |
| MS 66-37-45□ | 66 | 370 | 450 | 4.1         |
| MS 66-43-23□ | 66 | 430 | 230 | 2.7         |
| MS 66-43-28□ | 66 | 430 | 280 | 3.1         |
| MS 66-43-35□ | 66 | 430 | 350 | 3.7         |
| MS 66-43-45□ | 66 | 430 | 450 | 4.6         |
| MS 88-16-16□ | 88 | 160 | 160 | 1.1         |
| MS 88-16-23□ | 88 | 160 | 230 | 1.5         |
| MS 88-16-28□ | 88 | 160 | 280 | 1.7         |
| MS 88-21-16□ | 88 | 210 | 160 | 1.3         |
| MS 88-21-23□ | 88 | 210 | 230 | 1.8         |
| MS 88-21-28□ | 88 | 210 | 280 | 2.1         |
| MS 88-21-35□ | 88 | 210 | 350 | 2.5         |
| MS 88-26-23□ | 88 | 260 | 230 | 2.0         |
| MS 88-26-28□ | 88 | 260 | 280 | 2.5         |
| MS 88-26-35□ | 88 | 260 | 350 | 2.8         |
| MS 88-32-23□ | 88 | 320 | 230 | 2.3         |
| MS 88-32-28□ | 88 | 320 | 280 | 2.8         |
| MS 88-32-35□ | 88 | 320 | 350 | 3.2         |
| MS 88-32-45□ | 88 | 320 | 450 | 4.0         |
| MS 88-37-23□ | 88 | 370 | 230 | 2.6         |
| MS 88-37-28□ | 88 | 370 | 280 | 3.0         |
| MS 88-37-35□ | 88 | 370 | 350 | 3.6         |
| MS 88-37-45□ | 88 | 370 | 450 | 4.4         |
| MS 88-43-23□ | 88 | 430 | 230 | 2.9         |
| MS 88-43-28□ | 88 | 430 | 280 | 3.4         |
| MS 88-43-35□ | 88 | 430 | 350 | 4.0         |
| MS 88-43-45□ | 88 | 430 | 450 | 5.0         |

| Product no.  | H   | W   | D   | Weight (kg) |
|--------------|-----|-----|-----|-------------|
| MS 99-16-16□ | 99  | 160 | 160 | 1.1         |
| MS 99-16-23□ | 99  | 160 | 230 | 1.5         |
| MS 99-16-28□ | 99  | 160 | 280 | 1.8         |
| MS 99-21-16□ | 99  | 210 | 160 | 1.4         |
| MS 99-21-23□ | 99  | 210 | 230 | 1.8         |
| MS 99-21-28□ | 99  | 210 | 280 | 2.1         |
| MS 99-21-35□ | 99  | 210 | 350 | 2.5         |
| MS 99-26-23□ | 99  | 260 | 230 | 2.0         |
| MS 99-26-28□ | 99  | 260 | 280 | 2.4         |
| MS 99-26-35□ | 99  | 260 | 350 | 2.8         |
| MS 99-32-23□ | 99  | 320 | 230 | 2.4         |
| MS 99-32-28□ | 99  | 320 | 280 | 2.8         |
| MS 99-32-35□ | 99  | 320 | 350 | 3.3         |
| MS 99-32-45□ | 99  | 320 | 450 | 4.0         |
| MS 99-37-23□ | 99  | 370 | 230 | 2.6         |
| MS 99-37-28□ | 99  | 370 | 280 | 3.0         |
| MS 99-37-35□ | 99  | 370 | 350 | 3.6         |
| MS 99-37-45□ | 99  | 370 | 450 | 4.5         |
| MS 99-43-23□ | 99  | 430 | 230 | 3.0         |
| MS 99-43-28□ | 99  | 430 | 280 | 3.4         |
| MS 99-43-35□ | 99  | 430 | 350 | 4.1         |
| MS 99-43-45□ | 99  | 430 | 450 | 5.0         |
| MS133-16-16□ | 133 | 160 | 160 | 1.3         |
| MS133-16-23□ | 133 | 160 | 230 | 1.7         |
| MS133-16-28□ | 133 | 160 | 280 | 2.0         |
| MS133-21-16□ | 133 | 210 | 160 | 1.6         |
| MS133-21-23□ | 133 | 210 | 230 | 2.1         |
| MS133-21-28□ | 133 | 210 | 280 | 2.4         |
| MS133-21-35□ | 133 | 210 | 350 | 2.9         |
| MS133-26-23□ | 133 | 260 | 230 | 2.4         |
| MS133-26-28□ | 133 | 260 | 280 | 2.8         |
| MS133-26-35□ | 133 | 260 | 350 | 3.3         |
| MS133-32-23□ | 133 | 320 | 230 | 2.7         |
| MS133-32-28□ | 133 | 320 | 280 | 3.2         |
| MS133-32-35□ | 133 | 320 | 350 | 3.7         |
| MS133-32-45□ | 133 | 320 | 450 | 4.5         |
| MS133-37-23□ | 133 | 370 | 230 | 3.0         |
| MS133-37-28□ | 133 | 370 | 280 | 3.5         |
| MS133-37-35□ | 133 | 370 | 350 | 4.1         |
| MS133-37-45□ | 133 | 370 | 450 | 5.0         |
| MS133-43-23□ | 133 | 430 | 230 | 3.4         |
| MS133-43-28□ | 133 | 430 | 280 | 3.9         |
| MS133-43-35□ | 133 | 430 | 350 | 4.6         |
| MS133-43-45□ | 133 | 430 | 450 | 5.6         |

**Product no. / Dimensions**

| Product no.  | H   | W   | D   | Weight (kg) |
|--------------|-----|-----|-----|-------------|
| MS149-16-16□ | 149 | 160 | 160 | 1.4         |
| MS149-16-23□ | 149 | 160 | 230 | 1.8         |
| MS149-16-28□ | 149 | 160 | 280 | 2.1         |
| MS149-21-16□ | 149 | 210 | 160 | 1.6         |
| MS149-21-23□ | 149 | 210 | 230 | 2.1         |
| MS149-21-28□ | 149 | 210 | 280 | 2.4         |
| MS149-21-35□ | 149 | 210 | 350 | 2.9         |
| MS149-26-23□ | 149 | 260 | 230 | 2.4         |
| MS149-26-28□ | 149 | 260 | 280 | 2.8         |
| MS149-26-35□ | 149 | 260 | 350 | 3.3         |
| MS149-32-23□ | 149 | 320 | 230 | 2.7         |
| MS149-32-28□ | 149 | 320 | 280 | 3.2         |
| MS149-32-35□ | 149 | 320 | 350 | 3.8         |
| MS149-32-45□ | 149 | 320 | 450 | 4.6         |
| MS149-37-23□ | 149 | 370 | 230 | 3.0         |
| MS149-37-28□ | 149 | 370 | 280 | 3.5         |
| MS149-37-35□ | 149 | 370 | 350 | 4.1         |
| MS149-37-45□ | 149 | 370 | 450 | 5.1         |
| MS149-43-23□ | 149 | 430 | 230 | 3.4         |
| MS149-43-28□ | 149 | 430 | 280 | 3.9         |
| MS149-43-35□ | 149 | 430 | 350 | 4.6         |
| MS149-43-45□ | 149 | 430 | 450 | 5.6         |
| MS177-16-16□ | 177 | 160 | 160 | 1.6         |
| MS177-16-23□ | 177 | 160 | 230 | 2.2         |
| MS177-16-28□ | 177 | 160 | 280 | 2.5         |
| MS177-21-16□ | 177 | 210 | 160 | 1.9         |
| MS177-21-23□ | 177 | 210 | 230 | 2.7         |
| MS177-21-28□ | 177 | 210 | 280 | 3.1         |
| MS177-21-35□ | 177 | 210 | 350 | 3.6         |
| MS177-26-23□ | 177 | 260 | 230 | 3.0         |
| MS177-26-28□ | 177 | 260 | 280 | 3.4         |
| MS177-26-35□ | 177 | 260 | 350 | 4.0         |
| MS177-32-23□ | 177 | 320 | 230 | 3.3         |
| MS177-32-28□ | 177 | 320 | 280 | 3.9         |
| MS177-32-35□ | 177 | 320 | 350 | 4.5         |
| MS177-32-45□ | 177 | 320 | 450 | 5.5         |
| MS177-37-23□ | 177 | 370 | 230 | 3.6         |
| MS177-37-28□ | 177 | 370 | 280 | 4.2         |
| MS177-37-35□ | 177 | 370 | 350 | 4.9         |
| MS177-37-45□ | 177 | 370 | 450 | 6.0         |
| MS177-43-23□ | 177 | 430 | 230 | 4.0         |
| MS177-43-28□ | 177 | 430 | 280 | 4.6         |
| MS177-43-35□ | 177 | 430 | 350 | 5.4         |
| MS177-43-45□ | 177 | 430 | 450 | 6.6         |

| Product no.  | H   | W   | D   | Weight (kg) |
|--------------|-----|-----|-----|-------------|
| MS199-16-16□ | 199 | 160 | 160 | 1.9         |
| MS199-16-23□ | 199 | 160 | 230 | 2.4         |
| MS199-16-28□ | 199 | 160 | 280 | 2.7         |
| MS199-21-16□ | 199 | 210 | 160 | 2.1         |
| MS199-21-23□ | 199 | 210 | 230 | 2.7         |
| MS199-21-28□ | 199 | 210 | 280 | 3.1         |
| MS199-21-35□ | 199 | 210 | 350 | 3.7         |
| MS199-26-23□ | 199 | 260 | 230 | 3.1         |
| MS199-26-28□ | 199 | 260 | 280 | 3.5         |
| MS199-26-35□ | 199 | 260 | 350 | 4.1         |
| MS199-32-23□ | 199 | 320 | 230 | 3.4         |
| MS199-32-28□ | 199 | 320 | 280 | 3.9         |
| MS199-32-35□ | 199 | 320 | 350 | 4.7         |
| MS199-32-45□ | 199 | 320 | 450 | 5.7         |
| MS199-37-23□ | 199 | 370 | 230 | 3.8         |
| MS199-37-28□ | 199 | 370 | 280 | 4.3         |
| MS199-37-35□ | 199 | 370 | 350 | 5.1         |
| MS199-37-45□ | 199 | 370 | 450 | 6.0         |
| MS199-43-23□ | 199 | 430 | 230 | 4.2         |
| MS199-43-28□ | 199 | 430 | 280 | 4.8         |
| MS199-43-35□ | 199 | 430 | 350 | 5.6         |
| MS199-43-45□ | 199 | 430 | 450 | 6.9         |
| MS222-16-16□ | 222 | 160 | 160 | 2.0         |
| MS222-16-23□ | 222 | 160 | 230 | 2.5         |
| MS222-16-28□ | 222 | 160 | 280 | 2.8         |
| MS222-21-16□ | 222 | 210 | 160 | 2.2         |
| MS222-21-23□ | 222 | 210 | 230 | 2.8         |
| MS222-21-28□ | 222 | 210 | 280 | 3.2         |
| MS222-21-35□ | 222 | 210 | 350 | 3.8         |
| MS222-26-23□ | 222 | 260 | 230 | 3.2         |
| MS222-26-28□ | 222 | 260 | 280 | 3.6         |
| MS222-26-35□ | 222 | 260 | 350 | 4.3         |
| MS222-32-23□ | 222 | 320 | 230 | 3.6         |
| MS222-32-28□ | 222 | 320 | 280 | 4.1         |
| MS222-32-35□ | 222 | 320 | 350 | 4.9         |
| MS222-32-45□ | 222 | 320 | 450 | 6.0         |
| MS222-37-23□ | 222 | 370 | 230 | 3.9         |
| MS222-37-28□ | 222 | 370 | 280 | 4.5         |
| MS222-37-35□ | 222 | 370 | 350 | 5.3         |
| MS222-37-45□ | 222 | 370 | 450 | 6.4         |
| MS222-43-23□ | 222 | 430 | 230 | 4.4         |
| MS222-43-28□ | 222 | 430 | 280 | 5.0         |
| MS222-43-35□ | 222 | 430 | 350 | 5.9         |
| MS222-43-45□ | 222 | 430 | 450 | 7.2         |

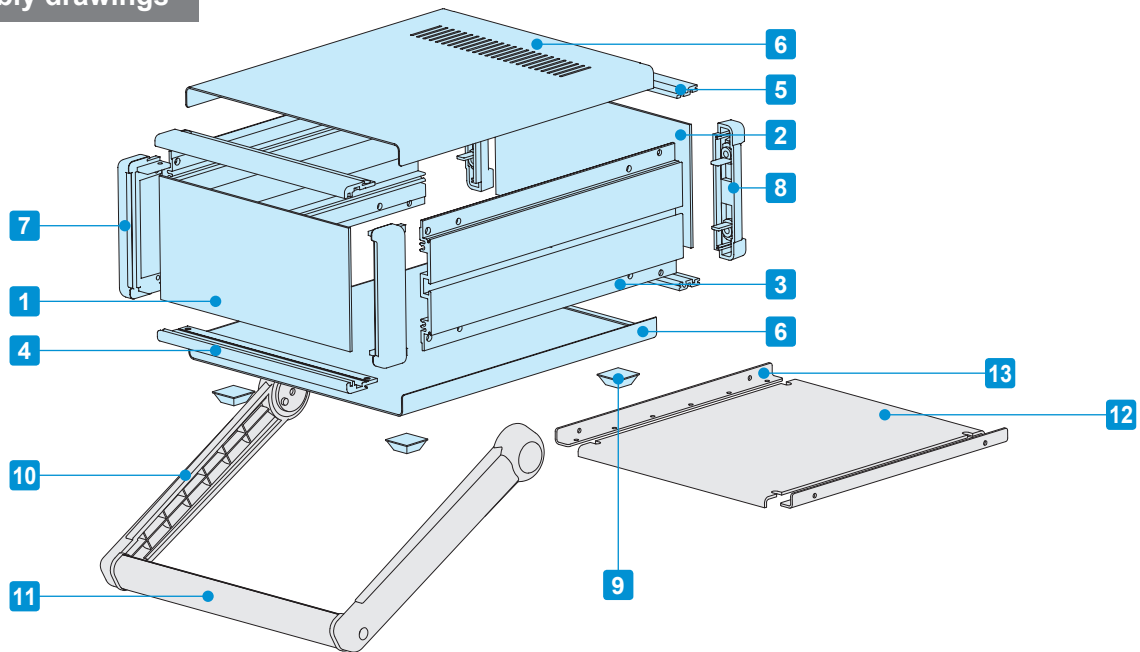
# MSN SERIES

# DESKTOP ENCLOSURE with STAND HANDLE



- Available in 3 different colors and 176 different sizes.
- Stand handle can be shifted and locked at 30° intervals.
- Maximum load support of 25kg.

## Assembly drawings



### Components

| No. | Part name          | Pcs     | Material                     | Color / Finish                               |                    |
|-----|--------------------|---------|------------------------------|--|--------------------|
| 1   | Front panel        | 1       | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |                    |
| 2   | Rear panel         | 1       | Aluminium A1050P t=2.0       | Silver • Black / Anodized                    |                    |
| 3   | Side frame         | 2       | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |                    |
| 4   | Front frame        | 2       | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |                    |
| 5   | Rear frame         | 2       | Extruded aluminium A6063S-T5 | Silver / Anodized                            |                    |
| 6   | Top • Bottom cover | 1 each  | Steel SPCC t=1.0             | Light gray • Black / Painted                 |                    |
| 7   | Corner block       | 2       | Diecast aluminium ADC12      | Gray • Black / Painted                       |                    |
| 8   | Rear feet          | 2       | ABS UL94V-0                  | Gray • Black                                 |                    |
| 9   | Rubber feet        | 4       | Polyurethane                 | Black  |                    |
| 10  | Stand handle       | Bracket | 2                            | ABS UL94VHB                                  | Light gray • Black |
| 11  |                    | Grip    | 1                            | Extruded aluminium A6063S-T5                 | Silver • Black     |

■ Front • Rear panels comes with a protective sheet cover.

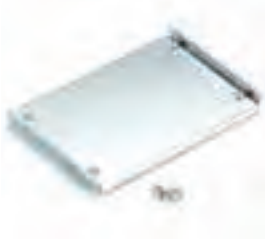
#### Included screws

M4-6 countersunk screw, trivalent chromate x 4 pcs

M4-8 pan head screw, trivalent chromate x 8 pcs

M4-10 binding head screw, black trivalent chromate x 4 pcs

Accessories (Optional parts)



12 Mounting plate  
MSC series  
See page 249



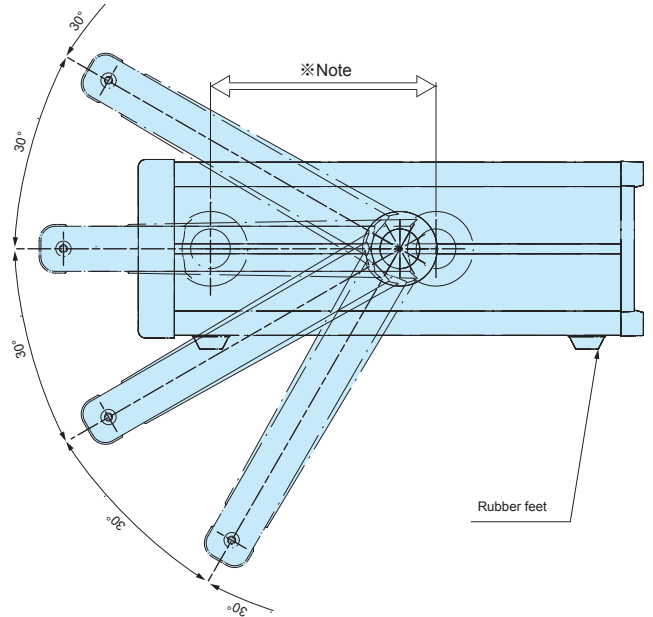
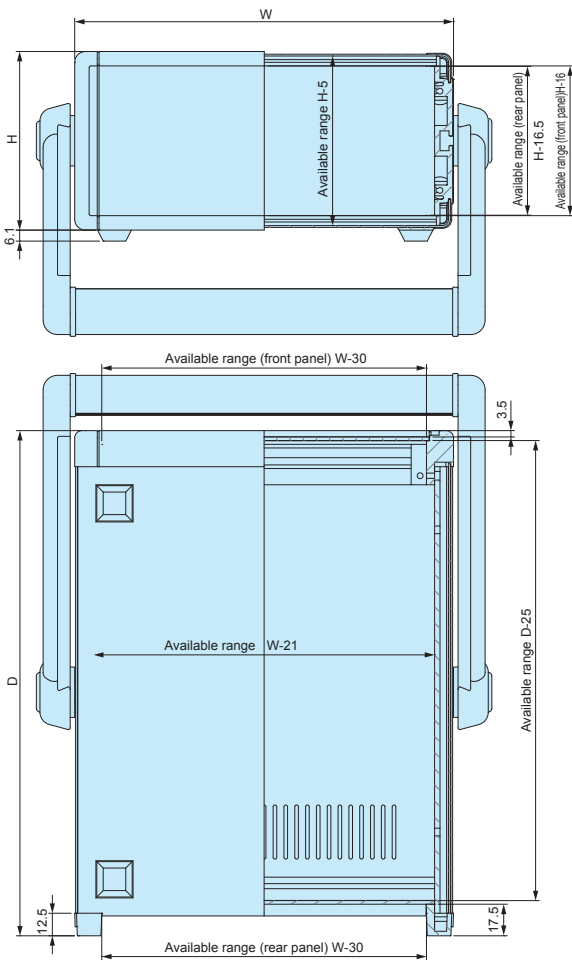
13 L-bracket  
MSCL series  
See page 249



Cable hook  
CBF series  
See page 251

MSN dimensions

DXF/DWG/PDF drawings available on our website.



※ Note  
Stand handle location can be freely affixed within denoted range.

Top • Bottom cover of sizes 160x160, 160x230, 160x280, 210x160 do not have ventilation holes.

Color Type

Please suffix color code at the end of the product number.

| G                  |            | B                  |       | BS                 |        |
|--------------------|------------|--------------------|-------|--------------------|--------|
|                    | Silver     |                    | Black |                    | Silver |
| Top • Bottom cover | Light gray | Top • Bottom cover | Black | Top • Bottom cover | Black  |
| Side frame         | Gray       | Side frame         | Black | Side frame         | Black  |

**Product no. / Dimensions**

| Product no.   | H  | W   | D   | Weight (kg) |
|---------------|----|-----|-----|-------------|
| MSN 66-16-16□ | 66 | 160 | 160 | 1.2         |
| MSN 66-16-23□ | 66 | 160 | 230 | 1.5         |
| MSN 66-16-28□ | 66 | 160 | 280 | 1.8         |
| MSN 66-21-16□ | 66 | 210 | 160 | 1.4         |
| MSN 66-21-23□ | 66 | 210 | 230 | 1.8         |
| MSN 66-21-28□ | 66 | 210 | 280 | 2.1         |
| MSN 66-21-35□ | 66 | 210 | 350 | 2.5         |
| MSN 66-26-23□ | 66 | 260 | 230 | 2.1         |
| MSN 66-26-28□ | 66 | 260 | 280 | 2.4         |
| MSN 66-26-35□ | 66 | 260 | 350 | 2.9         |
| MSN 66-32-23□ | 66 | 320 | 230 | 2.4         |
| MSN 66-32-28□ | 66 | 320 | 280 | 2.8         |
| MSN 66-32-35□ | 66 | 320 | 350 | 3.4         |
| MSN 66-32-45□ | 66 | 320 | 450 | 4.1         |
| MSN 66-37-23□ | 66 | 370 | 230 | 2.6         |
| MSN 66-37-28□ | 66 | 370 | 280 | 3.1         |
| MSN 66-37-35□ | 66 | 370 | 350 | 3.7         |
| MSN 66-37-45□ | 66 | 370 | 450 | 4.4         |
| MSN 66-43-23□ | 66 | 430 | 230 | 3.0         |
| MSN 66-43-28□ | 66 | 430 | 280 | 3.5         |
| MSN 66-43-35□ | 66 | 430 | 350 | 4.2         |
| MSN 66-43-45□ | 66 | 430 | 450 | 5.2         |
| MSN 88-16-16□ | 88 | 160 | 160 | 1.3         |
| MSN 88-16-23□ | 88 | 160 | 230 | 1.6         |
| MSN 88-16-28□ | 88 | 160 | 280 | 1.9         |
| MSN 88-21-16□ | 88 | 210 | 160 | 1.5         |
| MSN 88-21-23□ | 88 | 210 | 230 | 1.9         |
| MSN 88-21-28□ | 88 | 210 | 280 | 2.3         |
| MSN 88-21-35□ | 88 | 210 | 350 | 2.7         |
| MSN 88-26-23□ | 88 | 260 | 230 | 2.3         |
| MSN 88-26-28□ | 88 | 260 | 280 | 2.6         |
| MSN 88-26-35□ | 88 | 260 | 350 | 3.1         |
| MSN 88-32-23□ | 88 | 320 | 230 | 2.6         |
| MSN 88-32-28□ | 88 | 320 | 280 | 3.0         |
| MSN 88-32-35□ | 88 | 320 | 350 | 3.6         |
| MSN 88-32-45□ | 88 | 320 | 450 | 4.4         |
| MSN 88-37-23□ | 88 | 370 | 230 | 2.9         |
| MSN 88-37-28□ | 88 | 370 | 280 | 3.3         |
| MSN 88-37-35□ | 88 | 370 | 350 | 4.0         |
| MSN 88-37-45□ | 88 | 370 | 450 | 4.7         |
| MSN 88-43-23□ | 88 | 430 | 230 | 3.2         |
| MSN 88-43-28□ | 88 | 430 | 280 | 3.7         |
| MSN 88-43-35□ | 88 | 430 | 350 | 4.4         |
| MSN 88-43-45□ | 88 | 430 | 450 | 5.5         |

| Product no.   | H   | W   | D   | Weight (kg) |
|---------------|-----|-----|-----|-------------|
| MSN 99-16-16□ | 99  | 160 | 160 | 1.3         |
| MSN 99-16-23□ | 99  | 160 | 230 | 1.7         |
| MSN 99-16-28□ | 99  | 160 | 280 | 2.0         |
| MSN 99-21-16□ | 99  | 210 | 160 | 1.6         |
| MSN 99-21-23□ | 99  | 210 | 230 | 2.0         |
| MSN 99-21-28□ | 99  | 210 | 280 | 2.3         |
| MSN 99-21-35□ | 99  | 210 | 350 | 2.8         |
| MSN 99-26-23□ | 99  | 260 | 230 | 2.3         |
| MSN 99-26-28□ | 99  | 260 | 280 | 2.7         |
| MSN 99-26-35□ | 99  | 260 | 350 | 3.2         |
| MSN 99-32-23□ | 99  | 320 | 230 | 2.6         |
| MSN 99-32-28□ | 99  | 320 | 280 | 3.1         |
| MSN 99-32-35□ | 99  | 320 | 350 | 3.7         |
| MSN 99-32-45□ | 99  | 320 | 450 | 4.5         |
| MSN 99-37-23□ | 99  | 370 | 230 | 2.9         |
| MSN 99-37-28□ | 99  | 370 | 280 | 3.4         |
| MSN 99-37-35□ | 99  | 370 | 350 | 4.1         |
| MSN 99-37-45□ | 99  | 370 | 450 | 4.8         |
| MSN 99-43-23□ | 99  | 430 | 230 | 3.3         |
| MSN 99-43-28□ | 99  | 430 | 280 | 3.8         |
| MSN 99-43-35□ | 99  | 430 | 350 | 4.5         |
| MSN 99-43-45□ | 99  | 430 | 450 | 5.6         |
| MSN133-16-16□ | 133 | 160 | 160 | 1.5         |
| MSN133-16-23□ | 133 | 160 | 230 | 1.9         |
| MSN133-16-28□ | 133 | 160 | 280 | 2.2         |
| MSN133-21-16□ | 133 | 210 | 160 | 1.8         |
| MSN133-21-23□ | 133 | 210 | 230 | 2.3         |
| MSN133-21-28□ | 133 | 210 | 280 | 2.6         |
| MSN133-21-35□ | 133 | 210 | 350 | 3.1         |
| MSN133-26-23□ | 133 | 260 | 230 | 2.6         |
| MSN133-26-28□ | 133 | 260 | 280 | 3.0         |
| MSN133-26-35□ | 133 | 260 | 350 | 3.5         |
| MSN133-32-23□ | 133 | 320 | 230 | 2.9         |
| MSN133-32-28□ | 133 | 320 | 280 | 3.4         |
| MSN133-32-35□ | 133 | 320 | 350 | 4.0         |
| MSN133-32-45□ | 133 | 320 | 450 | 4.9         |
| MSN133-37-23□ | 133 | 370 | 230 | 3.3         |
| MSN133-37-28□ | 133 | 370 | 280 | 3.8         |
| MSN133-37-35□ | 133 | 370 | 350 | 4.4         |
| MSN133-37-45□ | 133 | 370 | 450 | 5.2         |
| MSN133-43-23□ | 133 | 430 | 230 | 3.7         |
| MSN133-43-28□ | 133 | 430 | 280 | 4.2         |
| MSN133-43-35□ | 133 | 430 | 350 | 4.9         |
| MSN133-43-45□ | 133 | 430 | 450 | 6.0         |



**Product no. / Dimensions**

| Product no.   | H   | W   | D   | Weight (kg) |
|---------------|-----|-----|-----|-------------|
| MSN149-16-16□ | 149 | 160 | 160 | 1.6         |
| MSN149-16-23□ | 149 | 160 | 230 | 2.0         |
| MSN149-16-28□ | 149 | 160 | 280 | 2.4         |
| MSN149-21-16□ | 149 | 210 | 160 | 1.8         |
| MSN149-21-23□ | 149 | 210 | 230 | 2.4         |
| MSN149-21-28□ | 149 | 210 | 280 | 2.7         |
| MSN149-21-35□ | 149 | 210 | 350 | 3.2         |
| MSN149-26-23□ | 149 | 260 | 230 | 2.7         |
| MSN149-26-28□ | 149 | 260 | 280 | 3.1         |
| MSN149-26-35□ | 149 | 260 | 350 | 3.6         |
| MSN149-32-23□ | 149 | 320 | 230 | 3.1         |
| MSN149-32-28□ | 149 | 320 | 280 | 3.5         |
| MSN149-32-35□ | 149 | 320 | 350 | 4.2         |
| MSN149-32-45□ | 149 | 320 | 450 | 5.1         |
| MSN149-37-23□ | 149 | 370 | 230 | 3.4         |
| MSN149-37-28□ | 149 | 370 | 280 | 3.9         |
| MSN149-37-35□ | 149 | 370 | 350 | 4.6         |
| MSN149-37-45□ | 149 | 370 | 450 | 5.4         |
| MSN149-43-23□ | 149 | 430 | 230 | 3.8         |
| MSN149-43-28□ | 149 | 430 | 280 | 4.4         |
| MSN149-43-35□ | 149 | 430 | 350 | 5.1         |
| MSN149-43-45□ | 149 | 430 | 450 | 6.3         |
| MSN177-16-16□ | 177 | 160 | 160 | 1.9         |
| MSN177-16-23□ | 177 | 160 | 230 | 2.4         |
| MSN177-16-28□ | 177 | 160 | 280 | 2.8         |
| MSN177-21-16□ | 177 | 210 | 160 | 2.2         |
| MSN177-21-23□ | 177 | 210 | 230 | 2.8         |
| MSN177-21-28□ | 177 | 210 | 280 | 3.2         |
| MSN177-21-35□ | 177 | 210 | 350 | 3.8         |
| MSN177-26-23□ | 177 | 260 | 230 | 3.2         |
| MSN177-26-28□ | 177 | 260 | 280 | 3.6         |
| MSN177-26-35□ | 177 | 260 | 350 | 4.2         |
| MSN177-32-23□ | 177 | 320 | 230 | 3.5         |
| MSN177-32-28□ | 177 | 320 | 280 | 4.0         |
| MSN177-32-35□ | 177 | 320 | 350 | 4.8         |
| MSN177-32-45□ | 177 | 320 | 450 | 5.8         |
| MSN177-37-23□ | 177 | 370 | 230 | 3.9         |
| MSN177-37-28□ | 177 | 370 | 280 | 4.4         |
| MSN177-37-35□ | 177 | 370 | 350 | 5.2         |
| MSN177-37-45□ | 177 | 370 | 450 | 6.1         |
| MSN177-43-23□ | 177 | 430 | 230 | 4.3         |
| MSN177-43-28□ | 177 | 430 | 280 | 4.9         |
| MSN177-43-35□ | 177 | 430 | 350 | 5.7         |
| MSN177-43-45□ | 177 | 430 | 450 | 7.0         |

| Product no.   | H   | W   | D   | Weight (kg) |
|---------------|-----|-----|-----|-------------|
| MSN199-16-16□ | 199 | 160 | 160 | 2.0         |
| MSN199-16-23□ | 199 | 160 | 230 | 2.6         |
| MSN199-16-28□ | 199 | 160 | 280 | 2.9         |
| MSN199-21-16□ | 199 | 210 | 160 | 2.3         |
| MSN199-21-23□ | 199 | 210 | 230 | 2.9         |
| MSN199-21-28□ | 199 | 210 | 280 | 3.3         |
| MSN199-21-35□ | 199 | 210 | 350 | 3.9         |
| MSN199-26-23□ | 199 | 260 | 230 | 3.3         |
| MSN199-26-28□ | 199 | 260 | 280 | 3.7         |
| MSN199-26-35□ | 199 | 260 | 350 | 4.4         |
| MSN199-32-23□ | 199 | 320 | 230 | 3.7         |
| MSN199-32-28□ | 199 | 320 | 280 | 4.2         |
| MSN199-32-35□ | 199 | 320 | 350 | 4.9         |
| MSN199-32-45□ | 199 | 320 | 450 | 5.9         |
| MSN199-37-23□ | 199 | 370 | 230 | 4.0         |
| MSN199-37-28□ | 199 | 370 | 280 | 4.6         |
| MSN199-37-35□ | 199 | 370 | 350 | 5.4         |
| MSN199-37-45□ | 199 | 370 | 450 | 6.3         |
| MSN199-43-23□ | 199 | 430 | 230 | 4.5         |
| MSN199-43-28□ | 199 | 430 | 280 | 5.1         |
| MSN199-43-35□ | 199 | 430 | 350 | 5.9         |
| MSN199-43-45□ | 199 | 430 | 450 | 7.2         |
| MSN222-16-16□ | 222 | 160 | 160 | 2.2         |
| MSN222-16-23□ | 222 | 160 | 230 | 2.7         |
| MSN222-16-28□ | 222 | 160 | 280 | 3.0         |
| MSN222-21-16□ | 222 | 210 | 160 | 2.5         |
| MSN222-21-23□ | 222 | 210 | 230 | 3.0         |
| MSN222-21-28□ | 222 | 210 | 280 | 3.4         |
| MSN222-21-35□ | 222 | 210 | 350 | 4.1         |
| MSN222-26-23□ | 222 | 260 | 230 | 3.4         |
| MSN222-26-28□ | 222 | 260 | 280 | 3.8         |
| MSN222-26-35□ | 222 | 260 | 350 | 4.5         |
| MSN222-32-23□ | 222 | 320 | 230 | 3.8         |
| MSN222-32-28□ | 222 | 320 | 280 | 4.3         |
| MSN222-32-35□ | 222 | 320 | 350 | 5.1         |
| MSN222-32-45□ | 222 | 320 | 450 | 6.2         |
| MSN222-37-23□ | 222 | 370 | 230 | 4.2         |
| MSN222-37-28□ | 222 | 370 | 280 | 4.8         |
| MSN222-37-35□ | 222 | 370 | 350 | 5.6         |
| MSN222-37-45□ | 222 | 370 | 450 | 6.6         |
| MSN222-43-23□ | 222 | 430 | 230 | 4.7         |
| MSN222-43-28□ | 222 | 430 | 280 | 5.2         |
| MSN222-43-35□ | 222 | 430 | 350 | 6.1         |
| MSN222-43-45□ | 222 | 430 | 450 | 7.5         |

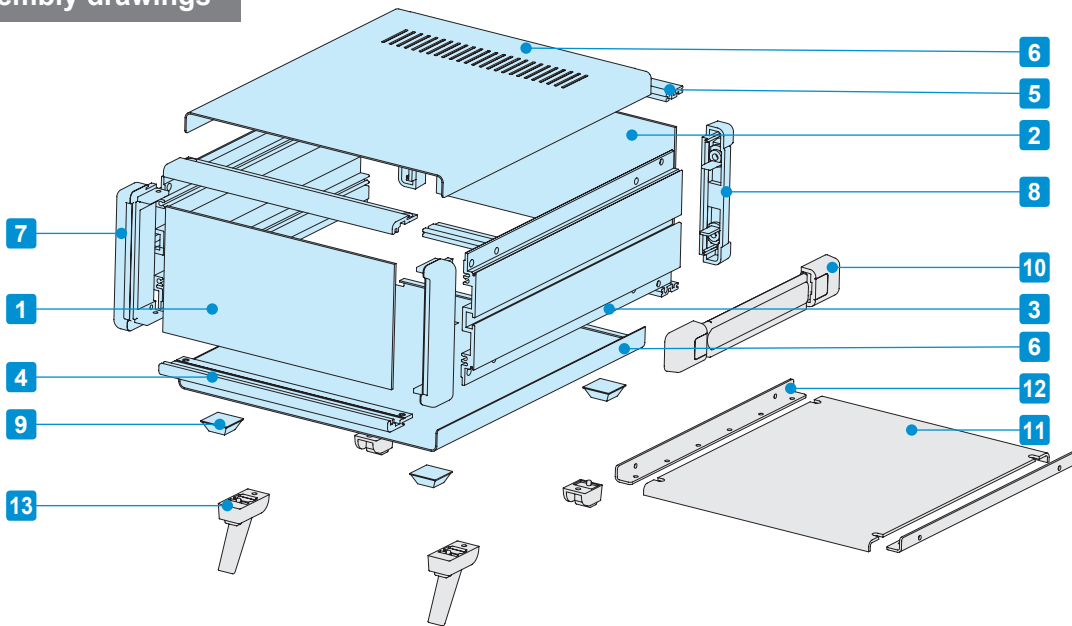
# MSY SERIES

# DESKTOP ENCLOSURE with CARRYING HANDLE



- Available in 3 different colors and 160 different sizes.
- Maximum load support of 20kg.

## Assembly drawings



### Components

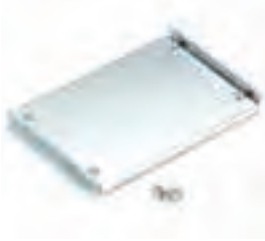
| No. | Part name          | Pcs    | Material                     | Color / Finish                               |
|-----|--------------------|--------|------------------------------|--|
| 1   | Front panel        | 1      | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| 2   | Rear panel         | 1      | Aluminium A1050P t=2.0       | Silver • Black / Anodized                    |
| 3   | Side frame         | 2      | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |
| 4   | Front frame        | 2      | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |
| 5   | Rear frame         | 2      | Extruded aluminium A6063S-T5 | Silver / Anodized                            |
| 6   | Top • Bottom cover | 1 each | Steel SPCC t=1.0             | Light gray • Black / Painted                 |
| 7   | Corner block       | 2      | Diecast aluminium ADC12      | Gray • Black / Painted                       |
| 8   | Rear feet          | 2      | ABS UL94V-0                  | Gray • Black                                 |
| 9   | Rubber feet        | 4      | Polyurethane                 | Black  |
| 10  | Carrying handle    | 1      | PE                           | Gray • Black                                 |

■ Front • Rear panels comes with a protective sheet cover.

#### Included screws

- M4-6 countersunk screw, trivalent chromate x 4 pcs
- M4-8 pan head screw, trivalent chromate x 8 pcs
- M4-10 binding head screw, black trivalent chromate x 4 pcs

Accessories (Optional parts)



11 Mounting plate  
MSC series  
See page 249



12 L-bracket  
MSCL series  
See page 249



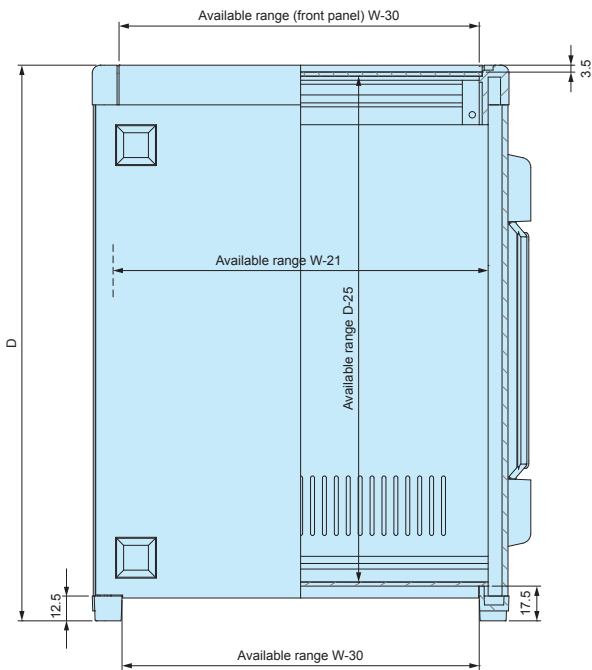
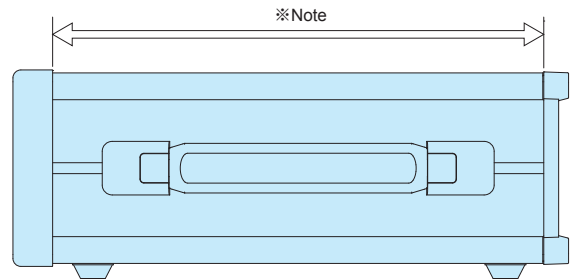
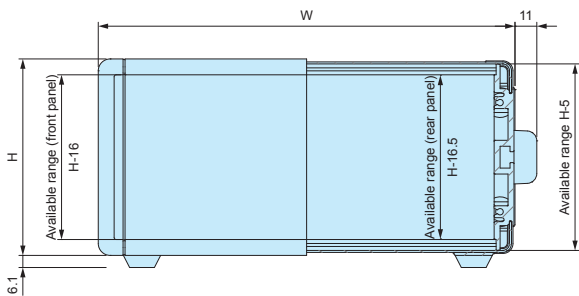
13 Tilt leg  
TL series  
See page 251



Cable hook  
CBF series  
See page 251

MSY dimensions

■ DXF/DWG/PDF drawings available on our website.



※ Note  
Carrying handle location can be freely affixed within denoted range.

■ Top • Bottom cover of sizes 160×230, 160×280 do not have ventilation holes.

Color Type

■ Please suffix color code at the end of the product number.

| ● G                |            | ● B                |       | ● BS               |        |
|--------------------|------------|--------------------|-------|--------------------|--------|
|                    |            |                    |       |                    |        |
| Panel              | Silver     | Panel              | Black | Panel              | Silver |
| Top • Bottom cover | Light gray | Top • Bottom cover | Black | Top • Bottom cover | Black  |
| Side frame         | Gray       | Side frame         | Black | Side frame         | Black  |

**Product no. / Dimensions**

| Product no.   | H  | W   | D   | Weight (kg) |
|---------------|----|-----|-----|-------------|
| MSY 66-16-23□ | 66 | 160 | 230 | 1.4         |
| MSY 66-16-28□ | 66 | 160 | 280 | 1.6         |
| MSY 66-21-23□ | 66 | 210 | 230 | 1.6         |
| MSY 66-21-28□ | 66 | 210 | 280 | 1.9         |
| MSY 66-21-35□ | 66 | 210 | 350 | 2.3         |
| MSY 66-26-23□ | 66 | 260 | 230 | 1.9         |
| MSY 66-26-28□ | 66 | 260 | 280 | 2.2         |
| MSY 66-26-35□ | 66 | 260 | 350 | 2.7         |
| MSY 66-32-23□ | 66 | 320 | 230 | 2.2         |
| MSY 66-32-28□ | 66 | 320 | 280 | 2.6         |
| MSY 66-32-35□ | 66 | 320 | 350 | 3.1         |
| MSY 66-32-45□ | 66 | 320 | 450 | 3.9         |
| MSY 66-37-23□ | 66 | 370 | 230 | 2.5         |
| MSY 66-37-28□ | 66 | 370 | 280 | 2.9         |
| MSY 66-37-35□ | 66 | 370 | 350 | 3.5         |
| MSY 66-37-45□ | 66 | 370 | 450 | 4.2         |
| MSY 66-43-23□ | 66 | 430 | 230 | 2.8         |
| MSY 66-43-28□ | 66 | 430 | 280 | 3.3         |
| MSY 66-43-35□ | 66 | 430 | 350 | 3.9         |
| MSY 66-43-45□ | 66 | 430 | 450 | 4.9         |
| MSY 88-16-23□ | 88 | 160 | 230 | 1.5         |
| MSY 88-16-28□ | 88 | 160 | 280 | 1.8         |
| MSY 88-21-23□ | 88 | 210 | 230 | 1.8         |
| MSY 88-21-28□ | 88 | 210 | 280 | 2.1         |
| MSY 88-21-35□ | 88 | 210 | 350 | 2.5         |
| MSY 88-26-23□ | 88 | 260 | 230 | 2.1         |
| MSY 88-26-28□ | 88 | 260 | 280 | 2.4         |
| MSY 88-26-35□ | 88 | 260 | 350 | 2.9         |
| MSY 88-32-23□ | 88 | 320 | 230 | 2.4         |
| MSY 88-32-28□ | 88 | 320 | 280 | 2.8         |
| MSY 88-32-35□ | 88 | 320 | 350 | 3.4         |
| MSY 88-32-45□ | 88 | 320 | 450 | 4.2         |
| MSY 88-37-23□ | 88 | 370 | 230 | 2.7         |
| MSY 88-37-28□ | 88 | 370 | 280 | 3.1         |
| MSY 88-37-35□ | 88 | 370 | 350 | 3.7         |
| MSY 88-37-45□ | 88 | 370 | 450 | 4.5         |
| MSY 88-43-23□ | 88 | 430 | 230 | 3.0         |
| MSY 88-43-28□ | 88 | 430 | 280 | 3.5         |
| MSY 88-43-35□ | 88 | 430 | 350 | 4.2         |
| MSY 88-43-45□ | 88 | 430 | 450 | 5.2         |

| Product no.   | H   | W   | D   | Weight (kg) |
|---------------|-----|-----|-----|-------------|
| MSY 99-16-23□ | 99  | 160 | 230 | 1.6         |
| MSY 99-16-28□ | 99  | 160 | 280 | 1.8         |
| MSY 99-21-23□ | 99  | 210 | 230 | 1.8         |
| MSY 99-21-28□ | 99  | 210 | 280 | 2.1         |
| MSY 99-21-35□ | 99  | 210 | 350 | 2.6         |
| MSY 99-26-23□ | 99  | 260 | 230 | 2.2         |
| MSY 99-26-28□ | 99  | 260 | 280 | 2.5         |
| MSY 99-26-35□ | 99  | 260 | 350 | 3.0         |
| MSY 99-32-23□ | 99  | 320 | 230 | 2.5         |
| MSY 99-32-28□ | 99  | 320 | 280 | 2.9         |
| MSY 99-32-35□ | 99  | 320 | 350 | 3.5         |
| MSY 99-32-45□ | 99  | 320 | 450 | 4.3         |
| MSY 99-37-23□ | 99  | 370 | 230 | 2.7         |
| MSY 99-37-28□ | 99  | 370 | 280 | 3.2         |
| MSY 99-37-35□ | 99  | 370 | 350 | 3.8         |
| MSY 99-37-45□ | 99  | 370 | 450 | 4.6         |
| MSY 99-43-23□ | 99  | 430 | 230 | 3.1         |
| MSY 99-43-28□ | 99  | 430 | 280 | 3.6         |
| MSY 99-43-35□ | 99  | 430 | 350 | 4.3         |
| MSY 99-43-45□ | 99  | 430 | 450 | 5.3         |
| MSY133-16-23□ | 133 | 160 | 230 | 1.8         |
| MSY133-16-28□ | 133 | 160 | 280 | 2.1         |
| MSY133-21-23□ | 133 | 210 | 230 | 2.1         |
| MSY133-21-28□ | 133 | 210 | 280 | 2.4         |
| MSY133-21-35□ | 133 | 210 | 350 | 2.9         |
| MSY133-26-23□ | 133 | 260 | 230 | 2.4         |
| MSY133-26-28□ | 133 | 260 | 280 | 2.8         |
| MSY133-26-35□ | 133 | 260 | 350 | 3.3         |
| MSY133-32-23□ | 133 | 320 | 230 | 2.7         |
| MSY133-32-28□ | 133 | 320 | 280 | 3.2         |
| MSY133-32-35□ | 133 | 320 | 350 | 3.8         |
| MSY133-32-45□ | 133 | 320 | 450 | 4.6         |
| MSY133-37-23□ | 133 | 370 | 230 | 3.0         |
| MSY133-37-28□ | 133 | 370 | 280 | 3.5         |
| MSY133-37-35□ | 133 | 370 | 350 | 4.2         |
| MSY133-37-45□ | 133 | 370 | 450 | 5.0         |
| MSY133-43-23□ | 133 | 430 | 230 | 3.4         |
| MSY133-43-28□ | 133 | 430 | 280 | 3.9         |
| MSY133-43-35□ | 133 | 430 | 350 | 4.7         |
| MSY133-43-45□ | 133 | 430 | 450 | 5.8         |

**Product no. / Dimensions**

| Product no.   | H   | W   | D   | Weight (kg) |
|---------------|-----|-----|-----|-------------|
| MSY149-16-23□ | 149 | 160 | 230 | 1.9         |
| MSY149-16-28□ | 149 | 160 | 280 | 2.2         |
| MSY149-21-23□ | 149 | 210 | 230 | 2.2         |
| MSY149-21-28□ | 149 | 210 | 280 | 2.5         |
| MSY149-21-35□ | 149 | 210 | 350 | 3.0         |
| MSY149-26-23□ | 149 | 260 | 230 | 2.5         |
| MSY149-26-28□ | 149 | 260 | 280 | 2.9         |
| MSY149-26-35□ | 149 | 260 | 350 | 3.4         |
| MSY149-32-23□ | 149 | 320 | 230 | 2.9         |
| MSY149-32-28□ | 149 | 320 | 280 | 3.3         |
| MSY149-32-35□ | 149 | 320 | 350 | 4.0         |
| MSY149-32-45□ | 149 | 320 | 450 | 4.9         |
| MSY149-37-23□ | 149 | 370 | 230 | 3.2         |
| MSY149-37-28□ | 149 | 370 | 280 | 3.7         |
| MSY149-37-35□ | 149 | 370 | 350 | 4.3         |
| MSY149-37-45□ | 149 | 370 | 450 | 5.2         |
| MSY149-43-23□ | 149 | 430 | 230 | 3.6         |
| MSY149-43-28□ | 149 | 430 | 280 | 4.1         |
| MSY149-43-35□ | 149 | 430 | 350 | 4.8         |
| MSY149-43-45□ | 149 | 430 | 450 | 6.0         |
| MSY177-16-23□ | 177 | 160 | 230 | 2.3         |
| MSY177-16-28□ | 177 | 160 | 280 | 2.6         |
| MSY177-21-23□ | 177 | 210 | 230 | 2.6         |
| MSY177-21-28□ | 177 | 210 | 280 | 3.0         |
| MSY177-21-35□ | 177 | 210 | 350 | 3.6         |
| MSY177-26-23□ | 177 | 260 | 230 | 3.0         |
| MSY177-26-28□ | 177 | 260 | 280 | 3.4         |
| MSY177-26-35□ | 177 | 260 | 350 | 4.0         |
| MSY177-32-23□ | 177 | 320 | 230 | 3.3         |
| MSY177-32-28□ | 177 | 320 | 280 | 3.8         |
| MSY177-32-35□ | 177 | 320 | 350 | 4.6         |
| MSY177-32-45□ | 177 | 320 | 450 | 5.6         |
| MSY177-37-23□ | 177 | 370 | 230 | 3.6         |
| MSY177-37-28□ | 177 | 370 | 280 | 4.2         |
| MSY177-37-35□ | 177 | 370 | 350 | 5.0         |
| MSY177-37-45□ | 177 | 370 | 450 | 5.9         |
| MSY177-43-23□ | 177 | 430 | 230 | 4.0         |
| MSY177-43-28□ | 177 | 430 | 280 | 4.6         |
| MSY177-43-35□ | 177 | 430 | 350 | 5.5         |
| MSY177-43-45□ | 177 | 430 | 450 | 6.7         |

| Product no.   | H   | W   | D   | Weight (kg) |
|---------------|-----|-----|-----|-------------|
| MSY199-16-23□ | 199 | 160 | 230 | 2.4         |
| MSY199-16-28□ | 199 | 160 | 280 | 2.8         |
| MSY199-21-23□ | 199 | 210 | 230 | 2.7         |
| MSY199-21-28□ | 199 | 210 | 280 | 3.1         |
| MSY199-21-35□ | 199 | 210 | 350 | 3.7         |
| MSY199-26-23□ | 199 | 260 | 230 | 3.1         |
| MSY199-26-28□ | 199 | 260 | 280 | 3.5         |
| MSY199-26-35□ | 199 | 260 | 350 | 4.2         |
| MSY199-32-23□ | 199 | 320 | 230 | 3.5         |
| MSY199-32-28□ | 199 | 320 | 280 | 4.0         |
| MSY199-32-35□ | 199 | 320 | 350 | 4.7         |
| MSY199-32-45□ | 199 | 320 | 450 | 5.7         |
| MSY199-37-23□ | 199 | 370 | 230 | 3.8         |
| MSY199-37-28□ | 199 | 370 | 280 | 4.4         |
| MSY199-37-35□ | 199 | 370 | 350 | 5.1         |
| MSY199-37-45□ | 199 | 370 | 450 | 6.1         |
| MSY199-43-23□ | 199 | 430 | 230 | 4.2         |
| MSY199-43-28□ | 199 | 430 | 280 | 4.8         |
| MSY199-43-35□ | 199 | 430 | 350 | 5.6         |
| MSY199-43-45□ | 199 | 430 | 450 | 6.9         |
| MSY222-16-23□ | 222 | 160 | 230 | 2.5         |
| MSY222-16-28□ | 222 | 160 | 280 | 2.9         |
| MSY222-21-23□ | 222 | 210 | 230 | 2.9         |
| MSY222-21-28□ | 222 | 210 | 280 | 3.3         |
| MSY222-21-35□ | 222 | 210 | 350 | 3.9         |
| MSY222-26-23□ | 222 | 260 | 230 | 3.3         |
| MSY222-26-28□ | 222 | 260 | 280 | 3.7         |
| MSY222-26-35□ | 222 | 260 | 350 | 4.4         |
| MSY222-32-23□ | 222 | 320 | 230 | 3.6         |
| MSY222-32-28□ | 222 | 320 | 280 | 4.1         |
| MSY222-32-35□ | 222 | 320 | 350 | 4.9         |
| MSY222-32-45□ | 222 | 320 | 450 | 6.0         |
| MSY222-37-23□ | 222 | 370 | 230 | 4.0         |
| MSY222-37-28□ | 222 | 370 | 280 | 4.5         |
| MSY222-37-35□ | 222 | 370 | 350 | 5.3         |
| MSY222-37-45□ | 222 | 370 | 450 | 6.4         |
| MSY222-43-23□ | 222 | 430 | 230 | 4.4         |
| MSY222-43-28□ | 222 | 430 | 280 | 5.0         |
| MSY222-43-35□ | 222 | 430 | 350 | 5.9         |
| MSY222-43-45□ | 222 | 430 | 450 | 7.2         |

# MSR SERIES

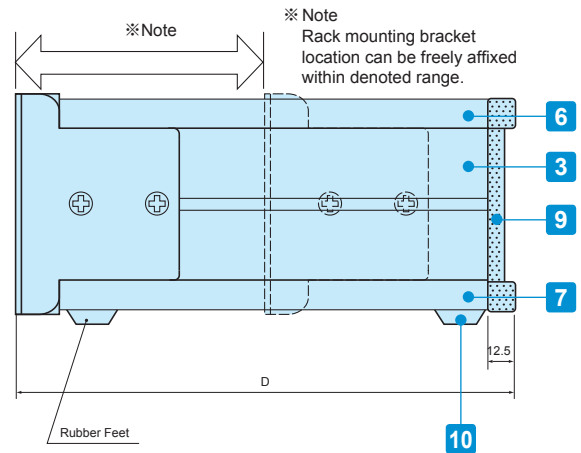
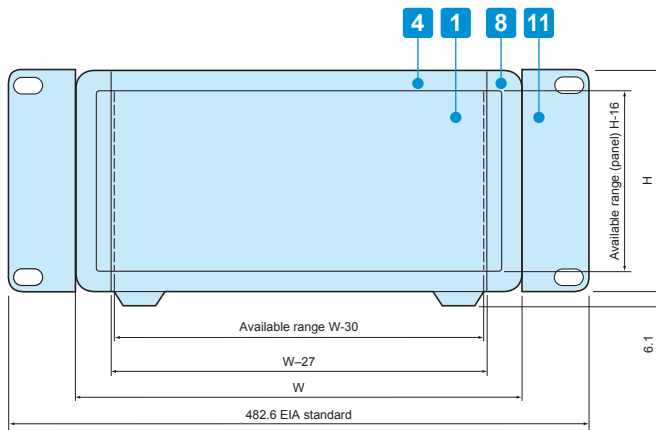
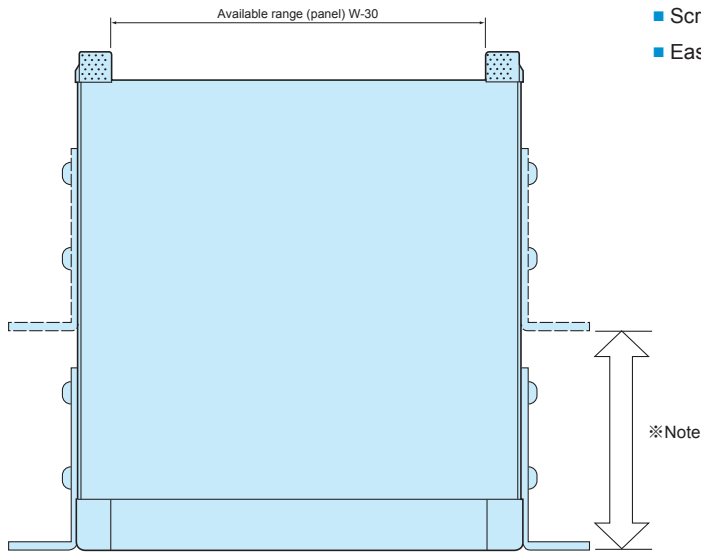
# RACK MOUNT ENCLOSURE



## MSR dimensions

■ DXF/DWG/PDF drawings available on our website.

- 16 different sizes available.
- Screws are hidden out of view for a sophisticated and elegant look.
- Easy to punch or mill holes both on front and rear panels.





**Components**


■ Refer to page 250 for more information on rack mounting bracket.

| No. | Part name             | Pcs | Material                     | Color / Finish                               |
|-----|-----------------------|-----|------------------------------|--|
| 1   | Front panel           | 1   | Aluminium A1050P t=2.0       | Silver • Black / Hairline brushed & Anodized |
| -   | Rear panel            | 1   | Aluminium A1050P t=2.0       | Silver • Black / Anodized                    |
| 3   | Side frame            | 2   | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |
| 4   | Front frame           | 2   | Extruded aluminium A6063S-T5 | Gray • Black / Painted                       |
| -   | Rear frame            | 2   | Extruded aluminium A6063S-T5 | Silver / Anodized                            |
| 6   | Top cover             | 1   | Steel SPCC t=1.0             | Light gray • Black / Painted                 |
| 7   | Bottom cover          | 1   | Steel SPCC t=1.0             | Light gray • Black / Painted                 |
| 8   | Corner block          | 2   | Diecast aluminium ADC12      | Gray • Black / Painted                       |
| 9   | Rear feet             | 2   | ABS UL94V-0                  | Gray • Black                                 |
| 10  | Rubber feet           | 4   | Polyurethane                 | Black  |
| 11  | Rack mounting bracket | 2   | Extruded aluminium A6063S-T5 | Gray • Black painted                         |

■ Front • Rear panels comes with a protective sheet cover.

Included screws and nuts  
 M4-6 countersunk screw, trivalent chromate x 4 pcs  
 M4-8 pan head screw, trivalent chromate x 8 pcs  
 M4-10 binding head screw, black trivalent chromate x 4 pcs  
 M5-10 flat head screw, black trivalent chromate x 4 pcs  
 M5 nut (Product no. MZ-5) x 4 pcs

**Accessories (Optional parts)**

|   |   |   |   |
|---|---|---|---|
| <br>Mounting plate<br>MSC series<br>See page 249 | <br>L-bracket<br>MSCL series<br>See page 249 | <br>Aluminium handle<br>OH series<br>See page 204 | <br>Cable hook<br>CBF series<br>See page 251 |
|---|---|---|---|

**Color Type**

■ Please suffix color code at the end of the product number.

| ● G   |            | ● B   |       | ● BS  |        |
|---|------------|---|-------|---|--------|
|  |            |  |       |  |        |
| Panel   | Silver     | Panel   | Black | Panel   | Silver |
| Top • Bottom cover  | Light gray | Top • Bottom cover  | Black | Top • Bottom cover  | Black  |
| Side frame  | Gray       | Side frame  | Black | Side frame  | Black  |

**Product no. / Dimensions**

| Product no.   | H     | W   | D   | Weight (kg) |
|---------------|-------|-----|-----|-------------|
| MSR 88-43-23□ | 88    | 430 | 230 | 3.1         |
| MSR 88-43-28□ | 88    | 430 | 280 | 3.5         |
| MSR 88-43-35□ | 88    | 430 | 350 | 4.2         |
| MSR 88-43-45□ | 88    | 430 | 450 | 5.1         |
| MSR133-43-23□ | 132.5 | 430 | 230 | 3.6         |
| MSR133-43-28□ | 132.5 | 430 | 280 | 4.1         |
| MSR133-43-35□ | 132.5 | 430 | 350 | 4.8         |
| MSR133-43-45□ | 132.5 | 430 | 450 | 5.8         |
| MSR177-43-23□ | 177   | 430 | 230 | 4.3         |
| MSR177-43-28□ | 177   | 430 | 280 | 4.9         |
| MSR177-43-35□ | 177   | 430 | 350 | 5.7         |
| MSR177-43-45□ | 177   | 430 | 450 | 6.9         |
| MSR222-43-23□ | 221.5 | 430 | 230 | 4.7         |
| MSR222-43-28□ | 221.5 | 430 | 280 | 5.3         |
| MSR222-43-35□ | 221.5 | 430 | 350 | 6.2         |
| MSR222-43-45□ | 221.5 | 430 | 450 | 7.5         |

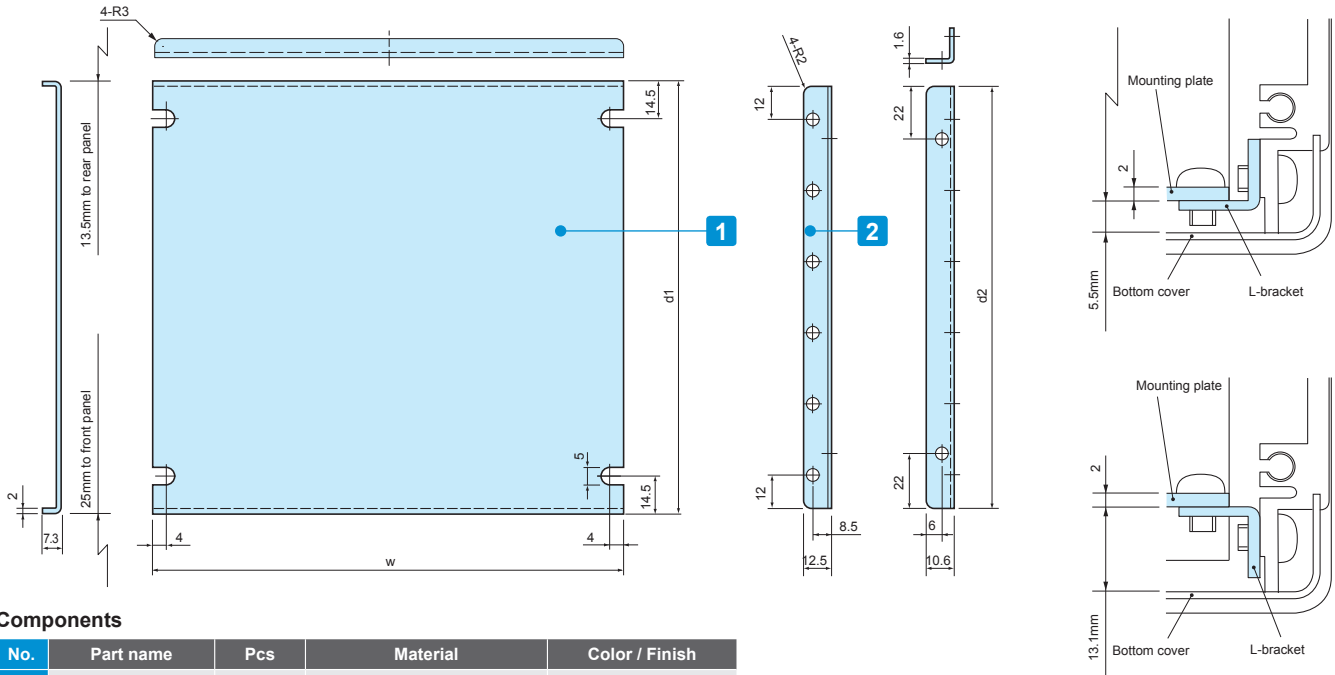
MSC SERIES

MOUNTING PLATE for MS • MSN • MSY

DXF/DWG/PDF drawings available on our website.

1 set = Mounting plate + L-bracket

Mounting example



Components

| No. | Part name      | Pcs | Material               | Color / Finish     |
|-----|----------------|-----|------------------------|--------------------|
| 1   | Mounting plate | 1   | Aluminium A1050P t=2.0 | Unfinished         |
| 2   | L-bracket      | 2   | Steel SPCC             | Trivalent chromate |

Included screws: M4-6 pan head, trivalent chromate x8

Product no. / Dimensions

| Product no. | w   | d1    | d2    | Enclosure WxD | Weight (g) |
|-------------|-----|-------|-------|---------------|------------|
| MSC16-16    | 130 | 96.5  | 91.5  | 160 × 160     | 120        |
| MSC16-23    | 130 | 166.5 | 161.5 | 160 × 230     | 210        |
| MSC16-28    | 130 | 216.5 | 211.5 | 160 × 280     | 270        |
| MSC21-16    | 180 | 96.5  | 91.5  | 210 × 160     | 150        |
| MSC21-23    | 180 | 166.5 | 161.5 | 210 × 230     | 250        |
| MSC21-28    | 180 | 216.5 | 211.5 | 210 × 280     | 330        |
| MSC21-35    | 180 | 286.5 | 281.5 | 210 × 350     | 430        |
| MSC26-23    | 230 | 166.5 | 161.5 | 260 × 230     | 300        |
| MSC26-28    | 230 | 216.5 | 211.5 | 260 × 280     | 390        |
| MSC26-35    | 230 | 286.5 | 281.5 | 260 × 350     | 510        |
| MSC32-23    | 290 | 166.5 | 161.5 | 320 × 230     | 360        |

| Product no. | w   | d1    | d2    | Enclosure WxD | Weight (g) |
|-------------|-----|-------|-------|---------------|------------|
| MSC32-28    | 290 | 216.5 | 211.5 | 320 × 280     | 460        |
| MSC32-35    | 290 | 286.5 | 281.5 | 320 × 350     | 600        |
| MSC32-45    | 290 | 386.5 | 381.5 | 320 × 450     | 810        |
| MSC37-23    | 340 | 166.5 | 161.5 | 370 × 230     | 410        |
| MSC37-28    | 340 | 216.5 | 211.5 | 370 × 280     | 520        |
| MSC37-35    | 340 | 286.5 | 281.5 | 370 × 350     | 680        |
| MSC37-45    | 340 | 386.5 | 381.5 | 370 × 450     | 910        |
| MSC43-23    | 400 | 166.5 | 161.5 | 430 × 230     | 460        |
| MSC43-28    | 400 | 216.5 | 211.5 | 430 × 280     | 590        |
| MSC43-35    | 400 | 286.5 | 281.5 | 430 × 350     | 770        |
| MSC43-45    | 400 | 386.5 | 381.5 | 430 × 450     | 1,040      |

MSCL SERIES

L-BRACKET for MS • MSN • MSY

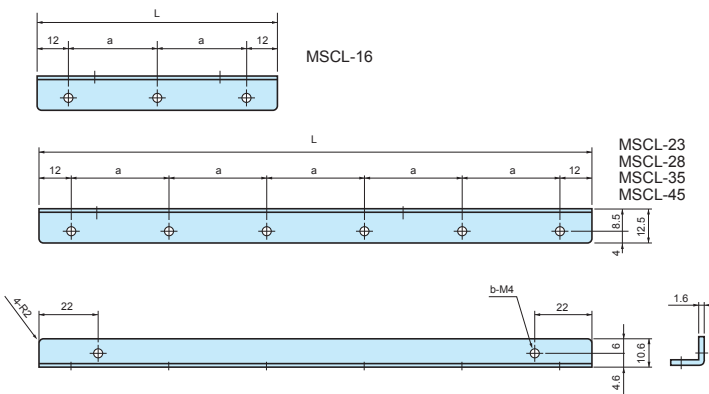
- Use with your original mounting plate or PCB.
- 1 pair of L-bracket are included with each MSC mounting plate.

Components

| Part name | Material   | Color / Finish     |
|-----------|------------|--------------------|
| L-bracket | Steel SPCC | Trivalent chromate |

Product no. / Dimensions

| Product no. | L     | a     | b | Sales unit    |
|-------------|-------|-------|---|---------------|
| MSCL-16     | 91.5  | 33.75 | 5 | 1 set (2 pcs) |
| MSCL-23     | 161.5 | 27.5  | 8 | 1 set (2 pcs) |
| MSCL-28     | 211.5 | 37.5  | 8 | 1 set (2 pcs) |
| MSCL-35     | 281.5 | 51.5  | 8 | 1 set (2 pcs) |
| MSCL-45     | 381.5 | 71.5  | 8 | 1 set (2 pcs) |



**MSM SERIES**

**RACK MOUNTING BRACKET for MS**

**Components**

| Part name             | Material   | Color / Finish         |
|-----------------------|--|------------------------|
| Rack mounting bracket | Extruded aluminium A6063S-T5<br>Included screws and nuts<br>M5-10 flat head, black trivalent chromate x 4 pcs<br>M5 nut (Product no. MZ-5) x 4 pcs | Gray • Black / Painted |

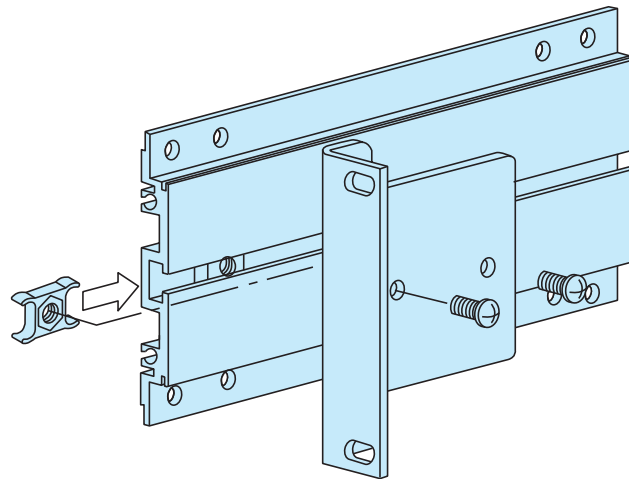
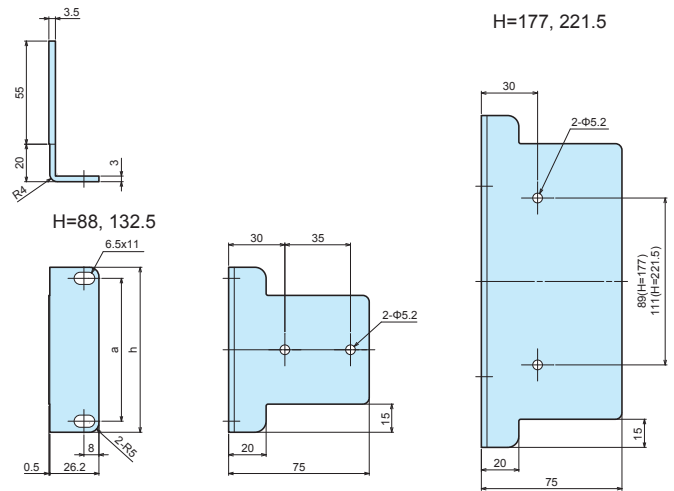
**Color Type**

| Code | Material                     | Color / Finish  |
|------|------------------------------|-----------------|
| G    | Extruded aluminium A6063S-T5 | Gray / Painted  |
| B    | Extruded aluminium A6063S-T5 | Black / Painted |

**Product no. / Dimensions**

| Product no. | H (enclosure height) | a     | Sales unit    |
|-------------|----------------------|-------|---------------|
| MSM- 88□    | 88                   | 76.2  | 1 set (2 pcs) |
| MSM-133□    | 132.5                | 57.1  | 1 set (2 pcs) |
| MSM-177□    | 177                  | 101.6 | 1 set (2 pcs) |
| MSM-222□    | 221.5                | 146   | 1 set (2 pcs) |

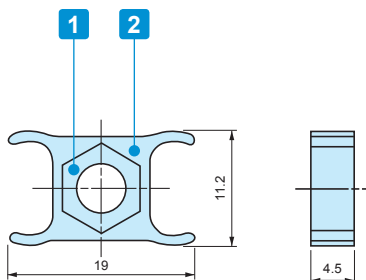
■ Please suffix color code at the end of the product number.



**MZ SERIES**

**SLIDE NUT**

■ Slide nut for use exclusively with MS series.



**Components**

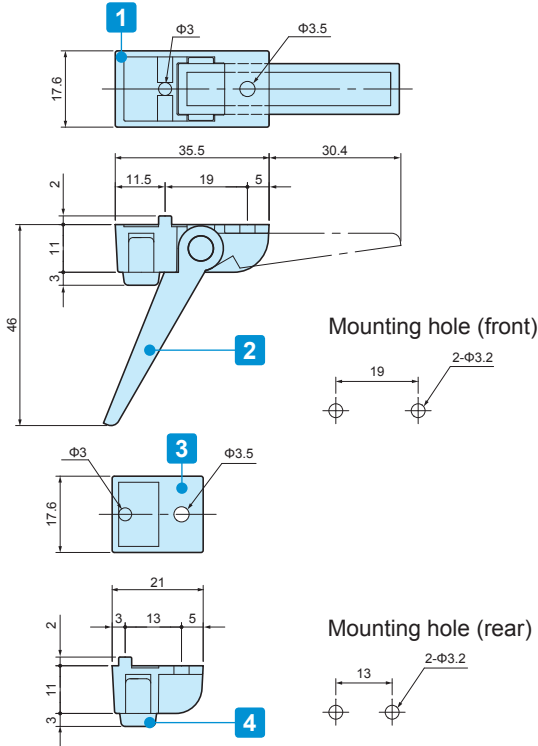
| No. | Part name  | Material      | Color / Finish |
|-----|------------|---------------|----------------|
| 1   | Nut        | Brass • Steel | Nickel plated  |
| 2   | Nut holder | PE            | Black          |

**Product no. / Dimensions**

| Product no. | Thread size | Nut material | Pack of |
|-------------|-------------|--------------|---------|
| MZ-4        | M4          | Brass        | 10      |
| MZ-5        | M5          | Steel        | 10      |

TL SERIES

TILT LEG



Components

\* Maximum load = 7 kg

| No. | Part name   | Pcs | Material   | Color / Finish            |
|-----|-------------|-----|------------|---------------------------|
| 1   | Front feet  | 2   | ABS UL94HB | Black • Gray • Light gray |
| 2   | Leg         | 2   | ABS UL94HB | Black • Gray • Light gray |
| 3   | Rear feet   | 2   | ABS UL94HB | Black • Gray • Light gray |
| 4   | Rubber feet | 4   | EPDM       | Gray • Black              |
| -   | Screw       | 4   | Steel      | Black trivalent chromate  |

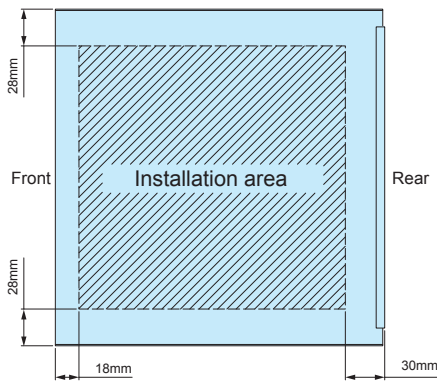
■ Included screws: M3-8 and M3 nut (with washer) set.

Product no. / Dimensions

| Product no. | Color (body) | Color (rubber feet) | Sales unit |
|-------------|--------------|---------------------|------------|
| ● TL-45BB   | Black        | Black               | 1 set      |
| ● TL-45GG   | Gray         | Gray                | 1 set      |
| ● TL-45SG   | Light gray   | Gray                | 1 set      |

■ EPDM (black) may have its color migrate onto the placement surface.

MS SERIES INSTALLATION AREA



CBF SERIES

CABLE HOOK



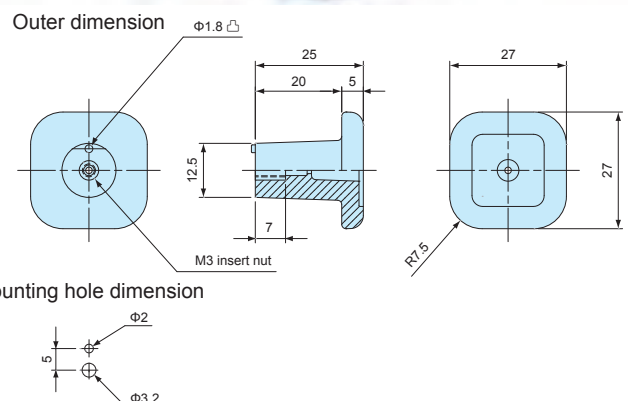
APPLICATION EXAMPLE

- Used for wrapping and securing cords and wires.
- Can be used with a variety of different enclosure series and models.
- Requires a panel thickness of between 1.0 ~ 3.0mm.

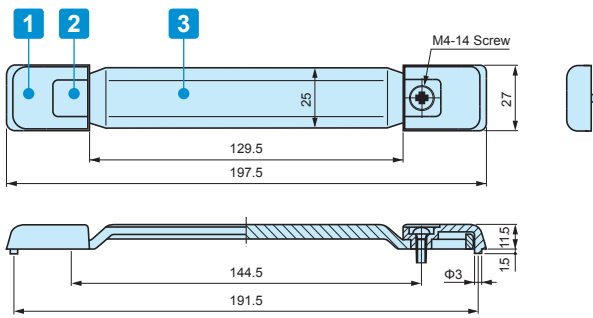
Product no. / Dimensions

| Product no. |         | Material | Pack of |
|-------------|---------|----------|---------|
| ● Gray      | ● Black |          |         |
| CBF-1G      | CBF-1B  | POM      | 4       |

■ Included screws: M3-8 trivalent chromate (with washer) x 4 pcs



**MY SERIES CARRYING HANDLE**



**Components**

| No. | Part name | Pcs | Material       | Color / Finish        |
|-----|-----------|-----|----------------|-----------------------|
| 1   | Holder    | 2   | PC + ABS       | Gray • Black          |
| 2   | Blind cap | 2   | PP + Elastomer | Gray • Black          |
| 3   | Grip      | 1   | PP + Elastomer | Gray • Black          |
| -   | Screw     | 2   | Steel          | Trivalent chromate    |
| -   | Slide nut | 2   | Brass : PE     | Nickel plated : Black |

**Product no. / Dimensions**

| Product no. |         | Max load |
|-------------|---------|----------|
| ● Gray      | ● Black |          |
| MY-197G     | MY-197B | 20kgf    |

■ Not suitable for MS series if D = 160mm.

**MSN • MSY SERIES INSTALLATION METHOD**

Insert the slide nut into the side frame.



Adjust the slide nut to the required position.



MSN series installation.

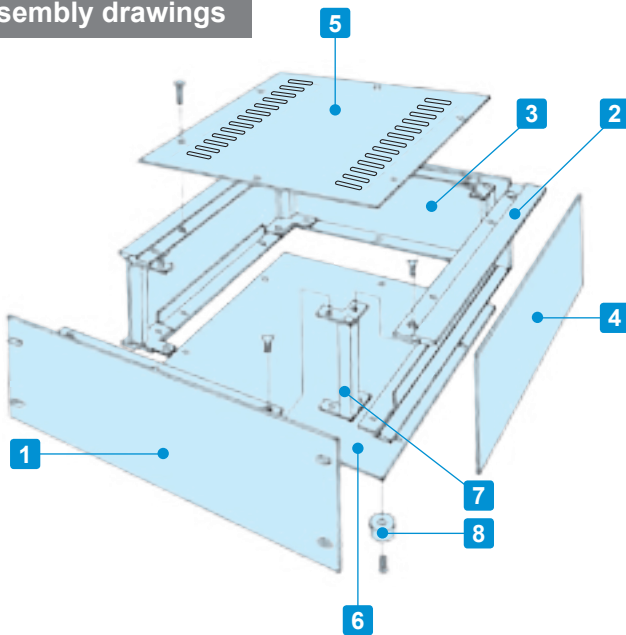


MSY series installation.





Assembly drawings



- Available in 35 different size combinations.
- Flat panels allows a wide range of customization to be performed easily, such as milling, silk-screening, engraving and so on.
- 2 different color types available - Silver and Black.

Components

■ Refer to page 257 for AC series mounting plate

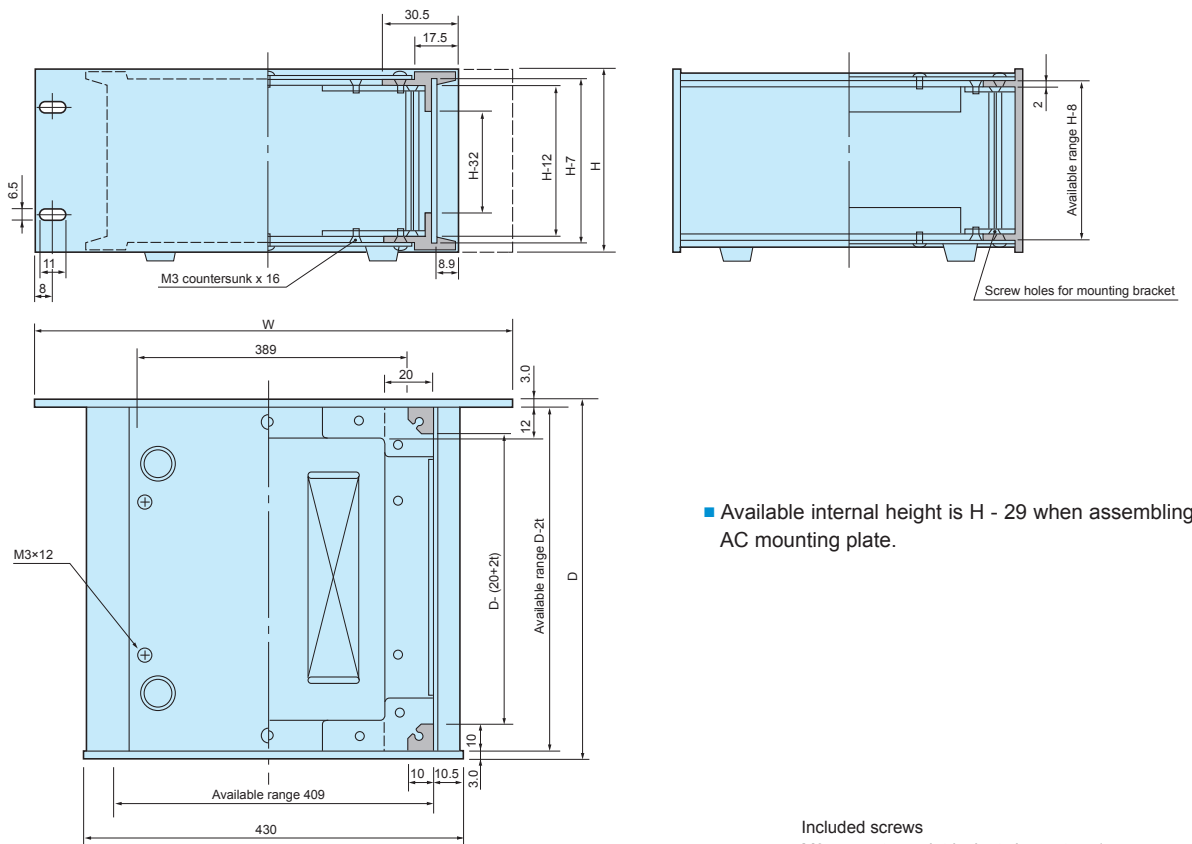
| No. | Part name       | Pcs | Material  | Color / Finish                               |
|-----|-----------------|-----|---|--|
| 1   | Panel           | 1   | Extruded aluminium A6063S-T5                    | Silver • Black / Hairline brushed & Anodized |
| 2   | Frame           | 4   | Extruded aluminium A6063S-T5                    | Silver • Black / Hairline brushed & Anodized |
| 3   | Rear panel      | 1   | Extruded aluminium A6063S-T5                    | Silver • Black / Hairline brushed & Anodized |
| 4   | Side plate      | 2   | Aluminium A1050P t=1.5                          | Silver • Black / Hairline brushed & Anodized |
| 5   | Top cover       | 1   | Steel SPCC t=1.0                                | Black / Painted (leather tone)               |
| 6   | Bottom cover    | 1   | Steel SPCC t=1.0                                | Black / Painted                              |
| 7   | Support bracket | 4   | Steel SPCC t=2.0 : Extruded aluminium A6063S-T5 | Trivalent chromate : Anodized                |
| 8   | Rubber feet     | 4   | Rubber  | Black  |

■ Note: Side plates are covered with a protective film on one side. Remove before assembly.



ER dimensions

DXF/DWG/PDF drawings available on our website.



Available internal height is H - 29 when assembling AC mounting plate.

- Included screws
- M3-5 countersunk trivalent chromate x 17 pcs
- M3-5 binding head black trivalent chromate x 13 pcs
- M3-10 pan head trivalent chromate x 4 pcs

Color Type

Please suffix color code at the end of the product number.

| Code | Panel  | Rear panel | Frame  | Side plates | Top - Bottom cover |
|------|--------|------------|--------|-------------|--------------------|
| S    | Silver | Silver     | Silver | Silver      | Black              |
| B    | Black  | Black      | Black  | Black       | Black              |

Product no. / Dimensions

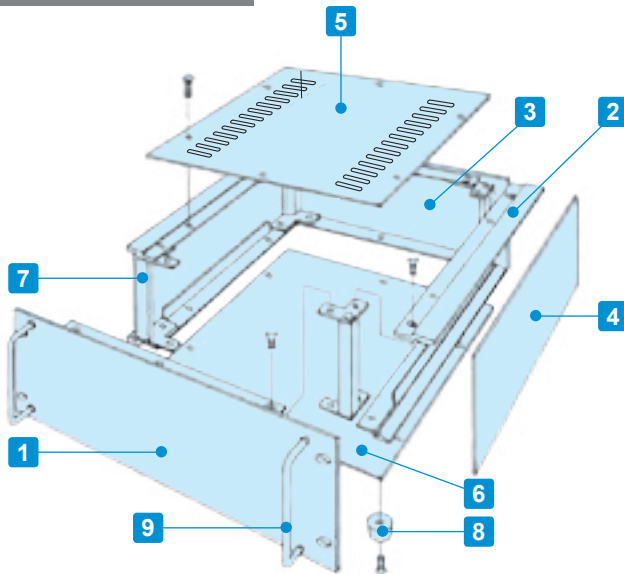
| Product no. | H     | W     | D   | Weight (kg) | Product no. | H     | W     | D   | Weight (kg) |
|-------------|-------|-------|-----|-------------|-------------|-------|-------|-----|-------------|
| ER 44-16□   | 44    | 482.6 | 160 | 1.7         | ER133-37□   | 132.5 | 482.6 | 370 | 4.2         |
| 44-20□      | 44    | 482.6 | 200 | 2.0         | 133-43□     | 132.5 | 482.6 | 430 | 4.7         |
| 44-26□      | 44    | 482.6 | 260 | 2.5         | 133-50□     | 132.5 | 482.6 | 500 | 5.3         |
| 44-32□      | 44    | 482.6 | 320 | 2.9         | ER177-16□   | 177   | 482.6 | 160 | 2.8         |
| 44-37□      | 44    | 482.6 | 370 | 3.2         | 177-20□     | 177   | 482.6 | 200 | 3.3         |
| 44-43□      | 44    | 482.6 | 430 | 3.7         | 177-26□     | 177   | 482.6 | 260 | 3.8         |
| 44-50□      | 44    | 482.6 | 500 | 4.2         | 177-32□     | 177   | 482.6 | 320 | 4.4         |
| ER 88-16□   | 88    | 482.6 | 160 | 2.1         | 177-37□     | 177   | 482.6 | 370 | 4.8         |
| 88-20□      | 88    | 482.6 | 200 | 2.5         | 177-43□     | 177   | 482.6 | 430 | 5.3         |
| 88-26□      | 88    | 482.6 | 260 | 2.9         | 177-50□     | 177   | 482.6 | 500 | 5.9         |
| 88-32□      | 88    | 482.6 | 320 | 3.4         | ER222-16□   | 221.5 | 482.6 | 160 | 3.4         |
| 88-37□      | 88    | 482.6 | 370 | 3.7         | 222-20□     | 221.5 | 482.6 | 200 | 3.8         |
| 88-43□      | 88    | 482.6 | 430 | 4.2         | 222-26□     | 221.5 | 482.6 | 260 | 4.3         |
| 88-50□      | 88    | 482.6 | 500 | 4.8         | 222-32□     | 221.5 | 482.6 | 320 | 4.8         |
| ER133-16□   | 132.5 | 482.6 | 160 | 2.5         | 222-37□     | 221.5 | 482.6 | 370 | 5.3         |
| 133-20□     | 132.5 | 482.6 | 200 | 2.9         | 222-43□     | 221.5 | 482.6 | 430 | 5.8         |
| 133-26□     | 132.5 | 482.6 | 260 | 3.3         | 222-50□     | 221.5 | 482.6 | 500 | 6.5         |
| 133-32□     | 132.5 | 482.6 | 320 | 3.8         |             |       |       |     |             |

# ERH SERIES

# RACK MOUNT ENCLOSURE with HANDLE



## Assembly drawings



- Available in 35 different size combinations.
- Flat panels allows a wide range of customization to be performed, such as milling, silk-screening, engraving and so on.
- 2 different color types available - Silver and Black.

### Components

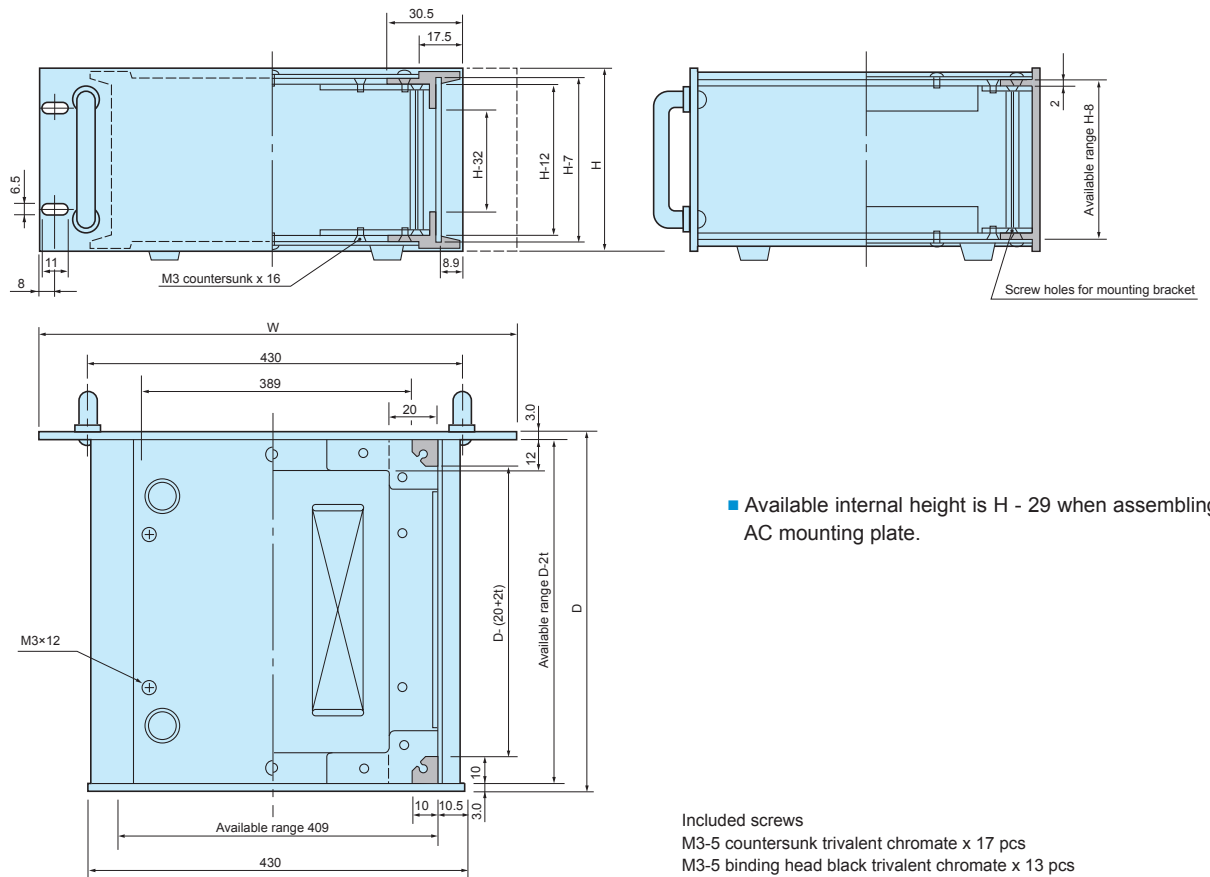
■ Refer to page 257 for AC series mounting plate.

| No. | Part name        | Pcs | Material  | Color / Finish                               |
|-----|------------------|-----|---|--|
| 1   | Panel            | 1   | Extruded aluminium A6063S-T5                    | Silver • Black / Hairline brushed & Anodized |
| 2   | Frame            | 4   | Extruded aluminium A6063S-T5                    | Silver • Black / Hairline brushed & Anodized |
| 3   | Rear panel       | 1   | Extruded aluminium A6063S-T5                    | Silver • Black / Hairline brushed & Anodized |
| 4   | Side plate       | 2   | Aluminium A1050P t=1.5                          | Silver • Black / Hairline brushed & Anodized |
| 5   | Top cover        | 1   | Steel SPCC t=1.0                                | Black / Painted (leather tone)               |
| 6   | Bottom cover     | 1   | Steel SPCC t=1.0                                | Black / Painted                              |
| 7   | Mounting bracket | 4   | Steel SPCC t=2.0 ; Extruded aluminium A6063S-T5 | Trivalent chromate : Anodized                |
| 8   | Rubber feet      | 4   | Rubber  | Black  |
| 9   | Handle           | 2   | Aluminium A5056S • Brass                        | Silver • Black / Anodized • Chrome plated    |

■ Note: Side plates are covered with a protective film on one side. Remove before assembly.

ERH dimensions

■ DXF/DWG/PDF drawings available on our website.



■ Available internal height is H - 29 when assembling AC mounting plate.

Included screws  
 M3-5 countersunk trivalent chromate x 17 pcs  
 M3-5 binding head black trivalent chromate x 13 pcs  
 M3-10 pan head trivalent chromate x 4 pcs

Color Type

■ Please suffix color code at the end of the product number.

| Code | Panel  | Rear panel | Frame  | Side plates | Top · Bottom cover |
|------|--------|------------|--------|-------------|--------------------|
| S    | Silver | Silver     | Silver | Silver      | Black              |
| B    | Black  | Black      | Black  | Black       | Black              |

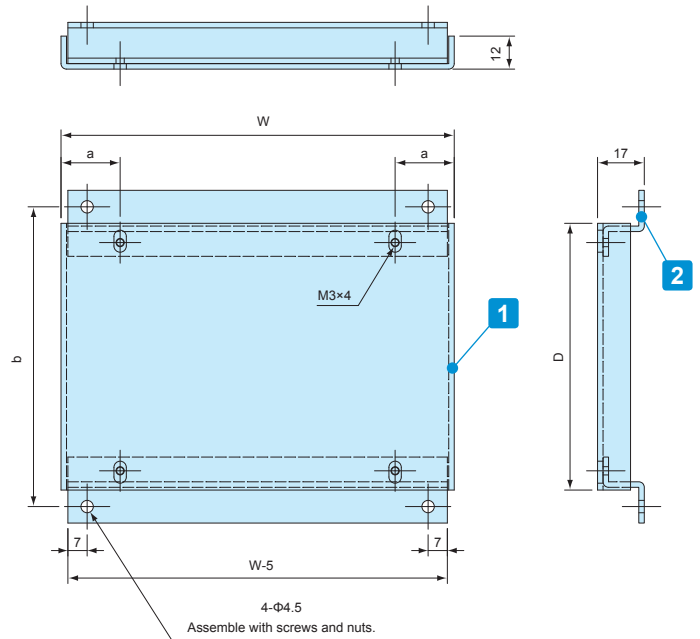
Product no. / Dimensions

| Product No. | H     | W     | D   | Weight (kg) | Product No. | H     | W     | D   | Weight (kg) |
|-------------|-------|-------|-----|-------------|-------------|-------|-------|-----|-------------|
| ERH 44-16□  | 44    | 482.6 | 160 | 1.7         | ERH133-37□  | 132.5 | 482.6 | 370 | 4.2         |
| 44-20□      | 44    | 482.6 | 200 | 2.0         | 133-43□     | 132.5 | 482.6 | 430 | 4.7         |
| 44-26□      | 44    | 482.6 | 260 | 2.5         | 133-50□     | 132.5 | 482.6 | 500 | 5.4         |
| 44-32□      | 44    | 482.6 | 320 | 2.9         | ERH177-16□  | 177   | 482.6 | 160 | 2.9         |
| 44-37□      | 44    | 482.6 | 370 | 3.2         | 177-20□     | 177   | 482.6 | 200 | 3.4         |
| 44-43□      | 44    | 482.6 | 430 | 3.7         | 177-26□     | 177   | 482.6 | 260 | 3.9         |
| 44-50□      | 44    | 482.6 | 500 | 4.2         | 177-32□     | 177   | 482.6 | 320 | 4.4         |
| ERH 88-16□  | 88    | 482.6 | 160 | 2.2         | 177-37□     | 177   | 482.6 | 370 | 4.8         |
| 88-20□      | 88    | 482.6 | 200 | 2.5         | 177-43□     | 177   | 482.6 | 430 | 5.4         |
| 88-26□      | 88    | 482.6 | 260 | 3.0         | 177-50□     | 177   | 482.6 | 500 | 6.0         |
| 88-32□      | 88    | 482.6 | 320 | 3.4         | ERH222-16□  | 221.5 | 482.6 | 160 | 3.5         |
| 88-37□      | 88    | 482.6 | 370 | 3.8         | 222-20□     | 221.5 | 482.6 | 200 | 3.9         |
| 88-43□      | 88    | 482.6 | 430 | 4.2         | 222-26□     | 221.5 | 482.6 | 260 | 4.4         |
| 88-50□      | 88    | 482.6 | 500 | 4.8         | 222-32□     | 221.5 | 482.6 | 320 | 4.9         |
| ERH133-16□  | 132.5 | 482.6 | 160 | 2.5         | 222-37□     | 221.5 | 482.6 | 370 | 5.4         |
| 133-20□     | 132.5 | 482.6 | 200 | 2.9         | 222-43□     | 221.5 | 482.6 | 430 | 5.9         |
| 133-26□     | 132.5 | 482.6 | 260 | 3.4         | 222-50□     | 221.5 | 482.6 | 500 | 6.5         |
| 133-32□     | 132.5 | 482.6 | 320 | 3.9         |             |       |       |     |             |

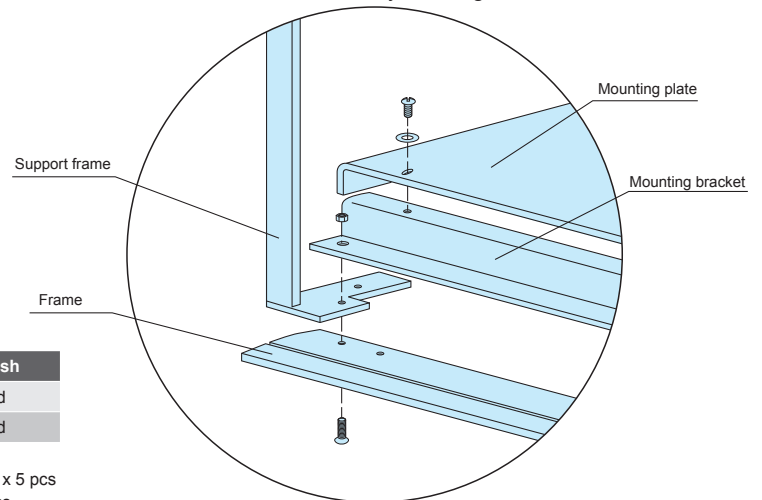
AC SERIES

MOUNTING PLATE for ER • ERH

■ DXF/DWG/PDF drawings available on our website.



Assembly drawings



Components

| No. | Part name        | Pcs | Material               | Color / Finish |
|-----|------------------|-----|------------------------|----------------|
| 1   | Mounting plate   | 1   | Aluminium A1050P t=2.0 | Unfinished     |
| 2   | Mounting bracket | 2   | Aluminium A1050P t=2.0 | Unfinished     |

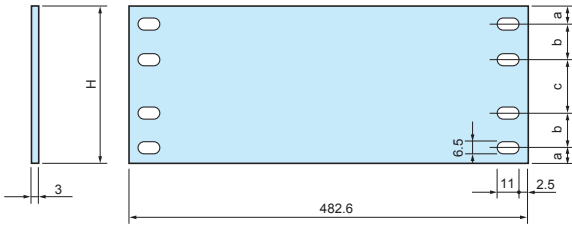
Included screws  
 M3-10 countersunk trivalent chromate x 5 pcs  
 M3-6 binding head nickel plated x 5 pcs  
 M3 nickel plated washer x 5 pcs  
 M3 trivalent chromate nut x 5 pcs

Product no. / Dimensions

| Product no. | W   | D   | a    | b   | Suitable enclosure | Weight (g) |
|-------------|-----|-----|------|-----|--------------------|------------|
| AC16-43     | 143 | 367 | 21.5 | 379 | ER□□-16 / ERH□□-16 | 370        |
| AC20-43     | 183 | 367 | 24.5 | 379 | ER□□-20 / ERH□□-20 | 460        |
| AC26-43     | 243 | 367 | 31.5 | 379 | ER□□-26 / ERH□□-26 | 610        |
| AC32-43     | 303 | 367 | 39.5 | 379 | ER□□-32 / ERH□□-32 | 740        |
| AC37-43     | 353 | 367 | 46.5 | 379 | ER□□-37 / ERH□□-37 | 860        |
| AC43-43     | 413 | 367 | 54.5 | 379 | ER□□-43 / ERH□□-43 | 990        |
| AC50-43     | 483 | 367 | 64.5 | 379 | ER□□-50 / ERH□□-50 | 1,160      |

AP SERIES

19" ALUMINIUM RACK PANEL



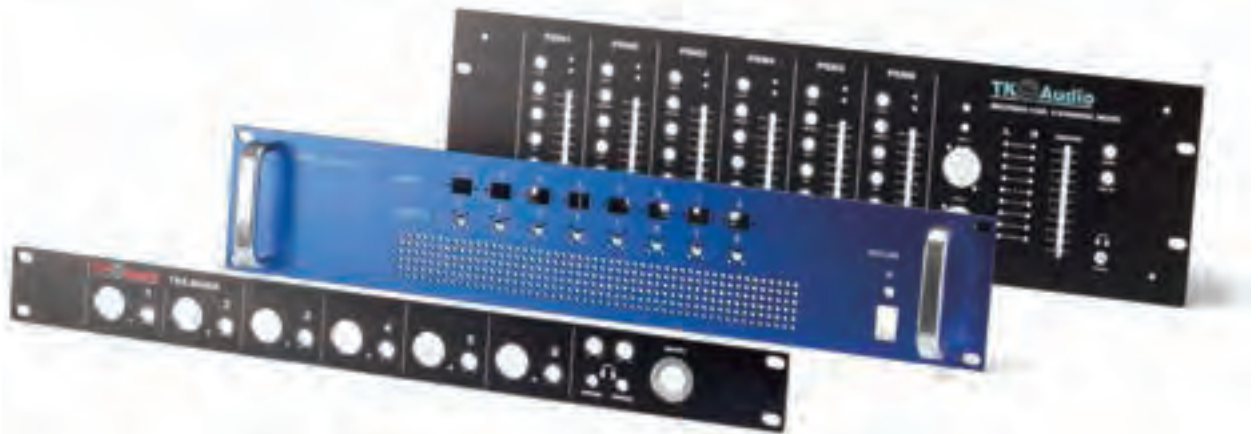
Product no. / Dimensions

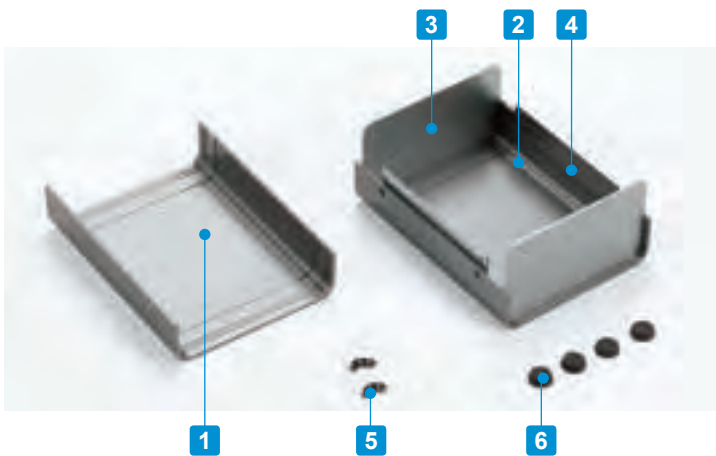
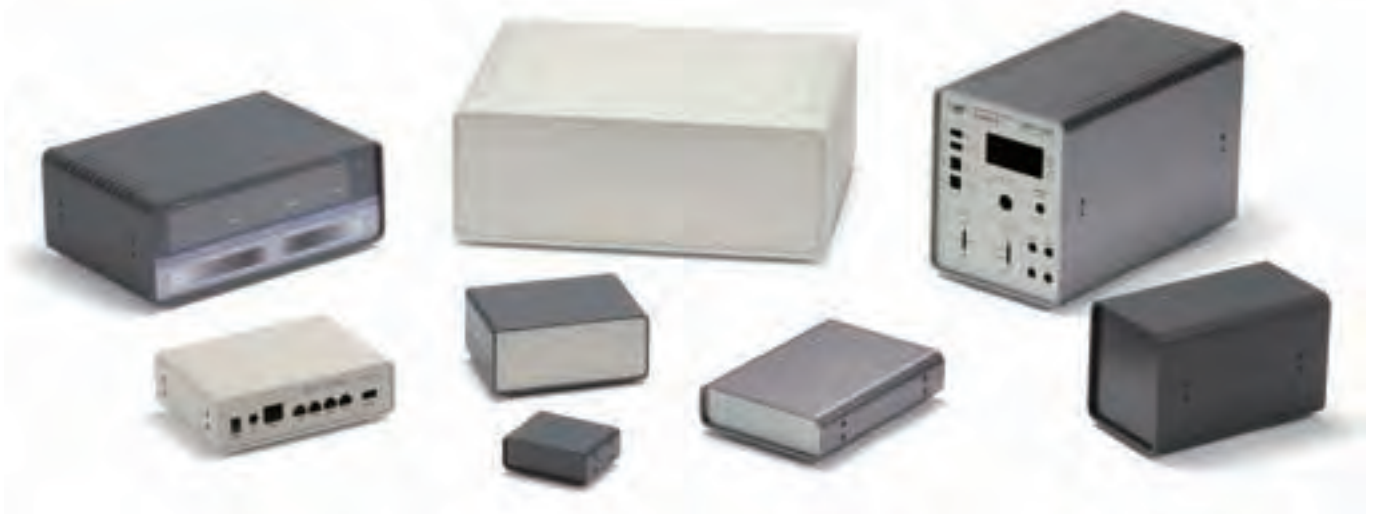
| Product no. |         | H     | a     | b     | c     | Mounting hole (One side) | Material                     | Surface Finish              | Weight (kg) |
|-------------|---------|-------|-------|-------|-------|--------------------------|------------------------------|-----------------------------|-------------|
| ● Silver    | ● Black |       |       |       |       |                          |                              |                             |             |
| AP- 44S     | AP- 44B | 44    | 6.1   | —     | 31.8  | 2                        | Extruded aluminium A6063S-T5 | Hairline brushed & Anodized | 0.18        |
| AP- 88S     | AP- 88B | 88    | 5.9   | —     | 76.2  | 2                        | Extruded aluminium A6063S-T5 | Hairline brushed & Anodized | 0.33        |
| AP-133S     | AP-133B | 132.5 | 37.7  | —     | 57.1  | 2                        | Extruded aluminium A6063S-T5 | Hairline brushed & Anodized | 0.48        |
| AP-177S     | AP-177B | 177   | 37.7  | —     | 101.6 | 2                        | Extruded aluminium A6063S-T5 | Hairline brushed & Anodized | 0.7         |
| AP-222S     | AP-222B | 221.5 | 37.75 | —     | 146   | 2                        | Aluminium A1050P             | Hairline brushed & Anodized | 0.87        |
| AP-266S     | AP-266B | 265.9 | 37.7  | 57.2  | 76.1  | 4                        | Aluminium A1050P             | Hairline brushed & Anodized | 1.06        |
| AP-311S     | AP-311B | 310.4 | 37.7  | 88.9  | 57.2  | 4                        | Aluminium A1050P             | Hairline brushed & Anodized | 1.24        |
| AP-355S     | AP-355B | 354.8 | 37.7  | 101.6 | 76.2  | 4                        | Aluminium A1050P             | Hairline brushed & Anodized | 1.42        |

CNC MACHINING



- CNC machining service is available from just 1 pc with a short lead time.
- Low-cost digital inkjet printing service is available for your customized front panel.
- Anodizing and painting services are also available.





- Simple structure and tough case with extruded aluminium covers.
- 36 sizes and 3 different colors for a total of 108 different combinations are available.
- 2 or 3 grooves available on top/bottom covers for adjusting front/rear panel positions or PCB insertion.

**Components**

| No. | Part name    | Pcs | Material                     | Color / Finish   |
|-----|--------------|-----|------------------------------|--|
| 1   | Top cover    | 1   | Extruded aluminium A6065S-T5 | Bronze • Light gray • Dark gray / Anodized • Painted • Painted |
| 2   | Bottom cover | 1   | Extruded aluminium A6065S-T5 | Bronze • Light gray • Dark gray / Anodized • Painted • Painted |
| 3   | Panel        | 2   | Aluminium A1050P t=1.7       | Bronze / Anodized  |
|     |              |     | Aluminium A5052P t=1.5       | Light gray / Painted   |
|     |              |     | Aluminium A1100P t=1.5       | Dark gray / Painted  |
| 4   | Joint plate  | 2   | Steel SPCC t=2.0             | Trivalent chromate   |
| 5   | Screw        | 12  | Steel M3                     | Black trivalent chromate                                       |
| 6   | Rubber feet  | 4   | Rubber                       | Black  |

- Bronze anodized color varies slightly between each production lot.
- Panels are covered with a protective film on one side.

**Accessories (Optional parts)**



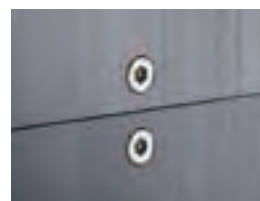
Mounting plate  
UCC series  
See page 261



Mounting bracket  
UCK-P series  
See page 262



Panel retainer  
UCF-26  
See page 262



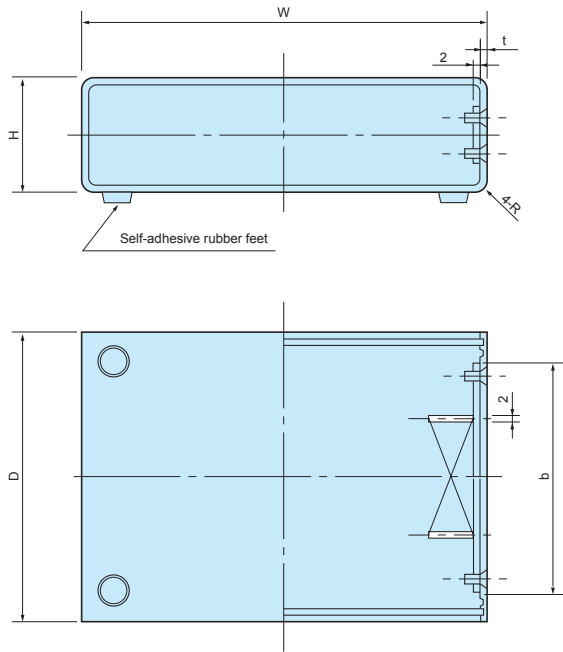
TORX screw  
MR-1  
See page 135



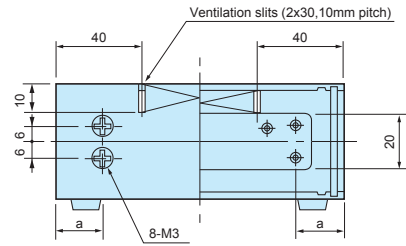
Aluminium isolation feet  
AFS • AFM series  
See page 265 ~ 266



UC dimensions



DXF/DWG/PDF drawings available on our website.



Color Type



Product no. / Dimensions

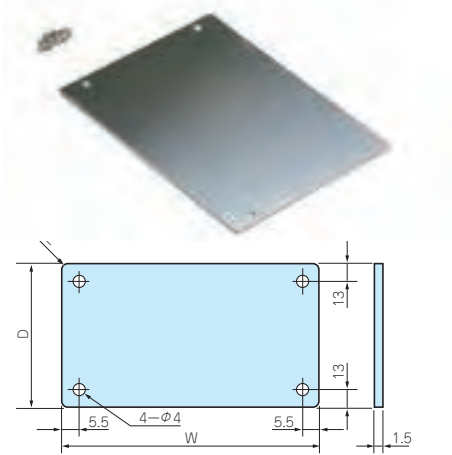
| Product no. | W   | H   | D   | R    | t   | a  | b   | Ventilation slits | Weight (kg) |
|-------------|-----|-----|-----|------|-----|----|-----|-------------------|-------------|
| UC 6- 3- 8□ | 60  | 35  | 80  | 5    | 2   | 16 | 58  | —                 | 0.12        |
| UC 7- 3-10□ | 75  | 30  | 100 | 5    | 2   | 16 | 78  | —                 | 0.16        |
| UC 9- 5-12□ | 90  | 50  | 120 | 7.5  | 2.5 | 18 | 94  | —                 | 0.29        |
| UC10- 4-14□ | 100 | 40  | 140 | 7.5  | 2.5 | 28 | 94  | —                 | 0.32        |
| UC12- 7-16□ | 120 | 70  | 160 | 11   | 3   | 30 | 110 | —                 | 0.56        |
| UC13- 4-18□ | 130 | 40  | 180 | 11   | 3   | 30 | 130 | —                 | 0.56        |
| UC15- 8-20□ | 150 | 80  | 200 | 11   | 3   | 30 | 150 | ○                 | 0.86        |
| UC16- 5-22□ | 165 | 50  | 220 | 11   | 3   | 30 | 170 | ○                 | 0.84        |
| UC18-10-24□ | 180 | 100 | 240 | 11   | 3   | 30 | 190 | ○                 | 1.26        |
| UC22-12-26□ | 220 | 120 | 260 | 11   | 3   | 30 | 210 | ○                 | 1.70        |
| UC24-14-34□ | 240 | 140 | 340 | 11.2 | 3.2 | 30 | 290 | ○                 | 2.54        |
| UC 8- 3- 6□ | 80  | 30  | 60  | 5    | 2   | 16 | 38  | —                 | 0.10        |
| UC11- 3- 8□ | 110 | 30  | 80  | 5    | 2   | 16 | 58  | —                 | 0.17        |
| UC11- 5- 8□ | 110 | 50  | 80  | 5    | 2   | 16 | 58  | —                 | 0.20        |
| UC14- 4-10□ | 140 | 40  | 100 | 5    | 2   | 16 | 78  | —                 | 0.27        |
| UC14- 6-10□ | 140 | 60  | 100 | 5    | 2   | 16 | 78  | —                 | 0.31        |
| UC15-10-12□ | 150 | 100 | 120 | 7.5  | 2.5 | 18 | 94  | —                 | 0.53        |
| UC17- 5-12□ | 170 | 50  | 120 | 7.5  | 2.5 | 18 | 94  | —                 | 0.45        |
| UC17- 7-12□ | 170 | 70  | 120 | 7.5  | 2.5 | 18 | 94  | —                 | 0.51        |
| UC20- 5-14□ | 200 | 50  | 140 | 7.5  | 2.5 | 28 | 94  | —                 | 0.56        |
| UC20- 8-14□ | 200 | 80  | 140 | 7.5  | 2.5 | 28 | 94  | —                 | 0.67        |
| UC20-12-16□ | 200 | 120 | 160 | 11   | 3   | 30 | 110 | —                 | 0.82        |
| UC26- 5-18□ | 260 | 50  | 180 | 11   | 3   | 30 | 130 | ○                 | 1.02        |
| UC26-10-18□ | 260 | 100 | 180 | 11   | 3   | 30 | 130 | ○                 | 1.26        |
| UC26- 7-20□ | 260 | 70  | 200 | 11   | 3   | 30 | 150 | ○                 | 1.23        |
| UC32- 5-22□ | 320 | 50  | 220 | 11   | 3   | 30 | 170 | ○                 | 1.45        |
| UC32-12-22□ | 320 | 120 | 220 | 11   | 3   | 30 | 170 | ○                 | 1.88        |
| UC32- 8-24□ | 320 | 80  | 240 | 11   | 3   | 30 | 190 | ○                 | 1.76        |
| UC35-13-26□ | 350 | 130 | 260 | 11   | 3   | 30 | 210 | ○                 | 2.45        |
| UC43- 5-28□ | 430 | 50  | 280 | 11   | 3   | 30 | 230 | ○                 | 2.37        |
| UC43-14-28□ | 430 | 140 | 280 | 11   | 3   | 30 | 230 | ○                 | 3.05        |
| UC 7- 8-14□ | 75  | 85  | 140 | 7.5  | 2.5 | 28 | 94  | —                 | 0.37        |
| UC10-11-18□ | 100 | 110 | 180 | 11   | 3   | 30 | 130 | —                 | 0.72        |
| UC12-14-22□ | 120 | 140 | 220 | 11   | 3   | 30 | 170 | ○                 | 1.08        |
| UC15-18-28□ | 150 | 180 | 280 | 11   | 3   | 30 | 230 | ○                 | 1.74        |
| UC18-21-34□ | 180 | 210 | 340 | 11.2 | 3.2 | 30 | 290 | ○                 | 2.63        |

UCC SERIES

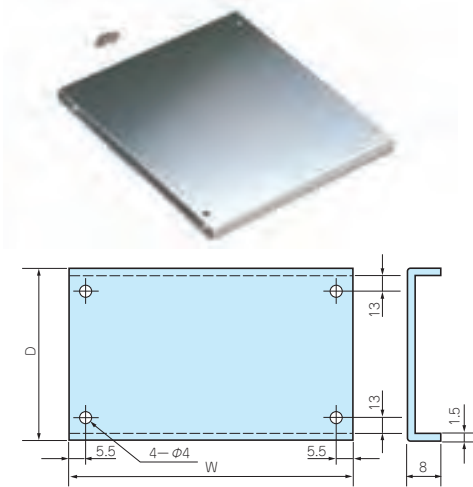
MOUNTING PLATE for UC

■ DXF/DWG/PDF drawings available on our website.

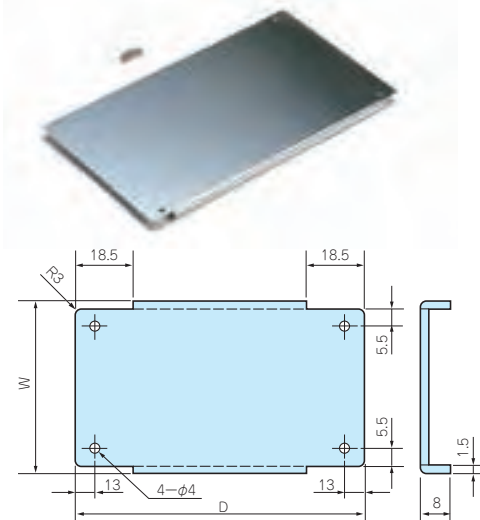
Type A



Type B



Type C



Components

| Part name      | Pcs | Material               | Color / Finish     |
|----------------|-----|------------------------|--------------------|
| Mounting plate | 1   | Aluminium A1050P t=1.5 | Unfinished         |
| Screw          | 4   | Steel M3-5             | Trivalent chromate |

Product no. / Dimensions (Type A)

| Product no. | Suitable case | W   | D   |
|-------------|---------------|-----|-----|
| UCC 6- 8    | UC 6- 3- 8    | 43  | 58  |
| UCC 7-10    | UC 7- 3-10    | 58  | 78  |
| UCC 8- 6    | UC 8- 3- 6    | 63  | 38  |
| UCC11- 8    | UC 11- 3- 8   | 93  | 58  |
|             | UC 11- 5- 8   |     |     |
| UCC 9-12    | UC 9- 5-12    | 72  | 94  |
| UCC10-14    | UC 10- 4-14   | 82  | 94  |
| UCC12-16    | UC 12- 7-16   | 101 | 110 |
| UCC13-18    | UC 13- 4-18   | 111 | 130 |
| UCC15-20    | UC 15- 8-20   | 131 | 150 |
| UCC14-10    | UC 14- 4-10   | 123 | 78  |
|             | UC 14- 6-10   |     |     |
| UCC15-12    | UC 15-10-12   | 132 | 94  |
| UCC17-12    | UC 17- 5-12   | 152 | 94  |
|             | UC 17- 7-12   |     |     |
| UCC 7-14    | UC 7- 8-14    | 57  | 94  |
| UCC10-18    | UC 10-11-18   | 81  | 130 |
| UCC12-22    | UC 12-14-22   | 101 | 170 |

Product no. / Dimensions (Type B)

| Product no. | Suitable case | W   | D   |
|-------------|---------------|-----|-----|
| UCC16-22    | UC 16- 5-22   | 146 | 173 |
| UCC18-24    | UC 18-10-24   | 161 | 193 |
| UCC20-14    | UC 20- 5-14   | 182 | 97  |
|             | UC 20- 8-14   |     |     |
| UCC22-26    | UC 22-12-26   | 201 | 213 |
| UCC20-16    | UC 20-12-16   | 181 | 113 |
| UCC26-18    | UC 26- 5-18   | 241 | 133 |
|             | UC 26-10-18   |     |     |
| UCC26-20    | UC 26- 7-20   | 241 | 153 |
| UCC32-22    | UC 32- 5-22   | 301 | 173 |
|             | UC 32-12-22   |     |     |
| UCC32-24    | UC 32- 8-24   | 301 | 193 |
| UCC35-26    | UC 35-13-26   | 331 | 213 |
| UCC43-28    | UC 43- 5-28   | 411 | 233 |
|             | UC 43-14-28   |     |     |

Product no. / Dimensions (Type C)

| Product no. | Suitable case | W     | D   |
|-------------|---------------|-------|-----|
| UCC15-28    | UC 15-18-28   | 134   | 230 |
| UCC18-34    | UC 18-21-34   | 163.6 | 290 |
| UCC24-34    | UC 24-14-34   | 223.6 | 290 |

UCC-P SERIES

MOUNTING BRACKET for UC



Components

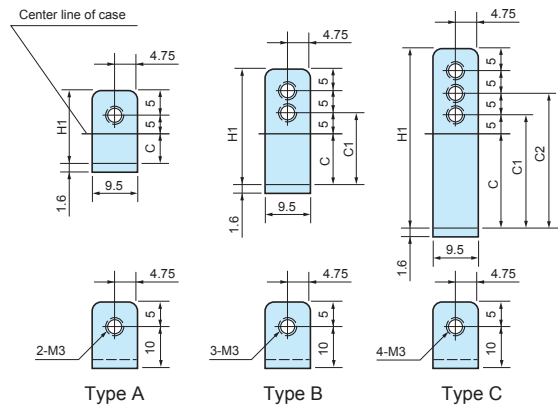
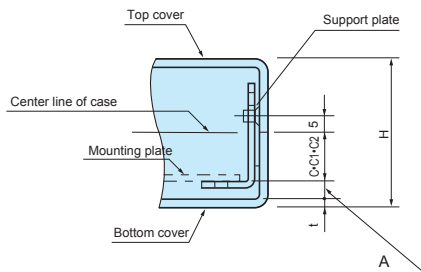
| Product name     | Material         | Finish             | Pack of |
|------------------|------------------|--------------------|---------|
| Mounting bracket | Steel SPCC t=1.6 | Trivalent chromate | 4       |

Product no. / Dimensions

| Product no. | Type | H1  | C  | C1 | C2 | Pack of |
|-------------|------|-----|----|----|----|---------|
| UCK-P 13    | A    | 13  | 3  | —  | —  | 4       |
| UCK-P 17    | A    | 17  | 7  | —  | —  | 4       |
| UCK-P 27    | B    | 27  | 12 | 17 | —  | 4       |
| UCK-P 42    | C    | 42  | 22 | 27 | 32 | 4       |
| UCK-P 57    | C    | 57  | 37 | 42 | 47 | 4       |
| UCK-P 72    | C    | 72  | 52 | 57 | 62 | 4       |
| UCK-P 87    | C    | 87  | 67 | 72 | 77 | 4       |
| UCK-P102    | C    | 102 | 82 | 87 | 92 | 4       |

■ DXF/DWG/PDF drawings available on our website.

Assembly drawings



Bracket matching chart / A dimension

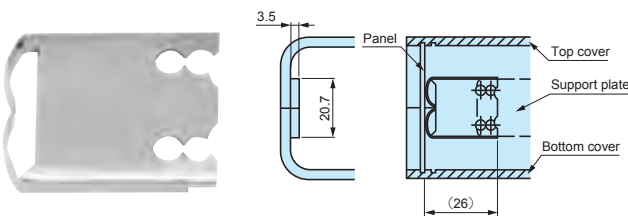
| Product no. | Bracket no. | A        |
|-------------|-------------|----------|
| UC 6- 3- 8  | UCK-P 13    | 12.5     |
|             | UCK-P 17    | 8.5      |
| UC 7- 3-10  | UCK-P 13    | 10       |
|             | UCK-P 17    | 6        |
| UC 9- 5-12  | UCK-P 17    | 15.5     |
|             | UCK-P 27    | 10.5 5.5 |
| UC 10- 4-14 | UCK-P 13    | 14.5     |
|             | UCK-P 17    | 10.5     |
|             | UCK-P 27    | 5.5      |
| UC 12- 7-16 | UCK-P 27    | 15       |
|             | UCK-P 42    | 10       |
| UC 13- 4-18 | UCK-P 13    | 14       |
|             | UCK-P 17    | 10       |
| UC 15- 8-20 | UCK-P 42    | 15 10 5  |
| UC 16- 5-22 | UCK-P 13    | 19       |
|             | UCK-P 17    | 15       |
|             | UCK-P 27    | 10       |
| UC 24-14-34 | UCK-P 57    | 19.8     |
|             | UCK-P 72    | 14.8 9.8 |
| UC 8- 3- 6  | UCK-P 13    | 10       |
|             | UCK-P 17    | 6        |

| Product no. | Bracket no. | A         |
|-------------|-------------|-----------|
| UC 11- 3- 8 | UCK-P 13    | 10        |
|             | UCK-P 17    | 6         |
| UC 11- 5- 8 | UCK-P 17    | 16        |
|             | UCK-P 27    | 11 6      |
| UC 14- 4-10 | UCK-P 13    | 15        |
|             | UCK-P 17    | 11        |
|             | UCK-P 27    | 6         |
| UC 14- 6-10 | UCK-P 27    | 16 11     |
|             | UCK-P 42    | 6         |
| UC 15-10-12 | UCK-P 42    | 20.5 15.5 |
|             | UCK-P 57    | 10.5 5.5  |
| UC 17- 5-12 | UCK-P 17    | 15.5      |
|             | UCK-P 27    | 10.5 5.5  |
| UC 17- 7-12 | UCK-P 27    | 15.5      |
|             | UCK-P 42    | 10.5 5.5  |
| UC 20- 5-14 | UCK-P 13    | 19.5      |
|             | UCK-P 17    | 15.5      |
|             | UCK-P 27    | 10.5 5.5  |
| UC 20- 8-14 | UCK-P 27    | 20.5      |
|             | UCK-P 42    | 15.5 10.5 |
| UC 20-12-16 | UCK-P 57    | 20 15 10  |
|             | UCK-P 13    | 19        |
| UC 26- 5-18 | UCK-P 17    | 15        |
|             | UCK-P 27    | 10        |

| Product no. | Bracket no. | A             |
|-------------|-------------|---------------|
| UC 26-10-18 | UCK-P 42    | 20 15         |
|             | UCK-P 57    | 10            |
| UC 26- 7-20 | UCK-P 27    | 15            |
|             | UCK-P 42    | 10            |
| UC 18-10-24 | UCK-P 42    | 20 15         |
|             | UCK-P 57    | 10            |
| UC 22-12-26 | UCK-P 57    | 20 15 10      |
| UC 32- 5-22 | UCK-P 13    | 19            |
|             | UCK-P 17    | 15            |
|             | UCK-P 27    | 10            |
| UC 32-12-22 | UCK-P 57    | 20 15 10      |
| UC 32- 8-24 | UCK-P 42    | 15 10 5       |
| UC 35-13-26 | UCK-P 57    | 25 20 15      |
|             | UCK-P 72    | 10 5          |
| UC 43- 5-28 | UCK-P 13    | 19            |
|             | UCK-P 17    | 15            |
|             | UCK-P 27    | 10            |
| UC 43-14-28 | UCK-P 57    | 20            |
|             | UCK-P 72    | 15 10         |
| UC 7- 8-14  | UCK-P 42    | 18 13 8       |
| UC 10-11-18 | UCK-P 57    | 15 10 5       |
| UC 12-14-22 | UCK-P 72    | 15 10 5       |
| UC 15-18-28 | UCK-P 87    | 20 15 10      |
| UC 18-21-34 | UCK-P102    | 19.8 14.8 9.8 |

UCF-26

PANEL RETAINER for UC



Product no.

| Product no. | Material              | Finish     | Pack of |
|-------------|-----------------------|------------|---------|
| UCF-26      | Stainless steel t=0.3 | Unfinished | 2       |

■ Not applicable for use on 60, 80, 100 and 120 "D" dimension cases.

# SRDSL SERIES

# ALUMINIUM DESKTOP CHASSIS



- Designed with an elegant and stylish hairline brushed top cover.
- Champagne gold and silver top covers available.
- Recommended for audio amplifier use.

## APPLICATION EXAMPLE

### VACUUM TUBE POWER AMPLIFIER

Product by MJ Musen to Jikken (Japan)  
 Website: [seibundo-shinkosha.net](http://seibundo-shinkosha.net)



### DIGITAL MULTI-CHANNEL ANALYZER

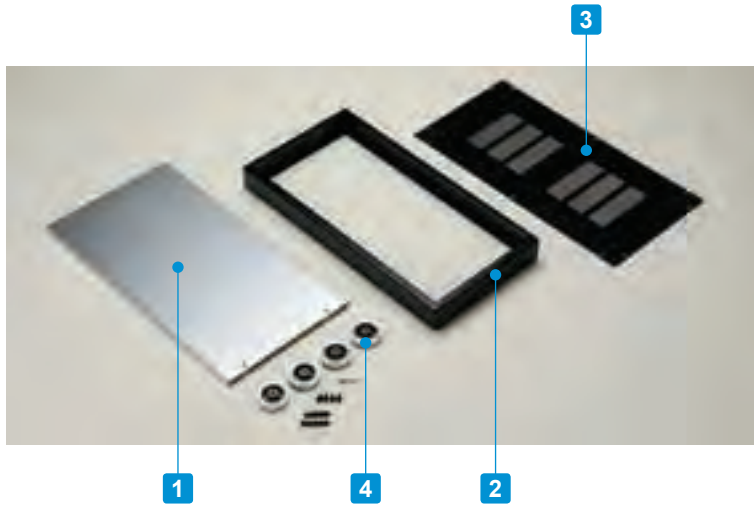
Product by Project Integration LLC (Armenia)  
 Website: [profinst.net](http://profinst.net)



### Accessories (Optional parts)



Aluminium isolation feet  
 AFS • AFM series  
 See page 265 ~ 266

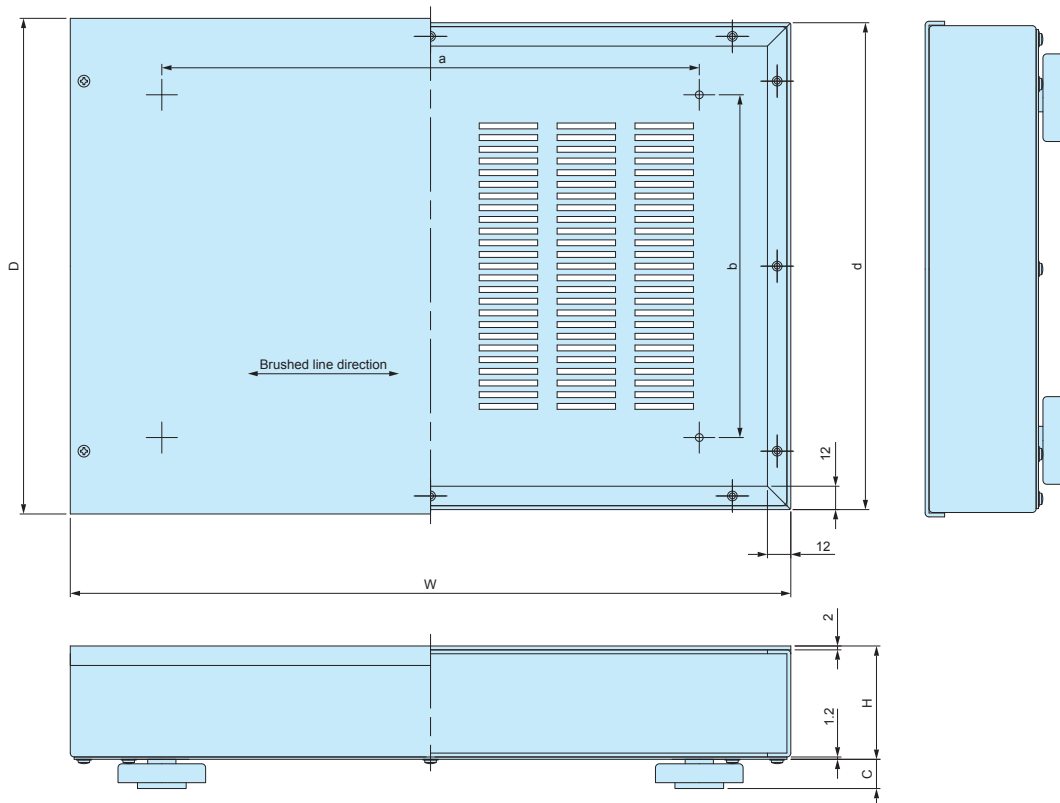


Components

| No. | Part name      | Pcs | Material               | Color / Finish  |
|-----|----------------|-----|------------------------|---|
| 1   | Top cover      | 1   | Aluminium A1050P t=2.0 | Champagne gold • Silver / Hairline brushed & Anodized |
| 2   | Body frame     | 1   | Aluminium A1050P t=2.0 | Black / Painted (leather tone)                        |
| 3   | Bottom cover   | 1   | Steel SECC t=1.2       | Black / Painted                                       |
| 4   | Aluminium feet | 4   | ABS UL94HB : Aluminium | Black : Gold • Black : Silver                         |

SRDSL dimensions

■ DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

| Product no.      |            | W   | H    | D     | a   | b   | c  | d   | Weight (kg) |
|------------------|------------|-----|------|-------|-----|-----|----|-----|-------------|
| ● Champagne gold | ● Silver   |     |      |       |     |     |    |     |             |
| SRDSL- 7HG       | SRDSL- 7HS | 400 | 43.2 | 164.5 | 336 | 96  | 12 | 160 | 1.29        |
| SRDSL- 8HG       | SRDSL- 8HS | 350 | 58.2 | 224.5 | 246 | 142 | 12 | 220 | 1.56        |
| SRDSL- 9HG       | SRDSL- 9HS | 400 | 43.2 | 204.5 | 336 | 136 | 12 | 200 | 1.53        |
| SRDSL-10HG       | SRDSL-10HS | 370 | 58.2 | 254.5 | 276 | 176 | 15 | 250 | 1.77        |
| SRDSL-15HG       | SRDSL-15HS | 460 | 63.2 | 224.5 | 396 | 156 | 15 | 220 | 1.91        |
| SRDSL-20HG       | SRDSL-20HS | 450 | 68.2 | 305   | 336 | 208 | 15 | 300 | 2.49        |

## AFS•AFM SERIES

## ALUMINIUM ISOLATION FEET



- The surface treatment and finish allows the feet to exhibit a polished and luxurious feel.
- Non-slip NBR O-ring is present on the underside of the feet.
- Suitable for use in audio devices.

### Available in both internal and external screw installation type.

#### External type / Shot blast finish (AFS series)



The external type is secured via screws from the underside / base of the feet to the enclosure. A thread hole is required for direct securing, while a circular hole is required for lock nut securing.

The shot blast finish provides a high quality surface finish look, and pairing well with various types of enclosure surfaces.

Available in both silver and black.

#### Internal type / Reflective finish (AFM series)



The internal type is secured via screws from the inside of the enclosure. A circular hole is required for securing into the pre-made threads in the top-side of the feet.

The reflective surface finish adds a high quality touch to the unit, allow it to have a luxurious look.

Available only in Silver.



Accessories (Optional parts)

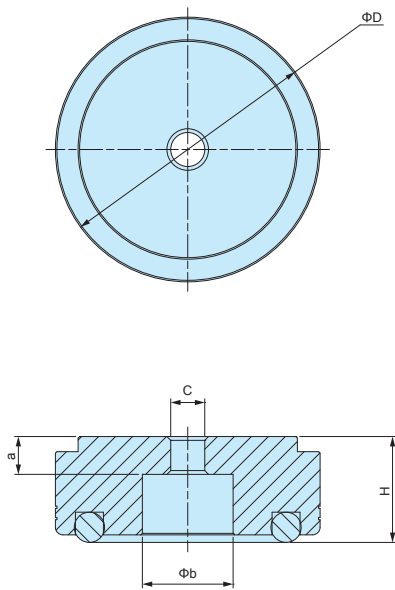
Product no. / Dimensions

| Product no. |           | D  | H  | Installation type | C    | a  | b  | Pack of |
|-------------|-----------|----|----|-------------------|------|----|----|---------|
| ● Silver    | ● Black   |    |    |                   |      |    |    |         |
| AFS20- 8S   | AFS20- 8B | 20 | 8  | Internal          | Φ3.4 | 3  | 9  | 4       |
| AFS25-10S   | AFS25-10B | 25 | 10 | Internal          | Φ4.5 | 4  | 12 | 4       |
| AFS30-12S   | AFS30-12B | 30 | 12 | Internal          | Φ4.5 | 5  | 12 | 4       |
| AFS35-14S   | AFS35-14B | 35 | 14 | Internal          | Φ4.5 | 5  | 12 | 4       |
| AFS39-16S   | AFS39-16B | 39 | 16 | Internal          | Φ4.5 | 5  | 15 | 4       |
| AFS44-18S   | AFS44-18B | 44 | 18 | Internal          | Φ4.5 | 5  | 20 | 4       |
| AFS55-20S   | AFS55-20B | 55 | 20 | Internal          | Φ5.5 | 5  | 20 | 4       |
| AFM15- 7S   | -         | 15 | 7  | External          | M3   | 4  | -  | 4       |
| AFM20- 9S   | -         | 20 | 9  | External          | M3   | 5  | -  | 4       |
| AFM25-12S   | -         | 25 | 12 | External          | M4   | 7  | -  | 4       |
| AFM30-14S   | -         | 30 | 14 | External          | M4   | 8  | -  | 4       |
| AFM35-16S   | -         | 35 | 16 | External          | M4   | 10 | -  | 4       |
| AFM39-18S   | -         | 39 | 18 | External          | M4   | 10 | -  | 4       |
| AFM44-20S   | -         | 44 | 20 | External          | M4   | 10 | -  | 4       |
| AFM55-22S   | -         | 55 | 22 | External          | M5   | 15 | -  | 4       |

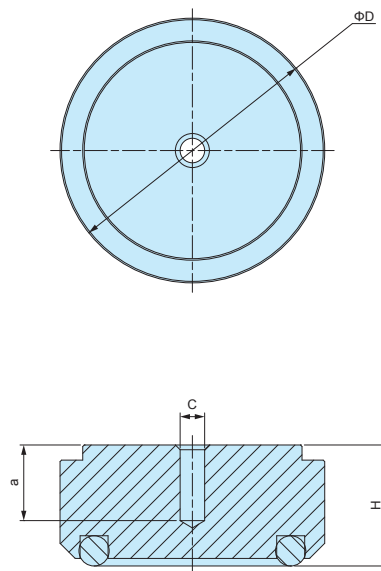
AFS • AFM dimensions

■ DXF/DWG/PDF drawings available on our website.

AFS SERIES



AFM SERIES



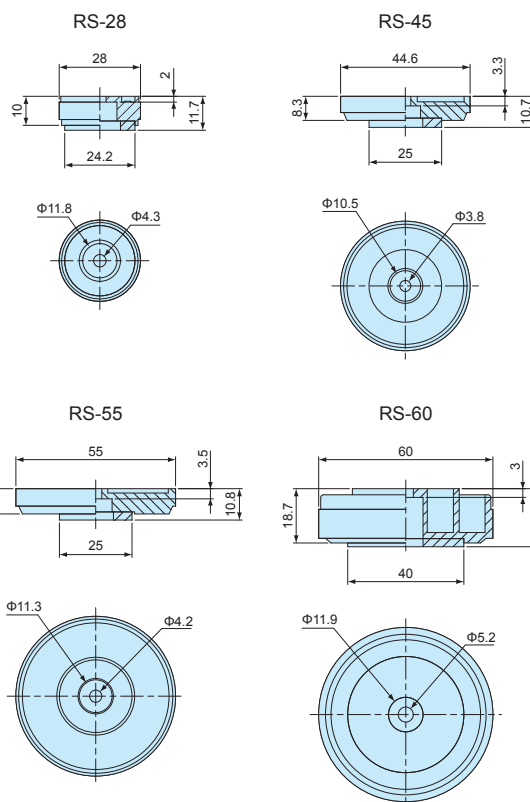
APPLICATION EXAMPLE



**RS SERIES PLATED PLASTIC FEET**



- Suitable for audio equipment use.
- Elastomeric foam pad can be found at the underside of the feet.



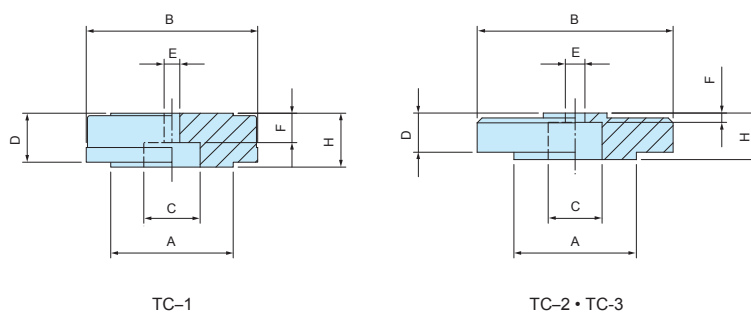
**Product no. / Dimensions**

| Product no. |        | Material                     | Pack of |
|-------------|--------|------------------------------|---------|
| ● Silver    | ● Gold |                              |         |
| RS-28S      | RS-28G | ABS UL94HB / Polyester / EVA | 4       |
| RS-45S      | RS-45G | ABS UL94HB / Polyester / EVA | 4       |
| RS-55S      | RS-55G | ABS UL94HB / Polyester / EVA | 4       |
| RS-60S      | RS-60G | ABS UL94HB / Polyester / EVA | 4       |

**TC SERIES ALUMINIUM FEET**



- Aluminium material gives it a refined and elegant look.
- Suitable for audio equipment use.
- Elastomeric foam pad can be found on the underside of the feet.

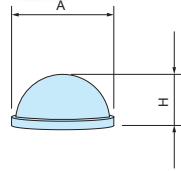


**Product no. / Dimensions**

| Product no. |        | A  | B  | C    | D    | E   | F   | H    | Material                     | Pack of |
|-------------|--------|----|----|------|------|-----|-----|------|------------------------------|---------|
| ● Silver    | ● Gold |    |    |      |      |     |     |      |                              |         |
| TC-1S       | TC-1G  | 25 | 35 | 11.5 | 9.7  | 3.4 | 5.6 | 11.5 | ABS UL94HB / Aluminium / EVA | 4       |
| TC-2S       | TC-2G  | 25 | 40 | 11   | 10.2 | 4.1 | 2.1 | 12   | ABS UL94HB / Aluminium / EVA | 4       |
| TC-3S       | TC-3G  | 25 | 45 | 11.7 | 12   | 4.2 | 7.5 | 15   | ABS UL94HB / Aluminium / EVA | 4       |

**TB SERIES**

**ADHESIVE RUBBER FEET**



■ Adhesive is present on the underside.

**Product no. / Dimensions**

■ Material : Rubber

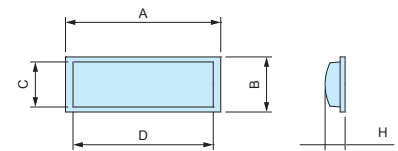
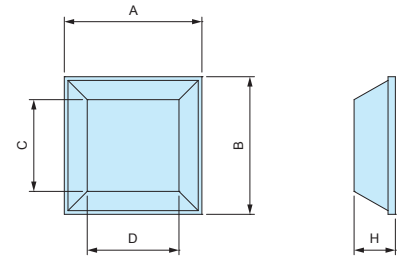
| Product no. |              | A    | H   | Pack of |
|-------------|--------------|------|-----|---------|
| ● Black     | ● White gray |      |     |         |
| NEW TB- 7   | -            | 6.7  | 4.2 | 10      |
| TB- 8       | -            | 8    | 2.6 | 10      |
| NEW TB-10   | -            | 10   | 2.8 | 10      |
| TB-12       | -            | 11.3 | 5.6 | 10      |
| NEW TB-14   | -            | 14   | 8   | 10      |
| TB-16       | -            | 15.9 | 8   | 10      |
| NEW TB-21   | -            | 21.6 | 8.5 | 10      |
| NEW TB-27   | NEW TB-27G   | 27.8 | 7.4 | 10      |

**SJ-P SERIES**

**POLYURETHANE RUBBER FEET**



■ Adhesive is present on the underside.



SJ-P1011

**Product no. / Dimensions**

■ Material / Color : Polyurethane / Black

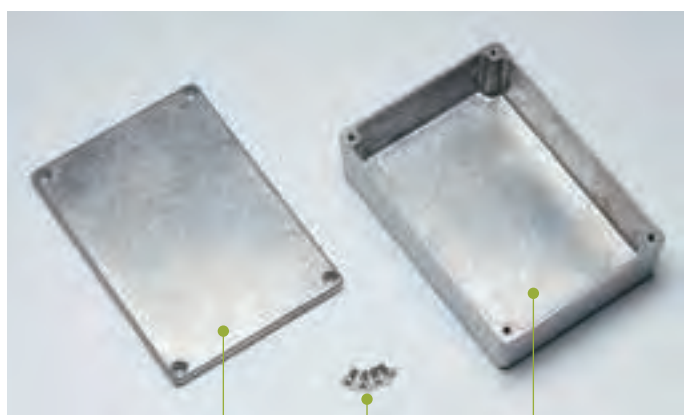
| Product no.  | A    | B    | H   | C    | D    | Pack of |
|--------------|------|------|-----|------|------|---------|
| SJ-P5007     | 10.4 | 10.4 | 2.5 | 7.2  | 7.2  | 10      |
| SJ-P5008     | 12.7 | 12.7 | 3   | 9.5  | 9.5  | 10      |
| SJ-P5018     | 12.7 | 12.7 | 5.8 | 7    | 7    | 10      |
| SJ-P1004     | 15   | 15   | 4.5 | 10   | 10   | 10      |
| SJ-P5023     | 20.6 | 20.6 | 7.6 | 12.7 | 12.7 | 10      |
| NEW SJ-P1011 | 15.5 | 5.5  | 2   | 4.5  | 14.5 | 10      |

TD SERIES

DIECAST ALUMINIUM BOX



Conductive



1

3

2

- Tough diecast aluminium box.
- Available in 13 sizes and 2 color types.
- Black painted and unfinished boxes are available.
- Conductivity can be achieved by utilization of the contact between the unfinished inner surfaces (only applicable to "N" type).
- Recommended for electric guitar effect pedals.

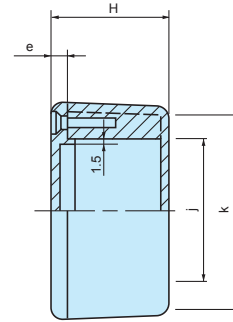
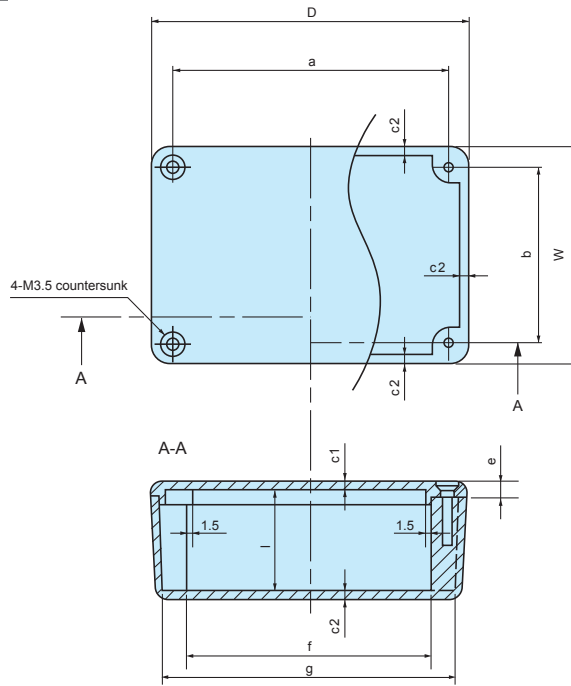
Components

| No. | Part name | Pcs | Material                | Color / Finish                           |
|-----|-----------|-----|-------------------------|--|
| 1   | Cover     | 1   | Diecast aluminium ADC12 | Black • Silver / Painted • Unfinished    |
| 2   | Base      | 1   | Diecast aluminium ADC12 | Black • Silver / Painted • Unfinished    |
| 3   | Screw     | 4   | Steel M3.5              | Nickel plated • Black trivalent chromate |

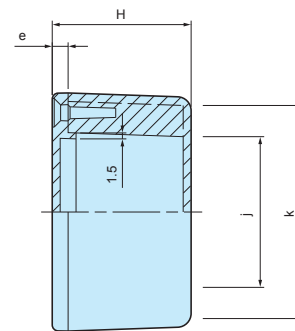
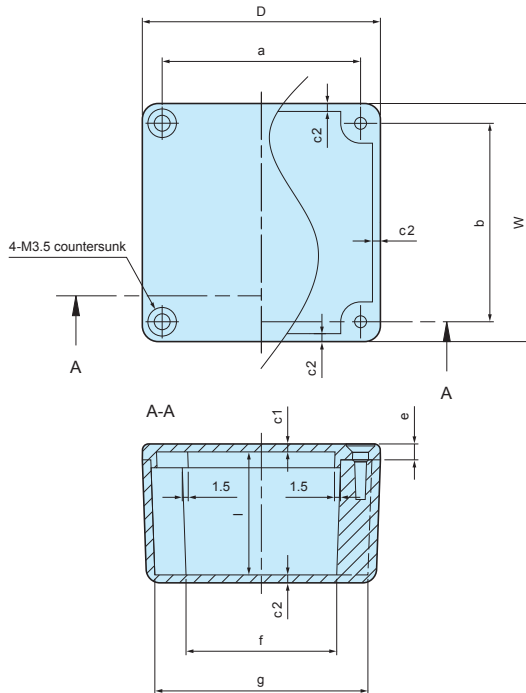
TD dimensions

■ DXF/DWG/PDF drawings available on our website.

- TD 4- 6-3
- 4- 9-3
- 5- 8-3
- 6-11-3
- 7-10-3
- 8-11-5
- 9-12-4
- 10-13-4
- 10-15-4
- 12-18-5



- TD 6- 6-4
- 8- 8-4
- 11-11-5

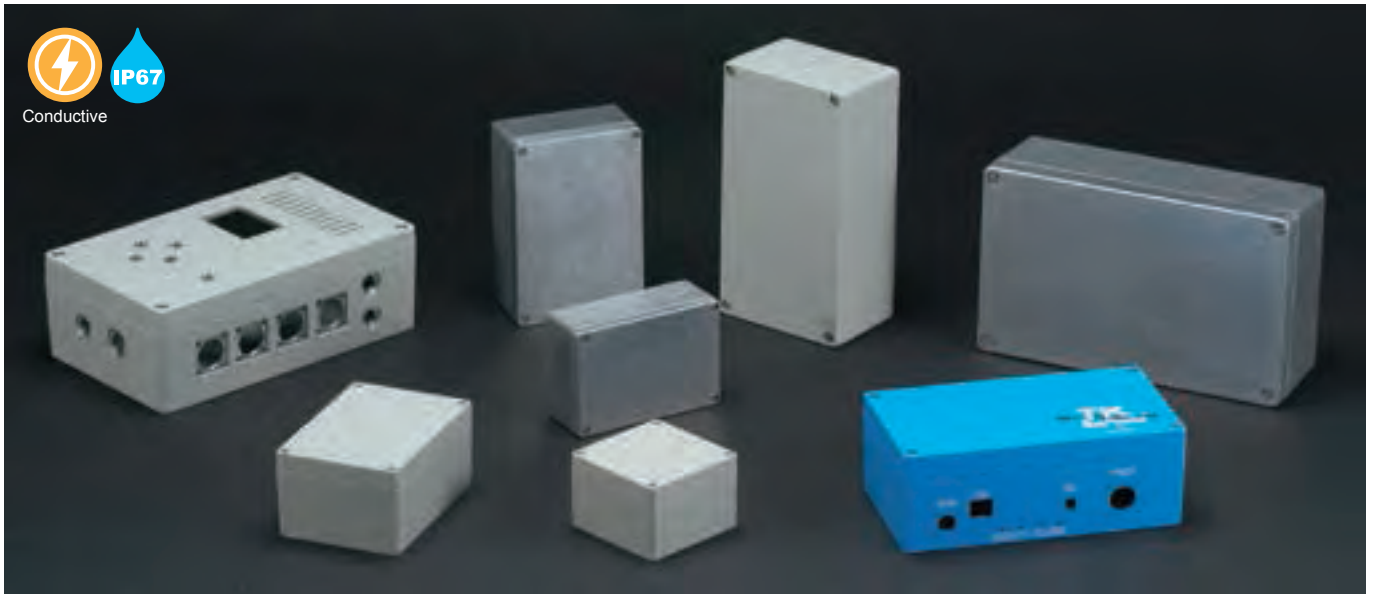


Product no. / Dimensions

| Product no. |                         | W    | H    | D     | a    | b    | c1   | c2   | e    | f     | g     | j    | k    | l    | Weight (g) |
|-------------|-------------------------|------|------|-------|------|------|------|------|------|-------|-------|------|------|------|------------|
| ● Black     | ● Unfinished Conductive |      |      |       |      |      |      |      |      |       |       |      |      |      |            |
| TD 4- 6-3B  | TD 4- 6-3N              | 40   | 27   | 60    | 50   | 30   | 2    | 2    | 4    | 39.5  | 53.5  | 20   | 33.5 | 23   | 56         |
| TD 4- 9-3B  | TD 4- 9-3N              | 40.5 | 32   | 94.5  | 84.5 | 30.5 | 2.25 | 2.25 | 4    | 74.5  | 87    | 20.5 | 33   | 27.5 | 97         |
| TD 5- 8-3B  | TD 5- 8-3N              | 55   | 30.5 | 80    | 70   | 45   | 2    | 2    | 4.5  | 58.5  | 72.5  | 33.5 | 47.5 | 26   | 95         |
| TD 6- 6-4B  | TD 6- 6-4N              | 60   | 35   | 60    | 50   | 50   | 2    | 2    | 4    | 37    | 51    | 37   | 51   | 31   | 90         |
| TD 6-11-3B  | TD 6-11-3N              | 64.5 | 31.8 | 115.5 | 105  | 54   | 2.25 | 2.25 | 4.25 | 92.5  | 106.5 | 42   | 55.5 | 27   | 164.5      |
| TD 7-10-3B  | TD 7-10-3N              | 70   | 32.5 | 100   | 90   | 60   | 2.5  | 2    | 4.5  | 78    | 92    | 48   | 62   | 28   | 135        |
| TD 8- 8-4B  | TD 8- 8-4N              | 80   | 40   | 80    | 70   | 70   | 2    | 2    | 4    | 56.5  | 70.5  | 56.5 | 70.5 | 36   | 145        |
| TD 8-11-5B  | TD 8-11-5N              | 86   | 47.5 | 113.5 | 103  | 75.5 | 2.25 | 2.25 | 4.25 | 89.5  | 103   | 62   | 75.5 | 43   | 226        |
| TD 9-12-4B  | TD 9-12-4N              | 85   | 35   | 120   | 110  | 75   | 2    | 2    | 4    | 98.5  | 112   | 63.5 | 77   | 31   | 185        |
| TD10-13-4B  | TD10-13-4N              | 95.5 | 37.8 | 130.5 | 120  | 85   | 2.25 | 2.25 | 4.25 | 107.5 | 121   | 72.5 | 86   | 33   | 263        |
| TD10-15-4B  | TD10-15-4N              | 100  | 40   | 150   | 140  | 90   | 2.5  | 2.5  | 4    | 128.5 | 142   | 78   | 92   | 35   | 320        |
| TD11-11-5B  | TD11-11-5N              | 110  | 45   | 110   | 100  | 100  | 2.5  | 2.5  | 4    | 86    | 99    | 86   | 99   | 41   | 280        |
| TD12-18-5B  | TD12-18-5N              | 120  | 50   | 180   | 170  | 110  | 2.5  | 2.5  | 4    | 156   | 171   | 97.5 | 110  | 45   | 455        |

# BDN SERIES

# IP67 DIECAST ALUMINIUM BOX



| Technical Data                            |
|---|
| Protection class: IP67                    |
| Operating temperature: -40°C ~ +105°C     |
| Recommended torque: 1.0N • m (10kgf • cm) |



- 8 different sizes available for both light gray powder coated and unfinished models.
- O-ring gasket is good for maintaining both waterproof and dustproof functionality.
- Shock resistant diecast aluminium box.
- Conductivity can be achieved by utilization of the contact between the unfinished inner surfaces (only applicable to "N" type).

### Components

| No. | Part name      | Pcs | Material                | Color / Finish                                   |
|-----|----------------|-----|-------------------------|--|
| 1   | Top cover      | 1   | Diecast aluminium ADC12 | Light gray • Silver / Powder coated • Unfinished |
| 2   | Base           | 1   | Diecast aluminium ADC12 | Light gray • Silver / Powder coated • Unfinished |
| 3   | O-ring gasket  | 1   | Silicone                | Black  |
| 4   | Screw          | 4   | Stainless steel         | Unfinished                                       |
| 5   | Earthing screw | 2   | Steel M4-5              | Copper plated                                    |

### Accessories (Optional parts)



Wall mounting bracket  
CK series  
See page 296



Mounting plate  
FTB series  
See page 273



DIN-Rail  
FDR series  
See page 203



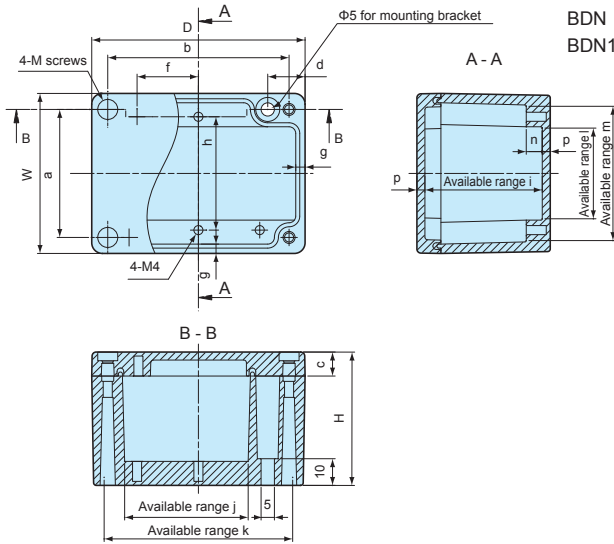
Cable gland  
See page 308 ~ 314



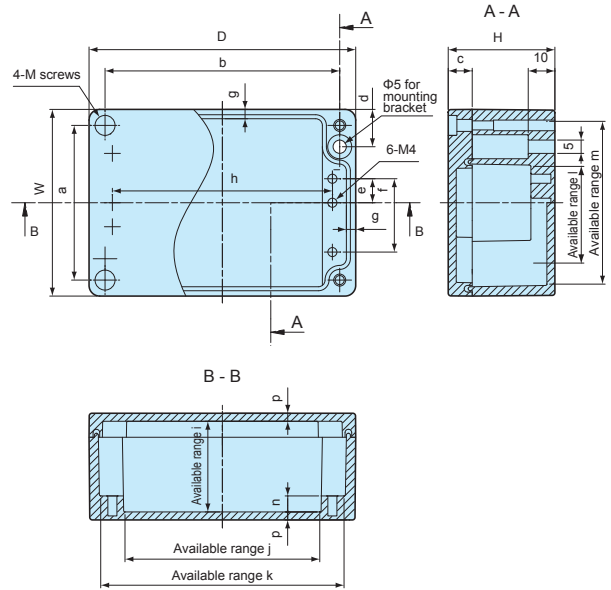
**BDN dimensions**

■ DXF/DWG/PDF drawings available on our website.

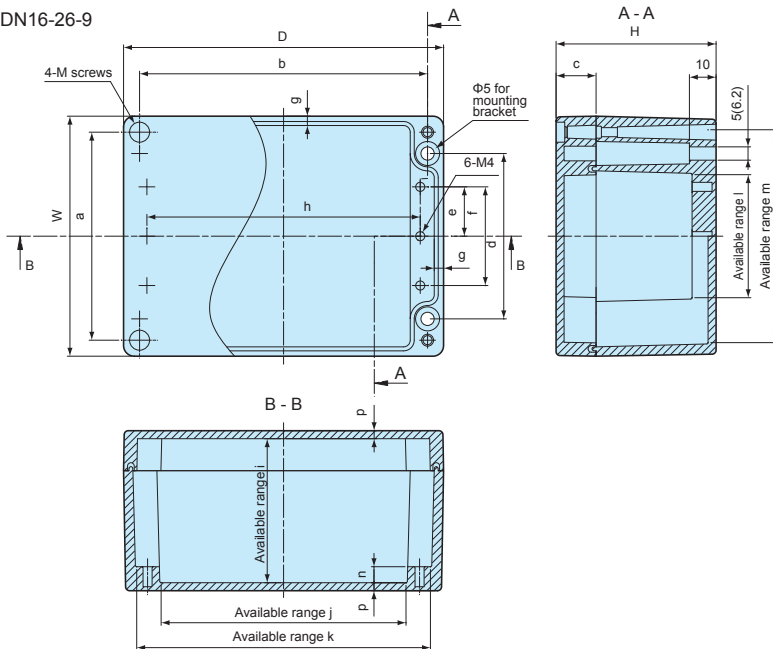
BDN 6-8-5



BDN 7-10-4  
BDN 9-13-5  
BDN11-16-6



BDN 9- 9-6  
BDN10-14-7  
BDN12-22-8  
BDN16-26-9



Dimension in ( ) = BDN12-22-8  
BDN16-26-9

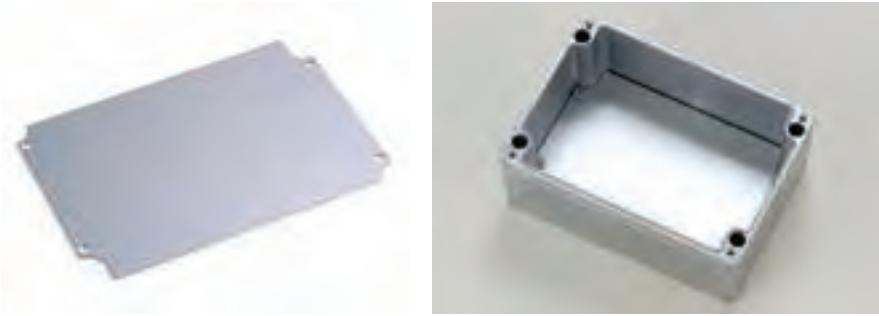
**Product no. / Dimensions**

| Product no.  |                         | Dimensions |     |    |     |     |    | Weight (g) |
|--------------|-------------------------|------------|-----|----|-----|-----|----|------------|
| ● Light gray | ● Unfinished Conductive | W          | D   | H  | a   | b   | c  |            |
| BDN 6- 8-5G  | BDN 6- 8-5N             | 60         | 80  | 50 | 48  | 68  | 9  | 240        |
| BDN 7-10-4G  | BDN 7-10-4N             | 70         | 100 | 40 | 58  | 88  | 9  | 250        |
| BDN 9- 9-6G  | BDN 9- 9-6N             | 90         | 90  | 60 | 78  | 78  | 15 | 395        |
| BDN 9-13-5G  | BDN 9-13-5N             | 90         | 130 | 50 | 78  | 118 | 9  | 420        |
| BDN10-14-7G  | BDN10-14-7N             | 100        | 140 | 70 | 88  | 128 | 15 | 635        |
| BDN11-16-6G  | BDN11-16-6N             | 110        | 160 | 60 | 98  | 148 | 15 | 640        |
| BDN12-22-8G  | BDN12-22-8N             | 120        | 220 | 80 | 105 | 205 | 20 | 1,155      |
| BDN16-26-9G  | BDN16-26-9N             | 160        | 260 | 90 | 140 | 240 | 20 | 2,145      |

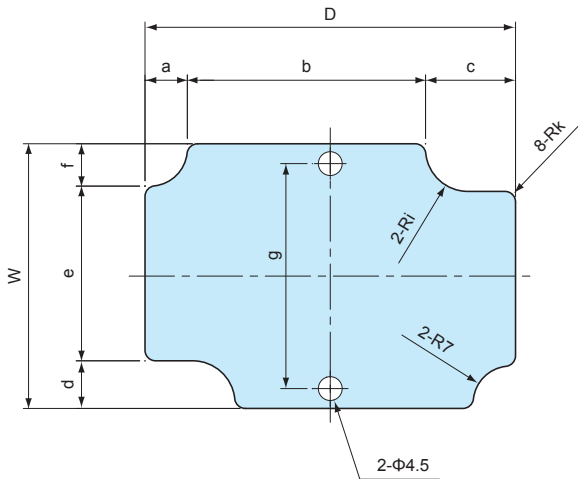
| Product no.  |                         | Dimensions |      |      |     |       |    |     |      |    |      |   |   |    |
|--------------|-------------------------|------------|------|------|-----|-------|----|-----|------|----|------|---|---|----|
| ● Light gray | ● Unfinished Conductive | d          | e    | f    | g   | h     | i  | j   | k    | ℓ  | m    | n | p | M  |
| BDN 6- 8-5G  | BDN 6- 8-5N             | 14         | -    | 23   | 3.5 | 42.5  | 44 | 45  | 71   | 33 | 51   | 6 | 3 | M4 |
| BDN 7-10-4G  | BDN 7-10-4N             | 14         | 11   | 31   | 3   | 85    | 34 | 75  | 92.5 | 38 | 62.5 | 6 | 3 | M4 |
| BDN 9- 9-6G  | BDN 9- 9-6N             | 62         | 18.5 | 37   | 3.5 | 72    | 54 | 62  | 80   | 45 | 80   | 6 | 3 | M4 |
| BDN 9-13-5G  | BDN 9-13-5N             | 14         | 19   | 47.5 | 3.5 | 112.5 | 44 | 104 | 121  | 56 | 81   | 6 | 3 | M4 |
| BDN10-14-7G  | BDN10-14-7N             | 72         | 24   | 48   | 3.5 | 121   | 64 | 111 | 130  | 56 | 90   | 6 | 3 | M4 |
| BDN11-16-6G  | BDN11-16-6N             | 14         | 29   | 67.5 | 3.5 | 142.5 | 54 | 134 | 151  | 76 | 101  | 6 | 3 | M4 |
| BDN12-22-8G  | BDN12-22-8N             | 84.6       | 28   | 56   | 3.9 | 196   | 74 | 183 | 206  | 62 | 105  | 6 | 3 | M5 |
| BDN16-26-9G  | BDN16-26-9N             | 110        | 36   | 72   | 4.8 | 230   | 82 | 216 | 247  | 87 | 146  | 9 | 4 | M6 |

FTB SERIES

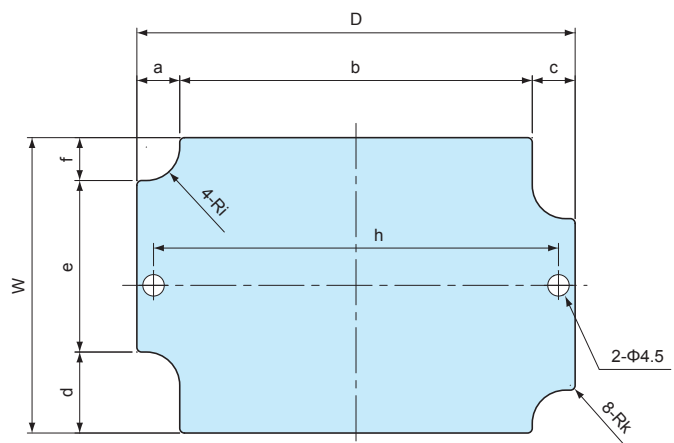
MOUNTING PLATE for BDN



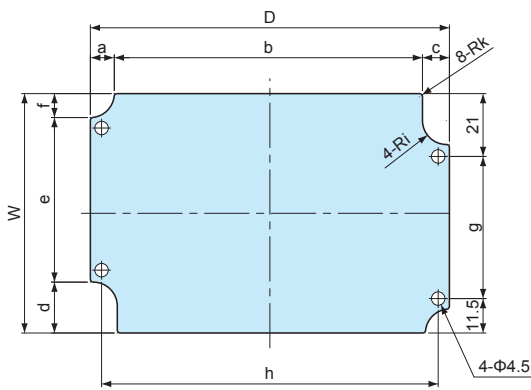
FTB 5-7



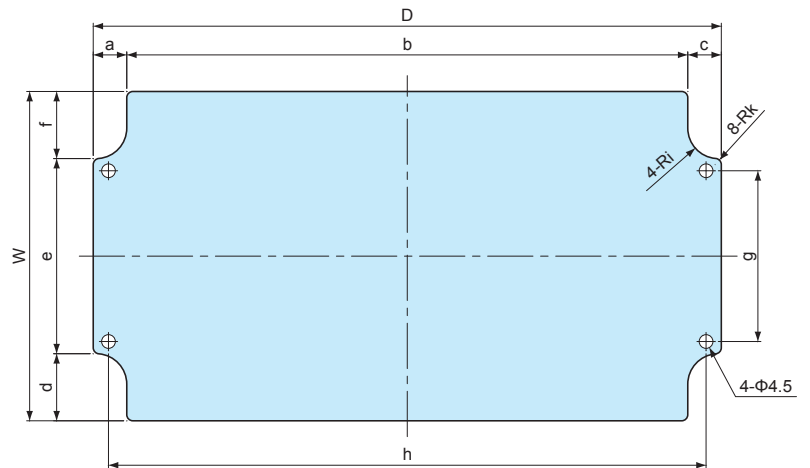
FTB 6-9



FTB 8-12  
FTB10-15



FTB 8- 8 FTB10-20  
FTB 9-13 FTB14-24



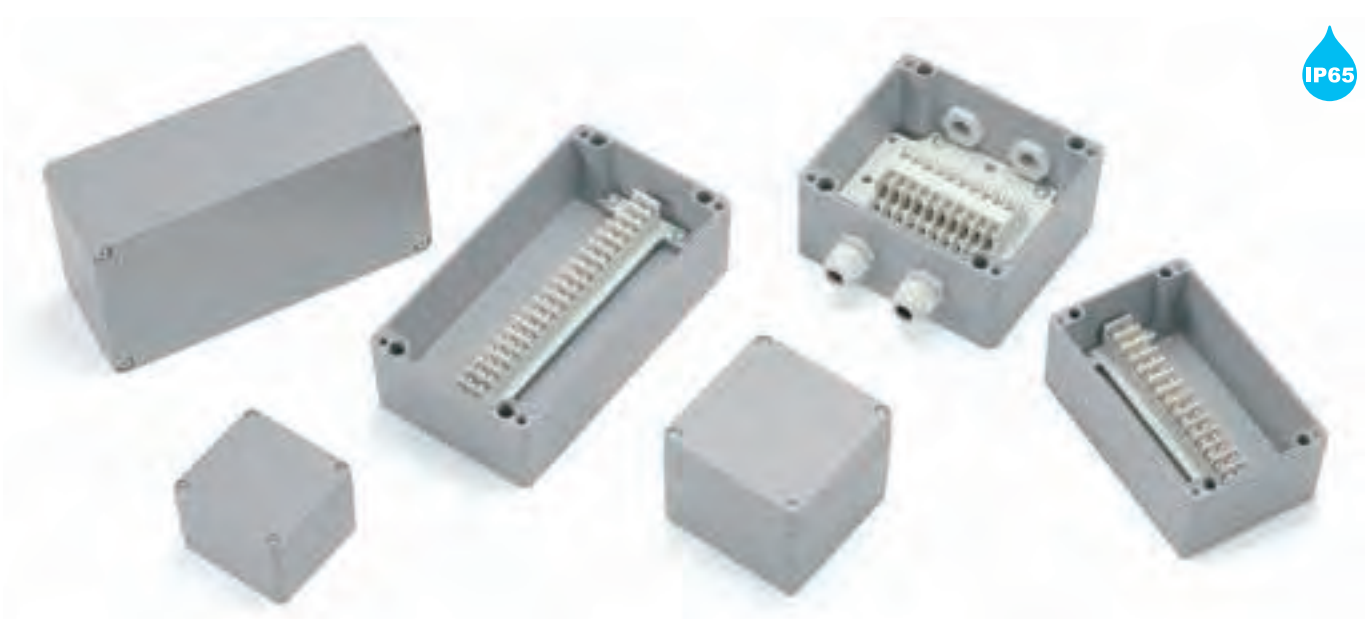
| Material               | Color / Finish    |
|------------------------|-------------------|
| Aluminium A1050P t=1.5 | Silver / Anodized |

Product no. / Dimensions

| Product no. | Suitable box | W   | D   | a  | b   | c  | d  | e  | f  | g    | h     | i   | k |
|-------------|--------------|-----|-----|----|-----|----|----|----|----|------|-------|-----|---|
| FTB 5- 7    | BDN 6- 8-5   | 50  | 70  | 8  | 45  | 17 | 9  | 33 | 8  | 42.5 | -     | 8   | 2 |
| FTB 6- 9    | BDN 7-10-4   | 62  | 92  | 9  | 74  | 9  | 17 | 36 | 9  | -    | 85    | 7   | 1 |
| FTB 8- 8    | BDN 9- 9-6   | 80  | 80  | 9  | 62  | 9  | 17 | 46 | 17 | 37   | 72.5  | 8   | 2 |
| FTB 8-12    | BDN 9-13-5   | 80  | 120 | 8  | 103 | 9  | 17 | 55 | 8  | 47.5 | 112.5 | 8   | 1 |
| FTB 9-13    | BDN10-14-7   | 89  | 129 | 9  | 111 | 9  | 17 | 55 | 17 | 48   | 121   | 8.5 | 2 |
| FTB10-15    | BDN11-16-6   | 100 | 150 | 8  | 133 | 9  | 17 | 75 | 8  | 67.5 | 142.5 | 8   | 1 |
| FTB10-20    | BDN12-22-8   | 108 | 206 | 11 | 184 | 11 | 22 | 64 | 22 | 56   | 196   | 10  | 2 |
| FTB14-24    | BDN16-26-9   | 144 | 244 | 15 | 214 | 15 | 30 | 84 | 30 | 72   | 230   | 12  | 3 |

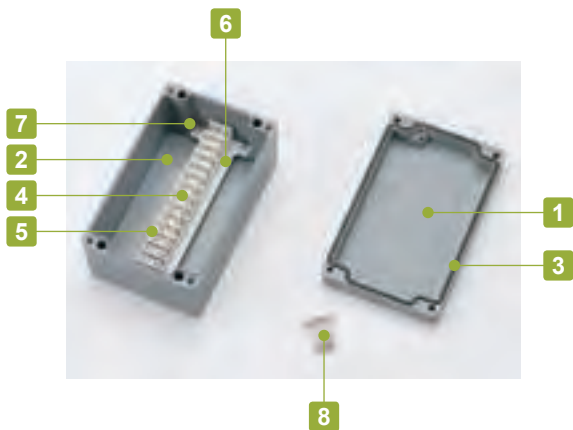
# TMA SERIES

# IP65 DIECAST ALUMINIUM JUNCTION BOX



- Impact resistant IP65 enclosure built from diecast aluminium.
- Diecast aluminium has superior heat dissipation and resistance compared to plastic.
- Selectable in 6 different sizes with 6 to 30 poles available.

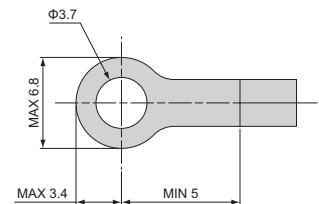
| Technical Data                             |
|--|
| Protection class: IP65                     |
| Operating temperature: -40°C ~ +80°C       |
| Recommended torque: 1N • m<br>(10kgf • cm) |



### Terminal Block Specifications

|                            |                    |
|----------------------------|--------------------|
| Rated voltage              | 400V               |
| Rated current              | 17.5A              |
| Applicable wire            | 1.5mm <sup>2</sup> |
| Standard tightening torque | 0.8N • m           |

Applicable crimp terminal  
R1.25-3.5



### Components

| No. | Part name                     | Pcs   | Material          | Color / Finish       |
|-----|-------------------------------|-------|-------------------|----------------------|
| 1   | Cover                         | 1     | Diecast aluminium | Gray / Powder coated |
| 2   | Base                          | 1     | Diecast aluminium | Gray / Powder coated |
| 3   | Gasket                        | 1     | Polyurethane      | Black                |
| 4   | Conductive plate              | 6~30  | Brass             | Nickel plated        |
| 5   | Terminal screw                | 12~60 | Steel M3.5        | Nickel plated        |
| 6   | Terminal block                | 1     | PBT UL94V-0       | Light gray           |
| 7   | Terminal block mounting screw | 2~4   | Steel M4, M6      | Trivalent chromate   |
| 8   | Cover screw                   | 4     | Stainless steel   | Unfinished           |

### Accessories (Optional parts)



Shorting bar  
SBR series  
See page 307



Cable gland  
See page 308 ~ 314

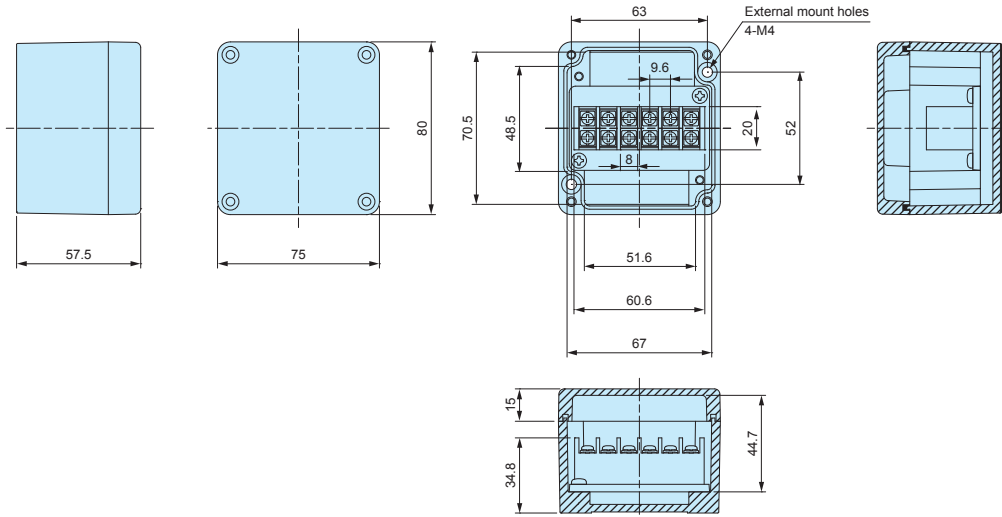
**Product no. / Dimensions**

| Product no. | L   | W   | H    | Number of poles | Weight (g) |
|-------------|-----|-----|------|-----------------|------------|
| TMA- 6P     | 80  | 75  | 57.5 | 6P              | 341        |
| TMA- 9P     | 100 | 100 | 80   | 9P              | 642        |
| TMA-15P     | 100 | 160 | 80   | 15P             | 867        |
| TMA-20P-AS  | 132 | 150 | 90   | 10P × 2 rows    | 1,394      |
| TMA-20P     | 120 | 220 | 80   | 20P             | 1,426      |
| TMA-30P-AS  | 120 | 220 | 80   | 15P × 2 rows    | 1,529      |

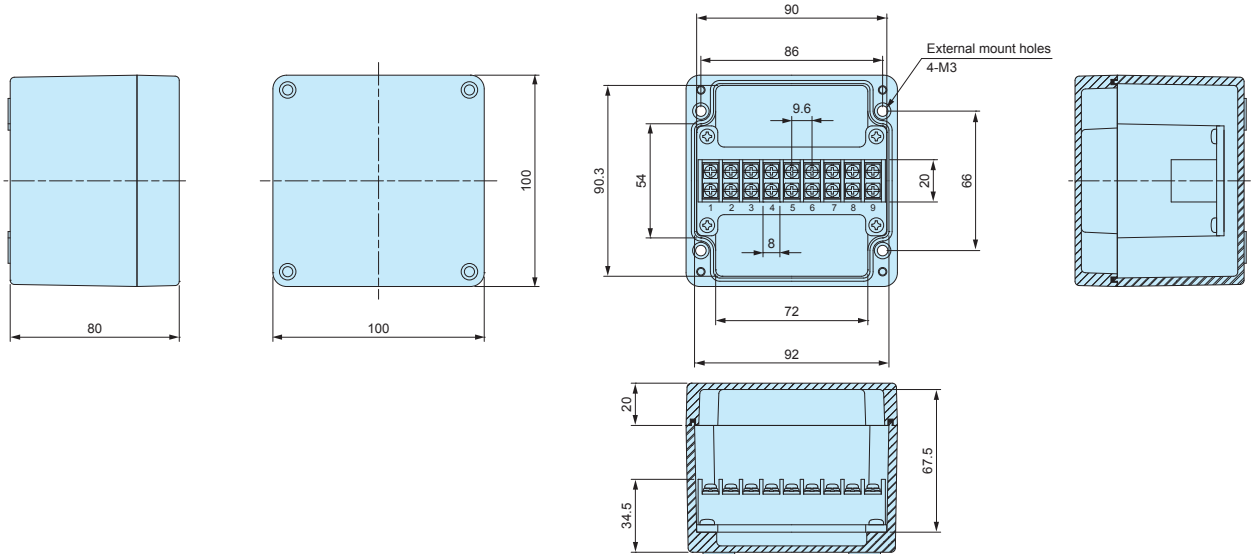
**TMA dimensions**

■ DXF/DWG/PDF drawings available on our website.

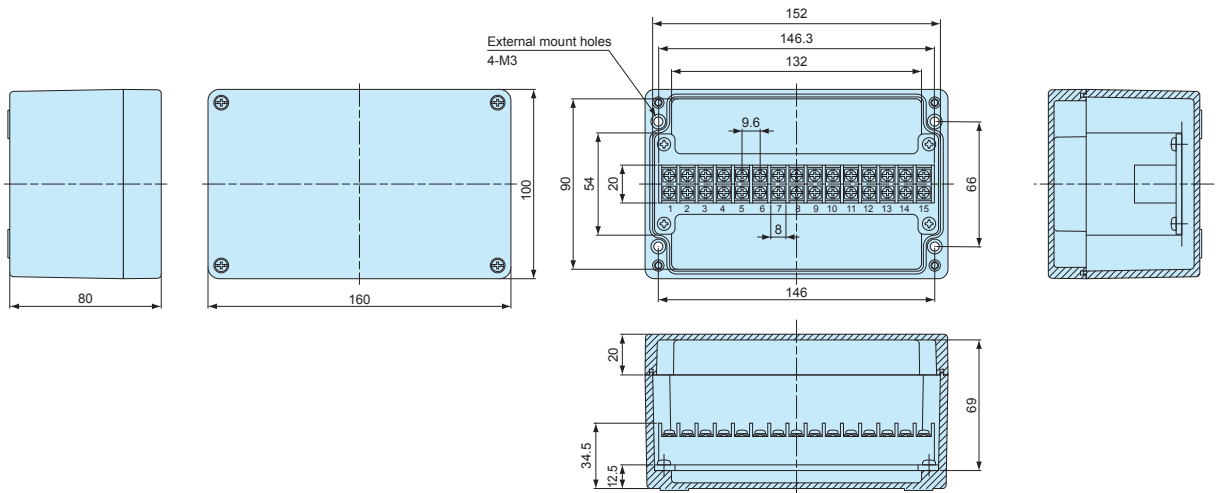
TMA-6P



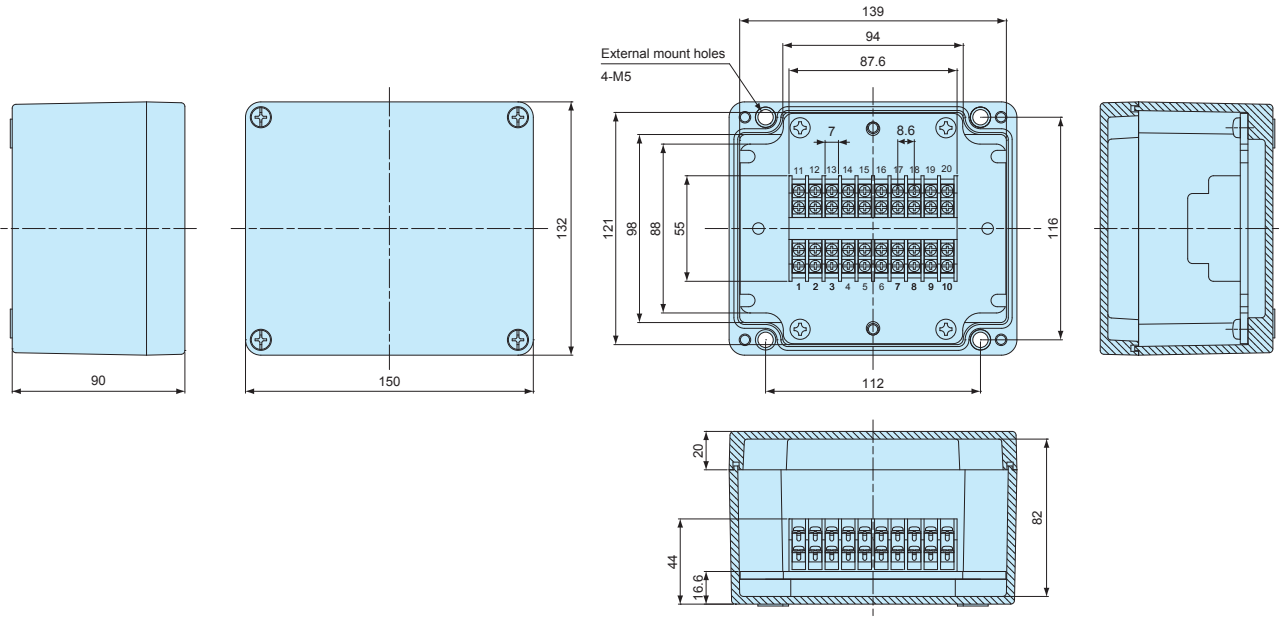
TMA-9P



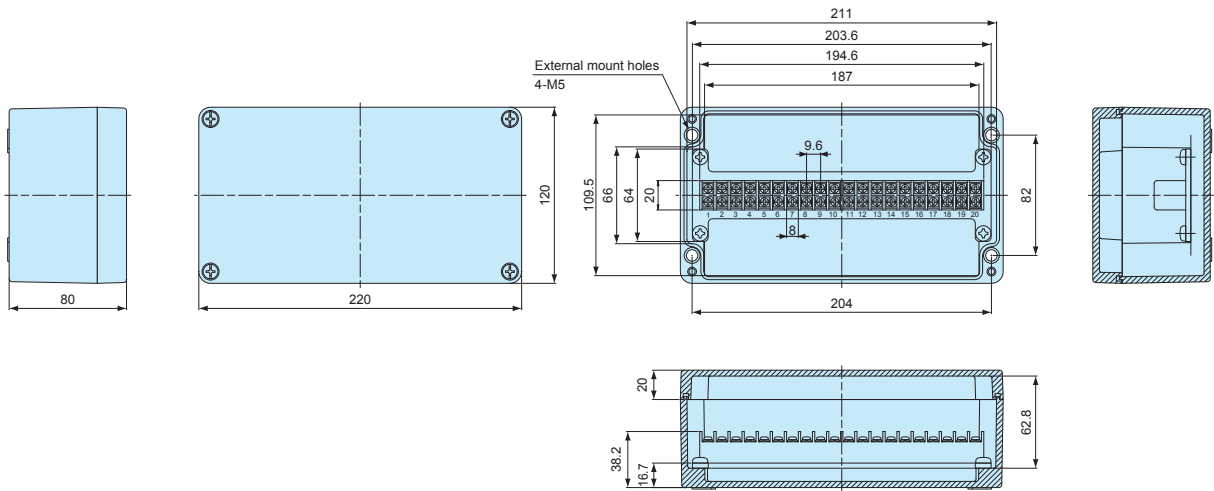
TMA-15P



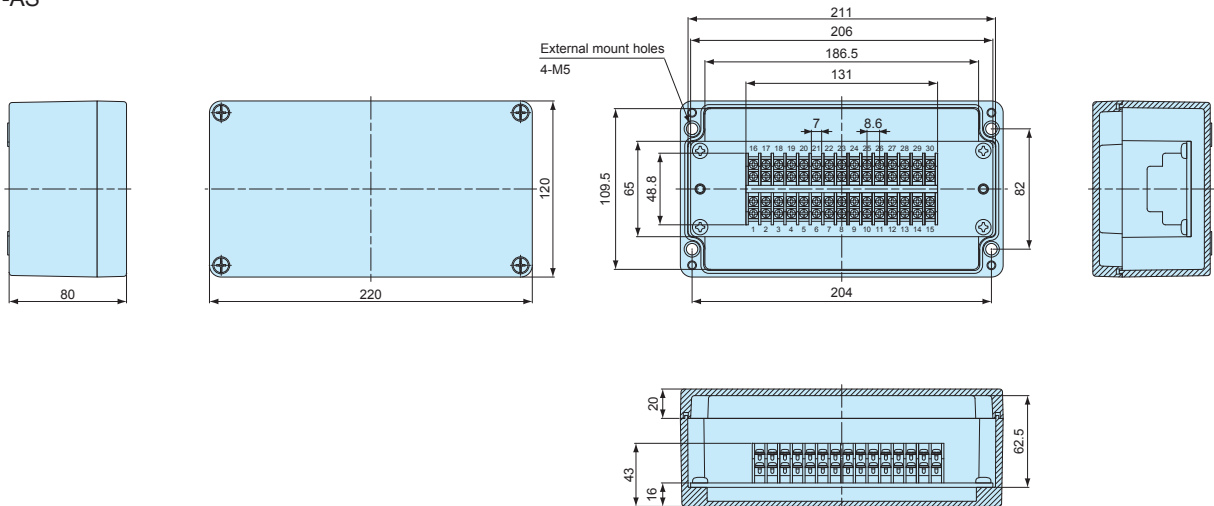
TMA-20P-AS



TMA-20P



TMA-30P-AS



# IP65 LATCH-HINGED PLASTIC BOX



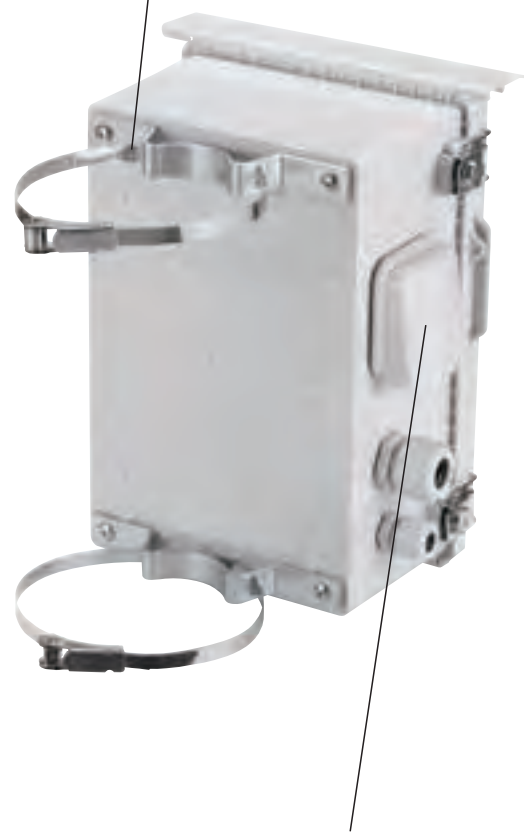
Stainless steel and plastic mounting brackets are available.  
See page 298



BCAR • BCPR series comes with an attachable BRF series outdoor roof.  
See page 283 ~ 284, 293 ~ 294



Pole mounting bracket for pole installation  
See page 299



Dust protection cap (for lock/key type)  
See page 294



Cable gland  
For waterproofing enclosure openings for cables and wires  
See page 308 ~ 314



Mounting plate  
3 types of mounting plates are available (plastic / steel / wood)  
See page 295 ~ 297



Ventilation cover  
For heat dissipation and prevention of condensation build-up  
See page 304



# APPLICATION EXAMPLE

Universal plastic enclosure series suitable for a wide range of applications such as FA/control, electrical switchboard, network communication and so on.

**DATA COMMUNICATION DEVICE**



**POWER SWITCHBOARD BOX**



**Wi-Fi ACCESS POINT**



**SOLAR POWER JUNCTION BOX**



**MONITORING CAMERA**



**VALVE CONTROLLER**



**RADIATION MONITOR**



**SMART METER**



**ANEMOMETER**



**WATER GAUGE**



**AGRICULTURE SOLAR SENSOR**

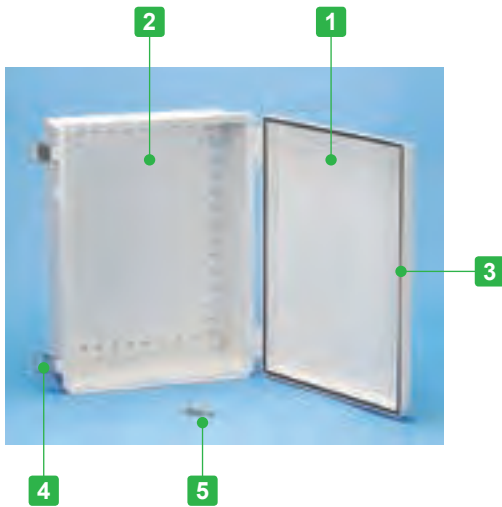


**BCAP SERIES**

**IP65 LATCH-HINGED ABS PLASTIC BOX**

**BCPC SERIES**

**IP65 LATCH-HINGED POLYCARBONATE PLASTIC BOX**



| Technical Data         |               |
|------------------------|---------------|
| Protection class:      | IP65          |
| Operating temperature: |               |
| BCAP                   | -10°C ~ +60°C |
| BCPC                   | -20°C ~ +75°C |

■ UL mark is only applicable for BCPC series

- 50 different sizes available.
- BCAP series is made of white gray ABS with 2 different cover types (white gray ABS and transparent polycarbonate) available.
- BCPC series is made of light gray UL94V-0 polycarbonate, which has good heat resistance properties.
- Applicable for various uses in fields such as FA, network communication, power switchbox controls and so on.

**Components: BCAP series**

■ Box UL class = UL94HB

| No. | Part name | Pcs   | Material            | Color / Finish           |
|-----|-----------|-------|---------------------|--------------------------|
| 1   | Top cover | 1     | ABS • Polycarbonate | White gray • Transparent |
| 2   | Base      | 1     | ABS                 | White gray               |
| 3   | Gasket    | 1     | Polyurethane        | Black                    |
| 4   | Latch     | 1 ~ 3 | Stainless steel     | Unfinished               |
| 5   | Screw     | 2 ~ 8 | Steel               | Trivalent chromate       |

■ Stainless steel mounting brackets are included together with the following models: 506018, 506025, 507018, 507025, 608018, and 608028.

**Components: BCPC series**

■ Box UL class = UL94V-0

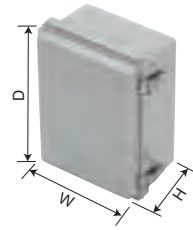
| No. | Part name | Pcs   | Material                         | Color / Finish     |
|-----|-----------|-------|----------------------------------|--------------------|
| 1   | Top cover | 1     | Polycarbonate                    | Light gray         |
| 2   | Base      | 1     | Glass fiber filled polycarbonate | Light gray         |
| 3   | Gasket    | 1     | Polyurethane                     | Black              |
| 4   | Latch     | 1 ~ 3 | Stainless steel                  | Unfinished         |
| 5   | Screw     | 2 ~ 8 | Steel                            | Trivalent chromate |

■ Stainless steel mounting brackets are included together with the following models: 506018, 506025, 507018, 507025, 608018, and 608028.

Color Type

| Color code | Cover color / Material      | Base color / Material                         |
|------------|-----------------------------|---|
| BCAP[G]    | White gray / ABS            | White gray / ABS                              |
| BCAP[T]    | Transparent / Polycarbonate | White gray / ABS                              |
| BCPC[S]    | Light gray / Polycarbonate  | Light gray / Glass fiber filled polycarbonate |

■ Please suffix color code at the end of the product number.



BCAP Product no. / Dimensions

| Product no. | W   | D   | H     | Weight (g) |       |
|-------------|-----|-----|-------|------------|-------|
|             |     |     |       | G          | T     |
| BCAP091207□ | 90  | 120 | 70    | 196        | 204   |
| BCAP091208□ | 90  | 120 | 85    | 212        | 221   |
| BCAP101507□ | 100 | 150 | 70    | 272        | 281   |
| BCAP101508□ | 100 | 150 | 85    | 291        | 300   |
| BCAP112107□ | 110 | 210 | 75    | 359        | 378   |
| BCAP112110□ | 110 | 210 | 100   | 422        | 420   |
| BCAP112607□ | 110 | 260 | 75    | 431        | 446   |
| BCAP112610□ | 110 | 260 | 100.5 | 484        | 500   |
| BCAP131508□ | 135 | 155 | 85    | 356        | 357   |
| BCAP131808□ | 135 | 185 | 85.5  | 381        | 410   |
| BCAP131810□ | 135 | 185 | 100.5 | 396        | 402   |
| BCAP151509□ | 150 | 150 | 90    | 343        | 353   |
| BCAP151512□ | 150 | 150 | 120.5 | 411        | 425   |
| BCAP162110□ | 160 | 210 | 100   | 468        | 486   |
| BCAP162113□ | 160 | 210 | 130   | 517        | 537   |
| BCAP162610□ | 160 | 260 | 100   | 577        | 601   |
| BCAP162613□ | 160 | 260 | 130   | 673        | 701   |
| BCAP172211□ | 170 | 220 | 110.5 | 530        | 556   |
| BCAP172711□ | 170 | 270 | 110.5 | 670        | 680   |
| BCAP192810□ | 190 | 280 | 100.5 | 722        | 746   |
| BCAP192814□ | 190 | 280 | 141   | 877        | 901   |
| BCAP203013□ | 200 | 300 | 131.5 | 920        | 951   |
| BCAP203015□ | 200 | 300 | 151.5 | 958        | 984   |
| BCAP203018□ | 200 | 300 | 180.5 | 1,066      | 1,084 |
| BCAP212110□ | 210 | 210 | 100   | 630        | 656   |
| BCAP212113□ | 210 | 210 | 130   | 704        | 726   |
| BCAP253515□ | 250 | 350 | 151   | 1,261      | 1,332 |
| BCAP253518□ | 250 | 350 | 181.5 | 1,397      | 1,464 |
| BCAP282813□ | 280 | 280 | 130.5 | 1,167      | 1,200 |
| BCAP283813□ | 280 | 380 | 130   | 1,455      | 1,512 |
| BCAP303015□ | 300 | 300 | 151   | 1,339      | 1,418 |
| BCAP303018□ | 300 | 300 | 181   | 1,495      | 1,576 |
| BCAP304012□ | 300 | 400 | 121   | 1,508      | 1,575 |
| BCAP304015□ | 300 | 400 | 150   | 1,563      | 1,675 |
| BCAP304018□ | 300 | 400 | 181   | 1,719      | 1,853 |
| BCAP353515□ | 350 | 350 | 150   | 1,693      | 1,764 |
| BCAP353518□ | 350 | 350 | 181   | 1,845      | 1,906 |
| BCAP354512□ | 350 | 450 | 120   | 2,068      | 2,167 |
| BCAP354516□ | 350 | 450 | 160   | 2,382      | 2,514 |
| BCAP354520□ | 350 | 450 | 201   | 2,646      | 2,794 |
| BCAP405016□ | 400 | 500 | 160   | 2,660      | 2,839 |
| BCAP405020□ | 400 | 500 | 201   | 3,119      | 3,232 |
| BCAP406018□ | 400 | 600 | 181   | 3,542      | 3,652 |
| BCAP406023□ | 400 | 600 | 231   | 3,870      | 4,044 |
| BCAP506018□ | 530 | 630 | 185   | 5,438      | 5,611 |
| BCAP506025□ | 530 | 630 | 255   | 6,078      | 6,273 |
| BCAP507018G | 530 | 730 | 188   | 6,241      | -     |
| BCAP507025G | 530 | 730 | 255   | 6,911      | -     |
| BCAP608018G | 630 | 830 | 188   | 8,131      | -     |
| BCAP608028G | 630 | 830 | 288   | 9,570      | -     |

■ BCAP507018, 507025, 608018, 608028 models are only available as G color type.

BCPC Product no. / Dimensions

| Product no.     | W   | D   | H     | Weight (g) |
|-----------------|-----|-----|-------|------------|
| BCPC091207S     | 90  | 120 | 70    | 226        |
| BCPC091208S     | 90  | 120 | 85    | 247        |
| BCPC101507S     | 100 | 150 | 70    | 312        |
| BCPC101508S     | 100 | 150 | 85    | 336        |
| BCPC112107S     | 110 | 210 | 75    | 420        |
| BCPC112110S     | 110 | 210 | 100   | 473        |
| BCPC112607S     | 110 | 260 | 75    | 493        |
| BCPC112610S     | 110 | 260 | 100.5 | 569        |
| BCPC131508S     | 135 | 155 | 85    | 406        |
| BCPC131808S     | 135 | 185 | 85.5  | 452        |
| BCPC131810S     | 135 | 185 | 100.5 | 448        |
| BCPC151509S     | 150 | 150 | 90    | 395        |
| BCPC151512S     | 150 | 150 | 120.5 | 482        |
| BCPC162110S     | 160 | 210 | 100   | 556        |
| BCPC162113S     | 160 | 210 | 130   | 611        |
| BCPC162610S     | 160 | 260 | 100   | 671        |
| BCPC162613S     | 160 | 260 | 130   | 779        |
| BCPC172211S     | 170 | 220 | 110.5 | 649        |
| BCPC172711S     | 170 | 270 | 110.5 | 775        |
| BCPC192810S     | 190 | 280 | 100.5 | 858        |
| BCPC192814S     | 190 | 280 | 141   | 1,028      |
| BCPC203013S     | 200 | 300 | 131.5 | 1,053      |
| BCPC203015S     | 200 | 300 | 151.5 | 1,127      |
| BCPC203018S     | 200 | 300 | 180.5 | 1,258      |
| BCPC212110S     | 210 | 210 | 100   | 742        |
| BCPC212113S     | 210 | 210 | 130   | 827        |
| BCPC253515S     | 250 | 350 | 151   | 1,491      |
| BCPC253518S     | 250 | 350 | 181.5 | 1,676      |
| BCPC282813S     | 280 | 280 | 130.5 | 1,371      |
| BCPC283813S     | 280 | 380 | 130   | 1,695      |
| BCPC303015S     | 300 | 300 | 151   | 1,610      |
| BCPC303018S     | 300 | 300 | 181   | 1,760      |
| BCPC304012S     | 300 | 400 | 121   | 1,846      |
| BCPC304015S     | 300 | 400 | 150   | 1,862      |
| BCPC304018S     | 300 | 400 | 181   | 2,030      |
| BCPC353515S     | 350 | 350 | 150   | 2,045      |
| BCPC353518S     | 350 | 350 | 181   | 2,142      |
| BCPC354512S     | 350 | 450 | 120   | 2,397      |
| BCPC354516S     | 350 | 450 | 160   | 2,826      |
| BCPC354520S     | 350 | 450 | 201   | 3,151      |
| BCPC405016S     | 400 | 500 | 160   | 3,188      |
| BCPC405020S     | 400 | 500 | 201   | 3,811      |
| BCPC406018S     | 400 | 600 | 181   | 4,153      |
| BCPC406023S     | 400 | 600 | 231   | 4,637      |
| BCPC506018S     | 530 | 630 | 185   | 6,305      |
| BCPC506025S     | 530 | 630 | 255   | 7,213      |
| NEW BCPC507018S | 530 | 730 | 188   | 7,410      |
| NEW BCPC507025S | 530 | 730 | 255   | 8,200      |
| NEW BCPC608018S | 630 | 830 | 188   | 9,820      |
| NEW BCPC608028S | 630 | 830 | 288   | 11,550     |

■ Refer to page 285 ~ 292 for detailed dimensions.

Accessories (Optional parts)



Mounting plate  
BMP series  
See page 295 ~ 297



Mounting bracket  
CK • BFL series  
See page 298



Pole mounting bracket  
SSK series  
See page 299



Cable gland  
See page 308 ~ 314



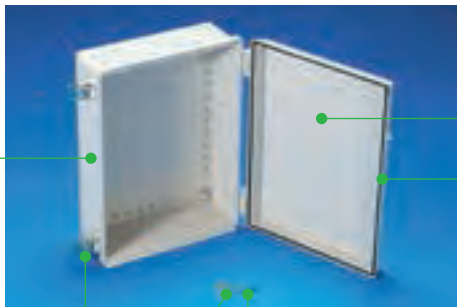
Ventilation part  
See page 301 ~ 304

**BCAK** SERIES

**IP65 ABS PLASTIC BOX with LOCK**

**BCPK** SERIES

**IP65 POLYCARBONATE PLASTIC BOX with LOCK**



■ UL mark is only applicable for BCPK series

| Technical Data         |               |
|------------------------|---------------|
| Protection class:      | IP65          |
| Operating temperature: |               |
| BCAK                   | -10°C ~ +60°C |
| BCPK                   | -20°C ~ +75°C |

※ Lock type varies according to box size.



- Lockable enclosure best used for tamper prevention in FA, control box, and network communication fields.
- BCPK polycarbonate box is resistant against heat and flames.
- Transparent type is not available for BCAK507018, 507025, 608018, and 608028 models.

Box size  
 BCAK091207~172711  
 BCAK212110~212113  
 BCPK091207~172711  
 BCPK212110~212113

Box size  
 BCAK192810~203018  
 BCAK253515~608028  
 BCPK192810~203018  
 BCPK253515~608028

**Components: BCAK series**

■ Box UL class = UL94HB

| No. | Part name | Pcs | Material             | Color / Finish                |
|-----|-----------|-----|----------------------|-------------------------------|
| 1   | Top cover | 1   | ABS • Polycarbonate  | White gray • Transparent      |
| 2   | Base      | 1   | ABS                  | White gray                    |
| 3   | Gasket    | 1   | Polyurethane         | Black                         |
| 4   | Latch     | 1~3 | Stainless steel      | Unfinished                    |
| 5   | Screw     | 2~8 | Steel                | Trivalent chromate            |
| 6   | Key       | 2   | Diecast zinc • Brass | Chrome plated • Nickel plated |

■ Stainless steel mounting brackets are included together with the following models: 506018, 506025, 507018, 507025, 608018, and 608028.

**Components: BCPK series**

■ Box UL class = UL94V-0

| No. | Part name | Pcs | Material                         | Color / Finish                |
|-----|-----------|-----|----------------------------------|-------------------------------|
| 1   | Top cover | 1   | Polycarbonate                    | Light gray                    |
| 2   | Base      | 1   | Glass fiber filled polycarbonate | Light gray                    |
| 3   | Gasket    | 1   | Polyurethane                     | Black                         |
| 4   | Latch     | 1~3 | Stainless steel                  | Unfinished                    |
| 5   | Screw     | 2~6 | Steel                            | Trivalent chromate            |
| 6   | Key       | 2   | Diecast zinc • Brass             | Chrome plated • Nickel plated |

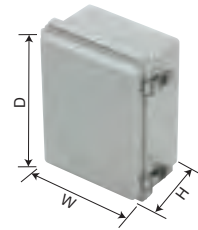
■ Stainless steel mounting brackets are included together with the following models: 506018, 506025, 507018, 507025, 608018, and 608028.



Color Type

| Color code | Cover color / Material      | Base color / Material                         |
|------------|-----------------------------|---|
| BACK[G]    | White gray / ABS            | White gray / ABS                              |
| BACK[T]    | Transparent / Polycarbonate | White gray / ABS                              |
| BCPK[S]    | Light gray / Polycarbonate  | Light gray / Glass fiber filled polycarbonate |

■ Please suffix color code at the end of the product number.



BCAK Product no. / Dimensions

| Product no. | W   | D   | H     | Weight (g) |       |
|-------------|-----|-----|-------|------------|-------|
|             |     |     |       | G          | T     |
| BCAK091207□ | 90  | 120 | 70    | 210        | 220   |
| BCAK091208□ | 90  | 120 | 85    | 227        | 238   |
| BCAK101507□ | 100 | 150 | 70    | 289        | 304   |
| BCAK101508□ | 100 | 150 | 85    | 309        | 326   |
| BCAK112107□ | 110 | 210 | 75    | 384        | 398   |
| BCAK112110□ | 110 | 210 | 100   | 433        | 456   |
| BCAK112607□ | 110 | 260 | 75    | 448        | 476   |
| BCAK112610□ | 110 | 260 | 100.5 | 513        | 531   |
| BCAK131508□ | 135 | 155 | 85    | 380        | 381   |
| BCAK131808□ | 135 | 185 | 85.5  | 410        | 427   |
| BCAK131810□ | 135 | 185 | 100.5 | 412        | 422   |
| BCAK151509□ | 150 | 150 | 90    | 367        | 381   |
| BCAK151512□ | 150 | 150 | 120.5 | 433        | 448   |
| BCAK162110□ | 160 | 210 | 100   | 488        | 509   |
| BCAK162113□ | 160 | 210 | 130   | 548        | 564   |
| BCAK162610□ | 160 | 260 | 100   | 617        | 640   |
| BCAK162613□ | 160 | 260 | 130   | 701        | 727   |
| BCAK172211□ | 170 | 220 | 110.5 | 567        | 570   |
| BCAK172711□ | 170 | 270 | 110.5 | 674        | 752   |
| BCAK192810□ | 190 | 280 | 100.5 | 757        | 775   |
| BCAK192814□ | 190 | 280 | 141   | 913        | 937   |
| BCAK203013□ | 200 | 300 | 131.5 | 933        | 985   |
| BCAK203015□ | 200 | 300 | 151.5 | 983        | 1,018 |
| BCAK203018□ | 200 | 300 | 180.5 | 1,095      | 1,141 |
| BCAK212110□ | 210 | 210 | 100   | 668        | 689   |
| BCAK212113□ | 210 | 210 | 130   | 725        | 754   |
| BCAK253515□ | 250 | 350 | 151   | 1,360      | 1,403 |
| BCAK253518□ | 250 | 350 | 181.5 | 1,441      | 1,479 |
| BCAK282813□ | 280 | 280 | 130.5 | 1,227      | 1,283 |
| BCAK283813□ | 280 | 380 | 130   | 1,493      | 1,544 |
| BCAK303015□ | 300 | 300 | 151   | 1,421      | 1,455 |
| BCAK303018□ | 300 | 300 | 181   | 1,530      | 1,558 |
| BCAK304012□ | 300 | 400 | 121   | 1,565      | 1,614 |
| BCAK304015□ | 300 | 400 | 150   | 1,578      | 1,735 |
| BCAK304018□ | 300 | 400 | 181   | 1,833      | 1,818 |
| BCAK353515□ | 350 | 350 | 150   | 1,752      | 1,845 |
| BCAK353518□ | 350 | 350 | 181   | 1,838      | 1,900 |
| BCAK354512□ | 350 | 450 | 120   | 2,107      | 2,190 |
| BCAK354516□ | 350 | 450 | 160   | 2,438      | 2,535 |
| BCAK354520□ | 350 | 450 | 201   | 2,682      | 2,786 |
| BCAK405016□ | 400 | 500 | 160   | 2,705      | 2,811 |
| BCAK405020□ | 400 | 500 | 201   | 3,168      | 3,296 |
| BCAK406018□ | 400 | 600 | 181   | 3,613      | 3,832 |
| BCAK406023□ | 400 | 600 | 231   | 3,886      | 4,121 |
| BCAK506018□ | 530 | 630 | 185   | 5,413      | 5,603 |
| BCAK506025□ | 530 | 630 | 255   | 6,148      | 6,379 |
| BCAK507018G | 530 | 730 | 188   | 6,382      | —     |
| BCAK507025G | 530 | 730 | 255   | 6,883      | —     |
| BCAK608018G | 630 | 830 | 188   | 8,154      | —     |
| BCAK608028G | 630 | 830 | 288   | 9,750      | —     |






■ BCAK507018, 507025, 608018, 608028 models are only available as G color type.

BCPK Product no. / Dimensions

| Product no.            | W   | D   | H     | Weight (g) |
|------------------------|-----|-----|-------|------------|
| BCPK091207S            | 90  | 120 | 70    | 242        |
| BCPK091208S            | 90  | 120 | 85    | 264        |
| BCPK101507S            | 100 | 150 | 70    | 339        |
| BCPK101508S            | 100 | 150 | 85    | 360        |
| BCPK112107S            | 110 | 210 | 75    | 437        |
| BCPK112110S            | 110 | 210 | 100   | 501        |
| BCPK112607S            | 110 | 260 | 75    | 520        |
| BCPK112610S            | 110 | 260 | 100.5 | 585        |
| BCPK131508S            | 135 | 155 | 85    | 430        |
| BCPK131808S            | 135 | 185 | 85.5  | 474        |
| BCPK131810S            | 135 | 185 | 100.5 | 471        |
| BCPK151509S            | 150 | 150 | 90    | 419        |
| BCPK151512S            | 150 | 150 | 120.5 | 507        |
| BCPK162110S            | 160 | 210 | 100   | 563        |
| BCPK162113S            | 160 | 210 | 130   | 630        |
| BCPK162610S            | 160 | 260 | 100   | 728        |
| BCPK162613S            | 160 | 260 | 130   | 805        |
| BCPK172211S            | 170 | 220 | 110.5 | 664        |
| BCPK172711S            | 170 | 270 | 110.5 | 771        |
| BCPK192810S            | 190 | 280 | 100.5 | 875        |
| BCPK192814S            | 190 | 280 | 141   | 1,065      |
| BCPK203013S            | 200 | 300 | 131.5 | 1,090      |
| BCPK203015S            | 200 | 300 | 151.5 | 1,182      |
| BCPK203018S            | 200 | 300 | 180.5 | 1,295      |
| BCPK212110S            | 210 | 210 | 100   | 743        |
| BCPK212113S            | 210 | 210 | 130   | 822        |
| BCPK253515S            | 250 | 350 | 151   | 1,559      |
| BCPK253518S            | 250 | 350 | 181.5 | 1,670      |
| BCPK282813S            | 280 | 280 | 130.5 | 1,391      |
| BCPK283813S            | 280 | 380 | 130   | 1,811      |
| BCPK303015S            | 300 | 300 | 151   | 1,670      |
| BCPK303018S            | 300 | 300 | 181   | 1,782      |
| BCPK304012S            | 300 | 400 | 121   | 1,858      |
| BCPK304015S            | 300 | 400 | 150   | 1,912      |
| BCPK304018S            | 300 | 400 | 181   | 2,083      |
| BCPK353515S            | 350 | 350 | 150   | 2,067      |
| BCPK353518S            | 350 | 350 | 181   | 2,175      |
| BCPK354512S            | 350 | 450 | 120   | 2,442      |
| BCPK354516S            | 350 | 450 | 160   | 2,863      |
| BCPK354520S            | 350 | 450 | 201   | 3,156      |
| BCPK405016S            | 400 | 500 | 160   | 3,149      |
| BCPK405020S            | 400 | 500 | 201   | 3,725      |
| BCPK406018S            | 400 | 600 | 181   | 4,159      |
| BCPK406023S            | 400 | 600 | 231   | 4,639      |
| BCPK506018S            | 530 | 630 | 185   | 5,339      |
| BCPK506025S            | 530 | 630 | 255   | 7,136      |
| <b>NEW</b> BCPK507018S | 530 | 730 | 188   | 7,470      |
| <b>NEW</b> BCPK507025S | 530 | 730 | 255   | 8,260      |
| <b>NEW</b> BCPK608018S | 630 | 830 | 188   | 9,880      |
| <b>NEW</b> BCPK608028S | 630 | 830 | 288   | 11,610     |

■ Refer to page 285 ~ 292 for detailed dimensions.

Accessories (Optional parts)

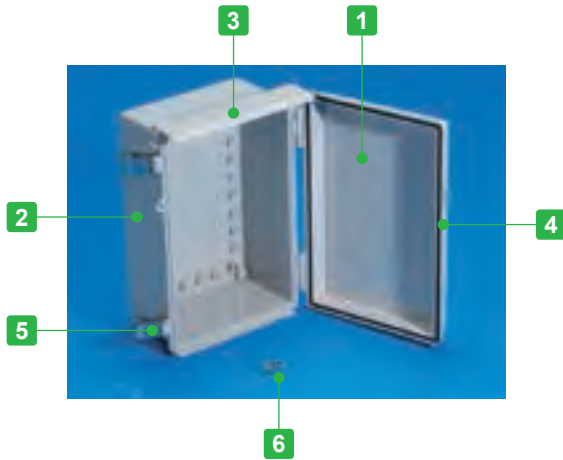
|  |   |  |  |  |
|--|---|--|--|--|
|  <p>Dust protection cap<br/>BCC series<br/>See page 294</p> |  <p>Mounting plate<br/>BMP series<br/>See page 295 ~ 297</p> |  <p>Mounting bracket<br/>CK • BFL series<br/>See page 298</p> |  <p>Cable gland<br/>See page 308 ~ 314</p> |  <p>Ventilation part<br/>See page 301 ~ 304</p> |
|--|---|--|--|--|

**BCAR SERIES**

**IP65 ABS PLASTIC BOX with OUTDOOR ROOF**

**BCPR SERIES**

**IP65 POLYCARBONATE PLASTIC BOX with OUTDOOR ROOF**



| Technical Data         |                    |
|------------------------|--------------------|
| Protection class:      | IP65               |
| Operating temperature: | BCAR -10°C ~ +60°C |
|                        | BCPR -20°C ~ +75°C |

- Suitable for outdoor use by equipping easy snap-on roof attachment.
- 45 different sizes available.
- BCAR series is made of white gray ABS with 2 different cover type (white gray ABS and transparent polycarbonate).
- BCPR series is made of light gray UL94V-0 polycarbonate, which has good heat resistance properties.
- Transparent cover type is not available for BCAR507018, 507025, 608018, and 608028 models.

**Components: BCAR series**

■ Box UL class = UL94HB

| No. | Part name | Pcs | Material            | Color / Finish           |
|-----|-----------|-----|---------------------|--------------------------|
| 1   | Top cover | 1   | ABS • Polycarbonate | White gray • Transparent |
| 2   | Base      | 1   | ABS                 | White gray               |
| 3   | Roof      | 1   | PVC                 | White gray               |
| 4   | Gasket    | 1   | Polyurethane        | Black                    |
| 5   | Latch     | 1~3 | Stainless steel     | Unfinished               |
| 6   | Screw     | 2~8 | Steel               | Trivalent chromate       |

■ Stainless steel mounting brackets are included together with the following models: 506018, 506025, 507018, 507025, 608018, and 608028.

**Components: BCPR series**

■ Box UL class = UL94V-0

| No. | Part name | Pcs | Material                         | Color / Finish     |
|-----|-----------|-----|----------------------------------|--------------------|
| 1   | Top cover | 1   | Polycarbonate                    | Light gray         |
| 2   | Base      | 1   | Glass fiber filled polycarbonate | Light gray         |
| 3   | Roof      | 1   | PVC                              | Light gray         |
| 4   | Gasket    | 1   | Polyurethane                     | Black              |
| 5   | Latch     | 1~3 | Stainless steel                  | Unfinished         |
| 6   | Screw     | 2~8 | Steel                            | Trivalent chromate |

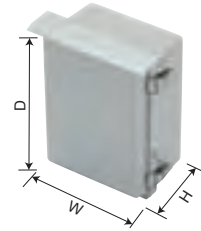
■ Stainless steel mounting brackets are included together with the following models: 506018, 506025, 507018, 507025, 608018, and 608028.



Color Type

| Code    | Cover color / Material      | Base color / Material                         |
|---------|-----------------------------|---|
| BCAR[G] | White gray / ABS            | White gray / ABS                              |
| BCAR[T] | Transparent / Polycarbonate | White gray / ABS                              |
| BCPR[S] | Light gray / Polycarbonate  | Light gray / Glass fiber filled polycarbonate |

■ Please suffix color code at the end of the product number.



BCAR Product no. / Dimensions

| Product no. | W   | D   | H     | Weight (g) |       |
|-------------|-----|-----|-------|------------|-------|
|             |     |     |       | G          | T     |
| BCAR091207□ | 90  | 120 | 70    | 213        | 220   |
| BCAR091208□ | 90  | 120 | 85    | 228        | 237   |
| BCAR101507□ | 100 | 150 | 70    | 291        | 300   |
| BCAR101508□ | 100 | 150 | 85    | 309        | 318   |
| BCAR112107□ | 110 | 210 | 75    | 379        | 398   |
| BCAR112110□ | 110 | 210 | 100   | 442        | 440   |
| BCAR112607□ | 110 | 260 | 75    | 451        | 466   |
| BCAR112610□ | 110 | 260 | 100.5 | 504        | 519   |
| BCAR131508□ | 135 | 155 | 85    | 379        | 381   |
| BCAR131808□ | 135 | 185 | 85.5  | 404        | 434   |
| BCAR131810□ | 135 | 185 | 100.5 | 420        | 426   |
| BCAR162110□ | 160 | 210 | 100   | 495        | 513   |
| BCAR162113□ | 160 | 210 | 130   | 544        | 564   |
| BCAR162610□ | 160 | 260 | 100   | 605        | 629   |
| BCAR162613□ | 160 | 260 | 130   | 701        | 729   |
| BCAR172211□ | 170 | 220 | 110.5 | 560        | 586   |
| BCAR172711□ | 170 | 270 | 110.5 | 700        | 710   |
| BCAR192810□ | 190 | 280 | 100.5 | 755        | 778   |
| BCAR192814□ | 190 | 280 | 141   | 909        | 933   |
| BCAR203013□ | 200 | 300 | 131.5 | 957        | 989   |
| BCAR203015□ | 200 | 300 | 151.5 | 995        | 1,022 |
| BCAR203018□ | 200 | 300 | 180.5 | 1,104      | 1,122 |
| BCAR212110□ | 210 | 210 | 100   | 666        | 692   |
| BCAR212113□ | 210 | 210 | 130   | 740        | 762   |
| BCAR253515□ | 250 | 350 | 151   | 1,307      | 1,378 |
| BCAR253518□ | 250 | 350 | 181.5 | 1,443      | 1,510 |
| BCAR282813□ | 280 | 280 | 130.5 | 1,218      | 1,251 |
| BCAR283813□ | 280 | 380 | 130   | 1,506      | 1,563 |
| BCAR303015□ | 300 | 300 | 151   | 1,393      | 1,472 |
| BCAR303018□ | 300 | 300 | 181   | 1,549      | 1,630 |
| BCAR304012□ | 300 | 400 | 121   | 1,562      | 1,629 |
| BCAR304015□ | 300 | 400 | 150   | 1,617      | 1,729 |
| BCAR304018□ | 300 | 400 | 181   | 1,773      | 1,907 |
| BCAR353515□ | 350 | 350 | 150   | 1,757      | 1,827 |
| BCAR353518□ | 350 | 350 | 181   | 1,908      | 1,970 |
| BCAR354512□ | 350 | 450 | 120   | 2,140      | 2,239 |
| BCAR354516□ | 350 | 450 | 160   | 2,454      | 2,586 |
| BCAR354520□ | 350 | 450 | 201   | 2,718      | 2,866 |
| BCAR405016□ | 400 | 500 | 160   | 2,742      | 2,921 |
| BCAR506018□ | 530 | 630 | 185   | 5,564      | 5,737 |
| BCAR506025□ | 530 | 630 | 255   | 6,203      | 6,399 |
| BCAR507018G | 530 | 730 | 188   | 6,366      | —     |
| BCAR507025G | 530 | 730 | 255   | 7,037      | —     |
| BCAR608018G | 630 | 830 | 188   | 8,279      | —     |
| BCAR608028G | 630 | 830 | 288   | 9,719      | —     |

■ BCAR507018, 507025, 608018, 608028 models are only available as G color type.

BCPR Product no. / Dimensions

| Product no.            | W   | D   | H     | Weight (g) |   |
|------------------------|-----|-----|-------|------------|---|
|                        |     |     |       | G          | T |
| BCPR091207S            | 90  | 120 | 70    | 242        | — |
| BCPR091208S            | 90  | 120 | 85    | 264        | — |
| BCPR101507S            | 100 | 150 | 70    | 330        | — |
| BCPR101508S            | 100 | 150 | 85    | 354        | — |
| BCPR112107S            | 110 | 210 | 75    | 439        | — |
| BCPR112110S            | 110 | 210 | 100   | 493        | — |
| BCPR112607S            | 110 | 260 | 75    | 513        | — |
| BCPR112610S            | 110 | 260 | 100.5 | 589        | — |
| BCPR131508S            | 135 | 155 | 85    | 429        | — |
| BCPR131808S            | 135 | 185 | 85.5  | 475        | — |
| BCPR131810S            | 135 | 185 | 100.5 | 471        | — |
| BCPR162110S            | 160 | 210 | 100   | 583        | — |
| BCPR162113S            | 160 | 210 | 130   | 638        | — |
| BCPR162610S            | 160 | 260 | 100   | 699        | — |
| BCPR162613S            | 160 | 260 | 130   | 806        | — |
| BCPR172211S            | 170 | 220 | 110.5 | 677        | — |
| BCPR172711S            | 170 | 270 | 110.5 | 803        | — |
| BCPR192810S            | 190 | 280 | 100.5 | 889        | — |
| BCPR192814S            | 190 | 280 | 141   | 1,060      | — |
| BCPR203013S            | 200 | 300 | 131.5 | 1,091      | — |
| BCPR203015S            | 200 | 300 | 151.5 | 1,165      | — |
| BCPR203018S            | 200 | 300 | 180.5 | 1,296      | — |
| BCPR212110S            | 210 | 210 | 100   | 777        | — |
| BCPR212113S            | 210 | 210 | 130   | 862        | — |
| BCPR253515S            | 250 | 350 | 151   | 1,537      | — |
| BCPR253518S            | 250 | 350 | 181.5 | 1,722      | — |
| BCPR282813S            | 280 | 280 | 130.5 | 1,422      | — |
| BCPR283813S            | 280 | 380 | 130   | 1,747      | — |
| BCPR303015S            | 300 | 300 | 151   | 1,665      | — |
| BCPR303018S            | 300 | 300 | 181   | 1,814      | — |
| BCPR304012S            | 300 | 400 | 121   | 1,901      | — |
| BCPR304015S            | 300 | 400 | 150   | 1,917      | — |
| BCPR304018S            | 300 | 400 | 181   | 2,084      | — |
| BCPR353515S            | 350 | 350 | 150   | 2,109      | — |
| BCPR353518S            | 350 | 350 | 181   | 2,206      | — |
| BCPR354512S            | 350 | 450 | 120   | 2,471      | — |
| BCPR354516S            | 350 | 450 | 160   | 2,899      | — |
| BCPR354520S            | 350 | 450 | 201   | 3,224      | — |
| BCPR405016S            | 400 | 500 | 160   | 3,269      | — |
| BCPR506018S            | 530 | 630 | 185   | 6,431      | — |
| BCPR506025S            | 530 | 630 | 255   | 7,339      | — |
| <b>NEW</b> BCPR507018S | 530 | 730 | 188   | 7,630      | — |
| <b>NEW</b> BCPR507025S | 530 | 730 | 255   | 8,420      | — |
| <b>NEW</b> BCPR608018S | 630 | 830 | 188   | 10,040     | — |
| <b>NEW</b> BCPR608028S | 630 | 830 | 288   | 11,770     | — |

■ Refer to page 285 ~ 292 for detailed dimensions.

Accessories (Optional parts)



Mounting plate  
BMP series  
See page 295 ~ 297



Mounting bracket  
CK • BFL series  
See page 298



Pole mounting bracket  
SSK series  
See page 299 ~ 300



Cable gland  
See page 308 ~ 314

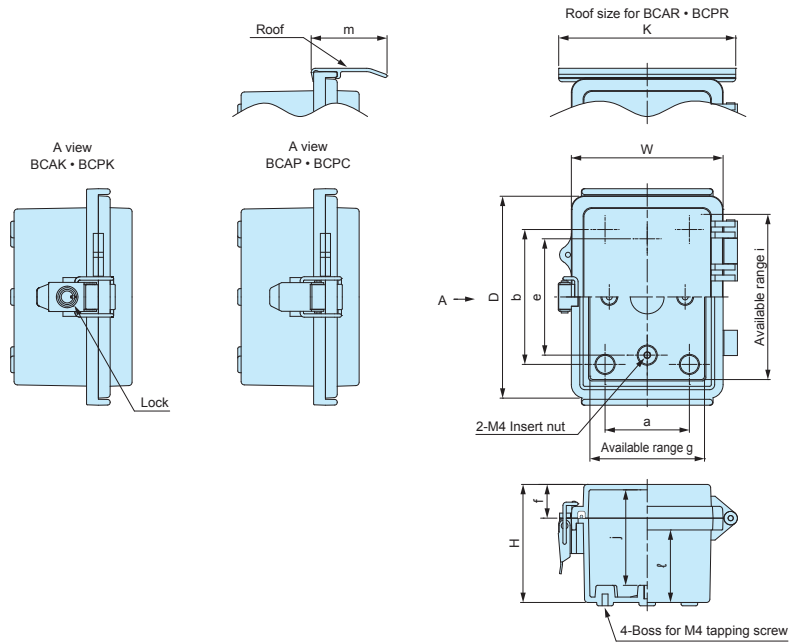


Ventilation part  
See page 301 ~ 304

BCAP • BCAF • BCAR • BCPC • BCPK • BCPR dimensions

■ DXF/DWG/PDF drawings available on our website.

091207, 091208

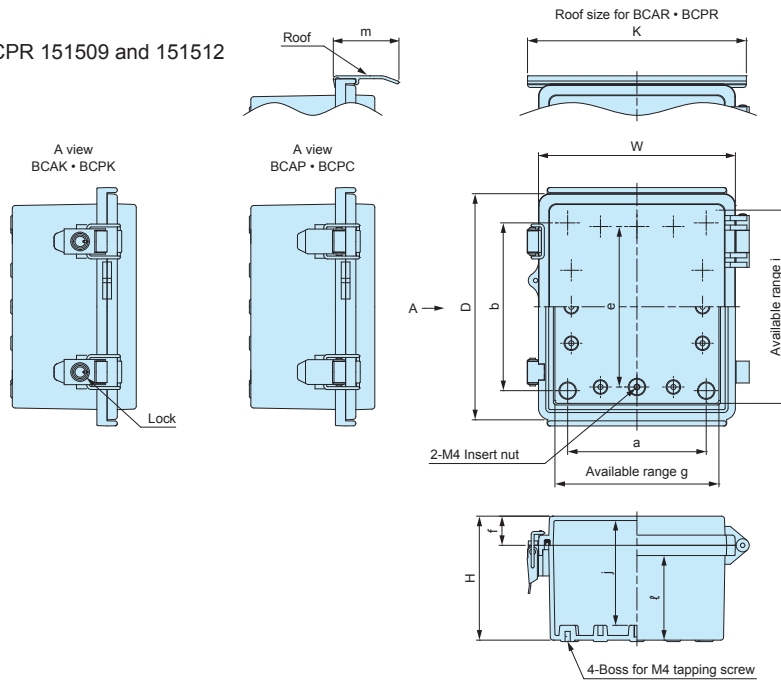


※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

| Product no.                      | W  | D   | H  | a  | b  | c | e  | f  | g  | i  | j    | k   | ℓ  | m  |
|----------------------------------|----|-----|----|----|----|---|----|----|----|----|------|-----|----|----|
| BCAP • K • R, BCPC • K • R091207 | 90 | 120 | 70 | 50 | 80 | - | 69 | 20 | 66 | 96 | 56.5 | 105 | 43 | 45 |
| BCAP • K • R, BCPC • K • R091208 | 90 | 120 | 85 | 50 | 80 | - | 69 | 20 | 66 | 96 | 71.5 | 105 | 58 | 45 |

101507 ~ 151512

※ Not available for BCAR • BCPR 151509 and 151512 models.



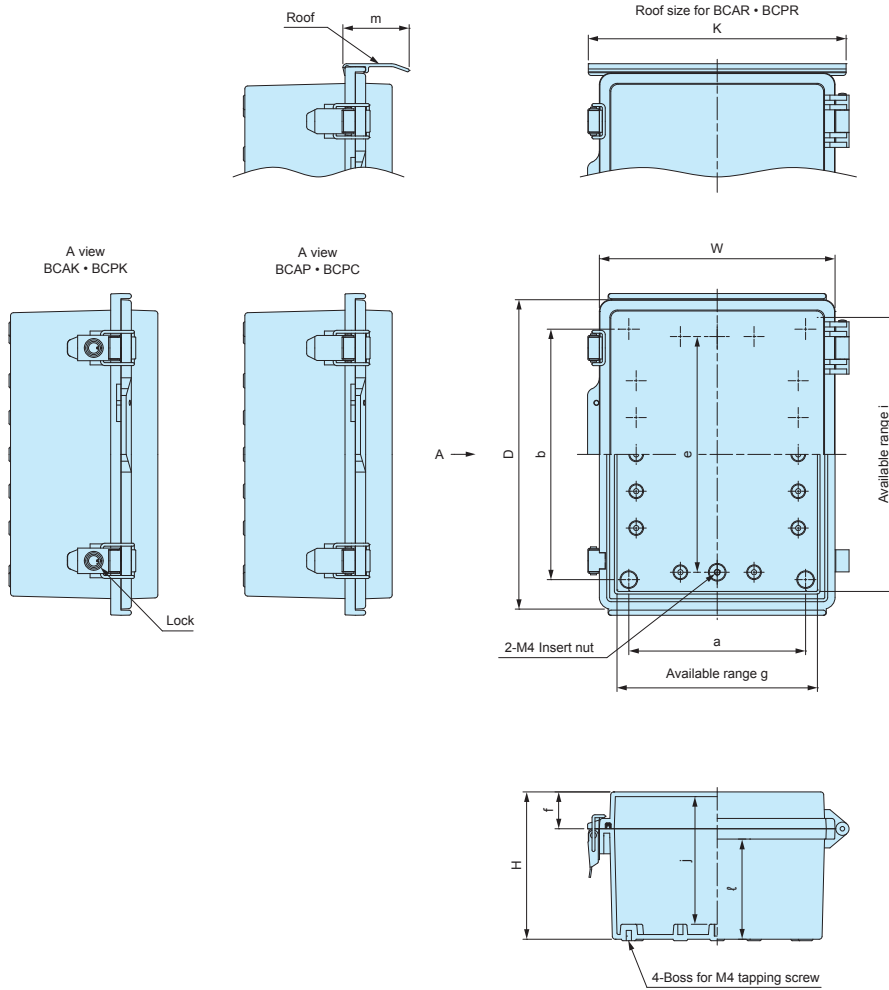
※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

| Product no.                      | W   | D   | H     | a   | b   | c | e   | f  | g     | i     | j    | k   | ℓ    | m  |
|----------------------------------|-----|-----|-------|-----|-----|---|-----|----|-------|-------|------|-----|------|----|
| BCAP • K • R, BCPC • K • R101507 | 100 | 150 | 70    | 60  | 110 | - | 99  | 20 | 76    | 126   | 56.5 | 115 | 43   | 45 |
| BCAP • K • R, BCPC • K • R101508 | 100 | 150 | 85    | 60  | 110 | - | 99  | 20 | 75.5  | 125.5 | 71.5 | 115 | 58   | 45 |
| BCAP • K • R, BCPC • K • R112107 | 110 | 210 | 75    | 70  | 170 | - | 158 | 20 | 85.8  | 185.8 | 61.5 | 125 | 48   | 45 |
| BCAP • K • R, BCPC • K • R112110 | 110 | 210 | 100   | 70  | 170 | - | 158 | 20 | 84.9  | 184.9 | 86.5 | 125 | 73   | 45 |
| BCAP • K • R, BCPC • K • R112607 | 110 | 260 | 75    | 70  | 220 | - | 208 | 20 | 85.8  | 235.8 | 61.5 | 125 | 48   | 45 |
| BCAP • K • R, BCPC • K • R112610 | 110 | 260 | 100.5 | 70  | 220 | - | 208 | 20 | 85.8  | 235.8 | 86.5 | 125 | 73.5 | 45 |
| BCAP • K • R, BCPC • K • R131508 | 135 | 155 | 85    | 95  | 115 | - | 110 | 20 | 110.4 | 130.4 | 71.5 | 150 | 58   | 45 |
| BCAP • K • R, BCPC • K • R131808 | 135 | 185 | 85.5  | 95  | 145 | - | 140 | 20 | 110.4 | 160.4 | 71.5 | 150 | 58.5 | 45 |
| BCAP • K • R, BCPC • K • R131810 | 135 | 185 | 100.5 | 95  | 145 | - | 140 | 20 | 110.4 | 160.4 | 86.5 | 150 | 73.5 | 45 |
| BCAP • K BCPC • K 151509         | 150 | 150 | 90    | 120 | 120 | - | 110 | 20 | 125.7 | 125.7 | 75.5 | -   | 63.5 | -  |
| BCAP • K BCPC • K 151512         | 150 | 150 | 120.5 | 117 | 117 | - | 110 | 20 | 126   | 126   | 106  | -   | 94.5 | -  |

162110 ~ 172711



■ Inner bosses vary according to box size.  
Refer to DXF/DWG/PDF drawings for more details.



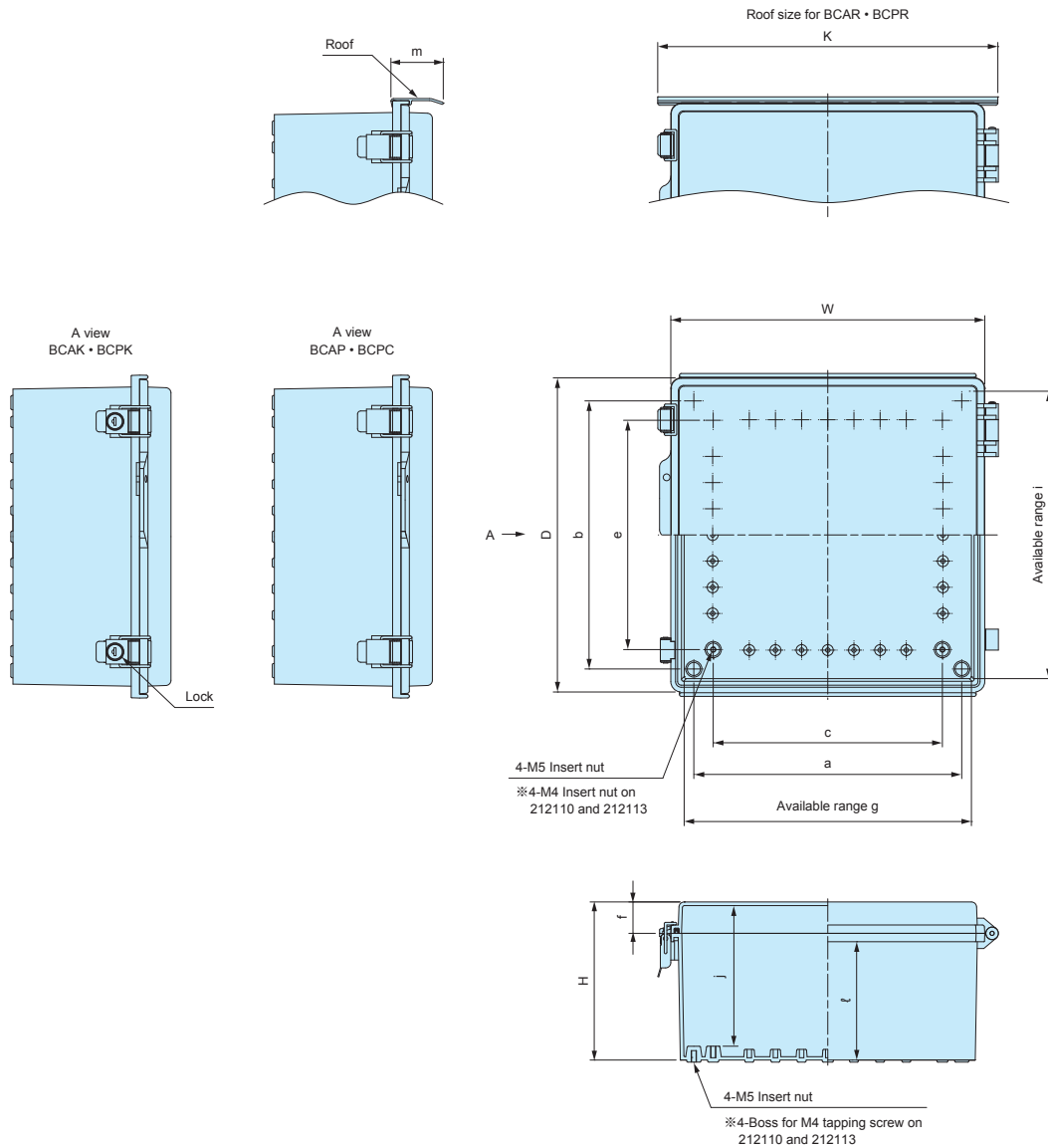
※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

| Product no.                      | W   | D   | H     | a   | b   | c | e   | f  | g     | i     | j     | k   | ℓ    | m  |
|----------------------------------|-----|-----|-------|-----|-----|---|-----|----|-------|-------|-------|-----|------|----|
| BCAP • K • R, BCPC • K • R162110 | 160 | 210 | 100   | 120 | 170 | - | 160 | 25 | 134   | 184   | 86.5  | 175 | 68   | 45 |
| BCAP • K • R, BCPC • K • R162113 | 160 | 210 | 130   | 120 | 170 | - | 160 | 25 | 134   | 184   | 116.5 | 175 | 98   | 45 |
| BCAP • K • R, BCPC • K • R162610 | 160 | 260 | 100   | 120 | 220 | - | 210 | 25 | 134   | 234   | 86.5  | 175 | 68   | 45 |
| BCAP • K • R, BCPC • K • R162613 | 160 | 260 | 130   | 120 | 220 | - | 210 | 25 | 134   | 234   | 116.5 | 175 | 98   | 45 |
| BCAP • K • R, BCPC • K • R172211 | 170 | 220 | 110.5 | 132 | 182 | - | 160 | 30 | 144.9 | 194.9 | 95.5  | 185 | 73.5 | 45 |
| BCAP • K • R, BCPC • K • R172711 | 170 | 270 | 110.5 | 132 | 232 | - | 210 | 30 | 144.9 | 244.9 | 95.5  | 185 | 73.5 | 45 |

BCAP • BCAF • BCAR • BCPC • BCPK • BCPR dimensions

■ DXF/DWG/PDF drawings available on our website.

192810 ~ 353518



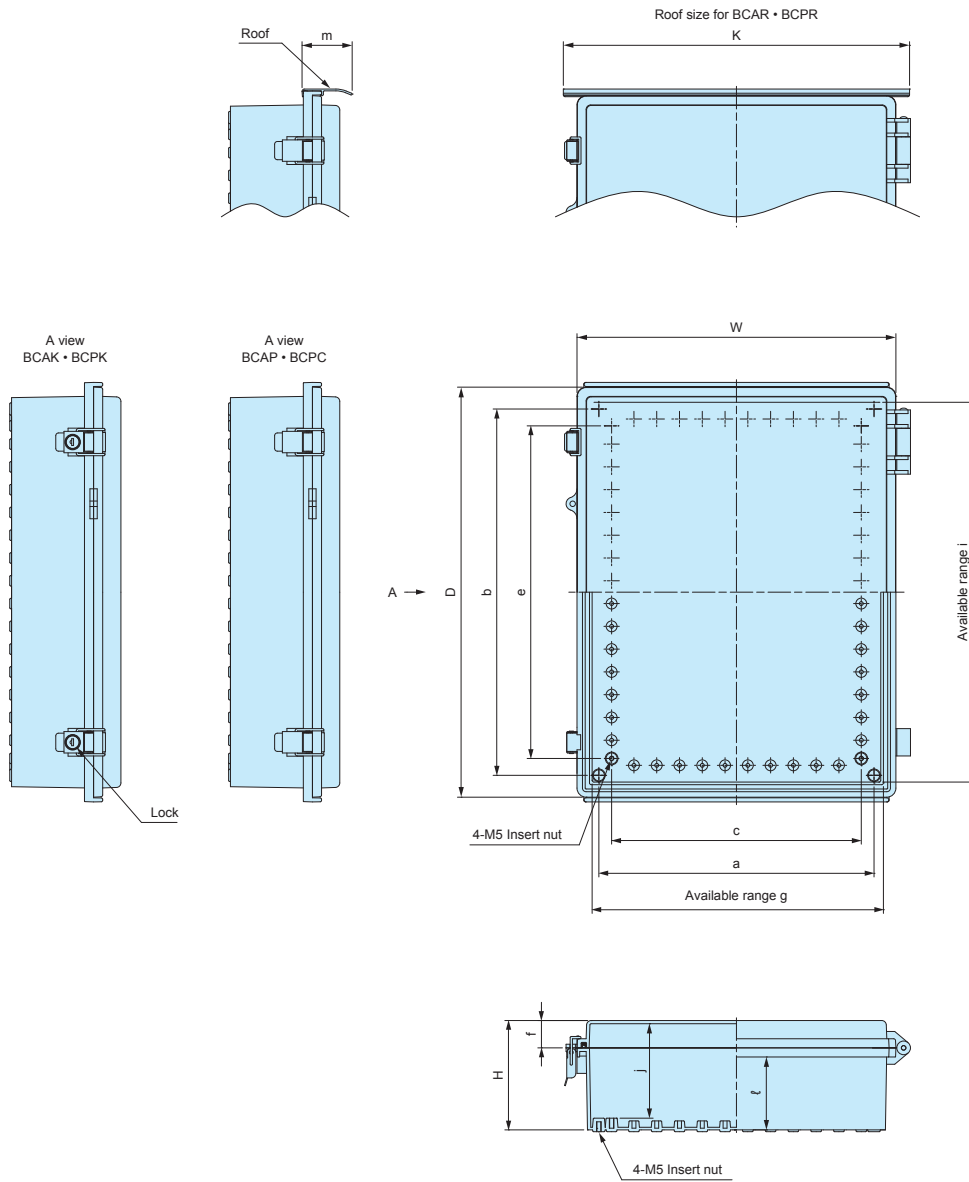
※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

| Product no.                      | W   | D   | H     | a   | b   | c   | e   | f  | g     | i     | j     | k   | ℓ     | m  |
|----------------------------------|-----|-----|-------|-----|-----|-----|-----|----|-------|-------|-------|-----|-------|----|
| BCAP • K • R, BCPC • K • R192810 | 190 | 280 | 100.5 | 148 | 238 | 120 | 210 | 30 | 165   | 255   | 83.5  | 205 | 63.5  | 45 |
| BCAP • K • R, BCPC • K • R192814 | 190 | 280 | 141   | 148 | 238 | 120 | 210 | 30 | 165   | 255   | 123.5 | 205 | 104   | 45 |
| BCAP • K • R, BCPC • K • R203013 | 200 | 300 | 131.5 | 152 | 252 | 129 | 226 | 30 | 173.5 | 273.5 | 113.5 | 225 | 93.5  | 50 |
| BCAP • K • R, BCPC • K • R203015 | 200 | 300 | 151.5 | 152 | 252 | 129 | 226 | 30 | 173.5 | 273.5 | 133.5 | 225 | 113.5 | 50 |
| BCAP • K • R, BCPC • K • R203018 | 200 | 300 | 180.5 | 152 | 252 | 129 | 226 | 30 | 173.5 | 273.5 | 163.5 | 225 | 142.5 | 50 |
| BCAP • K • R, BCPC • K • R212110 | 210 | 210 | 100   | 170 | 170 | 120 | 150 | 25 | 185   | 185   | 86.5  | 225 | 68    | 45 |
| BCAP • K • R, BCPC • K • R212113 | 210 | 210 | 130   | 170 | 170 | 120 | 150 | 25 | 184   | 184   | 116.5 | 225 | 98    | 45 |
| BCAP • K • R, BCPC • K • R253515 | 250 | 350 | 151   | 206 | 306 | 180 | 270 | 30 | 222.5 | 322.5 | 134   | 275 | 113   | 50 |
| BCAP • K • R, BCPC • K • R253518 | 250 | 350 | 181.5 | 206 | 306 | 180 | 270 | 30 | 222.5 | 322.5 | 164   | 275 | 143.5 | 50 |
| BCAP • K • R, BCPC • K • R282813 | 280 | 280 | 130.5 | 238 | 238 | 210 | 210 | 30 | 254   | 254   | 113.5 | 305 | 92    | 50 |
| BCAP • K • R, BCPC • K • R283813 | 280 | 380 | 130   | 238 | 338 | 210 | 310 | 30 | 254   | 354   | 113.5 | 305 | 92    | 50 |
| BCAP • K • R, BCPC • K • R303015 | 300 | 300 | 151   | 256 | 256 | 219 | 219 | 30 | 273   | 273   | 133.5 | 325 | 113   | 50 |
| BCAP • K • R, BCPC • K • R303018 | 300 | 300 | 181   | 256 | 256 | 219 | 219 | 30 | 272.5 | 272.5 | 163.5 | 325 | 143   | 50 |
| BCAP • K • R, BCPC • K • R304012 | 300 | 400 | 121   | 252 | 352 | 228 | 323 | 30 | 273.5 | 373.5 | 103.5 | 325 | 83    | 50 |
| BCAP • K • R, BCPC • K • R304015 | 300 | 400 | 150   | 252 | 352 | 228 | 325 | 30 | 273.5 | 373.5 | 133.5 | 325 | 112   | 50 |
| BCAP • K • R, BCPC • K • R304018 | 300 | 400 | 181   | 252 | 352 | 228 | 325 | 30 | 272.5 | 372.5 | 163.5 | 325 | 143   | 50 |
| BCAP • K • R, BCPC • K • R353515 | 350 | 350 | 150   | 302 | 302 | 270 | 270 | 30 | 323.6 | 323.6 | 133.5 | 375 | 112   | 50 |
| BCAP • K • R, BCPC • K • R353518 | 350 | 350 | 181   | 302 | 302 | 270 | 270 | 30 | 322.5 | 322.5 | 163.5 | 375 | 143   | 50 |

354512



■ Inner bosses vary according to box size.  
Refer to DXF/DWG/PDF drawings for more details.



※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

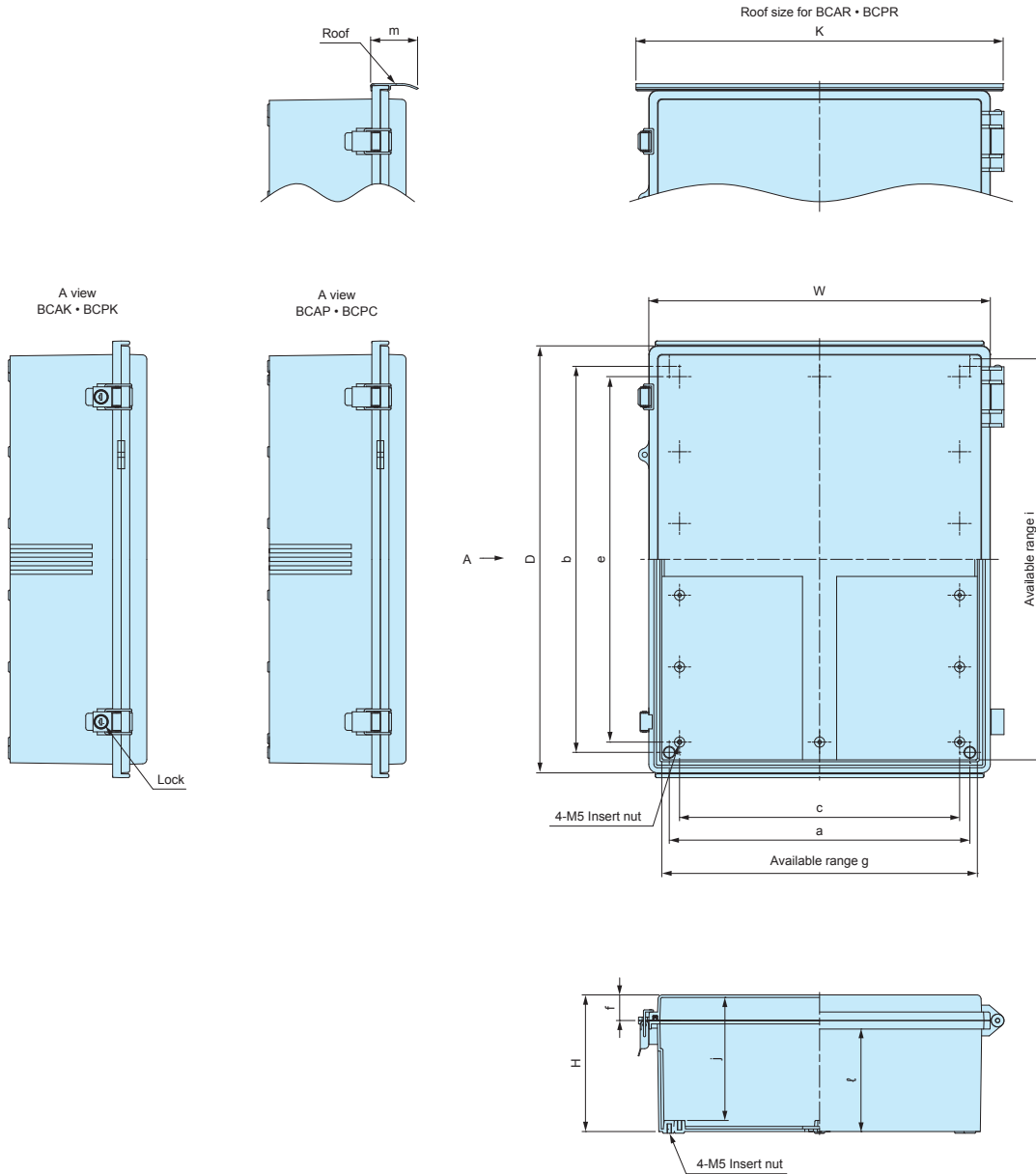
| Product no.                      | W   | D   | H   | a   | b   | c   | e   | f  | g     | i     | j     | k   | ℓ  | m  |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|----|-------|-------|-------|-----|----|----|
| BCAP • K • R, BCPC • K • R354512 | 350 | 450 | 120 | 302 | 402 | 274 | 365 | 30 | 316.5 | 416.5 | 103.5 | 380 | 80 | 55 |

**BCAP • BCAF • BCAR • BCPC • BCPK • BCPR dimensions**

■ DXF/DWG/PDF drawings available on our website.

354516 ~ 405020

※Not available for BCAR • BCPR 405020 model.



※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

| Product no.                      | W   | D   | H   | a     | b     | c   | e   | f  | g     | i     | j     | k   | ℓ   | m  |
|----------------------------------|-----|-----|-----|-------|-------|-----|-----|----|-------|-------|-------|-----|-----|----|
| BCAP • K • R, BCPC • K • R354516 | 350 | 450 | 160 | 302   | 402   | 274 | 365 | 30 | 308.5 | 414.5 | 142.5 | 380 | 120 | 55 |
| BCAP • K • R, BCPC • K • R354520 | 350 | 450 | 201 | 302   | 402   | 274 | 365 | 30 | 309.5 | 414.5 | 182.5 | 380 | 161 | 55 |
| BCAP • K • R, BCPC • K • R405016 | 400 | 500 | 160 | 352   | 452   | 328 | 428 | 30 | 363.5 | 469.5 | 144   | 430 | 120 | 55 |
| BCAP • K BCPC • K 405020         | 400 | 500 | 201 | 352.5 | 452.5 | 328 | 428 | 30 | 363   | 468   | 182.5 | -   | 159 | -  |

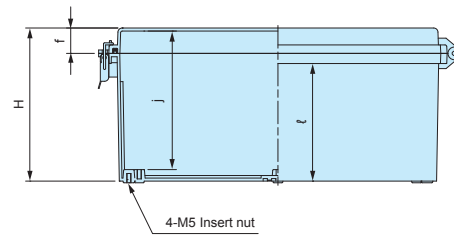
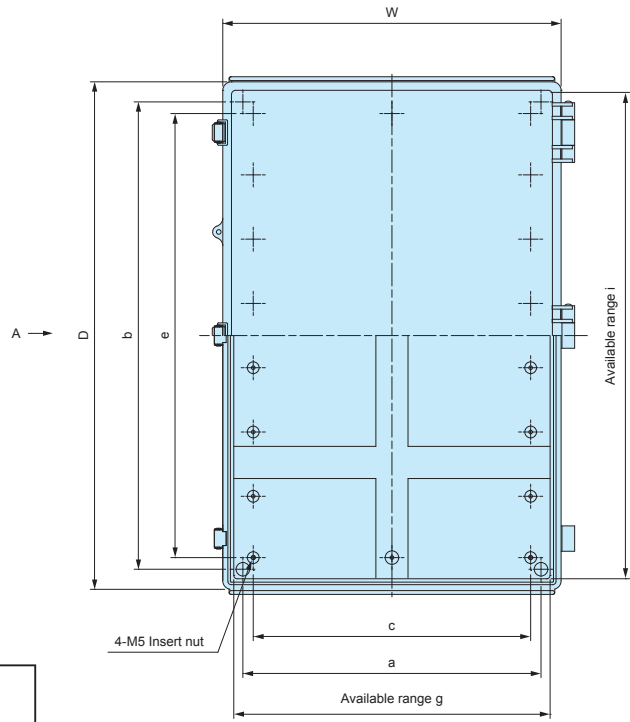
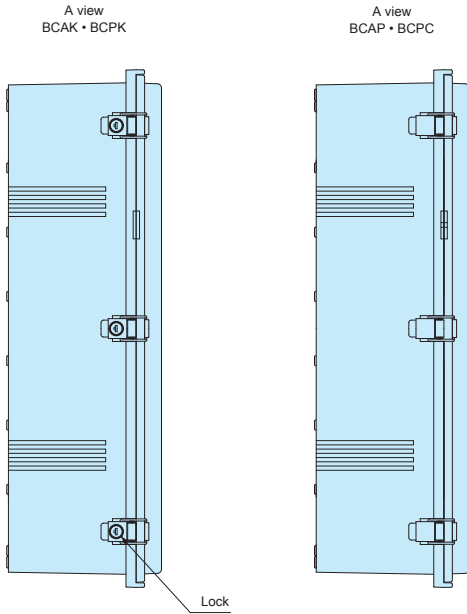


406018, 406023

※Not available for BCAR • BCPR 406018 and 406023 models.



■ Inner bosses vary according to box size.  
Refer to DXF/DWG/PDF drawings for more details.



**Attention when locking the latch**

1. Close latches on both ends first.
  2. Close center latch next.
- ※ Closing the center latch first may create a non-watertight seal.

Center latch must be closed last!



| Product no. |          |        | W   | D   | H   | a     | b     | c   | e   | f  | g   | i   | j     | k | ℓ   | m |
|-------------|----------|--------|-----|-----|-----|-------|-------|-----|-----|----|-----|-----|-------|---|-----|---|
| BCAP • K    | BCPC • K | 406018 | 400 | 600 | 181 | 352.5 | 552.5 | 328 | 525 | 30 | 364 | 570 | 163.5 | - | 139 | - |
| BCAP • K    | BCPC • K | 406023 | 400 | 600 | 231 | 352   | 552.5 | 328 | 525 | 30 | 362 | 568 | 213.5 | - | 189 | - |

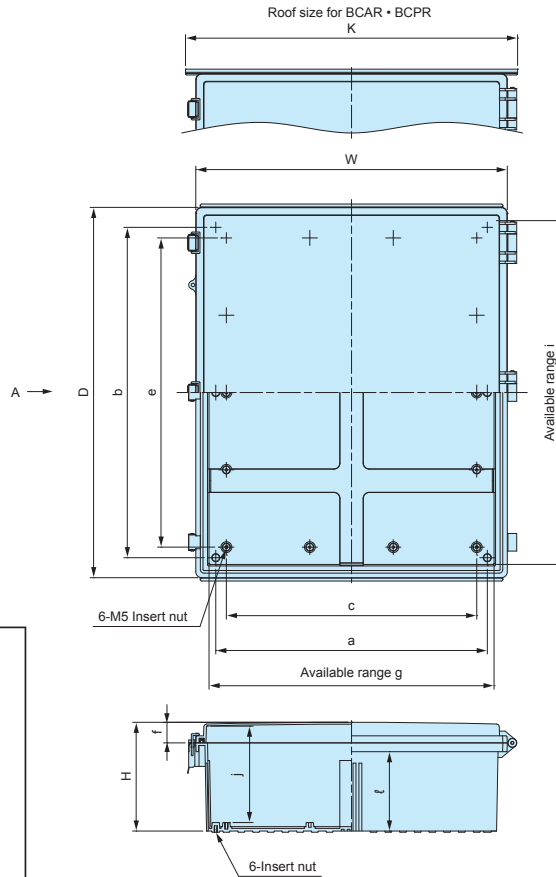
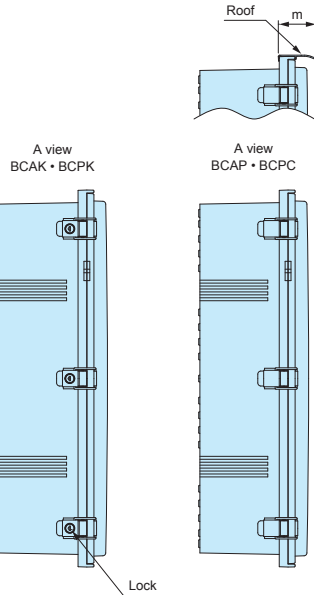
**BCAP • BCAF • BCAR • BCPC • BCPK • BCPR dimensions**

■ DXF/DWG/PDF drawings available on our website.

506018 ~ 507025



■ Inner bosses vary according to box size.  
Refer to DXF/DWG/PDF drawings for more details.



**Attention when locking the latch**

1. Close latches on both ends first.
2. Close center latch next.

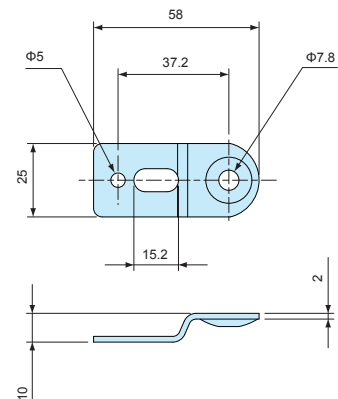
※ Closing the center latch first may create a non-watertight seal.

Center latch must be closed last!

※ Dimension "k" and "m" are only applicable for BCAR • BCPR series.

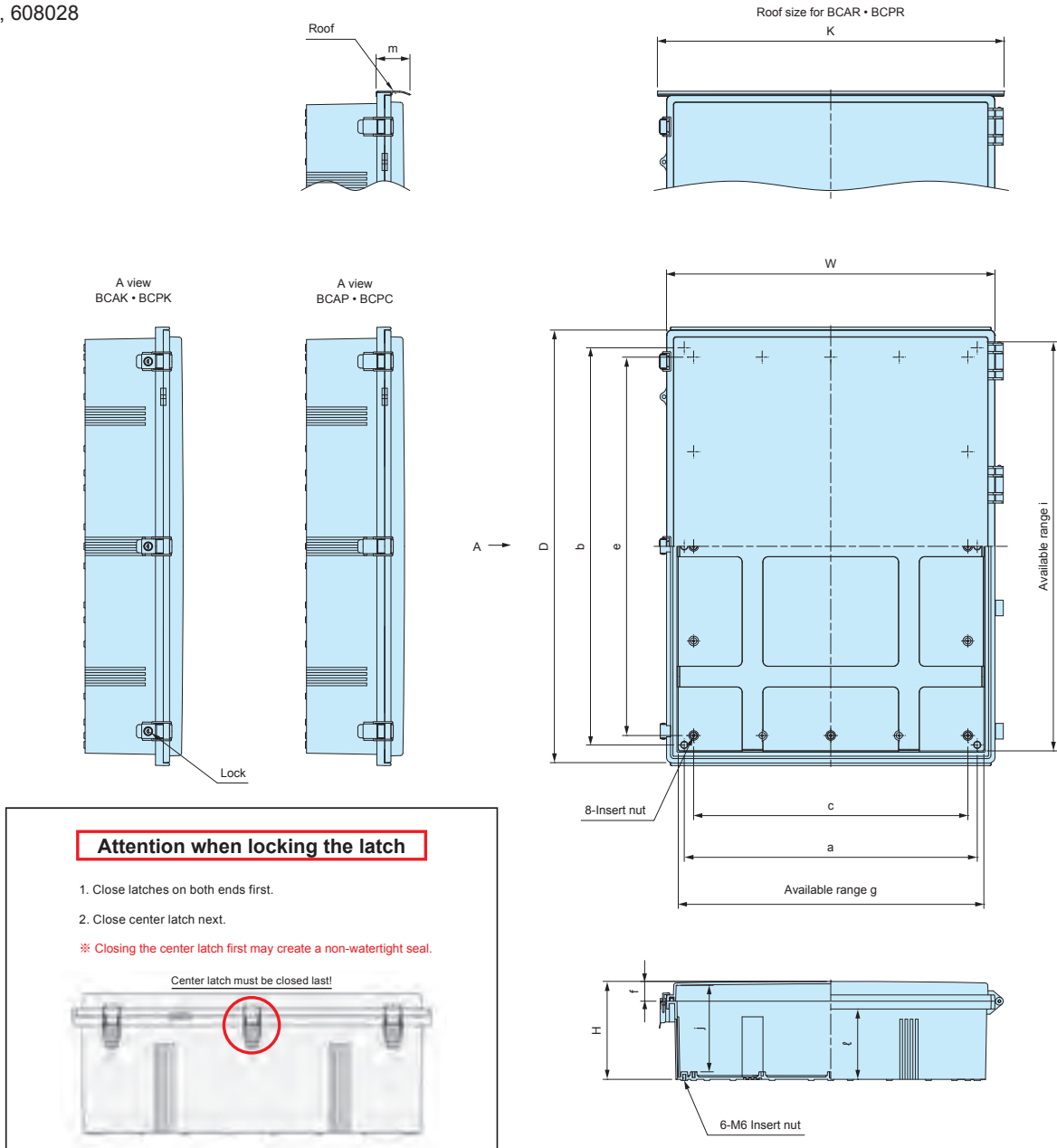
| Product no.                      | W   | D   | H   | a   | b   | c   | e   | f  | g     | i     | j     | k   | l   | m  |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|----|-------|-------|-------|-----|-----|----|
| BCAP • K • R, BCPC • K • R506018 | 530 | 630 | 185 | 462 | 562 | 426 | 526 | 35 | 474.5 | 574.5 | 164   | 565 | 135 | 65 |
| BCAP • K • R, BCPC • K • R506025 | 530 | 630 | 255 | 462 | 562 | 426 | 526 | 35 | 475   | 575   | 234.5 | 565 | 205 | 65 |
| BCAP • K • R, BCPC • K • R507018 | 530 | 730 | 188 | 462 | 662 | 426 | 626 | 35 | 475   | 675   | 164   | 565 | 135 | 65 |
| BCAP • K • R, BCPC • K • R507025 | 530 | 730 | 255 | 462 | 662 | 426 | 626 | 35 | 475   | 675   | 232.5 | 565 | 205 | 65 |

**Included stainless steel mounting brackets for 506018, 506025, 507018, 507025**



| Part name        | Pcs | Material        | Color / Finish     |
|------------------|-----|-----------------|--------------------|
| Mounting bracket | 6   | Stainless steel | Unfinished         |
| Screw            | 6   | Steel           | Trivalent chromate |

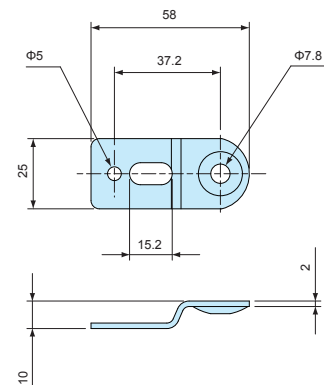
608018, 608028



※ Dimension "k" and "m" are only applicable for BCAR • BCPR.

| Product no.                      | W   | D   | H   | a   | b   | c   | e   | f  | g   | i   | j   | k   | l   | m  |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|
| BCAP • K • R, BCPC • K • R608018 | 630 | 830 | 188 | 562 | 762 | 526 | 726 | 38 | 575 | 775 | 166 | 665 | 135 | 65 |
| BCAP • K • R, BCPC • K • R608028 | 630 | 830 | 288 | 562 | 762 | 526 | 726 | 38 | 573 | 773 | 266 | 665 | 235 | 65 |

Included stainless steel mounting brackets for 608018, 608028



| Part name        | Pcs | Material        | Color / Finish     |
|------------------|-----|-----------------|--------------------|
| Mounting bracket | 6   | Stainless steel | Unfinished         |
| Screw            | 6   | Steel M6-10     | Trivalent chromate |

**BRF SERIES**

**OUTDOOR ROOF**



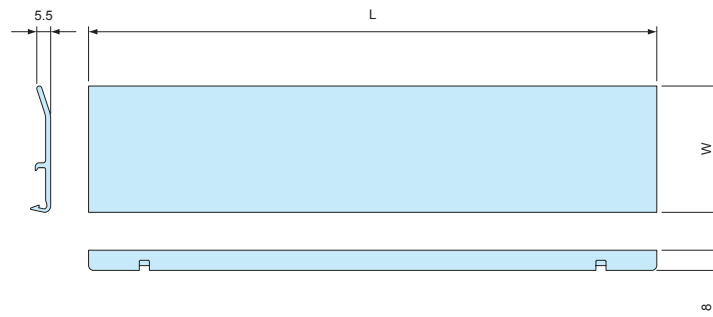
- Recommended to be used for outdoor environments for protection against rain etc.
- Snap-in easy installation.
- Available for BCAP • BCAK and BCPC • BCPK series except 151509, 151512, 405020, 406018, and 406023 models.

**Color Type**

| Color code | Material | Color / Finish         | Suitable series |
|------------|----------|------------------------|-----------------|
| G          | PVC      | White gray / Unpainted | BCAP • BCAK     |
| S          | PVC      | Light gray / Painted   | BCPC • BCPK     |

**BRF dimensions**

Roof for 091209 ~ 353518

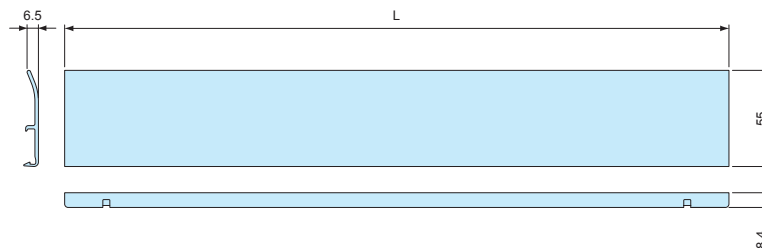


**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no. | Suitable box   | L   | W  |
|-------------|--|-----|----|
| BRF- 90□    | BCAP • BCAK • BCPC • BCPK 091207 091208                      | 105 | 45 |
| BRF-100□    | BCAP • BCAK • BCPC • BCPK 101507 101508                      | 115 | 45 |
| BRF-110□    | BCAP • BCAK • BCPC • BCPK 112107 112110 112607 112610        | 125 | 45 |
| BRF-135□    | BCAP • BCAK • BCPC • BCPK 131508 131808 131810               | 150 | 45 |
| BRF-160□    | BCAP • BCAK • BCPC • BCPK 162110 162113 162610 162613        | 175 | 45 |
| BRF-170□    | BCAP • BCAK • BCPC • BCPK 172211 172711                      | 185 | 45 |
| BRF-190□    | BCAP • BCAK • BCPC • BCPK 192810 192814                      | 205 | 45 |
| BRF-210□    | BCAP • BCAK • BCPC • BCPK 212110 212113                      | 225 | 45 |
| BRF-200□    | BCAP • BCAK • BCPC • BCPK 203013 203015 203018               | 225 | 50 |
| BRF-250□    | BCAP • BCAK • BCPC • BCPK 253515 253518                      | 275 | 50 |
| BRF-280□    | BCAP • BCAK • BCPC • BCPK 282813 283813                      | 305 | 50 |
| BRF-300□    | BCAP • BCAK • BCPC • BCPK 303015 303018 304012 304015 304018 | 325 | 50 |
| BRF-350□    | BCAP • BCAK • BCPC • BCPK 353515 353518                      | 375 | 50 |

Roof for 354512 ~ 405016



**Product no. / Dimensions**

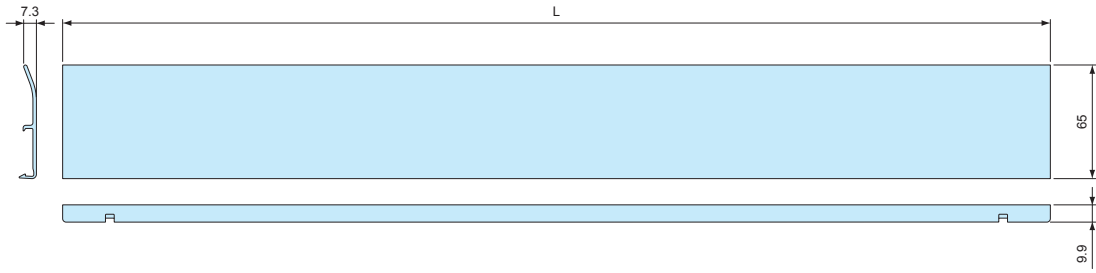
■ Please suffix color code at the end of the product number.

| Product no. | Suitable box                                   | L   |
|-------------|--|-----|
| BRF-350L□   | BCAP • BCAK • BCPC • BCPK 354512 354516 354520 | 380 |
| BRF-400□    | BCAP • BCAK • BCPC • BCPK 405016               | 430 |

■ S color type is light gray painted.

Roof for 506018 ~ 608028

Accessories (Optional parts)



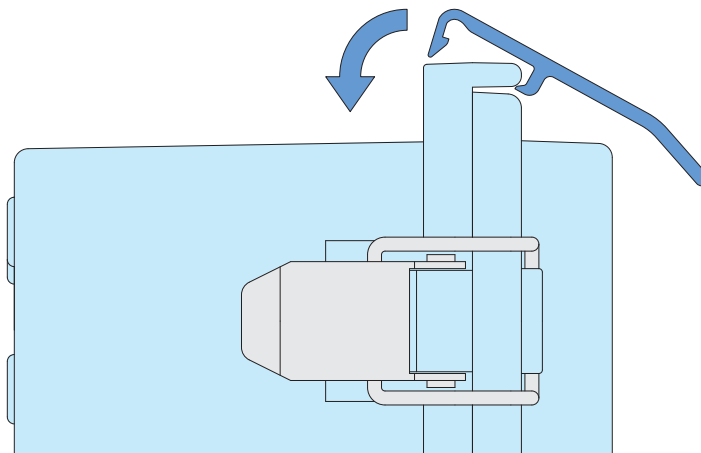
**Product no. / Dimensions**

■ Please suffix color code at the end of the product number.

| Product no. | Suitable box  | L   |
|-------------|---|-----|
| BRF-530□    | BCAP • BCAK • BCPC • BCPK 506018 506025 507018 507025 | 565 |
| BRF-630□    | BCAP • BCAK • BCPC • BCPK 608018 608028               | 665 |

■ S color type is light gray painted.

- How to install BRF outdoor roof.  
Refer to illustration.



**BCC-1 DUST PROTECTION CAP**



- Prevent dust and other foreign material entry.
- Protection against corrosion on key hole part in environments such as coastal areas.
- When ordering, please ensure that the quantity required corresponds to the number of latches on your selected enclosure.

**Product no. / Dimensions**

| Product no. | Material | Color | Sales unit |
|-------------|----------|-------|------------|
| BCC-1       | Silicone | Black | 1 pc       |

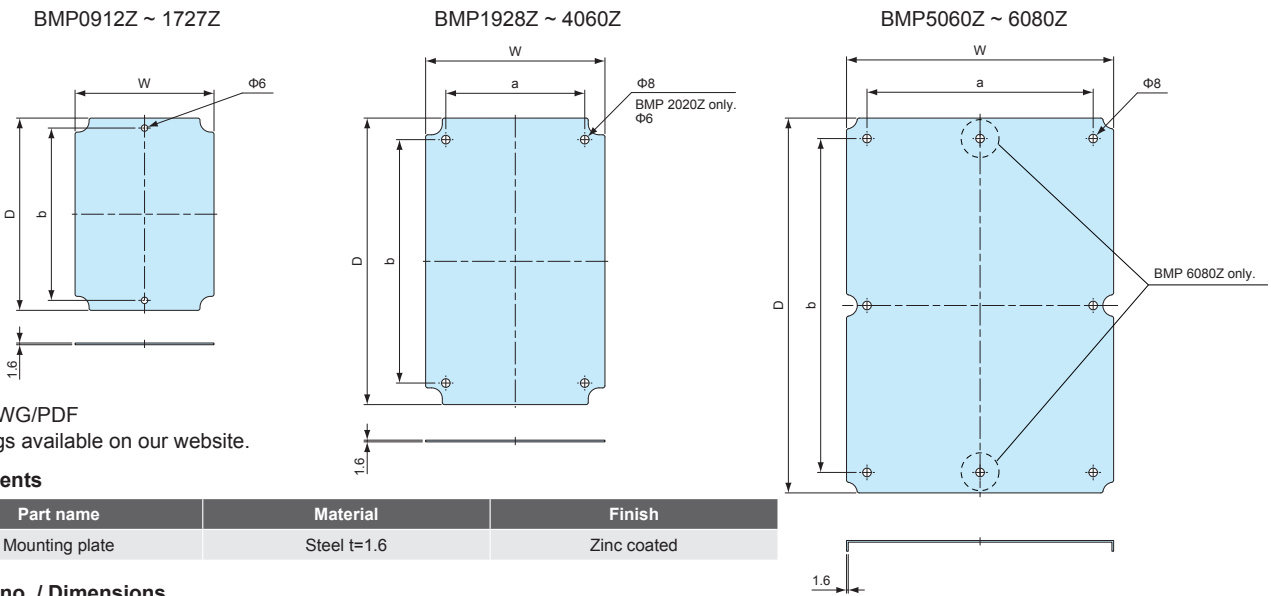
**Suitable Box**

| Suitable box                                | Required |
|---|----------|
| BCAK • BCPK192810 ~ 203018, 253515 ~ 405020 | 2 pcs    |
| BCAK • BCPK406018 ~ 608028                  | 3 pcs    |

■ Not suitable for BCAK-BCPK 212110, 212113, 172711, and smaller models.

**BMP-Z SERIES** **STEEL MOUNTING PLATE**

- Tough but easily customizable.
- Large sized (BMP5060Z, 5070Z and 6080Z) plates have a 90° bent edge.
- Customization services (machining, punch press or clinching nut insertion) are available. See website for more details.



■ DXF/DWG/PDF drawings available on our website.

**Components**

| Part name      | Material    | Finish      |
|----------------|-------------|-------------|
| Mounting plate | Steel t=1.6 | Zinc coated |

**Product no. / Dimensions**

| Product no. | W   | D   | a   | b   | Suitable box                                      | Weight (g) |
|-------------|-----|-----|-----|-----|---|------------|
| BMP0912Z    | 58  | 88  | -   | 69  | BCAP • K • R, BCPC • K • R 091207, 091208         | 53         |
| BMP0813Z    | 68  | 118 | -   | 99  | BCAP • K • R, BCPC • K • R 101507, 101508         | 87         |
| BMP1121Z    | 77  | 177 | -   | 158 | BCAP • K • R, BCPC • K • R 112107, 112110         | 159        |
| BMP1126Z    | 77  | 227 | -   | 208 | BCAP • K • R, BCPC • K • R 112607, 112610         | 210        |
| BMP1315Z    | 102 | 122 | -   | 110 | BCAP • K • R, BCPC • K • R 131508                 | 141        |
| BMP1217Z    | 102 | 152 | -   | 140 | BCAP • K • R, BCPC • K • R 131808, 131810         | 180        |
| BMP1515Z    | 121 | 121 | -   | 110 | BCAP • K BCPC • K 151509, 151512                  | 172        |
| BMP1520Z    | 126 | 176 | -   | 160 | BCAP • K • R, BCPC • K • R 162110, 162113         | 262        |
| BMP1525Z    | 127 | 227 | -   | 210 | BCAP • K • R, BCPC • K • R 162610, 162613         | 346        |
| BMP1722Z    | 137 | 187 | -   | 160 | BCAP • K • R, BCPC • K • R 172211                 | 308        |
| BMP1727Z    | 137 | 237 | -   | 210 | BCAP • K • R, BCPC • K • R 172711                 | 391        |
| BMP1928Z    | 157 | 247 | 120 | 210 | BCAP • K • R, BCPC • K • R 192810, 192814         | 462.5      |
| BMP2020Z    | 176 | 176 | 120 | 150 | BCAP • K • R, BCPC • K • R 212110, 212113         | 371        |
| BMP2030Z    | 165 | 265 | 129 | 226 | BCAP • K • R, BCPC • K • R 203013, 203015, 203018 | 519        |
| BMP2535Z    | 215 | 315 | 180 | 270 | BCAP • K • R, BCPC • K • R 253515, 253518         | 816        |
| BMP2828Z    | 246 | 246 | 210 | 210 | BCAP • K • R, BCPC • K • R 282813                 | 727.5      |
| BMP2838Z    | 246 | 346 | 210 | 310 | BCAP • K • R, BCPC • K • R 283813                 | 1,018      |
| BMP3030Z    | 264 | 264 | 219 | 219 | BCAP • K • R, BCPC • K • R 303015, 303018         | 826.5      |
| BMP3040Z    | 265 | 365 | 228 | 325 | BCAP • K • R, BCPC • K • R 304012, 304015, 304018 | 1,154      |
| BMP3535Z    | 315 | 315 | 270 | 270 | BCAP • K • R, BCPC • K • R 353515, 353518         | 1,196.5    |
| BMP3545Z    | 301 | 401 | 274 | 365 | BCAP • K • R, BCPC • K • R 354512, 354516, 354520 | 1,443      |
| BMP4050Z    | 354 | 454 | 328 | 428 | BCAP • K • R, BCPC • K • R 405016, 405020         | 1,998      |
| BMP4060Z    | 354 | 551 | 328 | 525 | BCAP • K BCPC • K 406018, 406023                  | 2,328      |
| BMP5060Z    | 474 | 574 | 426 | 526 | BCAP • K • R, BCPC • K • R 506018, 506025         | 3,286      |
| BMP5070Z    | 472 | 672 | 426 | 626 | BCAP • K • R, BCPC • K • R 507018, 507025         | 3,864      |
| BMP6080Z    | 565 | 765 | 526 | 726 | BCAP • K • R, BCPC • K • R 608018, 608028         | 5,288.5    |

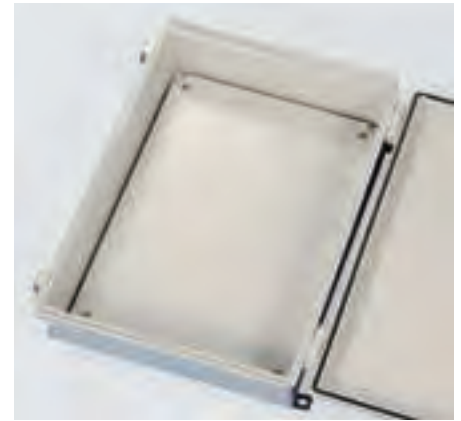
■ K = BCAP • BCPK series / R = BCAR • BCPR series



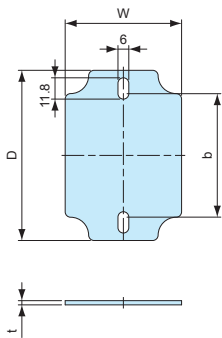
**BMP-P SERIES**

**PLASTIC MOUNTING PLATE**

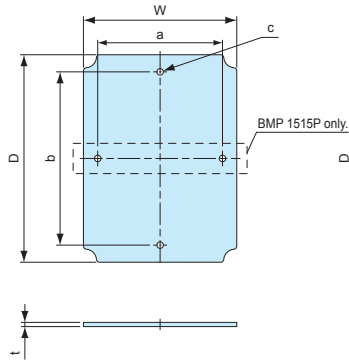
- Lightweight ABS plastic mounting plate.
- Flat plate: BMP0811P ~ BMP1515P  
Ribbed plate: BMP1520P ~ BMP4050P
- DXF/DWG/PDF drawings available on our website.



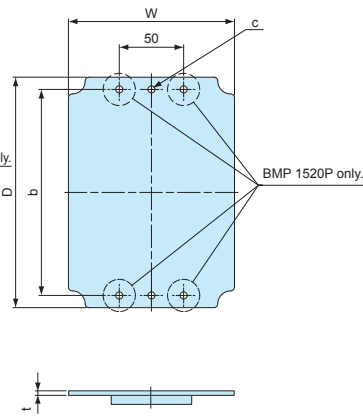
BMP0811P (Flat)



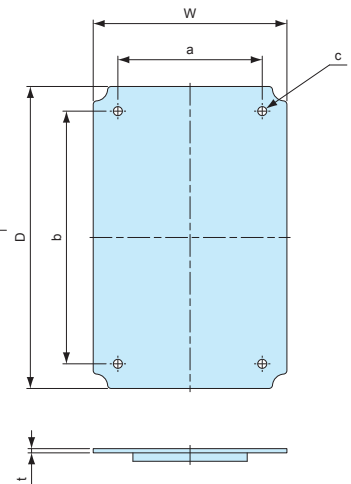
BMP0813P, 1515P (Flat)



BMP1520P, 1525P (Ribbed)



BMP1928P ~ 4050P (Ribbed)



**Components**

| Part name      | Material | Color      |
|----------------|----------|------------|
| Mounting plate | ABS      | White gray |

**Product no. / Dimensions**

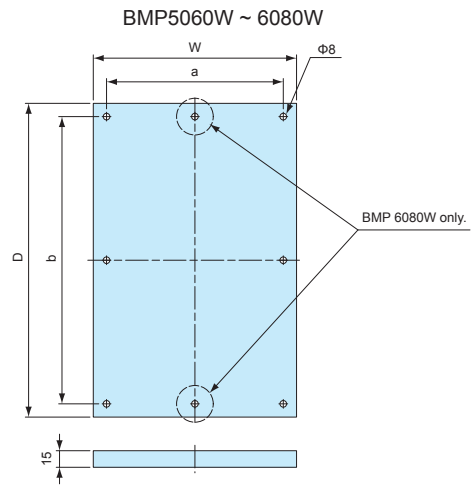
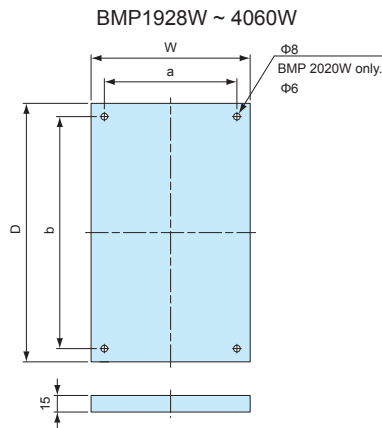
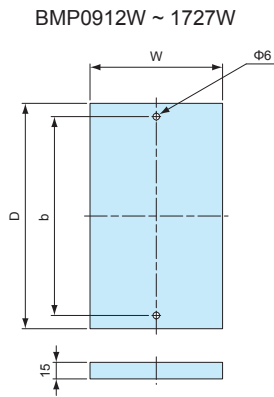
| Product no. | W     | D     | a     | b     | t   | c (Φ) | Suitable box                                      | Weight (g) |
|-------------|-------|-------|-------|-------|-----|-------|---|------------|
| BMP0811P    | 64.5  | 94.3  | -     | 68.4  | 3.5 | -     | BCAP · K · R, BCPC · K · R 091207, 091208         | 21         |
| BMP0813P    | 64.5  | 114.5 | -     | 99    | 3   | Φ6    | BCAP · K · R, BCPC · K · R 101507, 101508         | 24         |
| BMP1121P    | 76.5  | 176   | -     | 158   | 3   | Φ6    | BCAP · K · R, BCPC · K · R 112107, 112110         | 40         |
| BMP1126P    | 76.5  | 226   | -     | 208   | 3   | Φ6    | BCAP · K · R, BCPC · K · R 112607, 112610         | 53         |
| BMP1315P    | 101.5 | 121.5 | -     | 110   | 3.5 | Φ5.5  | BCAP · K · R, BCPC · K · R 131508                 | 36         |
| BMP1217P    | 109.5 | 160   | -     | 140   | 4   | Φ6    | BCAP · K · R, BCPC · K · R 131808, 131810         | 62         |
| BMP1515P    | 123   | 123   | 110   | 110   | 3.5 | Φ6    | BCAP · K BCPC · K 151509, 151512                  | 52         |
| BMP1520P    | 129   | 179   | -     | 160   | 3.5 | Φ5.5  | BCAP · K · R, BCPC · K · R 162110, 162113, 172211 | 92         |
| BMP1525P    | 129   | 228.5 | -     | 210   | 3.5 | Φ6    | BCAP · K · R, BCPC · K · R 162610, 162613, 172711 | 112        |
| BMP1928P    | 158.5 | 248   | 120   | 210   | 3.5 | Φ8    | BCAP · K · R, BCPC · K · R 192810, 192814         | 162        |
| BMP2020P    | 178.5 | 178.5 | 120   | 150   | 3.5 | Φ5.5  | BCAP · K · R, BCPC · K · R 212110, 212113         | 125        |
| BMP2030P    | 166.5 | 266   | 128   | 225.5 | 4   | Φ8    | BCAP · K · R, BCPC · K · R 203013, 203015, 203018 | 188        |
| BMP2535P    | 215.5 | 315   | 180   | 268.5 | 4   | Φ8    | BCAP · K · R, BCPC · K · R 253515, 253518         | 292        |
| BMP2828P    | 248.5 | 248.5 | 210   | 210   | 4   | Φ8    | BCAP · K · R, BCPC · K · R 282813                 | 237        |
| BMP2838P    | 248   | 347.5 | 209   | 309.5 | 4   | Φ8    | BCAP · K · R, BCPC · K · R 283813                 | 368        |
| BMP3030P    | 262.5 | 262.5 | 219   | 219   | 4   | Φ7.5  | BCAP · K · R, BCPC · K · R 303015, 303018         | 281        |
| BMP3040P    | 264.5 | 364   | 227   | 323   | 4   | Φ8    | BCAP · K · R, BCPC · K · R 304012, 304015, 304018 | 437        |
| BMP3535P    | 313.5 | 313.5 | 269.5 | 269.5 | 4   | Φ8    | BCAP · K · R, BCPC · K · R 353515, 353518         | 424.5      |
| BMP3545P    | 305   | 405.5 | 273   | 364   | 4   | Φ8    | BCAP · K · R, BCPC · K · R 354512, 354516, 354520 | 539        |
| BMP4050P    | 357   | 457   | 328   | 428   | 4   | Φ8.5  | BCAP · K · R, BCPC · K · R 405016, 405020         | 725.5      |

■ K = BCAF · BCPC series / R = BCAR · BCPR series

**BMP-W SERIES**

**WOODEN MOUNTING PLATE**

- Easy installation with tapping screws.
- Easily customizable hard wooden plate.
- Plate comes with scales printed on for easy references.
- DXF/DWG/PDF drawings available on our website.



**Components**

| Part name      | Pcs   | Material        | Color / Finish     |
|----------------|-------|-----------------|--------------------|
| Mounting plate | 1     | Wood board t=15 | Scaled sheet       |
| Screw          | 2 ~ 8 | Steel           | Trivalent chromate |

**Product no. / Dimensions**

| Product no. | W   | D   | a   | b   | Suitable box                                      | Screw            | Weight (g) |
|-------------|-----|-----|-----|-----|---|------------------|------------|
| BMP0912W    | 58  | 92  | -   | 69  | BCAP • K • R, BCPC • K • R 091207, 091208         | M4-20 × 2 pcs    | 62         |
| BMP0813W    | 68  | 122 | -   | 99  | BCAP • K • R, BCPC • K • R 101507, 101508         | M4-20 × 2 pcs    | 94         |
| BMP1121W    | 77  | 181 | -   | 158 | BCAP • K • R, BCPC • K • R 112107, 112110         | M4-20 × 2 pcs    | 166        |
| BMP1126W    | 77  | 231 | -   | 208 | BCAP • K • R, BCPC • K • R 112607, 112610         | M4-20 × 2 pcs    | 191        |
| BMP1315W    | 102 | 126 | -   | 110 | BCAP • K • R, BCPC • K • R 131508                 | M4-20 × 2 pcs    | 127        |
| BMP1217W    | 102 | 156 | -   | 140 | BCAP • K • R, BCPC • K • R 131808, 131810         | M4-20 × 2 pcs    | 190        |
| BMP1515W    | 118 | 125 | -   | 110 | BCAP • K BCPC • K 151509, 151512                  | M4-20 × 2 pcs    | 172        |
| BMP1520W    | 126 | 180 | -   | 160 | BCAP • K • R, BCPC • K • R 162110, 162113         | M4-20 × 2 pcs    | 243        |
| BMP1525W    | 127 | 231 | -   | 210 | BCAP • K • R, BCPC • K • R 162610, 162613         | M4-20 × 2 pcs    | 352        |
| BMP1722W    | 137 | 191 | -   | 160 | BCAP • K • R, BCPC • K • R 172211                 | M4-20 × 2 pcs    | 286        |
| BMP1727W    | 137 | 241 | -   | 210 | BCAP • K • R, BCPC • K • R 172711                 | M4-20 × 2 pcs    | 212        |
| BMP1928W    | 150 | 240 | 120 | 210 | BCAP • K • R, BCPC • K • R 192810, 192814         | M5-20 × 4 pcs    | 350        |
| BMP2020W    | 170 | 174 | 120 | 150 | BCAP • K • R, BCPC • K • R 212110, 212113         | M4-20 × 4 pcs    | 336        |
| BMP2030W    | 159 | 256 | 129 | 226 | BCAP • K • R, BCPC • K • R 203013, 203015, 203018 | M5-20 × 4 pcs    | 482        |
| BMP2535W    | 210 | 300 | 180 | 270 | BCAP • K • R, BCPC • K • R 253515, 253518         | M5-20 × 4 pcs    | 688        |
| BMP2828W    | 240 | 240 | 210 | 210 | BCAP • K • R, BCPC • K • R 282813                 | M5-20 × 4 pcs    | 565        |
| BMP2838W    | 240 | 340 | 210 | 310 | BCAP • K • R, BCPC • K • R 283813                 | M5-20 × 4 pcs    | 893        |
| BMP3030W    | 249 | 249 | 219 | 219 | BCAP • K • R, BCPC • K • R 303015, 303018         | M5-20 × 4 pcs    | 659        |
| BMP3040W    | 258 | 355 | 228 | 324 | BCAP • K • R, BCPC • K • R 304012, 304015, 304018 | M5-20 × 4 pcs    | 965        |
| BMP3535W    | 300 | 300 | 270 | 270 | BCAP • K • R, BCPC • K • R 353515, 353518         | M5-20 × 4 pcs    | 964        |
| BMP3545W    | 301 | 395 | 274 | 365 | BCAP • K • R, BCPC • K • R 354512, 354516, 354520 | M5-20 × 4 pcs    | 1,314      |
| BMP4050W    | 355 | 455 | 328 | 428 | BCAP • K • R, BCPC • K • R 405016, 405020         | M5-20 × 4 pcs    | 1,754      |
| BMP4060W    | 355 | 552 | 328 | 525 | BCAP • K BCPC • K 406018, 406023                  | M5-20 × 4 pcs    | 2,015.5    |
| BMP5060W    | 456 | 556 | 426 | 526 | BCAP • K • R, BCPC • K • R 506018, 506025         | M5-20 × 6 pcs    | 2,650      |
| BMP5070W    | 456 | 656 | 426 | 626 | BCAP • K • R, BCPC • K • R 507018, 507025         | M5-20 × 6 pcs    | 3,152.5    |
| BMP6080W    | 556 | 756 | 526 | 726 | BCAP • K • R, BCPC • K • R 608018, 608028         | M5/M6-20 × 8 pcs | 4,434      |

■ K = BCAP • BCPK series / R = BCAR • BCPR series

**BFL SERIES PLASTIC MOUNTING BRACKET**



Color G Color S

- 2 different colored type to match box colors.
- Tough and strong glass fiber filled polycarbonate.

**Color Type**

| Color code | Color      | Suitable series    |
|------------|------------|--------------------|
| G          | White gray | BCAP • BCAK • BCAR |
| S          | Light gray | BCPC • BCPK • BCPR |

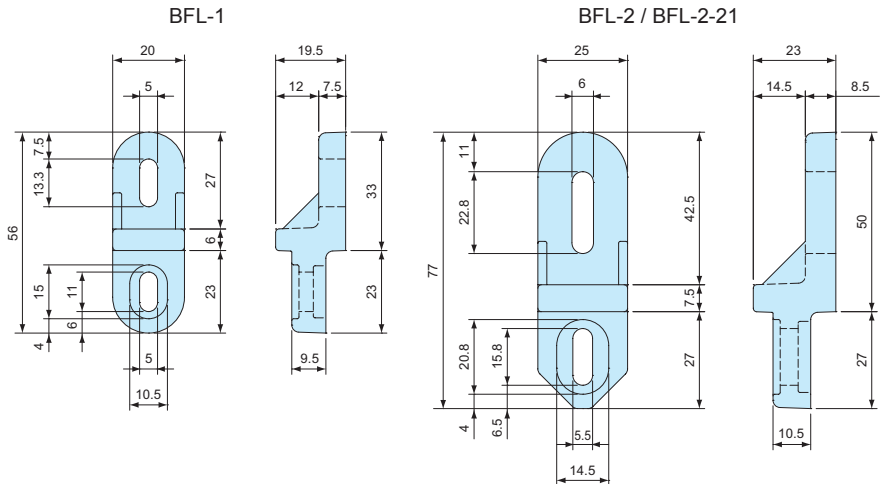
**Components**

| Part name        | Pcs | Material / Finish                |
|------------------|-----|----------------------------------|
| Mounting bracket | 4   | Glass fiber filled polycarbonate |
| Screw            | 4   | Stainless steel / Unfinished     |

**Product no. / Dimensions**

| Product no. | Suitable box  | Screw |
|-------------|---|-------|
| BFL-1□      | BCAP • K • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 212113     | M4-12 |
| BFL-2□      | BCAP • K • R, BCPC • K • R 1928, 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060 | M5-12 |
| BFL-2-21□   | BCAP • K • R, BCPC • K • R 212110   | M4-12 |

- Please suffix color code at the end of the product number.
- ※Not suitable for BCAP1515 model. Use CK-35P (Stainless steel) instead.

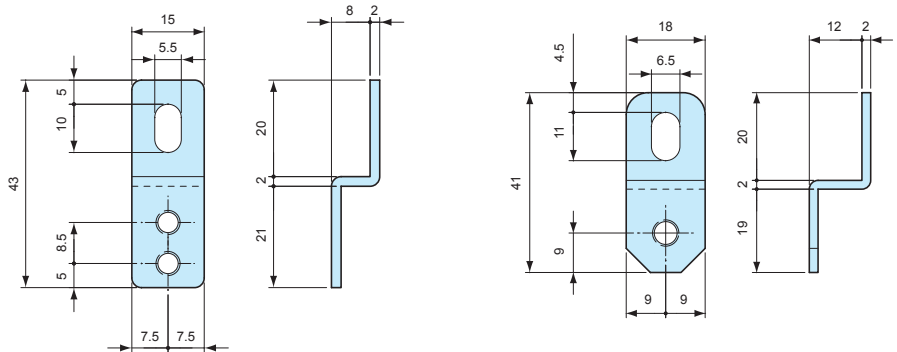


**CK SERIES STAINLESS STEEL MOUNTING BRACKET**



CK-35P

CK-26P



**Components**

| Part name        | Pcs | Material        | Finish        |
|------------------|-----|-----------------|---------------|
| Mounting bracket | 4   | Stainless steel | Barrel finish |
| Screw            | 4   | Stainless steel | Unfinished    |

**Product no. / Dimensions**

| Product no. | Suitable box  | Screw |
|-------------|---|-------|
| CK-35P      | BCAP • K • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 2121 | M4-10 |
| CK-26P      | BCAP • K • R, BCPC • K • R 1928, 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060       | M5-10 |

**MT SERIES PCB MOUNTING SCREW**

- PCB mounting screws for inner bosses of BCAP • BCAK • BCAR • BCPC • BCPK • BCPR series.

**Product no. / Dimensions**

| Product no. | Material | Finish             | Pack of |
|-------------|----------|--------------------|---------|
| MT4-8T      | Steel M4 | Trivalent chromate | 20      |
| MT5-8T      | Steel M5 | Trivalent chromate | 20      |

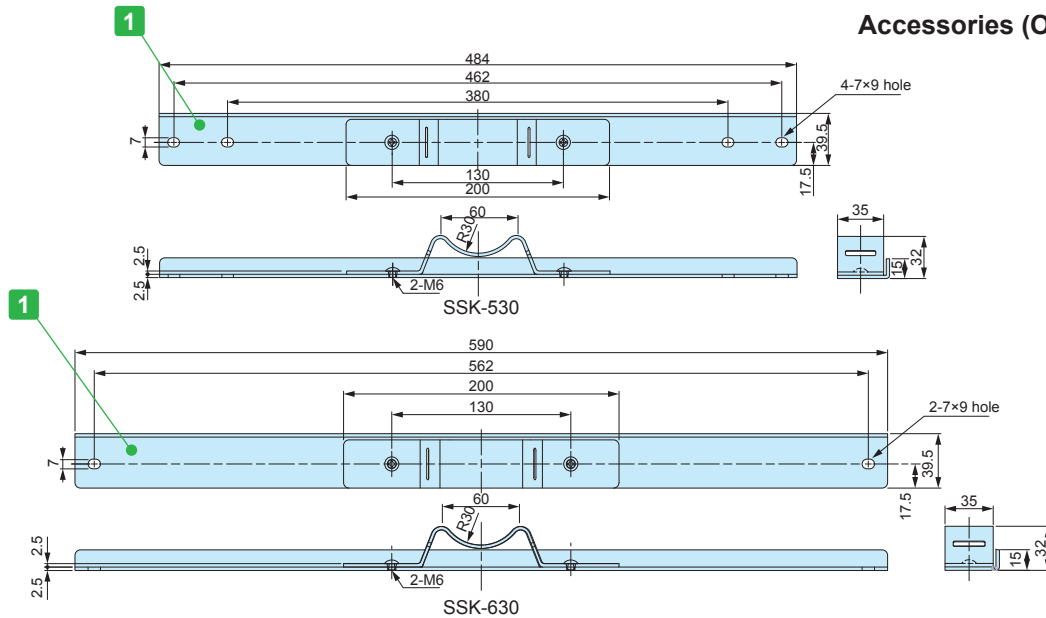


**Suitable Box**

| Product no. | Suitable box  | Recommended torque |
|-------------|---|--------------------|
| MT4-8T      | BCAP • K • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 1928, 2121 | 7kgf·cm            |
| MT5-8T      | BCAP • K • R, BCPC • K • R 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060, 5070, 6080 | 14kgf·cm           |



Accessories (Optional parts)



Components

| No. | Part name                         | Pcs   | Material               | Color / Finish       |
|-----|-----------------------------------|-------|------------------------|----------------------|
| 1   | Bracket                           | 2 / 4 | Stainless Steel SUS304 | Barrel finish        |
| 2   | Plastic bracket (SSK-P type only) | 2     | ASA UL94HB             | White gray (RAL7035) |
| -   | Screw                             | 4     | Stainless Steel SUS304 | Unfinished           |

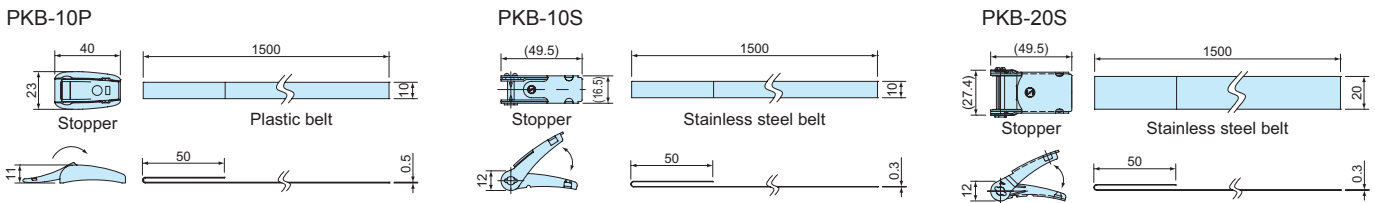
Product no. / Dimensions

| Product no.         | W     | a     | b     | c        | Box size   | Belt to use with | Pack of |
|---------------------|-------|-------|-------|----------|--|------------------|---------|
| SSK-S1              | 32.25 | 18.25 | 14    | -        | 0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 2121 | PKB-10P, PKB-10S | 4       |
| <b>NEW</b> SSK-P60  | 60    | 54.5  | 46.5  | 5.5×9    | 0912   | PKB-10P, PKB-10S | 2       |
| <b>NEW</b> SSK-P75  | 75    | 69.5  | 53.5  | 5.5×12.5 | 1015   | PKB-10P, PKB-10S | 2       |
| <b>NEW</b> SSK-P80  | 80    | 74.5  | 64.5  | 5.5×10.5 | 1121, 1126   | PKB-10P, PKB-10S | 2       |
| <b>NEW</b> SSK-P120 | 120   | 106.5 | 88.5  | 5.5×14.5 | 1315, 1318   | PKB-10P, PKB-10S | 2       |
| SSK-160             | 142   | 129.5 | 101   | -        | 1515, 1621, 1626   | PKB-10P, PKB-10S | 2       |
| SSK-170             | 152   | 142.3 | 101   | -        | 1722, 1727   | PKB-10P, PKB-10S | 2       |
| SSK-200             | 174   | 161.5 | 112.5 | -        | 1928, 2030   | PKB-10P, PKB-10S | 2       |
| SSK-210             | 192   | 180.5 | 131.5 | -        | 2121   | PKB-10P, PKB-10S | 2       |
| SSK-250             | 230   | 215.5 | 166.5 | -        | 2535   | PKB-10P, PKB-10S | 2       |
| SSK-280             | 260   | 244.5 | 195.5 | -        | 2828, 2838   | PKB-10P, PKB-10S | 2       |
| SSK-300             | 280   | 264.5 | 215.5 | -        | 3030, 3040   | PKB-10P, PKB-10S | 2       |
| SSK-350             | 324   | 302.5 | 253.5 | -        | 3535, 3545   | PKB-10P, PKB-10S | 2       |
| SSK-400             | 374   | 354.5 | 305.5 | -        | 4050, 4060   | PKB-20S          | 2       |
| SSK-530             | 484   | 462   | 380   | 7×9      | 5060, 5070   | PKB-20S          | 2       |
| SSK-630             | 590   | 562   | -     | 7×9      | 6080   | PKB-20S          | 2       |

PKB SERIES POLE MOUNTING BELT



- Universal pole mounting belt for various types of enclosures / box.
- Strong clamping stainless steel type and easy installation plastic type are available.
- Use SSK mounting bracket to install onto a pole.
- Designed for one time use only (not reusable).
- DXF/DWG/PDF drawings available on our website.



Components

| Part name | Pcs | Material                     | Color / Finish                |
|-----------|-----|------------------------------|-------------------------------|
| Stopper   | 2   | POM • Stainless steel SUS304 | Black • Barrel finish         |
| Belt      | 2   | PET • Stainless steel SUS430 | Gray • Bright annealed finish |

Product no. / Dimensions

| Product no. | Tensile strength (horizontal) | Belt material   | Belt length | Weight (g) | Pack of |
|-------------|-------------------------------|-----------------|-------------|------------|---------|
| PKB-10P     | 1.3kN                         | PET             | 1,500mm     | 31.8       | 2       |
| PKB-10S     | 1.4kN                         | Stainless steel | 1,500mm     | 101.6      | 2       |
| PKB-20S     | 2.9kN                         | Stainless steel | 1,500mm     | 182.2      | 2       |

PMF-12 SERIES

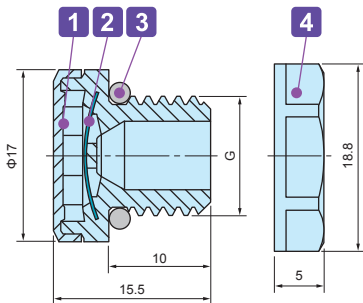
PROTECTIVE VENT



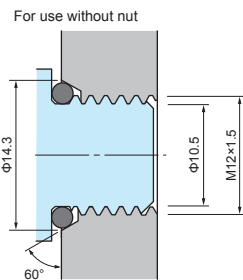
Application example

- Protective vents prevents the ingress of a variety of contaminants, such as water, dust and other particulates while allowing water vapor molecules to diffuse through the microporous membrane.
- Equalize pressure and reduce condensation by allowing airflow into and out of sealed enclosures.
- With an IP68 protection class (water depth 2 meters / 60 mins) and -40°C ~ +125°C operating temperature range, it can be used in harsh environmental conditions.
- For outdoor use, installation on the side of the enclosure unit is recommended.

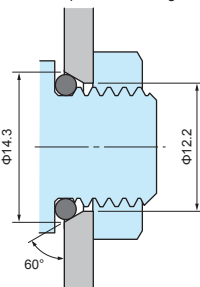
PMF-12 dimensions



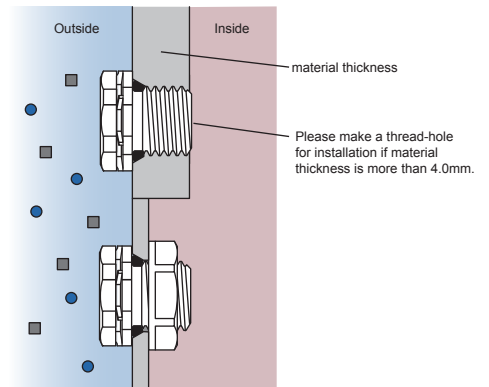
Hole milling drawings



For use with nut  
 ■ Mill either a Φ12.2 circular hole, or as per the following illustration.



Installation drawings



- If used with a lock nut, material thickness should not exceed 4.0mm.

Technical Data

| Product no.                  | PMF-12  | PMF-12HA                    |
|------------------------------|---|-----------------------------|
| Airflow                      | 450ml / min (dp = 70 mbar)  | 2000ml / min (dp = 70 mbar) |
| Water pressure               | 0.6 bar / 30 sec  | 0.3 bar / 30 sec            |
| Recommended torque           | 0.6 ~ 0.8 N · m   |                             |
| Certifications (without nut) | IEC529, 2nd (Protection class test): IP66 · IP67 · IP68 · IP69K<br>IEC60068-2-1, 2, 14 (Heat resistance test): - 40°C ~ +125°C<br>IEC600-2-78 (Humidity test): 85°C · 85% humidity · 1000 hours<br>UL94-V0 f1 (Flame-resistant) |                             |

Product no. / Dimensions

| Product no.  |           | Material          |          |          |             | G           |            | Nut SW |
|--------------|-----------|-------------------|----------|----------|-------------|-------------|------------|--------|
| ● Light gray | ● Black   | 1 Housing         | 2 Filter | 3 O-ring | 4 Lock nut  | Thread size | Mount hole |        |
| PMF-12S      | PMF-12B   | PA6 GF10% UL94V-0 | PTFE     | Silicone | PA6 UL94V-2 | M12×1.5     | Φ12.2      | 17     |
| PMF-12HAS    | PMF-12HAB | PA6 GF10% UL94V-0 | PTFE     | Silicone | PA6 UL94V-2 | M12×1.5     | Φ12.2      | 17     |



PMF-32 SERIES

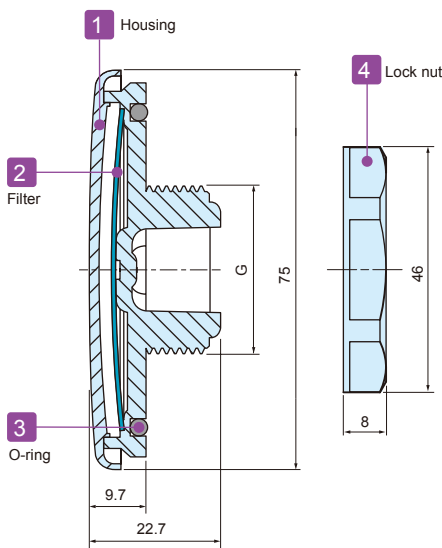
LARGE PROTECTIVE VENT



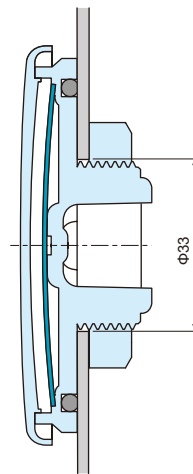
Application example

- Maintaining high airflow for large enclosures in an outdoor environment.
- Equalize pressure and reduce condensation by allowing airflow into and out of sealed enclosures.
- Simple and flat design allows it to be used on a wide variety of enclosure types.
- IP68 protection class rated with an operating temperature range of -40°C ~ +125°C allows it to be used in harsh environments.
- Compliant with Solar industry testing IEC62108 standards.
- For superior performance, installation on the side of the enclosure is recommended.

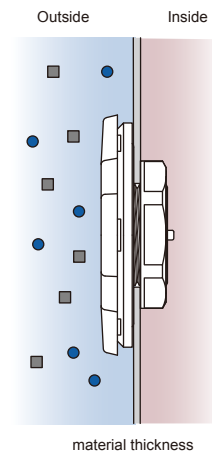
PMF-32 Dimensions



Hole milling drawings



Installation drawings



- If used with a lock nut, material thickness should not exceed 5.0mm.

Technical Data

|                              |   |
|------------------------------|---|
| Airflow                      | 16 ℓ / min (dp = 12 mbar)   |
| Water pressure               | 0.3 bar / 30 sec  |
| Recommended torque           | 5 N · m   |
| Certifications (without nut) | IEC529, 2nd (Protection class test): IP66 • IP67 • IP68 • IP69K<br>IEC60068-2-1, 2, 14 (Heat resistance test): - 40°C ~ +125°C<br>IEC600-2-78 (Humidity test): 85°C • 85% humidity • 1000 hours<br>IEC62108.10.8 • 9 (Solar industry test): Freezing - high temperature test • Hail impact test<br>UL94-V0 f1 (Flame-resistant) |

Product no. / Dimensions

| Product no. | Material  |          |          |            | G           |            | Nut SW |
|-------------|-----------|----------|----------|------------|-------------|------------|--------|
|             | 1 Housing | 2 Filter | 3 O-ring | 4 Lock nut | Thread size | Mount hole |        |
| PMF-32S     | PC        | PTFE     | Silicone | PA6        | M32×1.5     | φ33        | 41.5   |

VSC SERIES

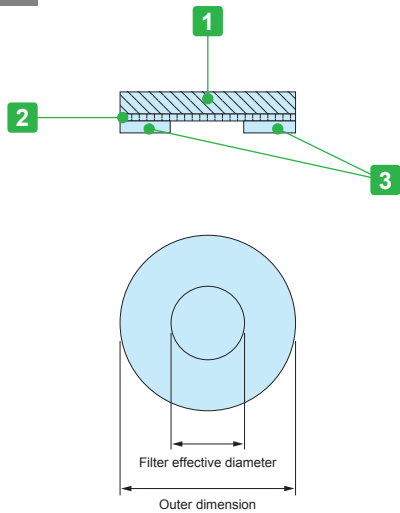
ADHESIVE PROTECTIVE VENT FILTER



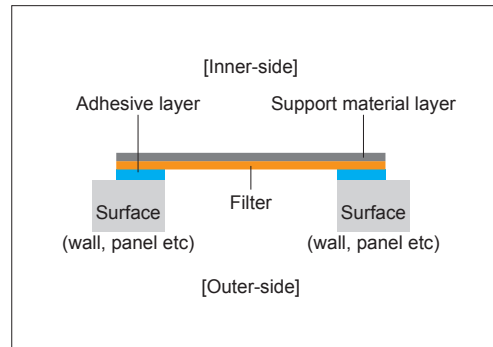
| Technical Data  |
|---|
| Water Entry Pressure (WEP): $\geq 20.0\text{kPa}$               |
| Airflow: $450\text{cc}/\text{cm}^2 \cdot \text{min}$ at 1.29Kpa |

- Prevents ingress of a variety of contaminants, such as water, dust and other particles.
- Allows water vapor molecules to diffuse through the microporous membrane.
- Recommended to be adhered onto flat plastic or metallic surfaces.
  
- Surface must be wiped dry before adhering.
- An initial period of a few hours is required for the adhesive to properly bond to the surface.
- Please do not adhere onto the top-side of enclosures. Rain water etc will collect on the filter, which will weaken the adhesive seal and prevent ventilation.

Drawing



Installation drawing



Components

| No. | Part name        | Material         | Color       |
|-----|------------------|------------------|-------------|
| 1   | Adhesive         | Acrylic adhesive | Transparent |
| 2   | Filter           | PTFE             | White       |
| 3   | Support material | Polyester fabric | White       |

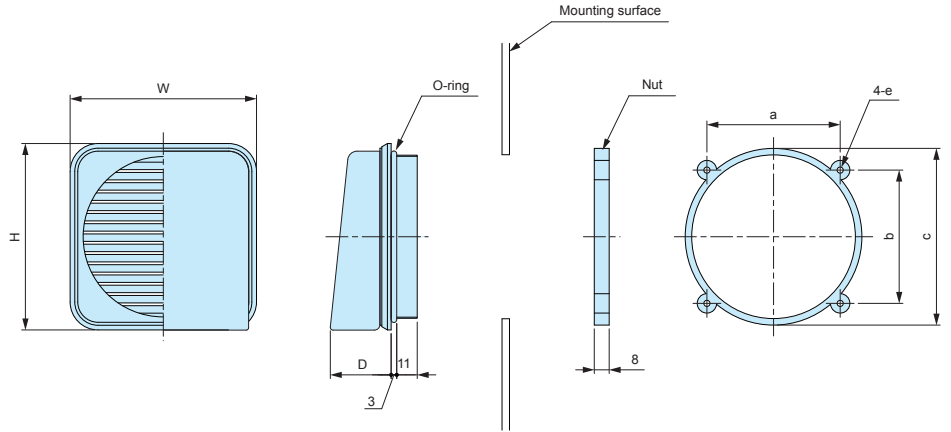
Product no. / Dimensions

| Product no. | Outer dimension (Φ) | Filter effective diameter (Φ) | Thickness (t) | Sales unit          |
|-------------|---------------------|-------------------------------|---------------|---------------------|
| VSC075      | 7.5                 | 4.0                           | 0.35          | 5 pcs (per pack)    |
| VSC130      | 13.0                | 8.0                           | 0.35          | 4 pcs (per pack)    |
| VSC240      | 24.0                | 16.0                          | 0.35          | 4 pcs (per pack)    |
| VSC075-S    | 7.5                 | 4.0                           | 0.35          | 100 pcs (per sheet) |
| VSC130-S    | 13.0                | 8.0                           | 0.35          | 56 pcs (per sheet)  |
| VSC240-S    | 24.0                | 16.0                          | 0.35          | 20 pcs (per sheet)  |

V SERIES VENTILATION LOUVER



- Recommended for condensation prevention and heat dissipation.
- 2 models available: ABS V60, V80 for BCAP and BCAF series, and PC V60S, V80S for BCPC and BCPK series.
- Suitable to be used on a variety of enclosure types, series and models.



Product no. / Dimensions

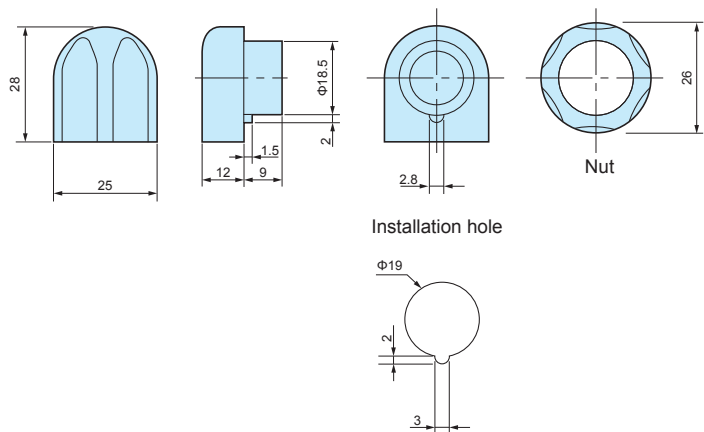
| Product no. | Material      | Color      | Installation hole | W    | H    | D    | a    | b    | c    | e    |
|-------------|---------------|------------|-------------------|------|------|------|------|------|------|------|
| V60         | ABS           | White gray | Φ63               | 74.5 | 74.5 | 30.8 | 50.5 | 50.5 | 70   | Φ3.8 |
| V80         | ABS           | White gray | Φ88               | 100  | 100  | 36   | 71.5 | 71.5 | 94.8 | Φ3.3 |
| V60S        | Polycarbonate | Light gray | Φ63               | 74.5 | 74.5 | 30.8 | 50.5 | 50.5 | 70   | Φ3.8 |
| V80S        | Polycarbonate | Light gray | Φ88               | 100  | 100  | 36   | 71.5 | 71.5 | 94.8 | Φ3.3 |

■ O-ring material: NBR Black

VF SERIES VENTILATION PARTS



VF-1

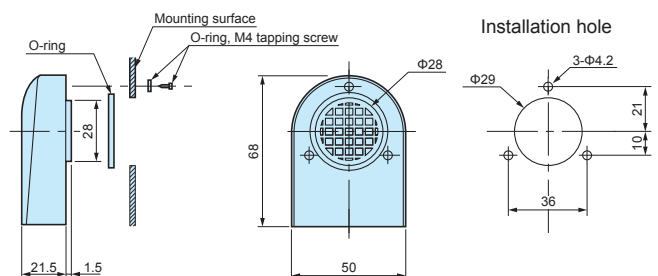


| Technical Data    |                        |
|-------------------|------------------------|
| Protection class: | VF-1 IP33<br>VF-2 IP24 |

Product no.

| Product no. | Material / Color       |
|-------------|------------------------|
| VF-1        | Polyamide / White gray |
| VF-2        | Polyamide / White gray |

VF-2



# TMC SERIES

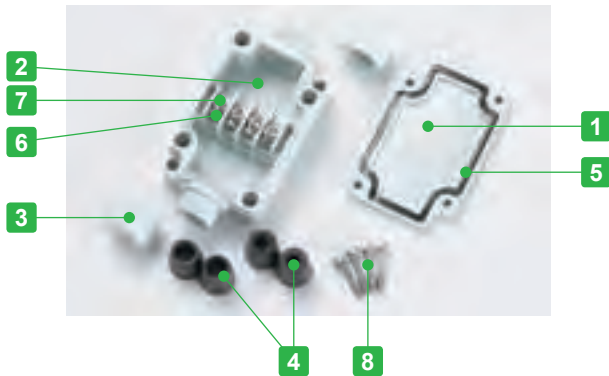
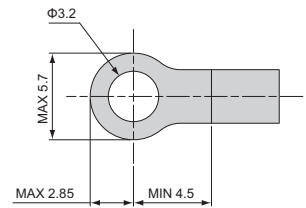
# TERMINAL JUNCTION BOX



- Integrated junction box consisting of cable glands and a terminal block.
- Suitable for industrial facilities, power cable joint, relay between motors and/or sensors.
- IP65 protection class with high oil resistant PBT material.
- 3, 4, and 6 pole types are available.
- $\Phi 5.0$  and  $\Phi 7.4$  rubber cable bushes (2 pcs each) are included.

| Technical Data                       |
|--------------------------------------|
| Protection class: IP65               |
| Operating temperature: -20°C ~ +75°C |

Applicable crimp terminal  
R1.25-3



### Terminal Block Specification

|                            |                     |
|----------------------------|---------------------|
| Rated voltage              | 250V                |
| Rated current              | 15A                 |
| Applicable wire            | 1.25mm <sup>2</sup> |
| Standard tightening torque | 0.5N · m            |

### Components

| No. | Part name        | Pcs     | Material           | Color / Finish     |
|-----|------------------|---------|--------------------|--------------------|
| 1   | Cover            | 1       | PBT UL94V-0        | Light gray • Black |
| 2   | Base             | 1       | PBT UL94V-0        | Light gray • Black |
| 3   | Cable cap        | 2       | PBT UL94V-0        | Light gray • Black |
| 4   | Rubber bush      | 2 pairs | EPDM               | Black              |
| 5   | Gasket           | 1       | Polyurethane       | Black              |
| 6   | Conductive plate | 3~6     | Brass              | Nickel plated      |
| 7   | Terminal screw   | 3~6     | Steel M3           | Nickel plated      |
| 8   | Cover screw      | 4       | Stainless steel M3 | Unfinished         |

### Accessories (Optional parts)



Shorting Bar  
SBR series  
See page 307



Rubber Bush  
RB series  
See page 307

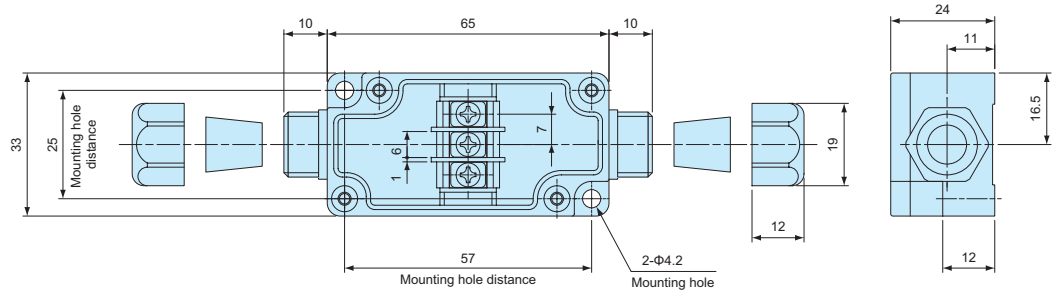
Product no. / Dimensions

| Product no.  |         | L  | W  | H  | Number of poles | Weight (g) |
|--------------|---------|----|----|----|-----------------|------------|
| ● Light gray | ● Black |    |    |    |                 |            |
| TMC-3PG      | TMC-3PB | 65 | 33 | 24 | 3P              | 52         |
| TMC-4PG      | TMC-4PB | 60 | 40 | 24 | 4P              | 58         |
| TMC-6PG      | TMC-6PB | 70 | 50 | 24 | 6P              | 73         |

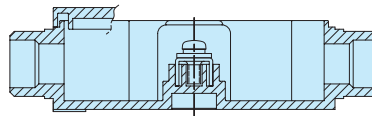
TMC dimensions

■ DXF/DWG/PDF drawings available on our website.

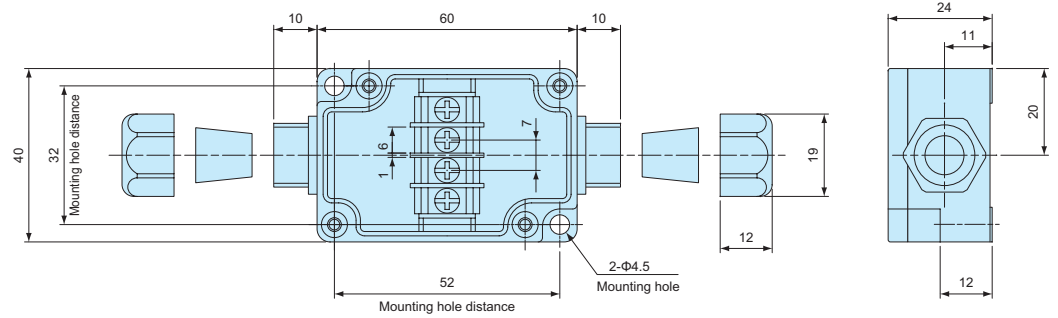
TMC-3P



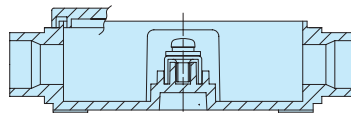
| Inner diameter of rubber bush | Cable range |
|-------------------------------|-------------|
| Φ5.0                          | Φ4 ~ Φ5     |
| Φ7.4                          | Φ6 ~ Φ7     |



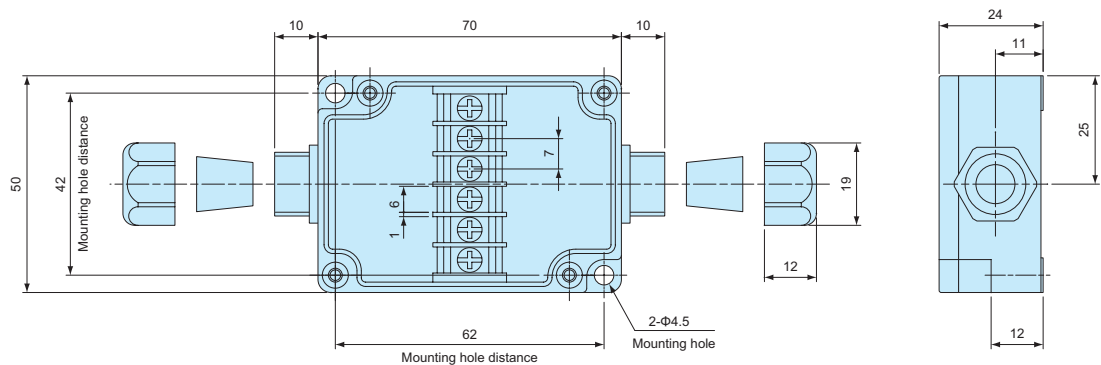
TMC-4P



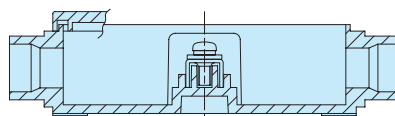
| Inner diameter of rubber bush | Cable range |
|-------------------------------|-------------|
| Φ5.0                          | Φ4 ~ Φ5     |
| Φ7.4                          | Φ6 ~ Φ7     |



TMC-6P



| Inner diameter of rubber bush | Cable range |
|-------------------------------|-------------|
| Φ5.0                          | Φ4 ~ Φ5     |
| Φ7.4                          | Φ6 ~ Φ7     |



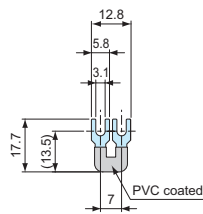
**SBR SERIES**

**SHORTING BAR**

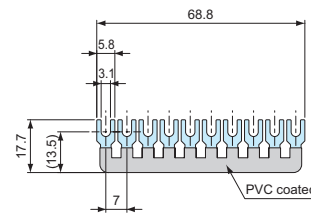


- Convenient for common-wiring.
- SBR70-10P can be cut accordingly into required poles.
- PVC coated.

SBR70-2P



SBR70-10P

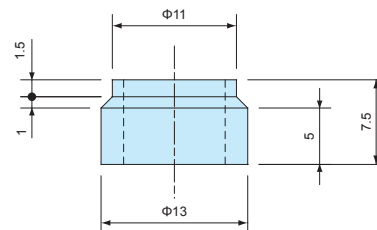
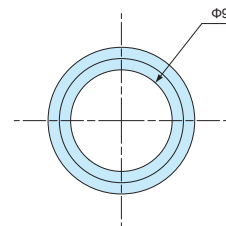


Product no. / Details

| Product no. | Poles | Pole distance | Material | Finish        | Pack of |
|-------------|-------|---------------|----------|---------------|---------|
| SBR70-2P    | 2P    | 7.0mm         | Brass    | Nickel plated | 10      |
| SBR70-10P   | 10P   | 7.0mm         | Brass    | Nickel plated | 1       |

**RB-9**

**RUBBER BUSH**



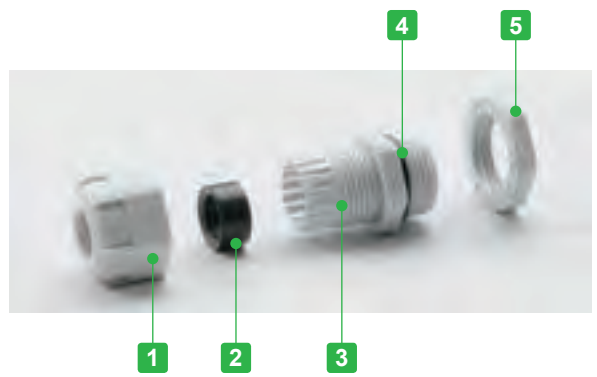
- Rubber bush for TMC series.
- For cable diameter from Φ8.0mm to Φ9.0mm.

Product no. / Details

| Product no. | Material | Color | Cable range    | Pack of |
|-------------|----------|-------|----------------|---------|
| RB-9        | EPDM     | Black | Φ8.0mm ~ 9.0mm | 2       |



# RM SERIES POLYAMIDE CABLE GLAND



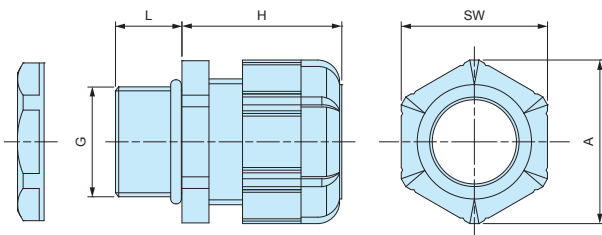
- Low cost cable glands made from polyamide material.
- Wide selection, for M8 ~ M63, suitable for  $\Phi 1\text{mm} \sim \Phi 44\text{ mm}$  cable.
- High oil resistant NBR rubber sealing and O-ring.
- IP67 protection class.

### Components

■ PA = Polyamide

| No. | Part name      | Material     |
|-----|----------------|--------------|
| 1   | Cap            | PA66 UL94V-2 |
| 2   | Sealing insert | NBR          |
| 3   | Connector      | PA66 UL94V-2 |
| 4   | O-ring         | NBR          |
| 5   | Lock nut       | PA66 UL94V-2 |

### RM dimensions



| Technical Data  |
|---|
| Protection class: IP67  |
| Operating temperature: $-20^{\circ}\text{C} \sim +80^{\circ}\text{C}$ |

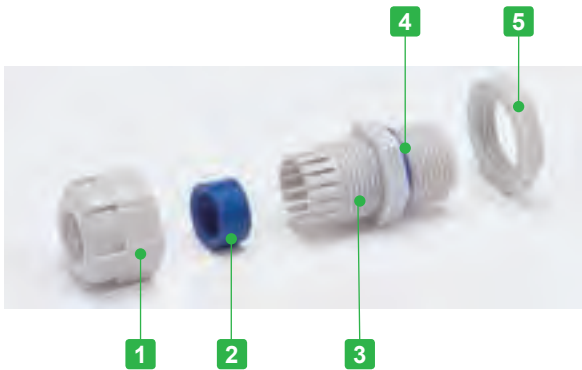
- DXF/DWG/PDF drawings available on our website.
- Lock nut is not included for RM8S-2.5, 8S-4, and 10S-6 models.  
Please drill a proper thread hole into the enclosure for installation.

### Product no. / Dimensions

| Product no. |              | G           |               | Cable range |     | L    | H Max | SW   | A    | Pack of |
|-------------|--------------|-------------|---------------|-------------|-----|------|-------|------|------|---------|
| ● Black     | ● Light gray | Thread size | Mounting hole | Min         | Max |      |       |      |      |         |
| RM8S-2.5B   | RM8S-2.5S    | M8×1.25     | —             | 1           | 2.5 | 7.5  | 19.5  | 11.8 | 13.5 | 1       |
| RM8L-2.5B   | RM8L-2.5S    | M8×1.25     | $\Phi 8.2$    | 1           | 2.5 | 13   | 19.5  | 11.8 | 13.5 | 1       |
| RM8S-4B     | RM8S-4S      | M8×1.25     | —             | 2.5         | 4   | 7.5  | 19.5  | 11.8 | 13.5 | 1       |
| RM8L-4B     | RM8L-4S      | M8×1.25     | $\Phi 8.2$    | 2.5         | 4   | 13   | 19.5  | 11.8 | 13.5 | 1       |
| RM10S-6B    | RM10S-6S     | M10×1.5     | —             | 3           | 6   | 8    | 20.5  | 13   | 14.4 | 1       |
| RM10L-6B    | RM10L-6S     | M10×1.5     | $\Phi 10.2$   | 3           | 6   | 13   | 20.5  | 13   | 14.4 | 1       |
| RM12S-7B    | RM12S-7S     | M12×1.5     | $\Phi 12.2$   | 3.5         | 7   | 9    | 20.5  | 16   | 17.6 | 1       |
| RM12L-7B    | RM12L-7S     | M12×1.5     | $\Phi 12.2$   | 3.5         | 7   | 14.5 | 20.5  | 16   | 17.7 | 1       |
| RM16S-8B    | RM16S-8S     | M16×1.5     | $\Phi 16.2$   | 4           | 8   | 9    | 23.5  | 19   | 21   | 1       |
| RM16L-8B    | RM16L-8S     | M16×1.5     | $\Phi 16.2$   | 4           | 8   | 15   | 24    | 19   | 21   | 1       |
| RM20S-12B   | RM20S-12S    | M20×1.5     | $\Phi 20.2$   | 6           | 12  | 10   | 29    | 24   | 26.2 | 1       |
| RM20L-12B   | RM20L-12S    | M20×1.5     | $\Phi 20.2$   | 6           | 12  | 15   | 28.5  | 24   | 26.2 | 1       |
| RM25L-17B   | RM25L-17S    | M25×1.5     | $\Phi 25.2$   | 11          | 17  | 15   | 35    | 33   | 36.2 | 1       |
| RM32L-21B   | RM32L-21S    | M32×1.5     | $\Phi 32.3$   | 13          | 21  | 15   | 38    | 36   | 39.5 | 1       |
| RM40L-27B   | RM40L-27S    | M40×1.5     | $\Phi 40.3$   | 18          | 27  | 18   | 43.5  | 45.7 | 50.5 | 1       |
| RM50L-38B   | RM50L-38S    | M50×1.5     | $\Phi 50.4$   | 27          | 38  | 20   | 50.5  | 60   | 66.5 | 1       |
| RM63L-44B   | RM63L-44S    | M63×1.5     | $\Phi 63.4$   | 37          | 44  | 20   | 53    | 68   | 75.5 | 1       |
| RM8L-2.5B-P | RM8L-2.5S-P  | M8×1.25     | $\Phi 8.2$    | 1           | 2.5 | 13   | 19.5  | 11.8 | 13.5 | 100     |
| RM8L-4B-P   | RM8L-4S-P    | M8×1.25     | $\Phi 8.2$    | 2.5         | 4   | 13   | 19.5  | 11.8 | 13.5 | 100     |
| RM10L-6B-P  | RM10L-6S-P   | M10×1.5     | $\Phi 10.2$   | 3           | 6   | 13   | 20.5  | 13   | 14.4 | 100     |
| RM12S-7B-P  | RM12S-7S-P   | M12×1.5     | $\Phi 12.2$   | 3.5         | 7   | 9    | 20.5  | 16   | 17.6 | 100     |
| RM12L-7B-P  | RM12L-7S-P   | M12×1.5     | $\Phi 12.2$   | 3.5         | 7   | 14.5 | 20.5  | 16   | 17.7 | 100     |
| RM16S-8B-P  | RM16S-8S-P   | M16×1.5     | $\Phi 16.2$   | 4           | 8   | 9    | 23.5  | 19   | 21   | 100     |
| RM16L-8B-P  | RM16L-8S-P   | M16×1.5     | $\Phi 16.2$   | 4           | 8   | 15   | 24    | 19   | 21   | 100     |
| RM20S-12B-P | RM20S-12S-P  | M20×1.5     | $\Phi 20.2$   | 6           | 12  | 10   | 29    | 24   | 26.2 | 100     |
| RM20L-12B-P | RM20L-12S-P  | M20×1.5     | $\Phi 20.2$   | 6           | 12  | 15   | 28.5  | 24   | 26.2 | 100     |
| RM25L-17B-P | RM25L-17S-P  | M25×1.5     | $\Phi 25.2$   | 11          | 17  | 15   | 35    | 33   | 36.2 | 100     |



- Weatherproof cable gland equipped with high ultraviolet and degradation resistant silicone sealing insert and O-ring.
- Recommended to use outdoors where waterproofing is critical.

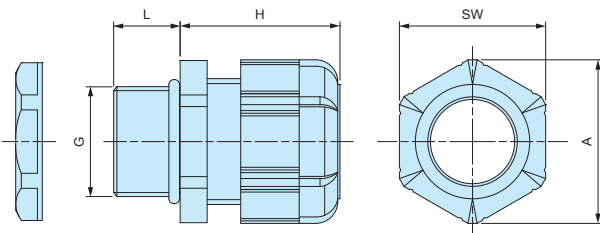


Components

■ PA = Polyamide

| No. | Part name      | Material     |
|-----|----------------|--------------|
| 1   | Cap            | PA66 UL94V-2 |
| 2   | Sealing insert | Silicone     |
| 3   | Connector      | PA66 UL94V-2 |
| 4   | O-ring         | Silicone     |
| 5   | Nut            | PA66 UL94V-2 |

RMW dimensions



Technical Data

Protection class: IP67  
Operating temperature: -20°C ~ +80°C

- DXF/DWG/PDF drawings available on our website.
- Lock nut is not included for RMW10S-6.  
Please drill a proper thread hole into the enclosure for installation.

Product no. / Dimensions

| Product no.  |              | G           |               | Cable range |     | L    | H Max | SW   | A    | Pack of |
|--------------|--------------|-------------|---------------|-------------|-----|------|-------|------|------|---------|
| ● Black      | ● Light gray | Thread size | Mounting hole | Min         | Max |      |       |      |      |         |
| RMW8L-2.5B   | RMW8L-2.5S   | M8×1.25     | Φ8.2          | 1           | 2.5 | 13   | 19.5  | 11.8 | 13.5 | 1       |
| RMW8L-4B     | RMW8L-4S     | M8×1.25     | Φ8.2          | 2.5         | 4   | 13   | 19.5  | 11.8 | 13.5 | 1       |
| RMW10S-6B    | RMW10S-6S    | M10×1.5     | —             | 3           | 6   | 8    | 20.5  | 13   | 14.4 | 1       |
| RMW10L-6B    | RMW10L-6S    | M10×1.5     | Φ10.2         | 3           | 6   | 13   | 20.5  | 13   | 14.4 | 1       |
| RMW12S-7B    | RMW12S-7S    | M12×1.5     | Φ12.2         | 3.5         | 7   | 9    | 20.5  | 16   | 17.6 | 1       |
| RMW12L-7B    | RMW12L-7S    | M12×1.5     | Φ12.2         | 3.5         | 7   | 14.5 | 20.5  | 16   | 17.7 | 1       |
| RMW16S-8B    | RMW16S-8S    | M16×1.5     | Φ16.2         | 4           | 8   | 9    | 23.5  | 19   | 21   | 1       |
| RMW16L-8B    | RMW16L-8S    | M16×1.5     | Φ16.2         | 4           | 8   | 15   | 24    | 19   | 21   | 1       |
| RMW20S-12B   | RMW20S-12S   | M20×1.5     | Φ20.2         | 6           | 12  | 10   | 29    | 24   | 26.2 | 1       |
| RMW20L-12B   | RMW20L-12S   | M20×1.5     | Φ20.2         | 6           | 12  | 15   | 28.5  | 24   | 26.2 | 1       |
| RMW25L-17B   | RMW25L-17S   | M25×1.5     | Φ25.2         | 11          | 17  | 15   | 35    | 33   | 36.2 | 1       |
| RMW32L-21B   | RMW32L-21S   | M32×1.5     | Φ32.3         | 13          | 21  | 15   | 38    | 36   | 39.5 | 1       |
| RMW40L-27B   | RMW40L-27S   | M40×1.5     | Φ40.3         | 18          | 27  | 18   | 43.5  | 45.7 | 50.5 | 1       |
| RMW50L-38B   | RMW50L-38S   | M50×1.5     | Φ50.4         | 27          | 38  | 20   | 50.5  | 60   | 66.5 | 1       |
| RMW8L-2.5B-P | RMW8L-2.5S-P | M8×1.25     | Φ 8.2         | 1           | 2.5 | 13   | 19.5  | 11.8 | 13.5 | 100     |
| RMW8L-4B-P   | RMW8L-4S-P   | M8×1.25     | Φ 8.2         | 2.5         | 4   | 13   | 19.5  | 11.8 | 13.5 | 100     |
| RMW10L-6B-P  | RMW10L-6S-P  | M10×1.5     | Φ10.2         | 3           | 6   | 13   | 20.5  | 13   | 14.4 | 100     |
| RMW12S-7B-P  | RMW12S-7S-P  | M12×1.5     | Φ12.2         | 3.5         | 7   | 9    | 20.5  | 16   | 17.6 | 100     |
| RMW12L-7B-P  | RMW12L-7S-P  | M12×1.5     | Φ12.2         | 3.5         | 7   | 14.5 | 20.5  | 16   | 17.7 | 100     |
| RMW16S-8B-P  | RMW16S-8S-P  | M16×1.5     | Φ16.2         | 4           | 8   | 9    | 23.5  | 19   | 21   | 100     |
| RMW16L-8B-P  | RMW16L-8S-P  | M16×1.5     | Φ16.2         | 4           | 8   | 15   | 24    | 19   | 21   | 100     |
| RMW20S-12B-P | RMW20S-12S-P | M20×1.5     | Φ20.2         | 6           | 12  | 10   | 29    | 24   | 26.2 | 100     |
| RMW20L-12B-P | RMW20L-12S-P | M20×1.5     | Φ20.2         | 6           | 12  | 15   | 28.5  | 24   | 26.2 | 100     |
| RMW25L-17B-P | RMW25L-17S-P | M25×1.5     | Φ25.2         | 11          | 17  | 15   | 35    | 33   | 36.2 | 100     |

# RMW series silicone sealing insert weatherproof test report

Object: Cut into a piece of the silicone sealing insert from RMW series and attach it onto an aluminium plate.  
 For comparison, NBR sealing insert from our RM and EPDM sealing insert from another manufacturer is also attached for comparison purposes.



Before



After

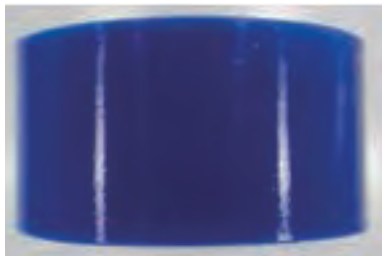
**Testing conditions**

**Equipment :** 7.5kW Super Xenon Weather Meter SX75 (Suga Test Instruments Co., Ltd.- <http://www.sugatest.co.jp/english/>)  
**Conditions :** JIS B7754 : 1991  
 Testing with an authorized Xenon arc lamp weathering test equipment under the conditions denoted below.  
 Irradiance : 180W/m<sup>2</sup> at 300-400nm  
 Black Panel Temperature : 63±3°C Humidity Range : 50±10%  
 Cycle Conditions : 120 minutes cycle (18 minutes irradiation + water spray - 102 minutes irradiation)  
**Time period :** 2,000 hours (equivalent to a period of 4 years under natural conditions)  
**Total radiant exposure :** 1296MJ/m<sup>2</sup>

**Test result (visual / touch inspection)**

**Silicone sealing insert material :** No cracks, no gloss transition, no powder - no appearance change at all. Flexibility remains unchanged.

Before



After

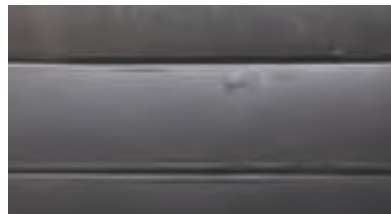


**NBR material from our RM series :** Lost glossiness on the surface and material is stiffened.

Before



After

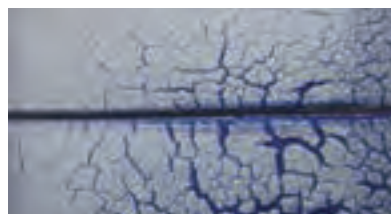


**EPDM material from weatherproof cable gland of another manufacturer :** Cracked, color drastically faded and powder appeared on the surface.

Before



After



# AG SERIES

# HIGH WATER PROTECTION CABLE GLAND

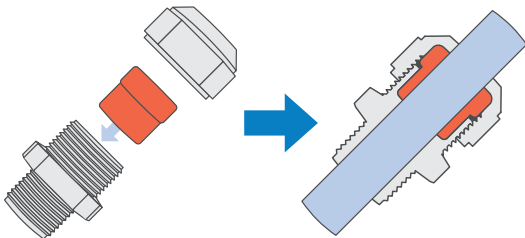


- High water protection IP68 (1bar / 30min) polyamide cable gland.
- Wide selection, for M8 ~ M50, suitable for  $\Phi 2.5\text{mm} \sim \Phi 42\text{ mm}$  cable.
- Super tough and superior heat resistant PA6GF (glass fiber filled PA6) material on cap and connector.
- Safer halogen free, eco-friendly product.

| Technical Data                        |
|---------------------------------------|
| Protection class: IP68 1bar / 30min   |
| Operating temperature: -20°C ~ +100°C |
| Compliant with EN50262 Ver. A         |

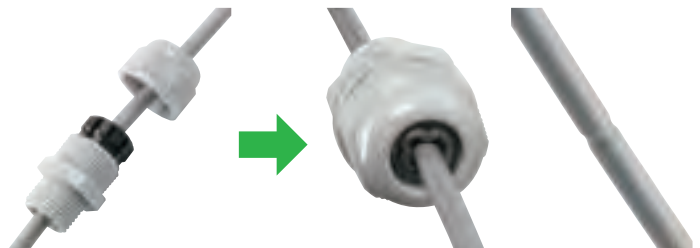
### AG Series

Thicker sealing insert evenly hold a cable by having a larger holding area.  
Remains durable even after repeated tightening / loosening.



### Lamellar insert type

If over-tightened, it can cause the rubber bush or cable to deform, which can allow water to seep in.



- 1
- 2
- 3
- 4

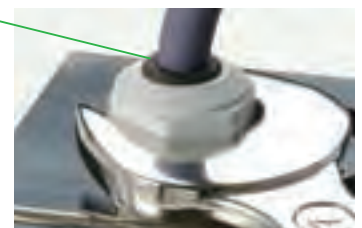
### Components

■ PA = Polyamide

| No. | Part name      | Material |
|-----|----------------|----------|
| 1   | Cap            | PA6GF    |
| 2   | Sealing insert | TPE      |
| 3   | Connector      | PA6GF    |
| 4   | Lock nut       | PA6      |

■ Lock nut is not included for M8 and M10 sizes.  
Please drill a proper thread hole into the enclosure for installation.

- Proper tightening torque varies by each cable diameter.  
Tighten the cap until top of the sealing insert forms a small bead between the cap and the cable.

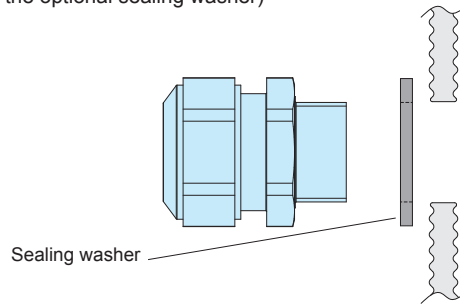


- No optional sealing washer is required when installing on an even surface because of the built-in waterproof rib.

Waterproof rib

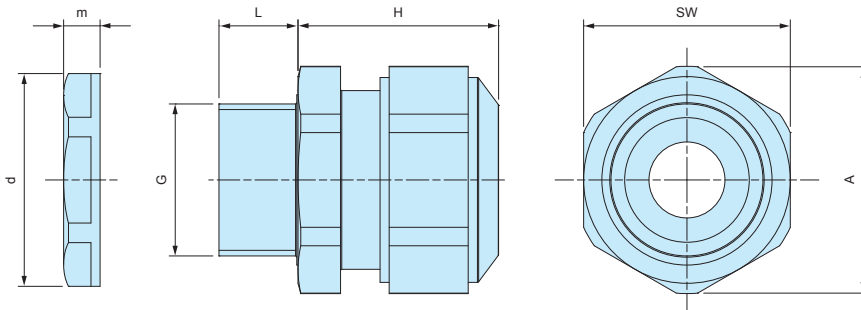


- An optional sealing washer is required when installing on an uneven surface. (See website for more information on the optional sealing washer)



**AG dimensions**

- DXF/DWG/PDF drawings available on our website.



- Lock nut is not included for M8 and M10 sizes. Please drill a proper thread hole into the enclosure for installation.

**Product no. / Dimensions**

| Product no. |              | G           |               | Cable range |      | L  | H Max | SW | A    | d    | m   | Pack of |
|-------------|--------------|-------------|---------------|-------------|------|----|-------|----|------|------|-----|---------|
| ● Black     | ● Light gray | Thread size | Mounting hole | Min         | Max  |    |       |    |      |      |     |         |
| AG8-3.5B    | AG8-3.5S     | M8×1.0      | —             | 2.5         | 3.5  | 10 | 17    | 12 | 13.2 | —    | —   | 1       |
| AG8-5B      | AG8-5S       | M8×1.0      | —             | 3.5         | 4.7  | 10 | 17    | 12 | 13.2 | —    | —   | 1       |
| AG10-6B     | AG10-6S      | M10×1.0     | —             | 4           | 6    | 10 | 19    | 15 | 16.5 | —    | —   | 1       |
| AG12-5B     | AG12-5S      | M12×1.5     | Φ12.2         | 3.5         | 4.7  | 12 | 23.5  | 17 | 18.7 | 18.8 | 5   | 1       |
| AG12-6.5B   | AG12-6.5S    | M12×1.5     | Φ12.2         | 5           | 6.5  | 12 | 23    | 17 | 18.7 | 18.8 | 5   | 1       |
| AG12-8B     | AG12-8S      | M12×1.5     | Φ12.2         | 6.5         | 7.8  | 12 | 23    | 17 | 18.7 | 18.8 | 5   | 1       |
| AG16-10B    | AG16-10S     | M16×1.5     | Φ16.2         | 8           | 10   | 12 | 26    | 21 | 23.1 | 24.3 | 5   | 1       |
| AG20-15B    | AG20-15S     | M20×1.5     | Φ20.2         | 11          | 15   | 13 | 27    | 27 | 29.7 | 29   | 6   | 1       |
| AG25-16B    | AG25-16S     | M25×1.5     | Φ25.2         | 12.5        | 16   | 13 | 34    | 34 | 37.4 | 36   | 6.7 | 1       |
| AG25-20B    | AG25-20S     | M25×1.5     | Φ25.2         | 16          | 20   | 13 | 34    | 34 | 37.4 | 36   | 6.7 | 1       |
| AG32-25.5B  | AG32-25.5S   | M32×1.5     | Φ32.3         | 21          | 25.5 | 15 | 36    | 41 | 45.6 | 46   | 8   | 1       |
| AG40-28.5B  | AG40-28.5S   | M40×1.5     | Φ40.3         | 24          | 28.5 | 15 | 41    | 50 | 55.4 | 53.5 | 9   | 1       |
| AG40-33B    | AG40-33S     | M40×1.5     | Φ40.3         | 28.5        | 33   | 15 | 41    | 50 | 55.4 | 53.5 | 9   | 1       |
| AG50-37B    | AG50-37S     | M50×1.5     | Φ50.4         | 33          | 37   | 16 | 45    | 60 | 65.5 | 66   | 9.6 | 1       |
| AG50-42B    | AG50-42S     | M50×1.5     | Φ50.4         | 37          | 42   | 16 | 45    | 60 | 65.5 | 66   | 9.6 | 1       |
| AG8-3.5B-P  | AG8-3.5S-P   | M8×1.0      | —             | 2.5         | 3.5  | 10 | 17    | 12 | 13.2 | —    | —   | 50      |
| AG8-5B-P    | AG8-5S-P     | M8×1.0      | —             | 3.5         | 4.7  | 10 | 17    | 12 | 13.2 | —    | —   | 50      |
| AG10-6B-P   | AG10-6S-P    | M10×1.0     | —             | 4           | 6    | 10 | 19    | 15 | 16.5 | —    | —   | 50      |
| AG12-5B-P   | AG12-5S-P    | M12×1.5     | Φ12.2         | 3.5         | 4.7  | 12 | 23.5  | 17 | 18.7 | 18.8 | 5   | 50      |
| AG12-6.5B-P | AG12-6.5S-P  | M12×1.5     | Φ12.2         | 5           | 6.5  | 12 | 23    | 17 | 18.7 | 18.8 | 5   | 50      |
| AG12-8B-P   | AG12-8S-P    | M12×1.5     | Φ12.2         | 6.5         | 7.8  | 12 | 23    | 17 | 18.7 | 18.8 | 5   | 50      |
| AG16-10B-P  | AG16-10S-P   | M16×1.5     | Φ16.2         | 8           | 10   | 12 | 26    | 21 | 23.1 | 24.3 | 5   | 50      |
| AG20-15B-P  | AG20-15S-P   | M20×1.5     | Φ20.2         | 11          | 15   | 13 | 27    | 27 | 29.7 | 29   | 6   | 50      |
| AG25-16B-P  | AG25-16S-P   | M25×1.5     | Φ25.2         | 12.5        | 16   | 13 | 34    | 34 | 37.4 | 36   | 6.7 | 25      |
| AG25-20B-P  | AG25-20S-P   | M25×1.5     | Φ25.2         | 16          | 20   | 13 | 34    | 34 | 37.4 | 36   | 6.7 | 25      |



# AGM SERIES

# METAL CABLE GLAND

IP68



- High water protection IP68 (1bar / 30min) metal cable gland.
- Wide selection, for M6 ~ M50 and PG7 ~ PG16.  
Suitable for  $\Phi 2$  mm ~  $\Phi 42$  mm cable.

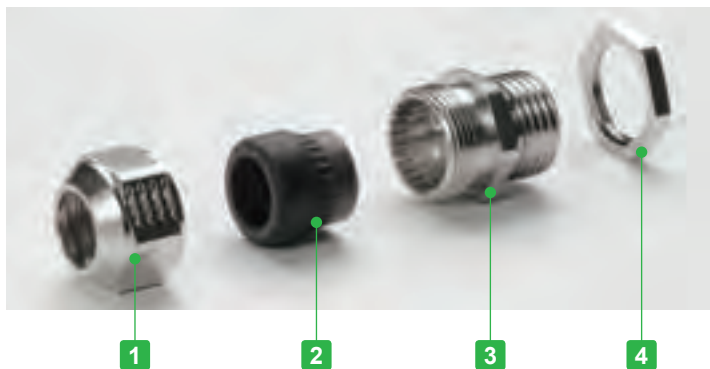
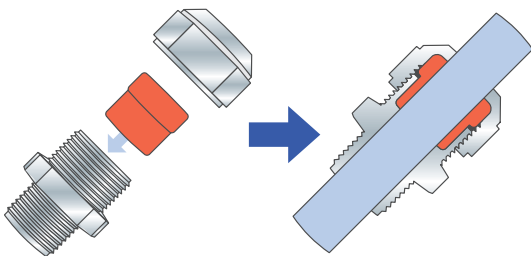
| Technical Data                        |
|---------------------------------------|
| Protection class: IP68 1bar / 30min   |
| Operating temperature: -40°C ~ +100°C |
| Compliant with EN50262 Ver. A         |

### AGM Series

Thicker sealing insert evenly hold a cable by having a larger holding area. Remains durable even after repeated tightening / loosening.

### Lamellar insert type

If over-tightened, it can cause the rubber bush or cable to deform, which can allow water to seep in.



- Proper tightening torque varies by each cable diameter.  
Tighten the cap until top of the sealing insert forms a small bead between the cap and the cable.



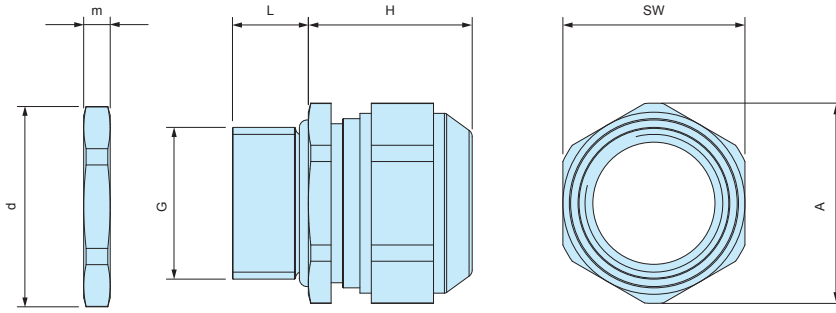
### Components

| No. | Part name      | Material | Color / Finish |
|-----|----------------|----------|----------------|
| 1   | Cap            | Brass    | Nickel plated  |
| 2   | Sealing insert | TPE      | Black          |
| 3   | Connector      | Brass    | Nickel plated  |
| -   | O-ring         | NBR      | Black          |
| 4   | Lock nut       | Brass    | Nickel plated  |



AGM dimensions

■ DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

| Product no.  | G           |                   |               | Cable range |      | L  | H Max | SW | A    | d    | m   | Pack of |
|--------------|-------------|-------------------|---------------|-------------|------|----|-------|----|------|------|-----|---------|
|              | Thread size | Thread outer dia. | Mounting hole | Min         | Max  |    |       |    |      |      |     |         |
| AGM6-2.5     | M6×1.0      | —                 | Φ6.2          | 2           | 2.5  | 8  | 12    | 8  | 9    | 10   | 2.8 | 1       |
| AGM6-3       | M6×1.0      | —                 | Φ6.2          | 2.5         | 3.0  | 8  | 12    | 8  | 9    | 10   | 2.8 | 1       |
| AGM6-3.5     | M6×1.0      | —                 | Φ6.2          | 3.0         | 3.5  | 8  | 12    | 8  | 9    | 10   | 2.8 | 1       |
| AGM8-5       | M8×1.25     | —                 | Φ8.2          | 3.5         | 4.7  | 10 | 14    | 11 | 12   | 12   | 3   | 1       |
| AGM10-6      | M10×1.5     | —                 | Φ10.2         | 4.0         | 6.0  | 10 | 15    | 13 | 14.3 | 14   | 2.8 | 1       |
| AGM12-8      | M12×1.5     | —                 | Φ12.2         | 6.5         | 8.0  | 10 | 17    | 15 | 16.5 | 16.5 | 2.8 | 1       |
| AGM16-10.5   | M16×1.5     | —                 | Φ16.2         | 8.0         | 10.5 | 10 | 21    | 18 | 20   | 21   | 3   | 1       |
| AGM20-15     | M20×1.5     | —                 | Φ20.2         | 11.0        | 15.0 | 10 | 23    | 24 | 26.5 | 26.5 | 3.5 | 1       |
| AGM25-20     | M25×1.5     | —                 | Φ25.2         | 16.0        | 20.0 | 11 | 28    | 30 | 33   | 33   | 4   | 1       |
| AGM32-25.5   | M32×1.5     | —                 | Φ32.3         | 21.0        | 25.5 | 13 | 29.5  | 36 | 39.5 | 39.5 | 4   | 1       |
| AGM40-28.5   | M40×1.5     | —                 | Φ40.3         | 24.0        | 28.5 | 13 | 32    | 46 | 50.7 | 51   | 5   | 1       |
| AGM40-33     | M40×1.5     | —                 | Φ40.3         | 28.5        | 33.0 | 13 | 32    | 46 | 50.7 | 51   | 5   | 1       |
| AGM50-37     | M50×1.5     | —                 | Φ50.4         | 33.0        | 37.0 | 14 | 34    | 55 | 59.7 | 60   | 5.5 | 1       |
| AGM50-42     | M50×1.5     | —                 | Φ50.4         | 37.0        | 42.0 | 14 | 34    | 55 | 59.7 | 60   | 5.5 | 1       |
| AGM7PG-5     | PG7         | 12.5              | Φ12.7         | 3.5         | 5.0  | 6  | 17    | 15 | 16.5 | 16.5 | 3   | 1       |
| AGM9PG-6     | PG9         | 15.2              | Φ15.4         | 4.5         | 6.0  | 6  | 20    | 18 | 20   | 20   | 3   | 1       |
| AGM11PG-8.5  | PG11        | 18.6              | Φ18.8         | 5.5         | 8.5  | 6  | 21    | 21 | 23   | 23.5 | 3   | 1       |
| AGM13PG-11   | PG13        | 20.4              | Φ20.6         | 8.0         | 11.0 | 6  | 21    | 24 | 26.5 | 25.5 | 3   | 1       |
| AGM16PG-14.5 | PG16        | 22.5              | Φ22.7         | 11          | 14.5 | 6  | 23    | 24 | 26.5 | 29   | 3   | 1       |

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# COMPANY PROFILE

**COMPANY NAME**     TAKACHI ELECTRONICS ENCLOSURE CO., LTD.  
**ADDRESS**             3-21-16 Higashi-ryoke, Kawaguchi, Saitama, JAPAN, 332-0003  
**ESTABLISHED**        JULY 1,1979



## TAKACHI website available

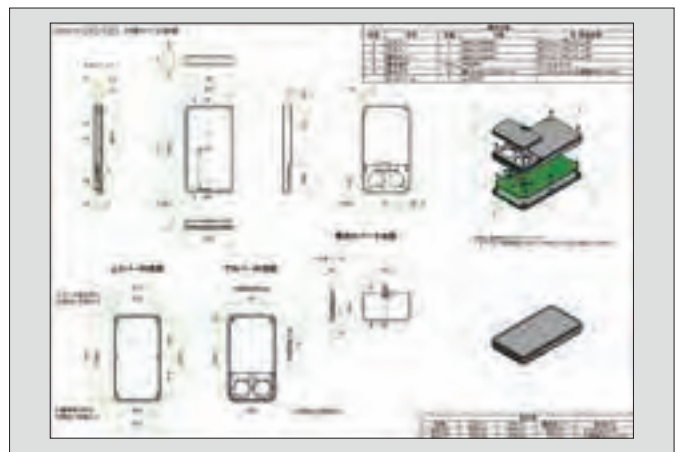
Our range of products are available in categorized webpages and PDF format for easy viewing.

DXF, DWG and PDF drawings are available for download.  
 Download them to help with your design or customization requirements.



**CAD drawings download**

| Part no.   | H    | W    | D    | DXF | DWG | PDF |
|------------|------|------|------|-----|-----|-----|
| CSS75N-CL  | 15.5 | 38.6 | 78.6 | DL  | DL  | DL  |
| CSS75N-OP  | 15.5 | 38.6 | 78.6 | DL  | DL  | DL  |
| CSS75-CL   | 15.5 | 38.6 | 78.6 | DL  | DL  | DL  |
| CSS75-OP   | 15.5 | 38.6 | 78.6 | DL  | DL  | DL  |
| CSS90N-CL  | 15.5 | 48.6 | 93.6 | DL  | DL  | DL  |
| CSS90N-OP  | 15.5 | 48.6 | 93.6 | DL  | DL  | DL  |
| CSS90-CL   | 15.5 | 48.6 | 93.6 | DL  | DL  | DL  |
| CSS90-OP   | 15.5 | 48.6 | 93.6 | DL  | DL  | DL  |
| CSS115N-CL | 16   | 67   | 119  | DL  | DL  | DL  |
| CSS115N-OP | 16   | 67   | 119  | DL  | DL  | DL  |
| CSS115-CL  | 16   | 67   | 119  | DL  | DL  | DL  |
| CSS115-OP  | 16   | 67   | 119  | DL  | DL  | DL  |
| CSPB-79    | 0    | 0    | 0    | DL  | DL  | DL  |
| CSPB-80    | 0    | 0    | 0    | DL  | DL  | DL  |
| CSPB-115   | 0    | 0    | 0    | DL  | DL  | DL  |





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