

Series 84

22.5 mm IP67 42V 100mA E-stop: IP65 3A 250VAC



Choose one component from each of the coloured sections to assemble a complete switch.
For other options or further information please contact your local sales office.

Product Profile

The Series 84 consists of indicators, pushbuttons and low depth monoblock Emergency-stop switches. The indicators and pushbuttons are a modular system of lens, actuator and switching element with connections using plug-in terminals.

Within the many different colours, the lenses are available either in plastic or anodised aluminium.

Technical data see page 126

Emergency-stop switches

- IP65 Protection (Emergency-stop switches)
- Switch Rating for emergency-stop switch: 3A/120VAC, 1.5A/240VAC
- LED Voltage for Emergency-stop switch: 5-30VDC
- Compact Emergency-stop meets EN 60947-5-1, EN 60947-5-5 and DIN EN ISO 13850
- Mounting into 22.5 mm mounting hole
- Switching elements with solder/plug-in terminal or ribbon cable, 300 mm long

Actuators/Elements

- IP67 Protection (Switches and Indicators)
- Illumination using Single or Multi-LED's in red, orange, yellow, green, blue or white
- Switch Rating for indicator and pushbutton: 10 mA – 100 mA, 50 mVAC/VDC – 42VAC/VDC
- Flush Mounting into 22.5 mm mounting hole
- Switching elements with solder/plug-in terminal or ribbon cable, 300 mm long

Detailed product selectors pages see 122-125

Emergency-stop switch



Emergency-stop red LED illuminated, plug-in terminals, twist release, 32 mm diameter for 22.5 mm mounting, foolproof to EN 60947-5-5

| Part No. | Contact type |
|--------------|--------------|
| 84-5021.2B20 | 1NC |
| 84-5041.2B20 | 2NC |
| 84-5031.2B20 | 1NC/1NO |
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Emergency-stop red LED illuminated, ribbon cable, twist release, 32 mm diameter for 22.5 mm mounting, foolproof to EN 60947-5-5

| Part No. | Contact type |
|--------------|--------------|
| 84-5021.2B40 | 1NC |
| 84-5041.2B40 | 2NC |
| 84-5031.2B40 | 1NC/1NO |
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Emergency-stop switch



Emergency-stop non illuminated, plug-in terminals, twist release, 32 mm diameter for 22.5 mm mounting, foolproof to EN 60947-5-5

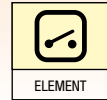
| Part No. | Contact type |
|--------------|--------------|
| 84-5020.0020 | 1NC |
| 84-5040.0020 | 2NC |
| 84-5030.0020 | 1NC/1NO |
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Emergency-stop non illuminated, ribbon cable, twist release, 32 mm diameter for 22.5 mm mounting, foolproof to EN 60947-5-5

| Part No. | Contact type |
|--------------|--------------|
| 84-5020.0040 | 1NC |
| 84-5040.0040 | 2NC |
| 84-5030.0040 | 1NC/1NO |
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Choose one component from each of the coloured sections to assemble a complete switch.
For other options or further information please contact your local sales office.






| ☀ Indicator actuator | | ☀ Actuator Halo Illumination | | ☉ Illum. pushbutton actuator | |
|--|-----------|---|--|---|---------------------|
|  | |  | |  | |
| Indicator actuator for flush mount, black plastic, IP67 front protection, 22.5 mm mounting | | Halo Indicator actuator for flush mount, plastic translucent, IP67 front protection, 22.5 mm mounting | | Pushbutton actuator for flush mount, black plastic, impulse function; IP67 front protection, 22.5 mm mounting | |
| Part No. | Material | Part No. | | Part No. | Material |
| 84-0100.0 | Plastic | 84-0090.7 | | ● Black | 84-1101.0 Plastic |
| 84-0200.7 | Aluminium | | | ● Red | 84-1201.2 Aluminium |
| | | | | ● Yellow | 84-1201.4 Aluminium |
| | | | | ● Green | 84-1201.5 Aluminium |
| | | | | ● Blue | 84-1201.6 Aluminium |
| | | | | ● Natural | 84-1201.7 Aluminium |
| | | For complete indicator: order lens 84.7205.X00X or 84-7202.X00A | | | |

For complete switch also order ☀ **A**

For complete switch also order ☀ **A**

For complete switch also order ☑ **A**

| ☉ Actuator Halo Illumination | | ☀ Indicator element | | | |
|--|--|---|------------------------------|---|--------------|
|  | |  | |  | |
| Halo Pushbutton actuator for flush mount, plastic translucent, IP67 front protection, 22.5 mm mounting | | Indicator element, 24VDC LED, plug-in terminals | | Indicator element, bi-colour, 24VDC, L/S, plug-in terminals | |
| Part No. | | Part No. | | Colour | Part No. |
| 84-1091.7 | | ● Red | 84-8001.2620 Single-chip LED | ● Red/Green | 84-8005.8620 |
| | | ● Orange | 84-8001.3620 Single-chip LED | ● Yellow/Green | 84-8005.7620 |
| | | ● Yellow | 84-8001.4620 Single-chip LED | | |
| | | ● Green | 84-8001.5620 Single-chip LED | | |
| | | ● Blue | 84-8001.6620 Single-chip LED | | |
| | | ○ White | 84-8001.9620 Single-chip LED | | |
| | | For complete pushbutton: order lens 84.7205.X00X or 84-7202.X00A | | | |

For complete switch also order ☑ **A**

Series 84

22.5 mm IP67 42V 100mA E-stop: IP65 3A 250VAC

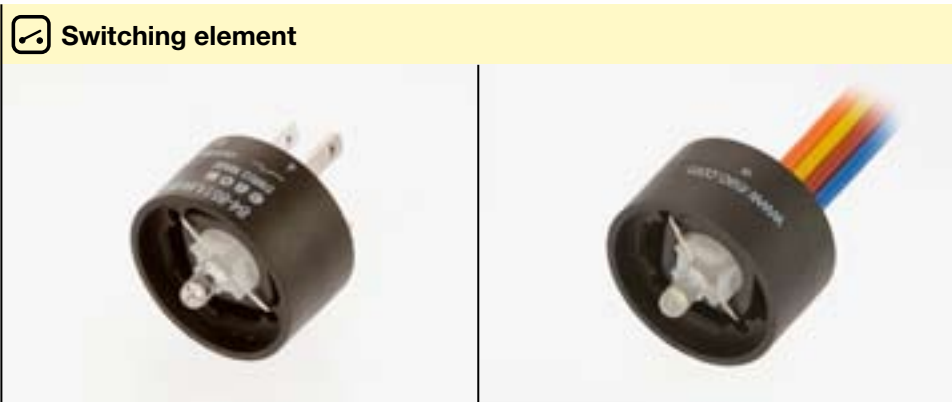


Choose one component from each of the coloured sections to assemble a complete switch.
For other options or further information please contact your local sales office.



Indicator element, bi-colour, 24VDC, ribbon cable 300 mm, three strands, 1NO

| Colour | Part No. |
|--------------|--------------|
| Red/Green | 84-8005.8640 |
| Yellow/Green | 84-8005.7640 |
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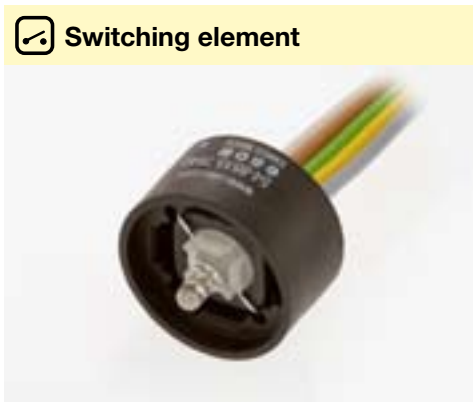
Switching element, 24VDC LED, plug-in terminals, 1NO

| Colour | Part No. | Comment |
|--------|--------------|---------------------------------|
| Red | 84-8511.2620 | Single-chip LED |
| Orange | 84-8511.3620 | Single-chip LED |
| Yellow | 84-8511.4620 | Single-chip LED |
| Green | 84-8511.5620 | Single-chip LED |
| Blue | 84-8511.6620 | Single-chip LED |
| White | 84-8511.9620 | Single-chip LED |
| | 84-8510.0020 | No LED - switching element only |
| | | |
| | | |



Switching element, 24VDC, IP67; ribbon cable 300 mm, four strands, 1NO

| Colour | Part No. | Comment |
|--------|--------------|---------------------------------|
| Red | 84-8511.2640 | Single-chip LED |
| Orange | 84-8511.3640 | Single-chip LED |
| Yellow | 84-8511.4640 | Single-chip LED |
| Green | 84-8511.5640 | Single-chip LED |
| Blue | 84-8511.6640 | Single-chip LED |
| White | 84-8511.9640 | Single-chip LED |
| | 84-8510.0040 | No LED - switching element only |
| | | |
| | | |



Switching element, bi-colour, 24VDC, IP67; ribbon cable, 300 mm, five strands, 1NO

| Colour | Part No. |
|--------------|--------------|
| Red/Green | 84-8515.8640 |
| Yellow/Green | 84-8515.7640 |
| | |
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Lens, plastic for flush mount, round indicator and pushbutton actuators

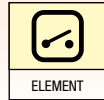
| Colour | Part No. | Comment |
|--------|-------------|----------------------|
| Red | 84-7111.200 | |
| Yellow | 84-7111.400 | |
| Green | 84-7111.500 | |
| Blue | 84-7111.600 | |
| Clear | 84-7111.700 | |
| Black | 84-7121.000 | Not for illumination |
| | | |
| | | |
| | | |

Lens, plastic; transparent; illuminated ring; flat

| Colour | Part No. |
|--------|-------------|
| Red | 84-7111.201 |
| Orange | 84-7111.301 |
| Yellow | 84-7111.401 |
| Green | 84-7111.501 |
| Blue | 84-7111.601 |
| Clear | 84-7111.701 |
| | |
| | |
| | |

Not recommended for Halo Illumination

Choose one component from each of the coloured sections to assemble a complete switch.
For other options or further information please contact your local sales office.



A Accessories



Recommended Lens for Halo illumination, aluminium, flat raised

| Colour | Part No. | Comment |
|-------------|--------------|----------|
| ● Red | 84-7211.200A | for Halo |
| ● Yellow | 84-7211.400A | for Halo |
| ● Green | 84-7211.500B | for Halo |
| ● Blue | 84-7211.600A | for Halo |
| ○ Aluminium | 84-7211.800A | for Halo |
| ● Black | 84-7211.000A | for Halo |



Recommended Lens for Halo illumination, aluminium, convex raised

| Colour | Part No. | Comment |
|-------------|--------------|----------|
| ● Red | 84-7202.200A | for Halo |
| ● Yellow | 84-7202.400A | for Halo |
| ● Green | 84-7202.500A | for Halo |
| ● Blue | 84-7202.600A | for Halo |
| ○ Aluminium | 84-7202.800A | for Halo |
| ● Black | 84-7202.000A | for Halo |



Lens, aluminium flat – with dot

| Colour | Part No. |
|-------------|-------------|
| ● Red | 84-7211.200 |
| ● Yellow | 84-7211.400 |
| ● Green | 84-7211.500 |
| ● Blue | 84-7211.600 |
| ○ Aluminium | 84-7211.800 |
| ● Black | 84-7211.000 |

A Accessories



Lens, aluminium raised – with dot

| Colour | Part No. |
|-------------|-------------|
| ● Red | 84-7215.200 |
| ● Yellow | 84-7215.400 |
| ● Green | 84-7215.500 |
| ● Blue | 84-7215.600 |
| ○ Aluminium | 84-7215.800 |
| ● Black | 84-7215.000 |



Emergency-stop switch enclosure with 22.5 mm Ø mounting hole, 65 mm (w) x 65 mm (h) x 57 mm (d), anti twist hole. Cable gland M16 or M20, IP66

| Image | Part No. | Thread |
|-------|-----------|--------|
| 1 | 61-9480.5 | |
| 2 | 61-9481.6 | M16 |
| 3 | 704-945.6 | M20 |



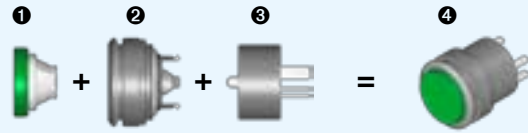
Lens remover for flush mount, mounting tool and switching element remover

| Image | Part No. | Product description |
|-------|-----------|------------------------------|
| 1 | 61-9730.0 | Lens remover for flush mount |
| 2 | 84-997 | Mounting tool |
| 3 | 84-998 | Switching element remover |
| 4 | 84-996 | Mounting tool, E-stop |

Series 84 Product Selector

Part Number Assistant

Featured here are our product combinations.
Other options available on request.



Illuminated (Illuminated lens, non-illuminated bezel)

Lens ①

| Description | | | | | | | | |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|--------------------|------------------|--------------------|
| Material | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Aluminium | Aluminium |
| Shape | Flush | Flush | Flush | Flush | Flush | Flush | Flush | Flush |
| Mounting type | Level with bezel | Level with bezel | Level with bezel | Level with bezel | Level with bezel | Raised above bezel | Level with bezel | Raised above bezel |
| Black | | | | | | | 84-7211.000 | 84-7215.000 |
| Red | 84-7111.201 | 84-7111.202 | 84-7111.203 | 84-7111.200 | 84-7111.200 | 84-7115.200 | 84-7211.200 | 84-7215.200 |
| Orange | 84-7111.301 | | | 84-7111.300 | 84-7111.300 | 84-7115.300 | | |
| Yellow | 84-7111.401 | | | 84-7111.400 | 84-7111.400 | 84-7115.400 | 84-7211.400 | 84-7215.400 |
| Green | 84-7111.501 | 84-7111.502 | 84-7111.503 | 84-7111.500 | 84-7111.500 | 84-7115.500 | 84-7211.500 | 84-7215.500 |
| Blue | 84-7111.601 | 84-7111.602 | 84-7111.603 | 84-7111.600 | 84-7111.600 | 84-7115.600 | 84-7211.600 | 84-7215.600 |
| Transparent | 84-7111.701 | 84-7111.702 | 84-7111.703 | 84-7111.700 | 84-7111.700 | 84-7115.700 | | |
| Anodised aluminium | | | | | | | 84-7211.800 | 84-7215.800 |
| Grey | | | | | | | | |
| Bi-colour possible | | X | X | X | | | X | X |
| Marking of marking plate possible | | | | | X | X | | |

Actuator (with bezel) ②

| Front dimension | 25 mm dia. | | 25 mm dia. | | 25 mm dia. | | 40 mm dia. |
|-------------------|-------------------|-----------|-------------------|-----------|-------------------|-----------|-------------------|
| Mounting hole | 22.5 mm dia. | | 22.5 mm dia. | | 22.5 mm dia. | | 30.5 mm dia. |
| Front protection | IP40 | | IP67 | | IP67 | | IP67 |
| Actuator for | Illum. pushbutton | Indicator | Illum. pushbutton | Indicator | Illum. pushbutton | Indicator | Illum. pushbutton |
| Bezel material | Plastic | Plastic | Plastic | Plastic | Aluminium | Aluminium | Aluminium |
| Black | 84-2101.0 | 84-3100.0 | 84-1101.0 | 84-0100.0 | 84-1201.0 | | |
| Red | | | | | 84-1201.2 | | |
| Yellow | | | | | 84-1201.4 | | |
| Green | | | | | 84-1201.5 | | |
| Blue | | | | | 84-1201.6 | | |
| Natural | | | | | 84-1201.7 | 84-0200.7 | 84-1221.7 |
| White translucent | | | | | | | |

Switching element ③

| Terminal | Cable 300 mm | | Plug-in 2.8 x 0.8 mm | | Cable 300 mm | | Plug-in |
|-----------------------------------|-------------------|--------------|----------------------|--------------|-------------------|--------------|-------------------|
| Switching element for | Illum. pushbutton | Indicator | Illum. pushbutton | Indicator | Illum. pushbutton | Indicator | Illum. pushbutton |
| Operating voltage/-current of LED | 12VDC, 10 mA | 12VDC, 10 mA | 12VDC, 10 mA | 12VDC, 10 mA | 24VDC, 10 mA | 24VDC, 10 mA | 24VDC, 10 mA |
| Red | 84-8511.2340 | 84-8001.2340 | 84-8511.2320 | 84-8001.2320 | 84-8511.2640 | 84-8001.2640 | 84-8511.2620 |
| Orange | 84-8511.3340 | 84-8001.3340 | 84-8511.3320 | 84-8001.3320 | 84-8511.3640 | 84-8001.3640 | 84-8511.3620 |
| Yellow | 84-8511.4340 | 84-8001.4340 | 84-8511.4320 | 84-8001.4320 | 84-8511.4640 | 84-8001.4640 | 84-8511.4620 |
| Green | 84-8511.5340 | 84-8001.5340 | 84-8511.5320 | 84-8001.5320 | 84-8511.5640 | 84-8001.5640 | 84-8511.5620 |
| Blue | 84-8511.6340 | 84-8001.6340 | 84-8511.6320 | 84-8001.6320 | 84-8511.6640 | 84-8001.6640 | 84-8511.6620 |
| White | 84-8511.9340 | 84-8001.9340 | 84-8511.9320 | 84-8001.9320 | 84-8511.9640 | 84-8001.9640 | 84-8511.9620 |
| Bi-colour LED red/green | | | | | | | |
| Bi-colour LED yellow/green | | | | | | | |
| Non-illuminated | | | | | | | |

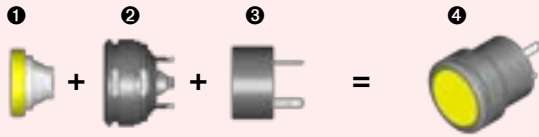
Accessories (optional)

| Accessories part | | | |
|------------------|---|--|--|
| Description | Marking on plate is possible by engraving or hot stamping. Specific symbols and markings are available on request. | 30 x 50 mm alu black adhesive for 25 mm dia. devices | 14.5 x 23.5 mm alu natural adhesive 14.5 x 23.5 mm alu black adhesive |
| Part-No. | 61-9707.7 | 61-9980.0 | 704.968.0 704.968.1 |

Example of complete switch ④

| Illuminated pushbutton consisting of | Items no. | Part | Part No. |
|--------------------------------------|-----------|---|--------------|
| | 1 | Lens: plastic; green; transparent; raised | 84-7115.500 |
| | 2 | Actuator: aluminium; natural; IP67 | 84-1201.7 |
| | 3 | Switching element: LED white; 12VDC; 10 mA; plug-in terminal 2.8 x 0.8 mm | 84-8511.9320 |
| | | Marking plate Engraving on marking plate "START"; 4 mm letters; black filled | |

Dimensions/Mounting types: Refer to last page



**Non-illuminated
(Lens and bezel non-illuminated)**

**Halo Illumination
(Illuminated bezel)**

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| | | | | | | | | |
| Opaque Plastic Flush Level with bezel | Opaque Plastic Flush Raised above bezel | Opaque Aluminium Flush Level with bezel | Opaque Aluminium Flush Raised above bezel | Opaque Aluminium Convex Level with bezel | Opaque Aluminium Convex Raised above bezel | Opaque Plastic Mushroom Raised above bezel | Opaque Aluminium Flush Raised above bezel | Opaque Aluminium Convex Raised above bezel |
| 84-7121.000 | 84-7125.000 | 84-7201.000 84-7201.200 84-7201.400 84-7201.500 84-7201.600 84-7201.800 | 84-7205.000 84-7205.200 84-7205.400 84-7205.500 84-7205.600 84-7205.800 | 84-7202.000 84-7202.200 84-7202.400 84-7202.500 84-7202.600 84-7202.800 | 84-7202.000A 84-7202.200A 84-7202.400A 84-7202.500A 84-7202.600A 84-7202.800A | 84-7124.000A 84-7124.200A 84-7124.400A 84-7124.500A 84-7124.600A | 84-7205.000A 84-7205.200A 84-7205.400A 84-7205.500B 84-7205.600A 84-7205.800A | 84-7202.000A 84-7202.200A 84-7202.400A 84-7202.500A 84-7202.600A 84-7202.800A |

| | | | | | |
|---|---|--|---|------------------------------|----------------------|
| | | | | | |
| 25mm dia. 22.5mm dia. IP40 Pushbutton Plastic | 25mm dia. 22.5mm dia. IP67 Pushbutton Plastic | 25mm dia. 22.5mm dia. IP67 Pushbutton Aluminium | 40mm dia. 30.5mm dia. IP67 Pushbutton Aluminium | Illum. pushbutton Plastic | Indicator Plastic |
| 84-2101.0 | 84-1101.0 | 84-1201.0 84-1201.2 84-1201.4 84-1201.5 84-1201.6 84-1201.7 | 84-1221.7 | 84-1091.7 | 84-0090.7 |

| | | | | | | |
|--|---|------------------------------|---|---------------------------|-----------------------------------|--|
| | | | | | | All switching elements of the "illuminated" range may be used. Bi-colour switching elements are not recommended. Please refer to blue area |
| 2.8 x 0.8mm Indicator 24VDC, 10mA | Cable 300mm Illum. pushbutton 24VDC, 20mA | Indicator 24VDC, 20mA | Plug-in 2.8 x 0.8mm Indicator 24VDC, 20mA | Cable 300mm Pushbutton | Plug-in 2.8 x 0.8mm Pushbutton | |
| 84-8001.2620 84-8001.3620 84-8001.4620 84-8001.5620 84-8001.6620 84-8001.9620 | 84-8515.8640 84-8515.7640 | 84-8005.8640 84-8005.7640 | 84-8005.8620 84-8005.7620 | 84-8510.0040 | 84-8510.0020 | |

| | | | | | | | | |
|---|---|---|--------------------------------|--|--|--------------|---|--|
| | | | | | | | | |
| Front protective cap Silicon, for flat lenses only | Size 25mm dia. black for 25mm dia. devices | Size 36mm dia. black for 40mm dia. devices | Flat receptacle 2.8 x 0.8mm | Insulation sleeve For flat receptacle | Plug Two plugs are needed for IP67 rear protection of switching element | Lens remover | Mounting tool For tightening or loosening of fixing nut of 25mm dia. devices | Dismantling tool For dismantling of switching element of actuator |
| 84-9103.7 | 61-9453.0 | 704.964.8 | 84-9420 | 31-929 | 84-900 | 61-9730.0 | 84-997 | 84-998 |

Colour of metal part
Anodised aluminium parts may have visible variations due to technical production reasons.
Additional colours are available on request.

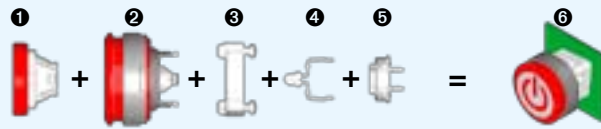
For in-depth information, please refer to the EAO catalogue.

www.eao.com/84STD-ps_en

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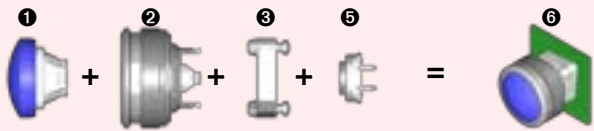
Series 84 PCB Product Selector Part Number Assistant

Featured here are our product combinations.
Other options available on request.

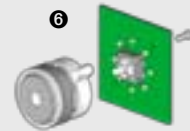


Illuminated
(Illuminated lens, non-illuminated bezel)

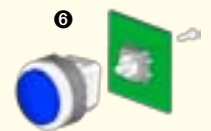
| Lens ① | | | | | | | | |
|--|-----------------------|--|------------------|------------------------------------|------------------|------------------------------------|------------------|------------------------------------|
| Description | | | | | | | | |
| Material | | Plastic | Plastic | Plastic | Plastic | Plastic | Aluminium | Aluminium |
| Shape | | Flush | Flush | Flush | Flush | Flush | Flush | Flush |
| Mounting type | | Level with bezel | Level with bezel | Level with bezel | Level with bezel | Raised above bezel | Level with bezel | Raised above bezel |
| Black | | | | | | | 84-7211.000 | 84-7215.000 |
| Red | | 84-7111.201 | 84-7111.202 | 84-7111.203 | 84-7111.200 | 84-7115.200 | 84-7211.200 | 84-7215.200 |
| Orange | | 84-7111.301 | | | 84-7111.300 | 84-7115.300 | | |
| Yellow | | 84-7111.401 | | | 84-7111.400 | 84-7115.400 | 84-7211.400 | 84-7215.400 |
| Green | | 84-7111.501 | 84-7111.502 | 84-7111.503 | 84-7111.500 | 84-7115.500 | 84-7211.500 | 84-7215.500 |
| Blue | | 84-7111.601 | 84-7111.602 | 84-7111.603 | 84-7111.600 | 84-7115.600 | 84-7211.600 | 84-7215.600 |
| Transparent | | 84-7111.701 | 84-7111.702 | 84-7111.703 | 84-7111.700 | 84-7115.700 | | |
| Anodised aluminium | | | | | | | 84-7211.800 | 84-7215.800 |
| Grey | | | | | | | | |
| Bi-colour possible | | X | X | X | | | X | X |
| Marking on plate possible | | | | | X | X | | |
| Actuator (with bezel) ② | | | | | | | | |
| Front dimension | | 25 mm dia. 22.5 mm dia. IP40 | | 25 mm dia. 22.5 mm dia. IP67 | | 25 mm dia. 22.5 mm dia. IP67 | | 40 mm dia. 30.5 mm dia. IP67 |
| Mounting hole | | | | | | | | |
| Front protection | | | | | | | | |
| Actuator for | | Illum. pushbutton | Indicator | Illum. pushbutton | Indicator | Illum. pushbutton | Indicator | Illum. pushbutton |
| Bezel material | | Plastic | Plastic | Plastic | Plastic | Aluminium | Aluminium | Aluminium |
| Black | | 84-2101.0 | 84-3100.0 | 84-1101.0 | 84-0100.0 | 84-1201.0 | | |
| Red | | | | | | 84-1201.2 | | |
| Yellow | | | | | | 84-1201.4 | | |
| Green | | | | | | 84-1201.5 | | |
| Blue | | | | | | 84-1201.6 | | |
| Natural | | | | | | 84-1201.7 | | |
| White translucent | | | | | | | 84-0200.7 | |
| Colourless transparent | | | | | | | | 84-1221.7 |
| Flange ③ | | | | | | | | |
| Standard version (non-illuminated) | | | | | | | | |
| Halo illumination multi-colour bezel | | 92-960.0 | | | | | | |
| LED ④ | | | | | | | | |
| LED series resistor has to be defined by user. | | | | | | | | |
| LED for switching element* | | | | | | | | |
| Red | 2.1VDC, 20 mA | | | 10-2602.3202L | | or | | |
| Orange | 2.1VDC, 20 mA | | | 10-2602.3203L | | | | |
| Yellow | 2.2VDC, 20 mA | | | 10-2602.3174D | | | | |
| Green | 3.5VDC, 20 mA | | | 10-2602.3205L | | | | |
| Blue | 3.5VDC, 20 mA | | | 10-2602.3206L | | | | |
| White | 3.5VDC, 20 mA | | | 10-2602.3209L | | | | |
| Bi-colour LED red/green | 1.9/3.5VDC, 20 mA | | | | | 10-2603.320AL | | |
| Bi-colour LED yellow/green | 2.0/3.2VDC, 20 mA | | | | | 10-2603.320CL | | |
| LED for Halo | up to 8 pcs. possible | | | | | | | |
| Switching element ⑤ | | | | | | | | |
| Switch rating: Voltage 50 mVAC/DC ... 42 VAC/DC Current 10 µA ... 100 mA at 240 Ω Power 2 W | | | | | | | | |
| Terminal, PCB mount | | | | | | | | |
| Switching element for | | | | X | | X | | |
| without LED | | | | Illum. pushbutton | | Indicator | | |
| | | | | 92-851.342 | | 92-800.042 | | |
| Example of complete switch ⑥ | | | | | | | | |
| Illuminated pushbutton consisting of | Item no. | Part | | | | | Part No. | |
| | 1 | Lens: plastic; red; flush; symbol "Stand by" | | | | | 84-7111.203 | |
| | 2 | Actuator: aluminium; red; IP67 | | | | | 84-1201.2 | |
| Dimensions/Mounting types: Refer to last page | 3 | Flange: standard version | | | | | 92-960.0 | |
| Accessories: | 4 | LED: red; 2.1 VDC; 20 mA | | | | | 10-2602.3202L | |
| Refer to Product Selector Series 84 | 5 | PCB mount switching element without LED | | | | | 92-851.342 | |



**Non-illuminated
(Non-illuminated lens and bezel)**



**Halo Illumination
(Multi-colour bezel)**



**Halo Illumination
(Illuminated bezel)**

| | | | | | | | | | |
|---|---|---|---|---|--|--|---|--|--|
| | | | | | | | <p>All lenses of the "illuminated" and the "non-illuminated" range may be used (with the exception of the mushroom head cap).</p> <p>Please refer to blue and red area</p> | | |
| Opaque Plastic Flush Level with bezel | Opaque Plastic Flush Raised above bezel | Opaque Aluminium Flush Level with bezel | Opaque Aluminium Flush Raised above bezel | Opaque Aluminium Convex Level with bezel | Opaque Aluminium Convex Raised above bezel | Opaque Plastic Mushroom Raised above bezel | | Opaque Aluminium Flush Raised above bezel | Opaque Aluminium Convex Raised above bezel |
| 84-7121.000 | 84-7125.000 | 84-7201.000 84-7201.200 84-7201.400 84-7201.500 84-7201.600 | 84-7205.000 84-7205.200 84-7205.400 84-7205.500 84-7205.600 | 84-7202.000 84-7202.200 84-7202.400 84-7202.500 84-7202.600 | 84-7202.000A 84-7202.200A 84-7202.400A 84-7202.500A 84-7202.600A | 84-7124.000A 84-7124.200A 84-7124.400A 84-7124.500A 84-7124.600A | | 84-7205.000A 84-7205.200A 84-7205.400A 84-7205.500B 84-7205.600A | 84-7202.000A 84-7202.200A 84-7202.400A 84-7202.500A 84-7202.600A |
| 84-7121.800 | 84-7125.800 | 84-7201.800 | 84-7205.800 | 84-7202.800 | 84-7202.800A | | 84-7205.800A | 84-7202.800A | |

| | | | | | |
|-----------|-----------|--|-----------|-----------|-----------|
| | | | | | |
| 84-2101.0 | 84-3100.0 | 84-1101.0 | 84-0100.0 | 84-1081.7 | 84-0080.7 |
| | | 84-1201.0 84-1201.2 84-1201.4 84-1201.5 84-1201.6 84-1201.7 | 84-0200.7 | | |
| | | | 84-1221.7 | | |
| | | | | | 84-1091.7 |
| | | | | | 84-0090.7 |

| | | |
|----------|----------|----------|
| | | |
| 92-960.0 | 84-960.0 | 92-960.0 |

| | |
|--|--|
| | <p>* All LEDs of the "illuminated" range may be used for switching elements</p> <p>Please refer to blue area</p> <p>10-2602.3202L 10-2602.3203L 10-2602.3174D 10-2602.3205L 10-2602.3206L 10-2602.3209L</p> |
|--|--|

Recommendation:
Osram Hyper Mini TOPLED®

| | | | | |
|-------------------------------|--------------------------------------|------------------------------|--------------------------------------|------------------------------|
| | | | | |
| X Pushbutton 92-851.342 | X Illum. pushbutton 92.851.342 | X Indicator 92-800.042 | X Illum. pushbutton 92.851.342 | X Indicator 92-800.042 |

Colour of metal part
Anodised aluminium parts may have visible variations due to technical production reasons.
Additional colours are available on request.

For in-depth information, please refer to the EAO catalogue.

www.eao.com/84PCB-ps_en



Emergency-stop

Switching system

The double-break switching system can be supplied for the following switching functions: 1 Normally closed, 2 Normally closed, 1 Normally closed + 1 Normally open.

The Normally closed contacts have forced opening according to EN IEC 60947-5-1

Material

Connection cable

Polyvinylchloride (PVC), operating temperature up to +65 °C

Mushroom-head cap

Polybutylenterephthalate (PBT), as per UL 94 V0 (red items)

Actuator housing

Polyamide (PA 66), as per UL 94 V0, Flat ribbon cable-cover
Polyamide (PA 6.6), as per UL 94 V0

Material of contact

Silver alloy gold plated

Mechanical characteristics

Front panel thickness

Standard 1 ... 4mm

With emergency-stop protective shroud Typ-Nr. 84-902, 1-3mm

Mounting hole

22.5mm dia. as per EN IEC 60947-5-1 with anti-twist device

Terminals

Soldering terminals 2.8x0.5 mm (solderable), CuSn₆ tin-plated
Flat ribbon cable 2-, 4-, or 6-poles 0.35 mm² (AWG 22)

Tightening torque

Fixing nut 80Ncm

Actuating force

22N ±4 N

Actuating travel

approx. 4mm to release the internal operation part

Mechanical lifetime

≥50 000 cycles of operations

Electrical characteristics

Standards

The devices comply with: EN IEC 60947-5-1, EN IEC 60947-5-5 (Emergency-stop), DIN EN ISO 13850, EN IEC 60204

Illumination

LED red with pole reversal, constant current source
Operation Voltage 5VDC ... 30VDC
Current consumption 9.7mA ... 12.4mA

Rated Operational Voltage U_e

250VAC, as per EN IEC 60947-1

Rated Insulation Voltage U_i

250V, as per EN IEC 60947-1

Rated Impulse Withstand Voltage U_{imp}

2.5kV, as per EN IEC 60947-1

Contact resistance

New state ≤50 mΩ, as per DIN IEC 60512-2-3

Isolation resistance

>1011 Ω between the open contacts at 500VDC, as per DIN IEC 60512-2-10

Electrical life

≥50 000 cycles of operations (inductive cosφ 0.4), as per EN IEC 60947-5-1

| | | | | |
|---------|---------|---------|---------|---------|
| Voltage | 120 VAC | 240 VAC | 125 VDC | 250 VDC |
| Current | 3 A | 1.5 A | 0.55 A | 0.27 A |

Reduced load ≥50 000 cycles of operations (resistive)

| | | |
|---------|----------|-----------|
| Voltage | 1 VAC/DC | 42 VAC/DC |
| Current | 100 mA | 200 mA |

Conventional free air thermal current I_{th}

5A, as per EN IEC 60947-5-1

the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

Switch rating

Switch rating AC with silver contact (gold plated), service category AC-15, as per EN IEC 60947-5-1

| | | |
|---------|---------|---------|
| Voltage | 120 VAC | 240 VAC |
| Current | 3 A | 1.5 A |

Switch rating DC for silver contact (gold plated), service category DC-13, as per EN IEC 60947-5-1 (inductive)

| | | | | | | |
|--------------------------|-------|-------|-------|-------|--------|--------|
| Voltage | 12VDC | 24VDC | 48VDC | 60VDC | 125VDC | 250VDC |
| Current _{plug} | 5 A | 4 A | 2.1 A | 1.7 A | 0.55 A | 0.27 A |
| Current _{cable} | 3 A | 3 A | 2.1 A | 1.7 A | 0.55 A | 0.27 A |

Recommended minimum operational data

Silver contacts (gold plated)

| | |
|---------|----------|
| Voltage | 1 VAC/DC |
| Current | 1 mA |

Electric strength

500VAC, 50Hz, 1 min. as per DIN IEC 60512-2

Rated conditional short-circuit current

1000A, type of short-circuit unit 6A gG, as per EN IEC 60947-5-1

Protection class

Class II, as per EN IEC 60947-5

Overvoltage category

II, as per EN IEC 60947-1

Degree of pollution

3, as per EN IEC 60947-1

Environmental conditions

Operating temperature

-25°C ... +65°C

Front protection

IP65, as per EN IEC 60529

Shock resistance

(semi-sinusoidal)

max. 150m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

Vibration resistance

(sinusoidal)

max. 50m/s² at 10 Hz ... 500Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6

Climate resistance

Damp heat, cyclic

96 hours, +25 °C / 97%, +55 °C / 93% relative humidity, as per EN IEC 60068-2-30

Damp heat, steady

56 days, +40 °C / 93% relative humidity, as per EN IEC 60068-2-78

Dry heat

96 hours, +70 °C, as per EN IEC 60068-2-2

Low temperature

96 hours, -40 °C, as per EN IEC 60068-2-1

Saline mist

96 Stunden, +35 °C in chemical solution NaCl, as per EN IEC 60068-2-11

Approvals

Approbations

SEV

UL

Declaration of conformity

CE

Switching element illuminated pushbutton

Switching system

Short-travel switching system with 2 independent contact points and tactile operation. Guarantees reliable switching even of very light loads. Fitted with 1 normally open contact.

Material

Connection cable

Polyvinylchloride (PVC), short-time heat-resistant up to 105 °C

Material of contact

Silver alloy gold plated

Switching element

Thermoplastic polyester (PET, PBT), as per UL 94 V0 and Polyacetale (POM), as per UL 94 HB

Mechanical characteristics

Terminals

Plug-in terminals 2.8x0.8mm (solderable)

Flat ribbon cable 0.5mm²

PCB terminal

Actuating force

4.0N ±0.2N (measured at the lens)

Actuating travel

~0.5mm

Rebound time

≤1 ms

Resistance to heat of soldering

260 °C, 5 s (PCB assembly)

350 °C, 10 s (when using a soldering iron)

as per EN IEC 60068-2-20

Mechanical lifetime

≥1 million cycles of operations

Electrical characteristics

Illumination

Single-Chip or Multi-Chip LED, green, orange, red, yellow, white and blue

Operation Voltage 12VDC 24VDC

Current consumption 40mA 20mA

Contact resistance

Starting value (initial) ≤100mΩ, as per DIN IEC 60512-2

Isolation resistance

≥1 G Ω between all terminals at 100VDC, as per DIN IEC 60512-2

Electrical life

as per EN IEC 60512-5

5 million cycles of operation 24 VAC, 50 mA at 480 Ω

5 million cycles of operation 24 VAC, 100 mA at 240 Ω

2 million cycles of operation 42 VAC, 50 mA at 840 Ω

2 million cycles of operation 42 VAC, 100 mA at 420 Ω

300 000 cycles of operation 42 VAC, 100 mA at cosφ 0.4

250 000 cycles of operation 42 VAC, 200 mA at cosφ 0.395

1 million cycles of operation 12 VDC, 250 mA at 48 Ω

1 million cycles of operation 24 VDC, 50 mA at 480 Ω

1 million cycles of operation 24 VDC, 100 mA at 240 Ω

5 million cycles of operation 42 VDC, 25 mA at 1680 Ω

1.5 million cycles of operation 42 VDC, 50 mA at 840 Ω

100 000 cycles of operation 42 VDC, 100 mA at 420 Ω

500 000 cycles of operation 24 VDC, 200 mA at L/R=30ms

300 000 cycles of operation 42 VDC, 100 mA at L/R=30ms

100 000 cycles of operation 42 VDC, 200 mA at L/R=30ms

Switch rating

Voltage 50 mVAC/DC ... 42 VAC/DC

Current 10 μA ... 100mA

Power max. 2 W

Electric strength

500 VAC, 50 Hz, 1 min. as per DIN IEC 60512-2

Environmental conditions

Storage temperature

-40 °C ... +85 °C

Operating temperature

-25 °C ... +70 °C

Protection degree

For IP67 back protection, cable version only, use blind plug Typ-Nr. 84-900

Shock resistance

(semi-sinusoidal)

max. 100 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

Vibration resistance

(sinusoidal)

max. 50 m/s² at 10 Hz ... 500 Hz, 10 cycles, 3-axis, as per

EN IEC 60068-2-6

Actuator

Material

Lens

Polycarbonate (PC), as per UL 94 V2 or Aluminium anodised

Actuator housing

Polyetherimid (PEI), as per UL 94 V0 or Aluminium anodised

Mechanical characteristics

Mounting hole

22.5 mm dia. and 30.5 mm dia.

Tightening torque

Fixing nut max. 80 Ncm

Actuating force

4.0 N \pm 0.2 N (measured at the lens)

Actuating travel

Total switching travel 1.2 mm

Mechanical lifetime

\geq 1 million cycles of operations

Electrical characteristics

Electrostatic breakdown value

Plastic case \leq 15 kV

Aluminium case \leq 5 kV

as per IEC 61000-4-2, mounted in plastic front panel

Environmental conditions

Storage temperature

-40 °C ... +85 °C

Operating temperature

-25 °C ... +70 °C

Front protection

IP67, IP65 and IP40, as per EN IEC 60529

Climate resistance

Damp heat, cyclic

96 hours, +25 °C / 97%, +55 °C / 93% relative humidity, as per EN IEC 60068-2-30

Damp heat, state

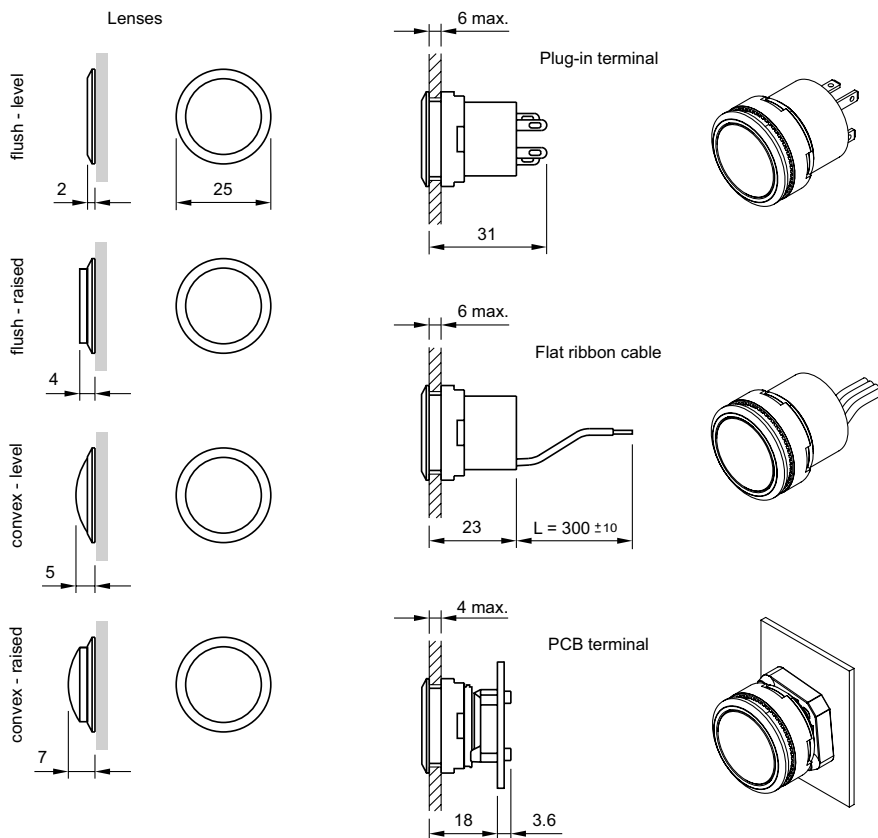
56 days, +40 °C / 93% relative humidity, as per EN IEC 60068-2-78

Rapid change of temperature

100 cycles, -40 °C ... +80 °C, as per EN IEC 60068-2-14

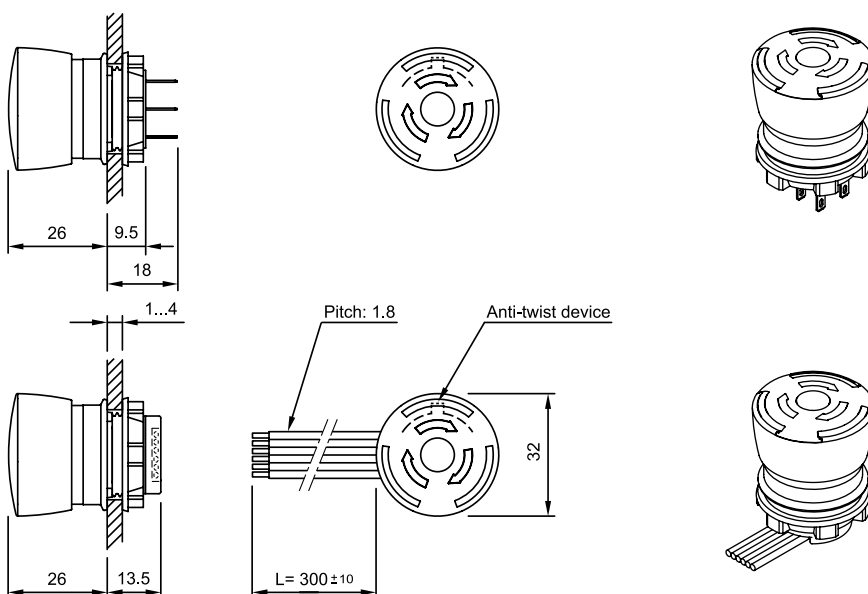
84 Complete Indicator, Complete Pushbutton

Flush, plug-in terminals, Flat ribbon, PCB



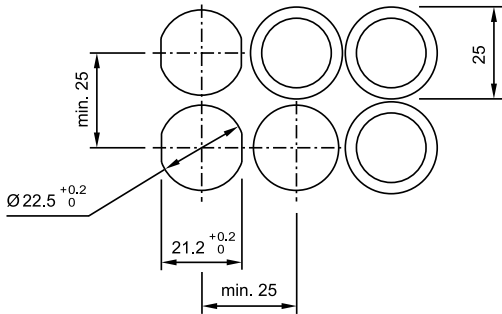
84 Emergency-stop switch

ISO 13850, Illuminated, Non-illuminated, Plug-in, Flat ribbon



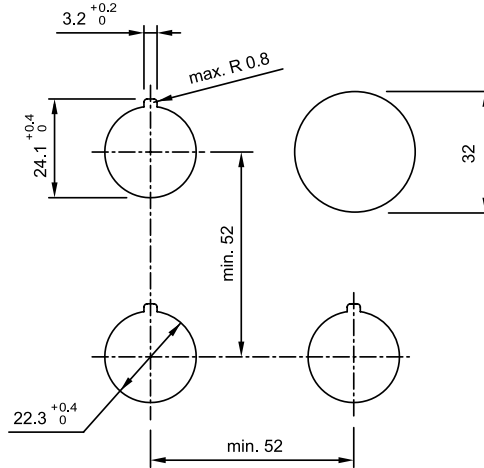
84 Cut-outs

Indicator, Pushbutton



84 Cut-outs, E-Stop

ISO 13850, illuminated, Non-Illuminated, Plug-in, Ribbon Cable

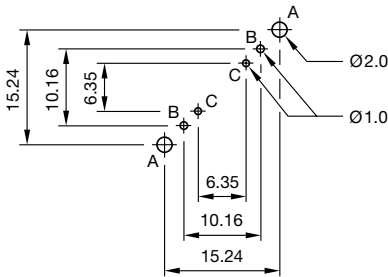


84 PCB-Layout, Indicator

Single-LED

Drilling plan (Elementside)

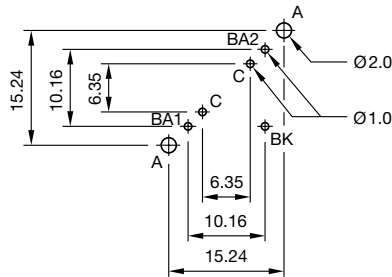
- A Fixing holes for mounting flange (92-960.0)
- B Holes for LED
- C Holes for centering pins



Bi-colour-LED

Drilling plan (Elementside)

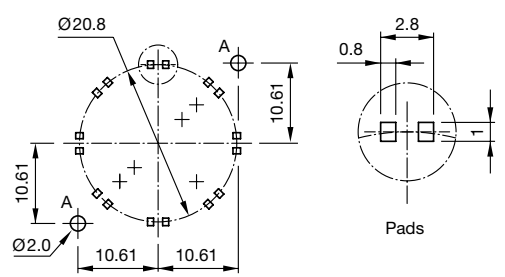
- A Fixing holes for mounting flange (92-960.0)
- B Holes for Bi-colour LED: BA1 (green) + BA2 (yellow or red) = Anodes, BC = Cathode
- C Holes for centering pins



Hyper mini SMD-LED

Drilling plan (Elementside)

- A Fixing holes for mounting flange (84-960.0)

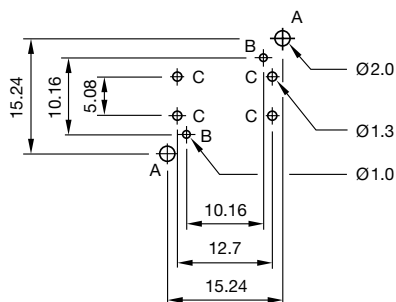


84 PCB-Layout, Pushbutton actuators

Single-LED

Drilling plan (Elementside)

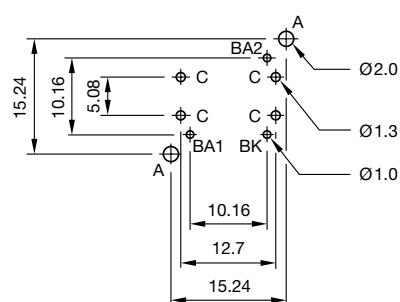
- A Fixing holes for mounting flange (92-960.0)
- B Holes for LED
- C Holes for contact pins
- Pad max. $\varnothing 2.5$ mm
- Through-connection recommended



Bi-colour-LED

Drilling plan (Elementside)

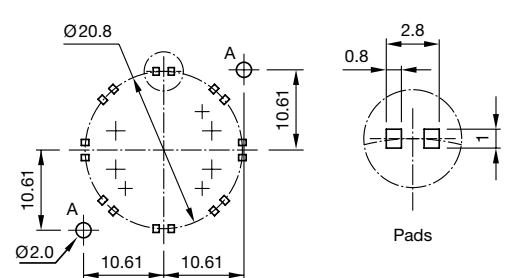
- A Fixing holes for mounting flange (92-960.0)
- B Holes for Bi-colour LED: BA1 (green) + BA2 (yellow or red) = Anodes, BK = Cathode
- C Holes for contact pins
- Pad max. $\varnothing 2.5$ mm
- Through-connection recommended



Hyper mini SMD-LED

Drilling plan (Elementside)

- A Fixing holes for mounting flange (84-960.0)



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