

# Bulgins Ethos 

# Borne out of their experience in developing electronic components for the world-renowned connectivity and switching brands Bulgin and Arcolectric, our teams of product development engineers based at the Connectivity Lab in Cambridge relish the challenge of delivering complex and demanding custom solutions. 

We'll question you, challenge you and work with you to anticipate the future demands of your markets, making sure that we are creating the right products at the right price. Working in close collaboration with you, we identify opportunities, mitigate risks and plan how to exploit new and emerging technologies, creating category-driving innovations that deliver on highly demanding projects.

Pushing the boundaries of new product development.
At the Connectivity Lab, we offer our customers a high quality, 'one stop shop' engineering resource, using our technical expertise and extensive knowledge across a range of engineering disciplines to provide human-centered design, as well as turnkey project management capabilities. Liaising directly with our manufacturing plants, the Connectivity Lab ensures that no stone is unturned in getting your ideas off the page and progressing your prototype to full-scale manufacturing to meet the demands of your
 customers. This simplifies the supply chain and the manufacturing process, reduces production costs and accelerates time to market.

## Excellence and experience

Having access to the right expertise, at the right time - whether it is for an individual phase of the development project or the entire production process - is a vital part of the transition from concept to finished product. At Elektron, we foster an entrepreneurial approach, equipping our engineers with state-of-the-art facilities and cutting-edge design tools, including: analytical modelling computer-aided design rapid prototyping printed circuit board manufacture testing and quality assurance

Celebrating individuality!
All of our customers are individuals and so are their projects. With diverse R\&D skills covering every aspect of engineering and a quest to bring high-level innovation to the table, our bespoke services are uniquely tailored to customers' individual needs, giving you the very best results when we take an original concept from design through to manufacture.

We pay close attention to every element of the product development and manufacturing process and have designed the StageGate® Process, our own method to control and document every step. Our service offers ISO 9001 accreditation for document control so that you can reap the benefits of our carefully controlled protocols, whether for just one aspect of a project or the entire development process.

## Our Skills

Whatever your engineering requirement is, we have the knowledge and capability in-house to bring your projects to reality.

- in-house 3D modelling
- nite element analysis
- rapid prototyping
- 3D rendered models

Electronics

- in-house modelling
- simulation
- rapid prototyping
- optimized printed circuit
board layouts
- human-centered design

Assembly

- cable to connector
complete assemblies
- overmoulding tools for all
our connectors
- enclosures and complete
panel assembly
- turnkey solutions for nished article or sub-assembly parts

Software

- agile software
development
- continuous integration
- source code
management
- straightforward graphical
user interfaces
- improved usability


## Approvals

## Good design, high quality and maximum value have formed an integral part of the Bulgin philosophy.

We maintain a documented quality plan specifying process and product goals and are approved by BSI to ISO9001.

Investment in new plant and equipment makes an important contribution to continuous quality improvements. The risk of errors in the transition from design to manufacture is greatly reduced by the digital data flows from our CAD system, and our sophisticated automatic manufacturing equipment which can form and assemble components to consistently high quality standards.

All new products are extensively pre-production tested, in our dedicated electrical and mechanical test facility, which also conducts regular checks during manufacture.

The numerous international safety approvals gained are testimony in themselves to Bulgin's ongoing commitment to quality and the world wide market place.


These European Directives introduced environmental responsibilities for electrical and electronics equipment manufacturers. The RoHS (Restriction of use of certain Hazardous Substances) regulation (Directive 2002/95/EC) came into force July 2006. The WEEE (Waste Electrical and Electronic Equipment) regulation (Directive 2002/96/EC), came into force January 2007.

The RoHS directive effectively bans the use of certain chemicals, these are defined as:

- Lead
- Cadmium
- Mercury
- Hexavalent Chromium
- Polybrominated Biphenyl (PBB) - flame retardant
- Polybrominated Diphenyl Ether (PBDE) - flame retardant (including Deca BDE)

Action has been taken to ensure all standard products meet the requirements of this directive. All packing carries RoHS compliance information as conformation.
*Our IP ratings are internally tested to EN 60529. IP68 rated products have undergone immersion testing in water at a depth of 10 M for a period of 2 weeks unless otherwise stated.

## Our Offices

Bulgin has a global presence, with regional offices located in the UK,US and China. Our reach is also through an extensive distribution network which covers over 200 countries worldwide.


## Contact Us

## China and Asia

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Shanghai 200070,


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# A full range of IP66, IP68 and IP69K rated environmentally sealed circular connectors designed to provide secure and safe connections in harsh or hostile conditions. 

The Power Buccaneer consist of the miniature 400, Mini, Standard, 900, 7000 and 6000
Series. Screw terminations ensure simple 'field' connection, while crimp terminations fulfil the requirement for fast effective volume connection

Each range has flex cable connector, in-line flex cable connector and panel mounting connector options. Over molded versions of the 400 series and Standard Buccaneer provide safe, secure and tamperproof cable termination.

With a wide choice of alternatives from 2 to 32 poles, BNC connections and screw, solder or crimp terminations, the Buccaneer range provides the answer to many design problems.


09-14
Explora
15-10
21-29
30-33
34-39
40-45
46-53
54-61

# The EXPlora range is most suited to manufacturers of ancillary electrical equipment such as motors, pumps, lighting equipment, process and control gear for use in factories and plant where hazardous, or explosive atmospheres can be caused by flammable gases, mists or vapours or by combustible dusts. 



- ATEX approval for Zone 2 and Zone 22 applications
- Independently tested
- ATEX Coding:
- ATEX Classification《x $\|_{\|} 3$ GD Ex nA IIC T6 Gc Extc IIIC $785^{\circ} \mathrm{C}$ Dc
- ATEX Certificate No: Baseefa09ATEX0232X
- IP68 rating tested at $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm} \mathrm{(15lb/sq} \mathrm{in)}$
- 10 m depth for 2 weeks
- Up to 18A, 600 V ac/dc rating
- 2, 3, 4, 5, 7 and 10 pole
- Leading earth contact for 3, 4, 5 \& 7 pole versions
- Trailing Neutral on 5 pole
- Plug or socket connection in each body style
- Water and dustproof to IP68 when mated
- 'Scoop proof' contacts
- Field termination - screw terminations
- Positive locating keyways - cannot be mis-connected
- Sealing caps available to maintain IP68 rating of unmated connectors
- Compact design
- Easy assembly - no special tools required
- Single or 3 phase applications
- Cost effective solution
- Cable acceptance from 7 to 22 mm O/D
- Two cable connector versions for 15 mm and 22 mm (maximum) cable diameters
- Separate strain relief on large cable version

Flex Cable Connector


EXP-0911
Flex Cable Connector


- Mates with in-line flex or panel mounting versions
- Positive, fast acting locking ring - can be turned with a gloved hand
- Plug or socket versions
- EXP-0 Series13-15mm cable dia. acceptance as standard, $7-13 \mathrm{~mm}$ with additional gland pack
- EXP-A Series 20-22mm cable dia. Acceptance as standard, $14-20 \mathrm{~mm}$ with additional gland pack
- Strain Relief Clamp


| Standard Cable | Large Cable | Description | Standard Cable | Large Cable | Description |
| :--- | :--- | :--- | :--- | :--- | :--- |
| EXP-0911/02/P | EXP-A911/02/P | 2 pole Plug | EXP-0911/02/S | EXP-A911/02/S | 2 pole Socket |
| EXP-0911/03/P | EXP-A911/03/P | 3 pole Plug | EXP-0911/03/S | EXP-A911/03/S | 3 pole Socket |
| EXP-0911/04/P | EXP-A911/04/P | 4 pole Plug | EXP-0911/04/S | EXP-A911/04/S | 4 pole Socket |
| EXP-0911/05/P | EXP-A911/05/P | 5 pole Plug | EXP-0911/05/S | EXP-A911/05/S | 5 pole Socket |
| EXP-0911/07/P | EXP-A911/07/P | 7 pole Plug | EXP-0911/07/S | EXP-A911/07/S | 7 pole Socket |
| EXP-0911/10/P | EXP-A911/10/P | 10 pole Plug | EXP-0911/07/S | EXP-A911/10/S | 10 pole Socket |

In-Line Flex Cable Connector


EXP-0921
In-Line Flex Cable Connector


- Mates with either EXP-0911 or EXP-A911 connectors
- Plug or socket versions
- EXP-0 Series13-15mm cable dia. acceptance as standard, $7-13 \mathrm{~mm}$ with additional gland pack
(1) EXP-A Series 20-22mm cable dia. acceptance as standard, $14-20 \mathrm{~mm}$ with additional gland pack
- Strain Relief Clamp


EXP-A921

| Standard Cable | Large Cable | Description | Standard Cable | Large Cable | Description |
| :--- | :--- | :--- | :--- | :--- | :--- |
| EXP-0921/02/P | EXP-A921/02/P | 2 pole Plug | EXP-0921/02/S | EXP-A921/02/S | 2 pole Socket |
| EXP-0921/03/P | EXP-A921/03/P | 3 pole Plug | EX-0921/03/S | EXP-A921/03/S | 3 pole Socket |
| EXP-0921/04/P | EXP-A921/04/P | 4 pole Plug | EXP-0921/04/S | EXP-A921/04/S | 4 pole Socket |
| EXP-0921105/P | EXP-A921/05/P | 5 pole Plug | EXP-0921/05/S | EXP-A921/05/S | 5 pole Socket |
| EXP-0921/07/P | EXP-A921/07/P | 7 pole Plug | EXP-0921/07/S | EXP-A921/07/S | 7 pole Socket |
| EXP-0921/10/P | EXP-A921/10/P | 10 pole Plug | EXP-0921/07/S | EXP-A921/10/S | 10 pole Socket |


| Panel Mounting Connector <br> EXP-0931 | - Mates with EXP-0911 and EXP-A911 connectors Single hole fixing Anti-rotation key High grade sealing gasket $3-7 \mathrm{~mm}$ panel thickness | TIXISG DETAILS |
| :---: | :---: | :---: |
|  | Panel Mounting  <br> EXP-0031/02/P 2 pole Plug <br> EXP-0031/00/P 3 pole Plug <br> EXP-0931/00/P 4 pole Plug <br> EXP-0931/05/P 5 pole Plug <br> EXP-0931/07/P 7 pole Plug <br> EXP-0931/10/P 10 pole Plug | EXP-0931/02/S 2 pole Socket <br> EXP-0931/03/S 3 pole Socket <br> EXP-0931/04/S 4 pole Socket <br> EXP-0931/05/S 5 pole Socket <br> EXP-0931/07/S 7 pole Socket <br> EXP-0931/10/S 10 pole Socket |
| Flange Mounting Connector <br> EXP-0941 | - Mates with EXP-0911 and EXP-A911 connectors <br> - Supplied with high grade sealing gasket <br> - Supplied with sealing grommets for panel fixing screws (M6 thread recommended) |  |
|  | Panel Mounting |  |
|  | EXP-0941/02/P 2 pole Plug <br> EXP-0941/03/P 3 pole Plug <br> EXP-0941/04/P 4 pole Plug <br> EXP-0941/05/P 5 pole Plug <br> EXP-0941/07/P 7 pole Plug <br> EXP-0941/10/P 10 pole Plug | EXP-0941/02/S 2 pole Socket <br> EXP-0941/03/S 3 pole Socket <br> EXP-0941/04/S 4 pole Socket <br> EXP-0941/05/S 5 pole Socket <br> EXP-0941/07/S 7 pole Socket <br> EXP-0941/10/S 10 pole Socket |
| Accessories <br> EXP-0990, EXP-0991, EXP-0992 |  | Sealing Caps |
|  | Heavy duty sealing caps to maintain IP68 rating of unmated connectors, with stainless steel straps | EXP-0990 Heavy duty sealing cap for use with <br> EXP-0911/xx/x and EXP-A911/xx/x <br> EXP-0991 Heavy duty sealing cap for use with <br> EXP-0921/ $x \mathrm{x} / \mathrm{x}$ and EXP-A921/xx/x <br> EXP-0992 Heavy duty sealing cap for use with <br> EXP-0931 and EXP-0941 |
| Cable Glands |  | Gland Packs |
| PX0980, PXA980 | Packs of 3 additional pairs Cable Glands for 900 Series Flex Cable Connectors |  |


| EXP X9 | X | X | XX | X |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| Series Designation | Body Styles | Contact Termination | Number Contacts | Contact Type |
| 09 = Standard Cable |  | 1 = Screw Terminal |  | $\mathrm{P}=$ Plug, $\mathrm{S}=$ Socket |
| Accommodation |  | 1 = Screw Terminal | $03=3 \text { pole }$ | P= l , S = Socke |
| (7-13mm) | $3=$ Panel, |  | 04=4 pole |  |
|  | 4 = Flange Panel |  | $05=5$ pole |  |
| A9 Actarge Cable |  |  | $07=7$ pole |  |
| ${ }_{\text {( } 14-22 \mathrm{~mm} \text { ) }}$ |  |  | $10=10$ pole |  |

## Cable Acceptance

EXP-0 version:
Blank $=13-15 \mathrm{~mm}$ Yellow cable gland (std)
$3=11-13 \mathrm{~mm}$
Black cable gland
$2=9-11 \mathrm{~mm}$
White cable gland
$1=7-9 \mathrm{~mm}$
Dark Grey cable gland
EXP-0911/07/P/3 = Flex cable connector with standard cable accommodation body, seven pin contacts, with gland to suit 11-13mm cable.

## Contact Layout


2 pole

3 pole

4 pole

5 pole

7 pole

10 pole

## Overall dimensions of connectors when mated together:

EXP-A version:
Blank $=20-22 \mathrm{~mm}$
Yellow cable gland (std)
$9=18-20 \mathrm{~mm}$
Black cable gland

8 = 16-18mm
White cable gland

7 = 14-16mm
Dark Grey cable gland

Electrical:

| No Poles: | $2,3,4,5$ | 7 | 10 |
| :--- | :---: | :---: | :---: |
| Current Rating: | 18 A | 16 A | 10 A |

Voltage Rating
Contact Resistance:
Insulation Resistance:
Dielectric strength:
AC Breakdown voltage:
Ambient Temperature Range
Standards:

ATEX Coding:
ATEX Certificate No:
ATEX Classification:

## Materials:

| Body Mouldings: | Polyester |
| :--- | :--- |
| Cap Mouldings: | Polycarbonate |
| Flammability Rating: | UL94V-0 |
| UV Resistance: | To EN50021:1999 |
| Contacts: | Machined Solid Brass, Nickel plated |
| O Rings: | Nitrile Panel |
| Sealing Gasket: | Silicone Rubber |
| RoHS | Compliant |




- IP68 rating tested at $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm} \mathrm{(15lb/sq} \mathrm{in)}$ 10 m depth for 2 weeks
- IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
- $32 \mathrm{~A}, 600 \mathrm{~V} \mathrm{ac} / \mathrm{dc}$ rating
- 2, 3, 4, 5, 7 and 10 pole
- Plug or socket connection in each body style
- Water and dustproof to IP68 when mated
- 'Scoop proof' contacts
- Field termination - screw terminations
- Positive locating keyways - cannot be mis-connected
- Sealing caps available to maintain IP68 rating of unmated connectors
(. Leading earth contact for 3, 4, 5 and 7 pole versions
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1
- Trailing Neutral on 5 pole
- Compact design
- Easy assembly - no special tools required
- Single or 3 phase applications
- Bulkhead moulding available for use with flange mounting body for $45^{\circ}$ or $90^{\circ}$ mounting (order each separately)
- Cost effective solution
- Cable accomodation $7-22 \mathrm{~mm}$ O/D
- Two cable connector versions for 15 mm and 22 mm (maximum) cable diameters
- Separate strain relief on large cable version
- CCC, UL, CSA and VDE approvals


PX0911
Flex Cable Connector


- Mates with in-line flex or panel mounting versions
- Positive, fast acting locking ring - can be turned with a gloved hand
- Plug or socket versions
- PXO Series $13-15 \mathrm{~mm}$ cable dia. as standard, $7-13 \mathrm{~mm}$ with additional gland pack
- PXA Series $20-22 \mathrm{~mm}$ cable dia. as standard, $14-20 \mathrm{~mm}$ with additional gland pack
- Strain Relief Clamp

PXA911

| Standard Cable | Large Cable | Description | Standard Cable | Large Cable | Description |
| :--- | :--- | :--- | :--- | :--- | :--- |
| PX0911/02/P | PXA911/02/P | 2 pole Plug | PX0911/02/S | PXA911/02/S | 2 pole Socket |
| PX0911/03/P | PXA911/03/P | 3 pole Plug | PX0911/03/S | PXA911/03/S | pole Socket |
| PX0911/04/P | PXA911/04/P | 4 pole Plug | PX0911/04/S | PXA911/04/S | 4 pole Socket |
| PX0911/05/P | PXA911/05/P | 5 pole Plug | PX0911/05/S | PXA911/05/S | 5 pole Socket |
| PX0911/07/P | PXA911/07/P | 7 pole Plug | PX0911/07/S | PXA911/07/S | 7 pole Socket |
| PX0911/10/P | PXA911/10/P | 10 pole Plug | PX0911/10/S | PXA911/10/S | 10 pole Socket |



Panel Mounted Connector $\quad$| Mates with PX0911 and |
| :--- |
| 0 SXA911 connectors |
| 0 Anti-rotation key |
| 0 High grade sealing gasket |
| 0 3-7mm panel thickness |

Panel Mounting

| PX0931/02/P | 2 pole Plug | PX0931/02/S | 2 pole Socket |
| :--- | :--- | :--- | :--- |
| PX0931/03/P | 3 pole Plug | PX0931/03/S | 3 pole Socket |
| PX0931/04/P | 4 pole Plug | PX0931/04/S | 4 pole Socket |
| PX0931/05/P | 5 pole Plug | PX0931/05/S | 5 pole Socket |
| PX0931/07/P | 7 pole Plug | PX0931/07/S | 7 pole Socket |
| PX0931/10/P | 10 pole Plug | PX0931/10/S | 10 pole Socket |

Flange Mounted Connector $\quad$| $\circ$ | Mates with PX0911 and |
| :--- | :--- |
|  | PXA911 connectors |
|  | Supplied with high grade |
| sealing gasket |  |
|  | Supplied with sealing |
| grommets for panel fixing |  |
| screws (M6 thread |  |
| recommended) |  |

Flange Mounting

| PX0941/02/P | 2 pole Plug | PX0941/02/S | 2 pole Socket |
| :--- | :--- | :--- | :--- |
| PX0941/03/P | 3 pole Plug | PX0941/03/S | 3 pole Socket |
| PX0941/04/P | 4 pole Plug | PX0941/04/S | 4 pole Socket |
| PX0941/05/P | 5 pole Plug | PX0941/05/S | 5 pole Socket |
| PX0941/07/P | 7 pole Plug | PX0941/07/S | 7 pole Socket |
| PX0941/10/P | 10 pole Plug | PX0941/10/S | 10 pole Socket |



PX0960, PX0970


PX0990, PX0991, PX0992

## Sealing Caps

| PX0960 | Sealing cap for use with PX0911/xx/x and PXA911/xx/x |
| :---: | :---: |
| PX0970 | Sealing cap for use with all other style |
| PX0990 | Heavy duty sealing cap for use with PX0911/xx/x and PXA911/xx/x |
| PX0991 | Heavy duty sealing cap for use with PX0921/xx/x and PXA921/xx/x |
| PX0992 | Heavy duty sealing cap for use with PX0931Wand PX0941 |

## Gland Packs

PX0980 Pack of 3 additional cable glands for PX0911 and PX0921 to suit cable sizes; $11-13 \mathrm{~mm}, 9-11$ and $7-9 \mathrm{~mm}$ dia.

PXA980 Pack of 3 additional cable glands for PXA911 and PXA921 to suit cable sizes; $18-20 \mathrm{~mm}, 16-18$ and $14-16 \mathrm{~mm}$ dia

Electrical

| No Poles: | 2, 3 | 4, 5 | 7 | $10 \dagger$ | Sealing: | IP69K, Tested in accordance with DIN 40050/Part 9 IP6K9K. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Current Rating: | $\begin{gathered} 32 \mathrm{~A} \\ 30 \mathrm{~A}, \mathrm{CSA} \end{gathered}$ | $\begin{gathered} 32 \mathrm{~A} \\ 25 \mathrm{~A}, \mathrm{CSA} \end{gathered}$ | $\begin{gathered} 32 \mathrm{~A} \\ 25 \mathrm{~A}, \mathrm{CSA}^{*} \end{gathered}$ | $\begin{gathered} 10 \mathrm{~A} \\ \mathrm{UL} \end{gathered}$ |  | IP68, EN60529:1992+A2:2013 tested @ 1.054kg/sq.cm. |
| Voltage Rating: | $600 \mathrm{Vac} / \mathrm{dc}$ | $600 \mathrm{Vac} / \mathrm{dc}$ | $430 \mathrm{Vac} / \mathrm{dc}$ | $250 \mathrm{Vac} / \mathrm{dc}$ |  | (15lb/sq.in.) 10m depth for 2 weeks |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ (initial) |  |  |  |  |  |
| Insulation Resistance: | $>10^{6} \mathrm{M} \Omega$ (@ 500 V dc) |  |  |  | Salt Mist: | EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine |
| Dielectric strength: | 2.2 kV ac min |  |  |  |  | Severity Level 1 |
| AC Breakdown voltage: | 6 kV |  |  |  |  |  |
| Operating |  |  |  |  | Cable Acceptance: | PX0911-PX0921 13-15mm O/D standard, $7-13 \mathrm{~mm}$ with gland pack PXA911-PXA921 20-22mm O/D standard, 14-20mm with gland pack |
| Temperature Range: Approvals: | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |  |  |  |  |  |
| $\begin{aligned} & \text { 耳I } \\ & \text { ® } \\ & \text { © } \\ & \text { © } \end{aligned}$ |  |  |  |  |  |  |
|  | $1211899$ |  |  |  |  |  |
|  | 40003148 |  |  |  | Contact Accommodation: | 2-7 pole - 2.5 to 4mm2 (13 to10AWG) |
|  | 2011010203500396-10 Amp Rated |  |  |  |  | conductor, single or multi stranded 10 pole -0.75 to 2 mm 2 ( 14 to 18AWG) conductor, single or multi stranded |
|  | 2011010203500396-32 Amp Rated |  |  |  |  |  |
|  |  | *with $75^{\circ} \mathrm{C}$ | in. rated cab |  |  |  |
|  |  |  |  |  | Termination: | Axial screw terminals |

## Material

Body Mouldings:
Flammability Rati
UV Resistance:
Contacts:
O Rings:
Panel Sealing Gasket:
RoHS
Polyamide
UL94V-0
To EN50021: 1999
Machined Solid Brass, Nickel plated
Nitrile
Silicone Rubber
Compliant

Cable Retention force: $\quad 22 \mathrm{~mm}$ dia, 150 N
15 mm dia, 150 N
7 mm dia, 80 N
Gland Nut Torques:
PXO range
$13-15 \mathrm{~mm}$ (Yellow - std.) $\quad 3.16 \mathrm{Nm}$ (28 lbf.in.)
$11-13 \mathrm{~mm}$ (black) $\quad 3.16 \mathrm{Nm}$ (28 lbf.in.)
$7-9 \mathrm{~mm}$ (dark grey) $\quad 3.16 \mathrm{Nm}$ (28 lbf.in.)
PXA range
$3.16 \mathrm{Nm}(28 \mathrm{lbf} . \mathrm{in}$.
20-22mm (Yellow - std.)
$18-20 \mathrm{~mm}$ (black)
$16-18 \mathrm{~mm}$ (white) $14-16 \mathrm{~mm}$ (dark grey)
3.16Nm (28 Ibf.in.)
$3.16 \mathrm{Nm}(28 \mathrm{lbf} . \mathrm{in}$. 3.16 Nm (28 lbf.in.)

Tightening Torques:

Panel mount nut Flange \& Bulkhead fixing screws Inserts into Bodies
2.25Nm (20 lbf.in.)
0.9 Nm (8 lbf.in.)
1.13 Nm (10 lbf.in.) to 1.36 Nm (12 lbf.in.)

Term screws - 2 to 5 poles 1.0 Nm ( 9 lbf .in.) max
Term screws - 7 pole $\quad 0.4 \mathrm{Nm}$ (3.5 lbf.in.) max Term screws - 10 pole $\quad 0.25 \mathrm{Nm}$ (2.2 lbf.in.) max

Mechanical:

Termination: Axial screw terminals

Rear thread PX0931 series M36 $\times 2-6 \mathrm{~g}$


Overall dimensions of connectors when mated together
PX0911 + PX0921 230 mm max.
PXA911 + PXA921 270 mm max.
PX0911 + PX0931 135 mm max. (to panel)
PXA911 + PX0931 175 mm max. (to panel)
PX0911 + PX0941 145 mm max.
(to panel, mid point on flange)
PXA911 + PX0941 174 mm max. (to panel, mid point on flange)

| PX X9 | X | $\mathbf{X}$ | $\mathbf{X X}$ | $\mathbf{X}$ | $\mathbf{X X}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Series Designation | Body Styles | Contact Termination | Number Contacts | Contact Type | Cable Acceptance |
| 09 = Standard Cable Accommodation ( $7-13 \mathrm{~mm}$ ) | $\begin{aligned} & 1=\text { Flex } \\ & 2=\text { Flex In-line } \\ & 3=\text { Panel } \\ & 4=\text { Flange Panel } \end{aligned}$ | 1 = Screw Terminal | $\begin{aligned} & 02=2 \text { pole } \\ & 03=3 \text { pole } \\ & 04=4 \text { pole } \\ & 05=5 \text { pole } \end{aligned}$ | $\mathrm{P}=$ Plug, S = Socket | EXP-O version: <br> Blank $=13-15 \mathrm{~mm}$ <br> Yellow cable gland (std) |
| A9 = Large Cable Accommodation ( $14-22 \mathrm{~mm}$ ) |  |  | $07=7$ pole $10=10$ pole |  | $3=11-13 \mathrm{~mm}$ <br> Black cable gland $2=9-11 \mathrm{~mm}$ <br> White cable gland |
| Example: |  |  |  |  | $1=7-9 \mathrm{~mm}$ |
| PX0911/07/P/03 = Flex cable connector with st seven pin contacts, with gland to suit $11-13 \mathrm{~mm}$ |  | cable accommodation bo |  |  | Dark Grey cable gland |
|  |  |  |  |  | EXP-A version: <br> Blank $=20-22 \mathrm{~mm}$ <br> Yellow cable gland (std) |
|  |  |  |  |  | $\begin{aligned} & 9=18-20 \mathrm{~mm} \\ & \text { Black cable gland } \end{aligned}$ |
|  |  |  |  |  | $\begin{aligned} & 8=16-18 \mathrm{~mm} \\ & \text { White cable gland } \end{aligned}$ |
|  |  |  |  |  | $7 \text { = } 14-16 \mathrm{~mm}$ <br> Dark Grey cable gland |

- IP68 rating tested at $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm} \mathrm{( } 15 \mathrm{lb} / \mathrm{sq} \mathrm{in}$ ) 10 m depth for 2 weeks and $9.84 \mathrm{~kg} / \mathrm{sq} \mathrm{cm}$ ( $140 \mathrm{lb} / \mathrm{sq}$ in) 100 m depth for 12 hours
- IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
- Water and dustproof to IP68 when mated
- $2,3,4,6,7,9,12$ and 25 pole
- $12 \mathrm{~A}, 277 \mathrm{~V}$ ac/dc 2 pole screw terminal, 3 pole screw terminal and crimp contacts
- $10 \mathrm{~A}, 277 \mathrm{~V}$ ac/dc 4 pole screw terminal
- $5 \mathrm{~A}, 277 \mathrm{~V}$ ac/dc 6 and 7 pole screw terminal
- $5 \mathrm{~A}, 150 \mathrm{~V}$ ac/dc 9 pole crimp contacts
- $5 \mathrm{~A}, 50 \mathrm{~V} \mathrm{ac} / \mathrm{dc} 12$ pole crimp and solder contacts
- $1 \mathrm{~A}, 50 \mathrm{~V} \mathrm{ac} / \mathrm{dc} 25$ pole crimp and solder contacts
- Plug or socket connection in each body style
- Compact design
- Diameter over coupling ring 38 mm
- Sealing caps available to maintain IP68 rating of unmated connectors
- 7 body styles - flex cable, in-line flex cable, panel mount (front), panel mount (rear), PCB mount, bulkhead and flange mount
- Leading earth contact for 3 pole socket version
- Positive locating keyways - cannot be mis-connected
- Easy assembly - no special tools required on screw terminal versions
- Cable range from $3.5 \mathrm{~mm}-9 \mathrm{~mm}$
- Colour coded identification variants
- Pre-wired, overmoulded cable assemblies
- CCC, UL, CSA and VDE approvals
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

| Flex Cable Connector <br> PX0731 |  | - Mates with In-Line Flex or Panel Mounting Versions Screw Locking Ring Pin or Socket Versions Leading Earth on 3 pole connectors <br> © Poles 2, 3, 4, 6, 7, 9, 12, 25 <br> - Standard Cable Acceptance ( 2 to 9 pole) $6-8 \mathrm{~mm}, 3.5-9 \mathrm{~mm}$ with alternative glands |  |  | depending iometer. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Poles | Termination | Pin Contacts | Socket Contact | Contacts |
|  | 2 | Screw | PX0736/P | PX0736/S | Supplied Fitted |
|  | 3 | Screw | PX0731/P | PX0731/S | Supplied Fitted |
|  | 3 | Crimp | PX0776/P | PX0776/S | Supplied Loose |
|  | 4 | Screw | PX0748/P | PX0748/S | Supplied Fitted |
|  | 6 | Screw | PX0739/P | PX0739/S | Supplied Fitted |
|  | 7 | Screw | PX0745/P | PX0745/S | Supplied Fitted |
|  | 9 | Crimp | PX0728/P | PX0728/S | Supplied Loose |
|  | 12 | Crimp/Solder | PX0794/P | PX0794/S | Order Separately |
|  |  | Crimp/Solder | PX0820/P | PXX0820/S | Order Separately |


| Inline Flex Cable Connector |  |  |
| :--- | :--- | :--- | :--- | :--- |

Pre Wired Flex Cable Connector
PXO700

| Front Panel Mounting Connector |  | Mates with Flex Cable <br> Connector <br> Front panel mounting <br> Single Hole Fixing <br> Pin or Socket Versions <br> Poles 2, 3, 4, 6, 7, 9, 12, 25 |  |  | Max. Ponel. Min. Ponel. <br> DIMENSION A POLE. PLUG. SOCKET |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Poles | Termin ation | Pin Contacts | Socket Contact | Contacts |
|  | 2 | Screw | PX0735/P | PX0735/S | Supplied Fitted |
|  | 3 | Screw | PX0730/P | PX0730/S | Supplied Fitted |
|  | 3 | Crimp | PX0779/P | PX0779/S | Supplied Loose |
|  | 4 | Screw | PX0747/P | PX0747/S | Supplied Fitted |
|  | 6 | Screw | PX0738/P | PX0738/S | Supplied Fitted |
|  | 7 | Screw | PX0744/P | PX0744/S | Supplied Fitted |
|  | 9 | Crimp | PX0727/P | PX0727/S | Supplied Loose |
|  | 12 | Crimp/Solder | PX0796/P | PX0796/S | Order Separately |
|  | 25 | Crimp/Solder | PX0822/P | PX0822/S | Order Separately |

Rear Panel Mounting Connector

| PCB Mounting Connector |  | Mates with Flex Cable connector <br> Rear panel mounting No. poles: 3, 4, 6, 9,12 or 25 Pin or socket versions Pre-loaded Gold Plated contacts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Poles | Termination | Pin Contacts | Socket Contact | Contacts |
|  | 3 | PCB | PX0707/P/03 | PX0707/S/03 | Supplied Fitted |
|  | 4 | PCB | PX0707/P/04 | PX0707/S/04 | Supplied Fitted |
|  | 6 | PCB | PX0707/P/06 | PX0707/S/06 | Supplied Fitted |
|  | 9 | PCB | PX0707/P/09 | PX0707/S/09 | Supplied Fitted |
|  | 12 | PCB | PX0707/P/12 | PX0707/S/12 | Supplied Fitted |
|  | 25 | PCB | PX0707/P/25 | PX0707/S/25 | Supplied Fitted |


| Bulkhead Flange Mounting Connector |  | Mates with Flex Cable ConnectorScrew Fixing FlangePin or Socket VersionsPoles 2, 3, 4, 6, 7, 9, 12, 25Supplied with sealing gasket and screw sealing grommets |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Poles | Termination | Pin Contacts | Socket Contact | Contacts |
|  | 2 | Screw | PX0757/P | PX0757/S | Supplied Fitted |
|  | 3 | Screw | PX0756/P | PX0756/S | Supplied Fitted |
|  | 3 | Crimp | PX0787/P | PX0787/S | Supplied Loose |
|  | 4 | Screw | PX0761/P | PX0761/S | Supplied Fitted |
|  | 6 | Screw | PX0758/P | PX0758/S | Supplied Fitted |
|  | 7 | Screw | PX0760/P | PX0760/S | Supplied Fitted |
|  | 9 | Crimp | PX0762/P | PX0762/S | Supplied Loose |
|  | 12 | Crimp/Solder | PX0798/P | PX0798/S | Order Separately |
|  | 25 | Crimp/Solder | PX0823/P | PX0823/S | Order Separately |




| Contact Inserts | Colour Options |
| :--- | :--- |
| Part No | Suffix Colour |
| Blank | Black |
| BL | Blue |
| GN | Green |
| GY | Grey |
| LG | Light Grey |
| RD | Red |
| WH | White |
| YL | Yellow |
|  |  |

## Insert/Gland Nut Combinations

| 1 | Insert and Gland Nut Coloured |
| :--- | :--- |
| 2 | Insert Only Coloured |

E.g. PX0731/P/YL1 = Yellow insert and gland nut

## Contacts for 12 and 25 Pole Inserts



- Crimp or Solder Pins and Sockets
- Gold Plated
- Current ratings:

12 way: 5A, 50V
25 way: $1 \mathrm{~A}, 50 \mathrm{~V}$
12 and 25 way contacts

Contacts - Solder \& Crimp for 12 and 25 pole

| Contacts (for 25 pole) <br> (Supplied in packs of 10) | Solder | Crimp |
| :--- | :--- | :--- |
| Pins | SA3180/1 | SA3180 |
| Sockets | SA 3179/1 | SA3179 |
| Contacts (for 12 pole) <br> (Supplied in packs of 10) | Solder | Crimp |
| Pins |  |  |
| Sockets | SA3348/1 | SA3348 |


| Assembly Tools |  |  |
| :--- | :--- | :--- |




- Maintains IP68 Rating of Unmated Connectors
- Can be used to remove Inserts
- PX0734 for Flex Cable Connector
- PX0733 for In-line Flex, Front
- Panel, Bulkhead and Flange mount connectors
- PX0711 for PCB and Rear Panel Mount connectors


Rear of Panel Back Shell


- Provides environmental seal to rear of panel
- Standard cable acceptance $6-8 \mathrm{~mm}, 3.5$ to 9 mm with alternative glands
- For use on front panel mounting connectors
- Replaces mounting nut in panel connector


PVC Insulation Boot
12855 for panel mounting types only.


- Shock protection for rear of connector
- Flammability Rating UL94V-0
- Fits Front Panel Mount Versions only


PNo. 12855

Cable Support Accessory

12237 provides additional cable support. Suitable for $5-7 \mathrm{~mm}$ and 7.9 mm cables.


PNo. 12237

| PXOXXX | X |  | $\mathbf{X X}$ | XX | X |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| Body Styles | Contacts Type$\begin{aligned} & P=P \text { in } \\ & S=\text { Socket } \end{aligned}$ | Cable Acceptance or PCB/Rear Panel Mounting |  | Insert/Gland Nut | Insert/Gland Nut |
|  |  |  |  | Colour | Colour Combination |
|  |  |  |  |  |  |
|  |  | Flex Cable and In-line Flex Connectors cable acceptance use: <br> Blank $=6-8 \mathrm{~mm}$ (Black) standard for 2-12 pole |  | Blank $=$ Black | 1 = Insert and Gland Nut |
|  |  |  |  | $\mathrm{BL}=$ Blue | Coloured |
|  |  |  |  | $\mathrm{GN}=$ Green | 2 = Insert only Coloured |
|  |  |  |  | GY = Grey |  |
|  |  | $04=3.5-5 \mathrm{~mm}$ (Grey) |  |  |  |
|  |  | $05=5-7 \mathrm{~mm}$ (White) |  | LG = Light Grey |  |
|  |  | $07=7-9 \mathrm{~mm}$ (Yellow) |  | $\mathrm{RD}=$ Red |  |
|  |  | (standard for 25 way, no suffix required) |  | WH = White |  |
|  |  |  |  | YL = Yellow |  |
|  |  | PCB (PX0707) and Rear Panel Mount connectors (PX0708 and PX0709) use: |  |  |  |
|  |  |  |  |  |  |
|  |  | $02=2$ pole | $03=3$ pole |  |  |
|  |  | $04=4$ pole | $06=6$ pole |  |  |
|  |  | $07=7$ pole | $09=9$ pole |  |  |
|  |  | $12=12$ pole | $25=25$ pole |  |  |
|  |  | Front Panel, | head and Flange Mount - |  |  |

## Examples:

PX0707/P/06= PCB Panel connector, pin contacts, 6 pole
PX0731/S = Flex Cable connector, socket contacts, 3 pole
PX0732/P/07/BL2 = In-Line Flex Cable connector, pin contacts, 3 pole, $7-9 \mathrm{~mm}$
cable acceptance, blue insert

PCB Layouts

Sockets
Contact Nos viewed from rear of panel

Pins
Contact Nos viewed from rear panel rear of panel



PX0707/S/03





PX0707/P/04


## Electrical:

| No. Poles: | 2, 3 | 4 | 6, 7 | 9 | 12 | 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Current Rating: 2 |  |  |  |  |  |  |
| VDE | 12A | 10A | 5A | 5A | 5A | 1A |
| UL, CSA | 10A | 6A | 3A | 5A | 5A | 1A |
| Voltage Rating (ac/dc): | 277V | 277V | 277V | 150 V | 50 V |  |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ (2-9 Pole) |  |  |  |  |  |
|  | $<5 \mathrm{~m} \Omega$ (12 Pole) |  |  |  |  |  |
|  | $<5 \mathrm{~m} \Omega$ (25 Pole) |  |  |  |  |  |
| Insulation Resistance: AC Breakdown voltage: | $>10^{4} \mathrm{M}$, @ 500 V d.c. (2-9 Pole) |  |  |  |  |  |
|  | 4 kV Pole - Pole (2-9 Pole) |  |  |  |  |  |
|  | 6kV Poles - Panel (Low Profile Flange and Panel Types - 2-9 Pole) |  |  |  |  |  |
|  | 7.5kV Poles - Panel (Other Types -2-9 Pole) |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |  |  |  |  |  |
| Approvals: |  |  |  |  |  |  |
| 91 UL | E93288 and E337507 |  |  |  |  |  |
| © CSA | LR80968-30 |  |  |  |  |  |
| V VDE | 40023148 |  |  |  |  |  |
| (®) CCC | 2011010203500391-1 Amp Rated |  |  |  |  |  |
|  | 2011010203500393-5 Amp Rated |  |  |  |  |  |
|  | 2011010203500394-10 Amp Rated |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | Overmoulded cable assemblies approvals to customer requirements. |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Material: |  |  |  |  |  |  |
| Body Mouldings: | Glass Filled Polyamide UL94HB |  |  |  |  |  |
| Inserts (2-25 pole): | Polyamide UL94V-0 |  |  |  |  |  |
| PX0707 | Polyamide UL94V-0 |  |  |  |  |  |
| PX0708 | Polyamide UL94V-0 |  |  |  |  |  |
| PX0709 | Polyamide UL94V-0 |  |  |  |  |  |
| Overmoulded types: |  |  |  |  |  |  |
| Body Mouldings: | Polyurethane |  |  |  |  |  |
| Flammability Rating: | UL94V-HB |  |  |  |  |  |
| Contacts: |  |  |  |  |  |  |
| Screw Terminal: | Brass, Nickel Plated |  |  |  |  |  |
| Crimp (9 pole): | Copper Alloy, Tin Plated |  |  |  |  |  |
| Crimp/Solder |  |  |  |  |  |  |
| (12+25 Pole): | Copper Alloy, Gold Plated ( $0.1 \mu \mathrm{~m}$ on Nickel) |  |  |  |  |  |
| BNC inserts: | Brass, Nickel Plated |  |  |  |  |  |
| BNC contacts: | Brass, Silver Plated |  |  |  |  |  |
| RoHS | Compliant |  |  |  |  |  |

## Mechanical:

Sealing

Salt Mist:

Cable Acceptance:
2-12 Pole - standard gland:
2-12 Pole - alternative glands:
25 Pole - standard gland:
25 Pole - alternative glands:

Contact Accommodation:
2 and 3 pole screw terminals:
3 pole crimp:
4, 6 and 7 pole:
9 pole:
12 pole:
25 pole:
Terminations:
2-7 Pole: Screw Terminals
3 Pole:
9 Pole:
12 Pole:
25 Pole:

Tightening Torques:
Flex Mounting/In-Line:
Panel Mounting:

Surface/Bulkhead and Low
Profile Flange Mounting:
Sealings Caps/Locking Ring:
Rear thread, Front Panel Connector:
Thread, Front Panel Connector:

IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k

IP68, EN 60529:1992+A2:2013
Tested @ 1.054kg/sq.cm. (15lb/sq.in.)
10 m depth for 2 weeks.
EN 60529:1992 +A2:2013 Tested @ $9.84 \mathrm{~kg} / \mathrm{sq} . \mathrm{cm}$. (140lb/sq.in.) 100 m depth for 12 hours.

EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1
$6-8 \mathrm{~mm}$ dia
$3.5-9 \mathrm{~mm}$ dia
$7-9 \mathrm{~mm}$ dim
$3.5-7 \mathrm{~mm}$ dim

4mm2 (12AWG) max
1.0-1.5mm2 (14-18AWG) max
1.5 mm 2 (16AWG) max
$0.12-0.21 \mathrm{~mm} 2$ (24-26AWG)
0.32 mm 2 (22-26AWG) max
$0.12-0.21 \mathrm{~mm} 2$ (24-26AWG)

Screw Terminals \& Crimp
Crimp Contacts
Crimp \& Solder Contacts
Crimp \& Solder Contacts

Gland Nut: 1.13Nm (10lbf.in.)
Rear Fixing Nut: 1.7Nm (15Ibf.in.)
Front Fixing Nut: 1.7Nm (15lbf.in.)

4 Fixing Screws (using washers supplied) 0.34 Nm (3lbf.in.)
1.13 Nm (10lbf.in.)
$\mathrm{M} 27 \times 1.0-6 \mathrm{H}$
M35 x 1.0-6H


- IP68 \& IP69k Rating
- For Sealed In-Line Connections
- Standard Cable Acceptance $6-8 \mathrm{~mm}$
- Cable Range $3.5-9 \mathrm{~mm}$ (using alternative glands)
- Supplied with 4,6 or 8 way
- Terminal Block
- Available Moulded in Black or Orange


PX0777

| Specifications | PX0777 | PX0777/4POLE, 6POLE, 8POLE | POLE Configurations |
| :---: | :---: | :---: | :---: |
| Rating: | 16A, 250V a.c. | 10A, 250V a.c. |  |
| Wire Termination: | 3 way Terminal Block | 4, 6, 8 way Terminal Block |  |
| Conductor Accommodation: | $2.5 \mathrm{~mm}^{2} \mathrm{max}$ (14AWG) | $1.5 \mathrm{~mm}^{2} \mathrm{max}(16 \mathrm{AWG})$ |  |
| Cable Acceptance: | $6-8 \mathrm{~mm}$ dia alternative glands available on request | $6-8 \mathrm{~mm}$ dia alternative glands available on request |  |
| Material: | Glass Filled Polyamide UL94-HB | Glass Filled Polyamide UL94-V0 |  |
| Sealing: | IP68 to BSEN 60529 : 1992 <br> $1.054 \mathrm{~kg} / \mathrm{sq} . \mathrm{cm}$. (15lbs/sq.in.) <br> 10 m depth for 2 weeks | IP68 to BSEN 60529 : 1992 <br> $1.054 \mathrm{~kg} / \mathrm{sq} . \mathrm{cm}$. (15lbs/sq.in.) 10m depth for 2 weeks |  |
|  | IP69k to DIN 40050-9 | IP69k to DIN 40050-9 |  |
| Salt Mist | EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1 | EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1 |  |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |  |
| Colour: | Black | Black |  |
|  | Orange (Add /OR to PNo.) | Orange (Add /OR to PNo.) |  |
| RoHS | Compliant | Compliant |  |

Examples
PX0777-3 Pole 6-8mm Black
PX0777/04 - 3 Pole 3.5-5.0mm Black.
PX0777/04/OR -3 Pole 3.5-5.0mm Orange.
PX0777/4POLE - 4 Pole 6-8mm Black.
PX0777/6POLE/04 - 6 Pole 3.5-5.0mm Black.
PX0777/8POLE/04/OR - 8 Pole 3.5-5.0mm Orange.



- Water and dustproof to IP68 when mated
- IP68 rating tested at $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm} \mathrm{(15lb/sq} \mathrm{in)}$ 10 m depth for 2 weeks

2, 3, 4 or 6 pole screw terminal inserts

- 3 or 8 pole solder or crimp inserts
- 5 body styles, Flex, Flex In-Line, Panel (2 styles), Panel Side Entry
$50 \Omega$ or $75 \Omega$ BNC inserts
- 5A, 380V a.c. 3 \& 8 way solder/crimp terminals
-10A, 250V a.c. 2 \& 3 way screw terminals

0
6A, 250V a.c. 4 way screw terminal
0
$3 \mathrm{~A}, 250 \mathrm{~V}$ a.c. 6 way screw terminals

- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1
- Plug or socket connection in each body style
- Cable range from $3.5 \mathrm{~mm}-9 \mathrm{~mm}$
- Diameter over coupling ring 26 mm
- Positive locating keyways - cannot be mis-mated
- Sealing caps available to maintain IP68 rating of unmated connectors
- Flammability rating UL94V-0 material
. Leading earth pin is on 3, 4 \& 6 pole screw terminal versions only
- Compact design
- Easy assembly - no special tools required on screw terminal versions
- UL approval


PX0800 - shown with insert

- PX0800 Connector body
- Mates with Flex In-line or Panel

Mounting versions

- Screw locking ring
- Suitable for Pin or Socket inserts
- Cable Acceptance $3.5-9 \mathrm{~mm}$ (Standard 5-7mm)
- Contact inserts supplied separately
61.5 Max. Depending on Cable


Inline Flex Cable Connector


PX0801 - shown with insert

- PX0801 Connector body
- Mates with PX0800 - Flex Cable connector
- Suitable for Pin or Socket inserts
- Cable Acceptance $3.5-9 \mathrm{~mm}$ (Standard 5-7mm)
- Contact inserts supplied separately
61.5 Max. Depending on Cable

- PX0802 Connector body
- Mates with PX0800 - Flex Cable connector
- Single hole fixing
- Suitable for Pin or Socket inserts
- Contact inserts supplied separately



## Panel Mounting



PX0803 - shown with insert

- PX0803 Connector body
- Mates with PX0800 - Flex Cable connector
- Right angle cable entry
- Single hole fixing
- Suitable for Pin or Socket inserts

Contact inserts supplied separately


Panel Mounting


PX0805 - shown with insert

- PX0804 and PX0805 Connector bodies
- Mates with PX0800 - Flex Cable connector
- PX0804 without sealing cap retaining clip, PX0805 with sealing cap retaining clip
- Single hole fixing
- Suitable for Pin or Socket inserts
- Contact inserts supplied separately


Fixing Details.

| Screw Terminal Inserts | Screw Terminal Inserts - fits all body styles <br> No. poles |
| :--- | :--- | :--- | :--- |



Sealing Caps \begin{tabular}{l}

PX0810 |  |
| :--- |
| PX0805. Ensure "O" Ring is in place on |
| main body. |

\end{tabular}

| Electrical | Solder/Crimp Terminals | Screw Te | minals |  | BNC |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No Poles: | 3, 8 | 2, 3 | 4 | 6 |  |
| Current Rating: | 5A | 10A | 6A | 3A |  |
| Voltage Rating: | 380 V ac | 250 V ac | 250 V ac | 250 V ac |  |
| Contact Resistance: | $<5 \mathrm{~m} \Omega$ |  |  |  |  |
| Insulation Resistance: | $>10^{6} \mathrm{M} \Omega$ @ 500 V d.c. |  |  |  |  |
| Voltage Proof: | 2kV @ 50Hz |  |  |  |  |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |  |  |  |  |
| Approvals: <br> © E214972 |  |  |  |  |  |


| Materials | Solder/Crimp Terminals | Screw Terminals |  |
| :--- | :--- | :--- | :--- |
| Body Mouldings: | Polyamide UL94V-0 | Polyamide UL94V-0 |  |
| Inserts: | Polyamide UL94V-0 | Polyamide UL94V-0 |  |
| Contacts: | Copper Alloy, Gold Plated $(0.1 \mu m)$ on Nickel | Brass, Nickel Plated |  |
| ORings: | Nitrile | Compliant | Brass, Silver Plated |
| RoHS | Compliant |  | Compliant |
|  |  | Screw Terminals | BNC |
| Mechanical | Solder/Crimp Terminals |  |  |





- IP68 rating tested at $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm} \mathrm{(15lb/sq} \mathrm{in)10m}$ depth for 2 weeks

IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k

- 2 and 3 pole -8 A , 250 V rating

0 4,6 and 8 pole $-5 \mathrm{~A}, 125 \mathrm{~V}$ rating

0 10 and 12 pole - 1A, 50V rating 2.5 mm contact engagement for electrical integrity 'Scoop proof' contacts

Contact inserts are part of body moulding

- Cable range from 3 to 7 mm

Overall length (flex + flex in-line) 80 mm
0
Gold plated contacts
0 Diameter over coupling ring 19.1 mm

Pre-wired, overmoulded cable assemblies

- Flex, Flex In-Line, Front Panel, Rear Panel and PCB mounting body styles
- Plug and Socket versions in all body styles
- Flame Retardant moulding material - Polyamide UL94-V0
- Contacts supplied separately (except PCB versions)
- Sealing caps available to maintain IP68 rating
- Secure sealing system
- Crimp and solder contacts
- PCB mounting connector supplied with contacts pre-loaded
- Front and rear panel mounting panel connectors
- CCC, UL, CSA and VDE approvals
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

- Mates with Flex In-line or Panel mounting versions PX0401, PX0411, PX0412 \& PX0413
- Pin or socket
- 2, 3, 4, 6, 8, 10 or 12 pole
- Screw locking ring
- Contacts supplied separately

PX0410

| Inline Flex Cable Connector |
| :--- |
| PX0411 |

Pre Wired Flex Cable Connector


- Mates with Flex Cable connectors PX0400, PX0402 \& PX0410
- Pin or socket
- 2, 3, 4, 6, 8, 10 or 12 pole
- For in-line cable connection
- Contacts supplied separately
- Overmoulded Flex connector for pre-wired cable assemblies
- Pin or socket
- Cable range $2.5-9.0 \mathrm{~mm} \mathrm{o} / \mathrm{d}$
. $2,3,4,6,8,10$ or 12 pole
- Mates with PX0401 \& PX0411 Flex In-Line connectors and PX0412 \& PX0413 panel mounting connectors
- Right-angled overmoulded
- Flex connector for pre-wired cable assemblies
- Pin or socket
- Cable range $2.5-9.0 \mathrm{~mm} \mathrm{o} / \mathrm{d}$
- 2, 3, 4, 6, 8, 10 or 12 pole
- Mates with PX0401 \& PX0411 Flex In-Line connectors and PX0412 \& PX0413 panel mounting connectors

Pre Wired Inline Flex Connector

- Overmoulded Flex connector for pre-wired cable assemblies
- Pin or socket
- Cable range $2.5-9.0 \mathrm{~mm} \mathrm{o} / \mathrm{d}$
- 2, 3, 4, 6, 8, 10 or 12 pole
- Mates with PX0400, PX0402 \&
- PX0410 Flex connectors



PX0412

- Mates with Flex Cable connectors PX0410, PX0400 \& PX0402
- Front Panel mounting
- Single hole fixing
- Contacts supplied separately
- 2, 3, 4, 6, 8, 10 or 12 pole
- Mates with Flex Cable connector PX0410, PX0400 \& PX0402
- Rear Panel mounting
- Single hole fixing
- Contacts supplied separately
$2,3,4,6,8,10$ or 12 pole


- Mates with Flex Cable connector PX0410, PX0400 \& PX0402
- PCB Rear Panel mounting
- Straight PC spills
- Supplied with pre-loaded gold plated contacts
- $2,3,4,6,8,10$ or 12 pole

- Maintains IP68 Rating of Unmated Connectors
- PX0480: Fits PX0412 (panel mounting)


PX0480 PX0480/1 PX0481 PX0484

- PX0480/1: Fits PX0401 \& PX0411 (flex in-line)
- PX0481: Fits PX0400, PX0402 \& PX0410 (flex connector)
- PX0484: Fits PX0413 (PCB and rear panel mount)

Gland Packs
Part No Description

PX0482 Pack of 4 pairs cable glands and collets to suit cables from 3.0 to 5.0 mm diameter.

PX0483 Pack of 4 pairs cable glands and collets to suit cables from 5.0 to 7.0 mm diameter.

Crimp Contacts

| Pole | Current Rating | Pin | Socket | Pack Qty | Cable Acceptance (dia) |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |
| 2,3 | $8 A$ | SA3350 | SA3349 | 10 | $20-24$ AWG |
| $4,6,8$ | $5 A$ | SA3348 | SA3180 | SA3179 | 10 |
| 10,12 | $1 A$ | $22-26$ AWG |  |  |  |

Solder Contacts

| Pole | Current Rating | Pin | Socket | Pack Qty | Cable Acceptance (dia) |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2,3 | $8 A$ | SA3350/1 | SA3349/1 | 10 | $20-24$ AWG |
| $4,6,8$ | $5 A$ | SA3348/1 | SA3180/1 | SA3347/1 | 10 |
| 10,12 | $1 A$ |  | 10 | $22-26$ AWG |  |
| $1024-28$ AWG |  |  |  |  |  |

Insertion / Extraction

|  | Poles | Contact <br> Rating | Colour | Part No |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
| Insertion/Extraction Tool 2,3 | 8A | Blue | $13027 / 2$ |  |
| Insertion/Extraction Tool $4,6,8$ | 5A | Red | $13027 / 1$ |  |
| Insertion/Extraction Tool 10,12 | 1A | Green | 13027 |  |

Crimp tools

|  | Poles | Contact <br> Rating | Colour | Part No |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
| Positioner | 2,3 | 8 A | Blue | 14025/8AMP |
| Positioner | $4,6,8$ | 5 A | Red | $14025 / 5 \mathrm{AMP}$ |
| Positioner | 10,12 | 1 A | Green | $14025 / 1 \mathrm{AMP}$ |
| 8 Indent Crimp Tool for use with positioners |  | 14025 |  |  |

PX0413 PCB Contact Layout

Sockets
Contact numbers viewed from rear of panel


Plugs
Contact numbers viewed from rear of panel



2 pole (8 Amp)


3 pole (8 Amp)


4 pole (5 Amp)


6 pole (5 Amp)


8 pole (5 Amp)


10 pole
(1 Amp)


12 pole (1 Amp)

## Electrical:

| No. Poles: | $2,3 \quad 4,6,8 \quad 10,12$ |
| :---: | :---: |
| Current Rating: | 8A 5A 1A |
| Voltage Rating (ac/dc): | $250 \mathrm{Vac} / \mathrm{dc} 125 \mathrm{Vac} / \mathrm{dc} 50 \mathrm{Vacdc}$ |
| Contact Resistance: | $<5 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{6} \mathrm{M} \Omega$ (@ 500 V d.c.) |
| AC Breakdown voltage: | 2.5 kV |
| Operating Temperature: |  |
| Flex and panel types | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| Overmoulded | $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
| Approvals: |  |
| TI UL | E214972 |
| (3) CSA | 1273303 |
| 曾 VDE | 40002226 |
| (M) CCC | 2011010203500398 - 1 Amp Rated |
|  | 2011010203500399 - 5 Amp Rated |
|  | 2011010203500400-8 Amp Rated |
|  | Overmoulded cable assemblies approvals to customer requirements. |


| Sealing: | IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k |
| :---: | :---: |
|  | IP68, EN60529:1992+A2:2013 tested <br> @ $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm}$ <br> (15lb/sq in) 10m depth for 2 weeks |
| Salt Mist: | EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1 |
| Cable Acceptance: | 3.0-7.0mm |
| Contact Accommodation: | 2, 3 pole, 20-24 AWG <br> 4, 6, 8 pole, 22 - 26 AWG <br> 10, 12 pole, $24-28$ AWG |
| Termination: | Crimp, solder and PCB |
| Insertion/Withdrawal Force: |  |
| No. poles: | $\begin{array}{lllllll}2 & 3 & 4 & 6 & 8 & 10 & 12\end{array}$ |
| Insertion Force (typ): | 19N 25N 27N 27N 28N 55N 62N |
| Withdrawal Force (typ): | 12N 17N 17N 21N 22N 25N 29N |
| Tightening Torques: |  |
| Panel mount (PX0412) |  |
| Rear fixing nut: | 1.0-1.1Nm (9lbf.in.) |
| Panel mount (PX0413) |  |
| Front fixing nut: | 1.0-1.1Nm (9lbf.in.) |
| Cable Retention force: |  |
| 3.0 mm dia | 60N |
| 4.0 to 7.0 mm dia | 80N |
| Rear panel thread PX0412: | M16x1.5 |
| Panel thread PX0413: | 18.97x26TPI Whitworth form to BS84 med fit |
| Dimensions: |  |
| Overall dimensions of connectors when mated together |  |
| Flex + Flex In-Line |  |
| Dia. over coupling ring |  |

Dia. over coupling ring



- IP68 rating tested at $1.054 \mathrm{~kg} / \mathrm{sq} \mathrm{cm}(151 \mathrm{~b} / \mathrm{sq} \mathrm{in}) 10 \mathrm{~m}$ depth for 2 weeks
- 3,8 \& 12 pole configuration
- Power ratings up to $13 \mathrm{~A}, 600 \mathrm{~V}$
- Cable range from 3 to 7 mm

O Diameter over coupling ring 19.7 mm

- Flex, Flex In-Line, Rear Panel and PCB mounting body styles
- Colour coded O-rings \& washers for easy identificaiton purposes
- Plug and Socket versions in all body styles
- Flame Retardant moulding material - Polyamide UL94-V0
- Contacts supplied separately (except PCB versions)
- Sealing caps available to maintain IP68 rating
- Crimp and solder contacts
- UL, CSA and VDE approvals (pending)
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1
- EN60068-2-64 Vibration Resistance

- Mates with Flex In-line or Panel mounting versions PXP4011, PXP4013
- Pin or socket
- 3,8 , or 12 pole
- $1 / 4$ turn locking ring
- Contacts supplied separately


Inline Flex Cable Connector


[^0]
Rear Panel Mounting Connector

Gland Packs


Part no. Description

PXP4088/0305 Pack of 4 pairs cable glands and collets to suit cables from 3.0 to 5.0 mm diameter.

PXP4088/0507 Pack of 4 pairs cable glands and collets to suit cables from 5.0 to 7.0 mm diameter.
Part no. Description

PXP4089/WH
PXP4089/RD PXP4089/BL PXP4089/YL PXP4089/GN

White coloured O-ring and washer pack
Red coloured O-ring and washer pack Blue coloured O-ring and washer pack Yellow coloured O-ring and washer pack Green coloured O-ring and washer pack

Crimp Contacts

| Pole | Current Rating | Pin | Socket | Pack Qty | Cable Acceptance (dia) |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 3 | $13 A / * 10 A$ |  |  |  | $16-18$ AWG |
| 8 | $8 A / * 4 A$ | SA3350 | SA3348 | SA3349 | 10 |
| 12 | $3 A / * 2 A$ | SA3347 | SA3179 | 10 | $18-20$ AWG |
| 10 | 10 | $22-24$ AWG |  |  |  |

Solder Contacts

| Pole | Current Rating | Pin | Socket | Pack Qty | Cable Acceptance (dia) |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 3 | $13 A / * 10 A$ |  |  |  | $16-18$ AWG |
| 8 | $8 A / * 4 A$ | SA3350/1 | SA3348/1 | SA3349/1 | 10 |
| 12 | $3 A / * 2 A$ | SA33347/1 | SA3179/1 | 10 | $18-20$ AWG |
| 12 |  | 10 | $22-24$ AWG |  |  |

Insertion / Extraction

|  | Poles | Contact <br> Rating | Colour | Part No |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
| Insertion/Extraction Tool 3 | $13 \mathrm{~A} / \star 10 \mathrm{~A}$ | Blue | $13027 / 2$ |  |
| Insertion/Extraction Tool | 8 | $8 \mathrm{~A} / * A$ | Red | $13027 / 1$ |
| Insertion/Extraction Tool 12 | $3 \mathrm{~A} / * 2 \mathrm{~A}$ | Green | 13027 |  |

Crimp tools

|  | Poles | Contact <br> Rating | Colour | Part No |
| :--- | :--- | :--- | :--- | :--- |
| Positioner | 3 | $13 A / * 10 A$ | Orange | $14025 / 1618$ |
| Positioner | 8 | 8A /*4A | Grey | $14025 / 1820$ |
| Positioner | 12 | 3A /*2A | Yellow | $14025 / 2224$ |
| 8 Indent Crimp Tool for use with positioners |  | 14025 |  |  |

PXP4013 PCB Contact Layout

Sockets
Contact numbers viewed from rear of panel


3 pole (13 Amp)


8 pole
(8 Amp)


12 pole (3 Amp)

[^1]
## Electrical:

| No. Poles: | 38 | 12 |
| :---: | :---: | :---: |
| Current Rating UL / VDE: | 13A 8A | 3A |
| Current Rating CSA: | 10A 5A | 3A |
| Voltage Rating (ac/dc): | $600 \mathrm{Vac} / \mathrm{dc}$ 600Vac/dc | 600Vac/dc |
| Contact Resistance: | $<5 \mathrm{~m} \Omega$ |  |
| Insulation Resistance: | $>10^{6} \mathrm{M} \Omega$ (@ 500 V d.c.) |  |
| AC Breakdown voltage: | 2.5 kV |  |
| Operating Temperature: |  |  |
| Flex and panel types | $-40^{\circ} \mathrm{C}$ to $+120^{\circ} \mathrm{C}$ |  |
| Approvals: |  |  |
| 71 UL |  |  |
| (1) CSA |  |  |
| ) VDE |  |  |

## Material:

Flex and panel types:
Body Mouldings:
Flammability Rating:
UV Resistance:

Contacts:
O Rings:
Panel Sealing O Ring:
RoHS

Polyamide
UL94V-0
To EN 50021:1999

Copper alloy, Gold plated

Silicone
Silicone
Compliant

| Sealing: | IP66 to En60529:1992+A2:2013 |
| :---: | :---: |
|  | IP68 to En60529:1992+A2:2013 (10m depth for 2 weeks) |
|  | IP69k to DIN 40050-9 |
|  | IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k |
| Salt Mist: | EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1 |
| Vibration: | BS EN 60068-2-64:2008 Test Fh |
|  | BS EN 60068-2-27:2009 Test Ea |
| Cable Acceptance: | 3.0-7.0mm |
| Contact Accommodation: | 3 pole, 16-18 AWG |
|  | 8 pole, 18-20 AWG |
|  | 12 pole, 22-24 AWG |
| Termination: | Crimp, solder and PCB |
| Insertion/Withdrawal Force: |  |
| No. poles: | $3 \quad 812$ |
| Insertion Force (typ): | 25N 28N 62N |
| Withdrawal Force (typ): | 17N 22N 29N |
| Panel mount (PXP4013) |  |
| Front fixing nut: | 1.0-1.1Nm (9lbf.in.) |
| Cable Retention force: |  |
| 3.0 mm dia | 60N |
| 4.0 to 7.0 mm dia | 80N |
| Panel thread PXP4013: | 18.97x26TPI Whitworth form to BS84 med fit |

## Dimensions:

Overall dimensions of connectors when mated together

| Flex + Flex In-Line | 80 mm |
| :--- | :--- |
| Dia. over coupling ring | 19.7 mm |


| PXP40 XX | $\mathbf{X X}$ | X | XXXX |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Body Styles | Number Contacts | Contact Type | For PXP4010 and PXP4011 cable connectors - Cable Entry Size: |
| PXP4010 = Flex body | $03=3$ pole, | $\mathbf{P}=\text { Pin, }$ | $3035=3.0-3.5 \mathrm{~mm}$ (Light Grey) |
| PXP4011 = Flex in-line body | $08=8$ pole, | $\mathrm{S}=\text { Socket }$ | $\begin{aligned} & 3035=3.0-3.5 \mathrm{~mm} \text { (Light Grey) } \\ & 3540=3.5-4.0 \mathrm{~mm}(\text { Grev }) \end{aligned}$ |
| PXP4013 = Rear panel/PCB mounting body | $12=12$ pole, |  | $4045=4.0-4.5 \mathrm{~mm}$ (Green) |
|  |  |  | $4550=4.5-5.0 \mathrm{~mm}$ (Red) |
|  |  |  | $5055=5.0-5.5 \mathrm{~mm}$ (Yellow) |
|  |  |  | $5560=5.5-6.0 \mathrm{~mm}$ (Blue) |
|  |  |  | $6065=6.0-6.5 \mathrm{~mm}$ (White) |
|  |  |  | $6570=6.5-7.0 \mathrm{~mm}$ (Black) |
| Examples: |  |  | Cable gland and collet supplied in colour coded pairs. |
| PXP4010/03S/4045 = Flex cable connector, 3 socket contacts with gland and |  |  |  |
| PXP4013/08P = Rear panel mounting connector, for 8 pin contacts |  |  | For PXP4013 PCB/Rear Panel Mount: PC = Pre-loaded PC pins <br> Blank $=$ no pins supplied |
| PXP4013/03P/PC = Rear panel/PCB connector, 3 pin contacts, PCB mounting (supplied with contacts loaded). |  |  |  |

6000 Series Buccaneer - circular connectors that combine the ease of use of a push/pull coupling mechanism with proven environmental sealing. Available with metal or plastic bodies, the range supports both data (USB and Ethernet), signal and mains power. Designed and independently tested to IP66, IP68 \& IP69K standards, they are ideal for applications where ingress of dust and water must be avoided and where ease of connection, space and appearance are important considerations.

- Push/Pull mechanism

Secure, quick connector mating and release

- $30^{\circ}$ twist locking

Tamperproof lock prevents accidental un-mating

- IP66, IP68 and IP69K when mated

Suitable for a wide range of dust and water borne environments

- All plastic body version; UL94-V0 rated, UV stable, halogen free Light-weight, self-extinguishing material suitable for long-term outdoor use
- Flex, flex in-line \& panel mount body styles, with sealing caps Complete family of products maintain sealing integrity in all styles
- Polarisation and visual alignment features Aids the correct mating of connectors
- 2 to 22 poles - up to $16 \mathrm{~A}, 277 \mathrm{~V}$ rated

Suitable for mains power to signal applications

- 'Scoop proof' contacts

Prevents damage through mis-mating - ideal for 'blind mating' applications
© cULus, UL, VDE
Internationally recognised certification

- Screw, Crimp and Solder terminations available



O Mates with In-Line Flex or Panel Mounting versions PXP6011 \& PXP6012

- Push/pull locking ring with $30^{\circ}$ twist locking
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 8, 16 \& 22 pole
- Screw, solder and crimp termination

| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXP6010/02P/ST | PXP6010/02S/ST | Supplied Fitted |
| 2 | Crimp Solder | PXP6010/02P/CR | PXP601002S/CR | Contacts Required |
| 3 | Screw | PXP6010/03P/ST | PXP6010/03S/ST | Supplied Fitted |
| 3 | Crimp $/$ Solder | PXP6010/03P/CR | PXP6010/03S/CR | Contacts Required |
| 8 | Crimp $/$ Solder | PXP6010/08P/CR | PXP6010/08S/CR | Contacts Required |
| 16 | Crimp $/$ Solder | PXP6010/16P/CR | PXP6010/16S//R | Contacts Required |
| 22 | Crimp $/$ Solder | PXP6010/22P/CR | PXP6010/22S/CR | Contacts Required |

- Mates with Flex Cable connector PXP6010
- For in-line cable connection
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 8, 16 and 22 pole
- Screw, solder and crimp termination

In-line Flex Cable Connector

In-line Flex Cable Connector



PXP6011

| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXP6011/02P/ST | PXP6011/02S/ST | Supplied Fitted |
| 2 | Crimp / Solder | PXP6011/02P/CR | PXP6011/02S/CR | Contacts Required |
| 3 | Screw | PXP6011/03P/ST | PXP6011/03S/ST | Supplied Fitted |
| 3 | Crimp $/$ Solder | PXP6011/03P/CR | PXP6011/03S/CR | Contacts Required |
| 8 | Crimp / Solder | PXP6011/08P/CR | PXP6011/08S/CR | Contacts Required |
| 16 | Crimp Solder | PXP6011/16P/CR | PXP6011/16S/CR | Contacts Required |
| 22 | Crimp / Solder | PXP6011/22P/CR | PXP6011/22S/CR | Contacts Required |

Front Panel Mounting Connector


- Mates with Flex Cable connectors PXP6010
- Front panel mounting
- Single hole fixing
- Pin or socket versions
- Leading earth on 3 pole connectors
- $2,3,8,16$ and 22 pole
- Screw, solder and crimp termination


PXP6012

| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXP6012/02P/ST | PXP6012/02S/ST | Supplied Fitted |
| 2 | Crimp / Solder | PXP6012/02P/CR | PXP6012/02S/CR | Contacts Required |
| 3 | Screw / Solder | PXP6012/03P/ST | PXP6012/03S/ST | Supplied Fitted |
| 3 | Crimp / SP6012/03P/CR | PXP6012/03S/CR | Contacts Required |  |
| 8 | Crimp / Solder | PXP6012/08P/CR | PXP6012/08S/CR | Contacts Required |
| 16 | Crimp / Solder | PXP6012/16P/CR | PXP6012/16S/CR | Contacts Required |
| 22 | Crimp / Solder | PXP6012/22P/CR | PXP6012/22S/CR | Contacts Required |



PXM6010

O Mates with In-Line Flex or Panel Mounting versions PXM6011 and PXM6012

- Push/pull locking ring with $30^{\circ}$ twist locking
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 8, 16 and 22 pole
- Screw, solder and crimp termination
- Cable braid termination accessory option, add /SNsuffix


Contacts
Supplied Fitted
Contacts Required
Supplied Fitted
Contacts Required
Contacts Required
Contacts Required
Contacts Required

In-line Flex Cable Connector


- Mates with Flex Cable connector PXM6010
- For in-line cable connection
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 8, 16 and 22 pole
- Screw, solder and crimp termination
- Cable braid termination accessory option, add /SNsuffix

PXM6011



| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXM6012/02P/ST | PXM6012/02S/ST | Supplied Fitted |
| 2 | Crimp / Solder | PXM6012/02P/CR | PXM6012/02S/CR | Contacts Required |
| 3 | Screw | PXM6012/03P/ST | PXM6012/03S/ST | Supplied Fitted |
| 3 | Crimp / Solder | PXM6012/03P/CR | PXM6012/03S/CR | Contacts Required |
| 8 | Crimp / Solder | PXM6012/08P/CR | PXM6012/08S/CR | Contacts Required |
| 16 | Crimp / Solder | PXM6012/16P/CR | PXM6012/16S/CR | Contacts Required |
| 22 | Crimp / Solder | PXM6012/22P/CR | PXM6012/22S/CR | Contacts Required |


| Crimp / Solder Contacts | $0$ | Gold Plated Current ratings: 2 \& 3 pole : 16A 8 pole: 10A 16 pole: 3A 22 pole: 2A | Contacts (for 2 \& 3 pole) (Supplied in packs of 10 ) | Crimp | Solder |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pins | SA3545/P | SA3624/P |
|  |  |  | Sockets | SA3545/S | SA3624/S |
|  |  |  |  |  |  |
|  |  |  | Contacts (for 8 pole) (Supplied in packs of 10) | Crimp | Solder |
|  |  |  | Pins | SA3544/P | SA3623/P |
|  |  |  | Sockets | SA3544/S | SA3623/S |
|  |  |  | Contacts (for 16 \& 22 pole) (Supplied in packs of 10) | Crimp | Solder |
|  |  |  | Pins | SA3542/P | SA3622/P |
|  |  |  | Sockets | SA3542/S | SA3622/S |

Crimp Tooling

## Crimp Tooling

Crimp Tool (2 \& 3 pole)
Positioner (2 \& 3 pole)
PNo. 14232
PNo.14232/2/SP
Crimp Tool (8, 16 \& 22 pole)
Positioner (8 pole)
PNo. 14025
PNo.15021/SP
Positioner (16 \& 22 pole)
PNo.15019/SP

## Extraction Tools

Extraction Tool
(2 \& 3 pole)
Extraction Tool
(8 pole)
Extraction Tool
(16 \& 22 pole)

PNo.14946/SP
PNo.14945/SP
PNo.14944/SP

Contact Carrier Removal Tool


- For removal of all contact carriers

Tools
Contact carrier removal tool PNo. 14917/SP (all poles)

Sealing Caps


PXM6083 PXM6082 PXM6081

- Maintains IP Rating of

Unmated Connectors

- PXM6081: Fits PXM6010 (Flex Connector)
- PXM6082: Fits PXM6011 (Flex In-Line Connector)
- PXM6083: Fits PXM6012 (Panel Connector)


Cable Gland Pack


- Pack of all cable glands to suit cable ranges from 4.0 to 10.0 mm diameter

Cable Braid Termination Option


- For cable braid termination
- Supplied with ty-rap



## Examples

PXM6010/03P/CR/0507= Flex cable connector, 3 pole, pin contacts with 5 to 7 mm cable glands
PXM6012/03/S/ST = Front panel mounting connector, 3 pole, socket with screw
termination


| Materials: | Plastic | Metal |
| :--- | :--- | :--- |
| Body: | PC/ PBT | Brass |
| Colour: | Grey | Matt silver |
| Contacts: | Brass, Nickel Plate (Screw and Crimp) <br> Brass, (3A - Gold plated) | Brass, Nickel Plate (Screw and <br> Crimp) Brass, (3A - Gold plated) |
| O Rings \& Gaskets: | Silicone | Silicone |
| Flammability Rating: | UL94 V-0 | - |
| Halogen free | Yes | - |
| UV Resistance: | ISO 4892 part 3 cycle 1 (QUV) | Compliant |

The thermal properties of the materials used in the construction of a connector limit the current carrying capacity. There are a number of factors that determine the amount of current that can be handled: contact spacing, size of cable, ambient temperature and the heat that is generated by the current passing through the connector.

The maximum current varies with different contact layouts, and because of these factors it is necessary to produce de-rating curves for each pole variant. This de-rating curve is specified in the standard IEC 60512 part 3. De-rating curves are plotted for each contact carrier combination with the current being carried simultaneously by all contacts. These graphs show the heat rise generated as the current is increased.

The red line indicates the direct correlation between current applied and the measured temperature rise within the connector. The dotted blue line shows rated current and the green line is derived by applying a factor of 0.8 to the original plot data to give a de-rating curve. The dashed blue line shows the rated current.

The shaded area under the 0.8 curve shows the permitted operating area, and allows safe current vs ambient temperature characteristics to be determined.

- = tested operating limits
_ = de-rated operating limits
-     - = rated current



# The all plastic and metal construction of the 7000 Series Buccaneer - circular connectors that combine the ease of use of a quick coupling mechanism with proven environmental sealing for signal and mains power. 

Designed and independently tested to IP66, IP68 \& IP69K standards, they are ideal for applications where ingress of dust and water must be avoided and where ease of connection, space and appearance are important considerations.

- Less than $1 / 4$ Turn locking mechanism Secure, quick connector mating and release
- Positive feedback on locking mechanism Confidence that connector is correctly mated and sealed
- IP66, IP68 and IP69K when mated

Suitable for a wide range of dust and water borne environments

- All plastic body version; UL94-V0 rated, UV stable, halogen free
Light-weight, self-extinguishing material suitable for long-term outdoor use
. Flex, flex in-line \& panel mount body styles, with sealing caps Complete family of products maintain sealing integrity in all styles
© Polarisation and visual alignment features Aids the correct mating of connectors
- 2 to 32 poles - up to $25 \mathrm{~A}, 600 \mathrm{~V}$ rated Suitable for mains power to signal applications
- 'Scoop proof' contacts

Prevents damage through mis-mating - ideal for 'blind mating' applications
$\bigcirc$ cULs, UL, VDE approvals Internationally recognised certification (pending)

- Screw, Crimp and Solder terminations available
© EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

(0) Mates with In-Line Flex or Panel Mounting versions PXP7011 \& PXP7012
- Quick turn locking ring
- Pin or socket versions

Leading earth on 3 pole connectors

- 2, 3, 6, 10 \& 32 pole
- Screw solder and crimp termination

| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXP7010/02P/ST | PXP7010/02S/ST | Supplied Fitted |
| 3 | Screw | PXP7010/03P/ST | PXP7010/03S/ST | Supplied Fitted |
| 6 | Screw | PXP7010/06P/ST | PXP7010/06S/ST | Supplied Fitted |
| 10 | Crimp / Solder | PXP7010/10P/CR | PXP7010/10S/CR | Contact Required |
| 32 | Crimp / Solder | PXP7010/32P/CR | PXP7010/32S/CR | Contact Required |

In-line Flex Cable Connector

- Mates with Flex Cable connector PXP7010
- For in-line cable connection
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 6, 10 and 32 pole
- Screw solder and crimp termination


PXP7011




| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXP7011/02P/ST | PXP7011/02S/ST | Supplied Fitted |
| 3 | Screw | PXP7011/03P/ST | PXP7011/03S/ST | Supplied Fitted |
| 6 | Screw | PXP7011/06P/ST | PXP7011/06S/ST | Supplied Fitted |
| 10 | Crimp $/$ Solder | PXP7011/10P/CR | PXP7011/10S/CR | Contact Required |
| 32 | Crimp $/$ Solder | PXP70111/32P/CR | PXP7011/32S/CR | Contact Required |

Front Panel Mounting Connector


- Mates with Flex Cable connectors PXP7010
- Front panel mounting
- Single hole fixing
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 6, 10 and 32 pole
- Screw solder and crimp termination

PXP7012

| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXP7012/02P/ST | PXP7012/02S/ST | Supplied Fitted |
| 3 | Screw | PXP7012/03P/ST | PXP7012/03S/ST | Supplied Fitted |
| 6 | Screw | PXP7012/06P/ST | PXP7012/06S/ST | Supplied Fitted |
| 10 | Crimp $/$ Solder | PXP7012/10P/CR | PXP7012/10S/CR | Contact Required |
| 32 | Crimp / Solder | PXP7012/32P/CR | PXP7012/32S/CR | Contact Required |

## Flex Cable Connector



PXM7010

- Mates with In-Line Flex or Panel Mounting versions PXM7011 \& PXM7012
Quick turn locking ring
- Pin or socket versions
- Leading earth on 3 pole connectors
- 2, 3, 6, 10 \& 32 pole
- Screw solder and crimp termination
- Cable braid termination accessory option, add /SNsuffix


Contacts
Supplied Fitted
Supplied Fitted
Supplied Fitted
Contact Required
Contact Required

In-line Flex Cable Connector


- Mates with Flex Cable connector PXM7010
- For in-line cable connection
- Pin or socket versions
- Leading earth on 3 pole connectors
2, 3, 6, 10 and 32 pole
- Screw solder and crimp termination
- Cable braid termination accessory option, add /SNsuffix


PXM7011

| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXM7011/02P/ST | PXM7011/02S/ST | Supplied Fitted |
| 3 | Screw | PXM7011/03P/ST | PXM7011/03S/ST | Supplied Fitted |
| 6 | Screw | PXM7011/06P/ST | PXM7011/06S/ST | Supplied Fitted |
| 10 | Crimp $/$ Solder | PXM7011/10P/CR | PXM7011/10S/CR | Contact Required |
| 32 | Crimp $/$ Solder | PXM7011/32P/CR | PXM7011/32S/CR | Contact Required |



| Poles | Termination | Pin Contacts | Socket Contacts | Contacts |
| :--- | :--- | :--- | :--- | :--- |
| 2 | Screw | PXM7012/02P/ST | PXM7012/02S/ST | Supplied Fitted |
| 3 | Screw | PXM7012/03P/ST | PXM7012/03S/ST | Supplied Fitted |
| 6 | Screw | PXM7012/06P/ST | PXM7012/06S/ST | Supplied Fitted |
| 10 | Crimp $/$ Solder | PXM7012/10P/CR | PXM7012/10S/CR | Contact Required |
| 32 | Crimp / Solder | PXM7012/32P/CR | PXM7012/32S/CR | Contact Required |



| Crimp Tooling | $\bigcirc$ | Crimp Tools for 10 and 32 pole crimp contacts | Crimp Tooling |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Crimp Tool ( 10 \& 32 pole) <br> Positioner (10 pole) <br> Positioner (32 pole) | PNo. 14025 <br> PNo. 15021/SP <br> PNo. 15019/SP |

Extraction Tools


PNo 14944/SP PNo 14945/SP

## Extraction Tools

Extraction tool (10 pole)
PNo. 14945/SP
Extraction tool (32 pole)
PNo. 14944/SP

Contact Carrier Removal Tool


PNo 15065/SP

- Extraction tool for 10 and 32 pole contacts

Contact Carrier Removal Tool
Contact carrier removal tool PNo. 15065/SP (all poles)

Cable Braid Termination Option


- For cable braid termination
- Supplied with ty-rap


PXP7082
PXP7081


PXP7081: Fits PXP7010 (Flex Connector)

- PXP7082: Fits PXP7011 (FlexIn-Line Connector) and PXP7012: (Panel Connector)

Sealing Caps


PXM7082 PXM7081 PXM7083

- Maintains IP rating of unmated connectors
- PXM7081: Fits PXM7010 (FlexConnector)
- PXM7082: Fits PXM7011
(Flex In-Line Connector) and PXP7012: (Panel Connector)
- PXM7083: Fits PXM7012 (Panel Mounting Connector)


Cable Gland Packs


PXP7088/ *

- Packs of cable glands, cages and gland nuts to suit cables ranges from 5.0 to 15.0 mm diameter
- PXP7088/0507: for cable ranges between 5.0 and 7.0 mm
- PXP7088/0713: for cable ranges between 7.0 and 13.0 mm
- PXP7088/1315: for cable ranges between 13.0 and 15.0 mm


| PXX | 7XXX | $\int \mathbf{X X}$ |  | / XX | / XXXX | $\boldsymbol{X} \mathbf{X X}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | I | , |  |  |  |  |
| Series Designation | Series / Body Style | No. of Contacts | Contacts Type | Terminations | Cable Entry Size | Cable Brand Termination Accessory |
| PXM = Metal Series PXP= Plastic Series | $\begin{aligned} & 7010=\text { Flex } \\ & 7011=\text { Flex In-Line } \\ & 7012=\text { Panel } \end{aligned}$ | $02=2$ Pole  <br> $03=3$ Pole  <br> $06=6$ Pole  <br> $10=10$ Pole  <br> $32=32$ Pole  | $\begin{aligned} & P=\text { Pin } \\ & S=\text { Socket } \end{aligned}$ | ST = Screw Terminal (2, 3, \& 6 pole only) $C R=$ Contacts Required (10 \& 32 , pole only) | for Flex and Flex In- | I (for Flex and Flex In-Line connectors only) |
|  |  |  |  |  | Line connectors only) |  |
|  |  |  |  |  | - $0507=5-7 \mathrm{~mm}$ | I SN - If requires |
|  |  |  |  |  | (grey) | I Blank - If not required |
|  |  |  |  |  |  |  |
|  |  |  |  |  | $\begin{aligned} & 0709=7-9 \mathrm{~mm} \\ & \text { (white) } \end{aligned}$ |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  | 0911 = 9-11mm |  |
|  |  |  |  |  | (black) |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  | I (yellow) |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  | - $1315=13$ to 15 mm |  |
|  |  |  |  |  | ( ${ }^{\text {light grey) }}$ |  |

## Examples

PXM7010/10/P/CR/0911/SN = Flex cable connector, 10 pole, pin contacts with
9 to 11 mm cable glands and braid termination accessory
PXM7012/03/S/ST = Front panel mounting connector, 3 pole, socket with screw termination


| Materials: | Plastic | Metal |
| :--- | :--- | :--- |
| Body: | PC/ PBT | Cast zinc alloy, nickel plated |
| Colour: | Grey | Matt silver |
| Contacts: | Brass, Nickel Plate (Screw and <br> Crimp) Brass, (3A - Gold plated) | Brass, Nickel Plate (Screw and <br> Crimp) Brass, (3A - Gold plated) |
| O Rings \& Gaskets: | Silicone | Silicone |
| Flammability Rating: | UL94 V-0 | - |
| Halogen free | Yes | ISO 4892 part 3 cycle 1 (QUV) |

The thermal properties of the materials used in the construction of a connector limit the current carrying capacity. There are a number of factors that determine the amount of current that can be handled: contact spacing, size of cable, ambient temperature and the heat that is generated by the current passing through the connector.

The maximum current varies with different contact layouts, and because of these factors it is necessary to produce de-rating curves for each pole variant. This de-rating curve is specified in the standard IEC 60512 part 3. De-rating curves are plotted for each contact carrier combination with the current being carried simultaneously by all contacts. These graphs show the heat rise generated as the current is increased.

The red line indicates the direct correlation between current applied and the measured temperature rise within the connector. The dotted blue line shows rated current and the green line is derived by applying a factor of 0.8 to the original plot data to give a de-rating curve. The dashed blue line shows the rated current.

The shaded area under the 0.8 curve shows the permitted operating area, and allows safe current vs ambient temperature characteristics to be determined.

- = tested operating limits
_ = de-rated operating limits
-     - = rated current

7000 Series Current vs. Temperature Characteristics
2 Pole, Plastic Body, Screw Terminal, $6.0 \mathrm{~mm}^{2}$ wire
current appied throughal il pins simultaneous


7000 Series Current vs. Temperature Characteristics
6 Pole, Plastic Body, Screw Terminal, $1.0 \mathrm{~mm}^{2}$ wire urrent applied through all pins simultaneously


7000 Series Current vs. Temperature Characteristics
3 Pole, Plastic Body, Screw Terminal, $4.0 \mathrm{~mm}^{2}$ wire current applied through all pins simultaneously


7000 Series Current vs. Temperature Characteristics
10 Pole, Plastic Body, Crimp Terminal, 18 AWG wire current applied through all pins simultaneously


7000 Series Current vs. Temperature Characteristics
32 Pole, Plastic Body, Crimp Terminal, 22 AWG wire
urrent applied through all pins simultaneously


Ambient Temperature ${ }^{\circ} \mathrm{C}$

The M-Series Buccaneer range has been designed to offer flexible connectivity solutions for a varety of industrial automation applications. With metal and plastic variants, these rugged and robust interconnects are ideal for industries requiring secure and reliable connections.

```
Available types: M5, M8, M12, M16 & M23
0 Reliable sensor, actuator and data connectivity solutions
0 Straight and right angled configurations
- Quick and secure screw coupling mechanism
O Backwards compatible versions
0 Available as field attachable connectors,
    receptacles or with overmolded cables
O Plastic and Metal Variants
0. Ratings from 1A, 30V ac/dc up to 8A, 250V ac/dc
O Overmolded cables PVC & PUR
0. IP67 Rating
O Cable lengths from 1m-15m
O A, B and D Coding Options
0 Power Distribution Units Available
```

[^2]Bulgin's M-Series connector range is the ideal connectivity solution for industrial automation technologies that require fast, secure and reliable connections with a high degree of environmental protection.


Bulgin's automation interconnect range includes circular metric connectors with industry standard M5, M8, M12, M16 \& M23 threads in addition to panel mount receptacles, overmolded cable variants and power/signal distributor units. This comprehen sive product portfolio offers a large degree of flexibility with chemically and mechanically robust connectors that are easy to install, help decrease downtime and increase production efficiency in a wide range of markets.

Applications include:

| 0 | Factory Automation | 0 | Process Control Systems |
| :--- | :--- | :--- | :--- |
| 0 | Robotics | 0 | Medical |
| 0 | Measurement \& Instrumentation | $\bigcirc$ | Food \& Beverage Processing |
|  | Manufacturing \& Ma©laine Tools |  | Industrial Network $\quad$ |

## The most compact connector type in the M-Series range,

 Bulgin's waterproof M5 sensor connectors come in straight and angled forms with PVC or PUR overmolded cable option s and a variety of panel mount receptacles.With an industry standard screw coupling mechanism and IP67 rating, this circular connector product line is particularly suited to automotive, process control, commercial electronics \& instrumentation applications that require reliable and robust miniature sensors

## Key features:

| Secure \& reliable screw locking mechanism | Straight \& right angled cable connectors |
| :--- | :--- | :--- |
| Robust PVC \& PUR overmolded cables | Rear \& front panel mount receptacles |
| Cable length from $1 \mathrm{~m}-15 \mathrm{~m}$ | Available with 3 or 4 poles |
| High degree of environmental protection - 1 P 67 rated |  |




| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PXPPVC05RAFO3ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU05RAF03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC05RAF03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU05RAF03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC05RAFO3ACLO3OPVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU05RAFO3ACLO3OPUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC05RAF03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU05RAFO3ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC05RAFO3ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU05RAF03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC05RAF03ACL150PVC | 03 | A | Overmold Cable | 15 m | PVC |
| PXPTPU05RAF03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC05RAF04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU05RAF04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC05RAF04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU05RAF04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC05RAF04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU05RAF04ACLO3OPUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC05RAF04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU05RAF04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC05RAF04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU05RAF04ACL100PUR | 04 | A | Overmold Cable | 10 m | PUR |
| PXPPVC05RAF04ACL150PVC | 04 | A | Overmold Cable | 15m | PVC |
| PXPTPU05RAF04ACL150PUR | 04 | A | Overmold Cable | 15m | PUR |


| M5 Right Angled Male |  | - Available in 3 and 4 poles <br> - 1,2,3,5,10 \& 15M cable options <br> $\bigcirc$ Overmold Flex Inline Body <br> - Mates with Flex Body \& panel mount connectors |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| PXPPVC05RAM03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU05RAM03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC05RAM03ACLO20PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU05RAM03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC05RAM03ACLO30PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU05RAM03ACLO30PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC05RAM03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU05RAM03ACLO50PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC05RAM03ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU05RAM03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC05RAM03ACL150PVC | 03 | A | Overmold Cable | 15m | PVC |
| PXPTPU05RAM03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC05RAM04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU05RAM04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC05RAMO4ACLO2OPVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU05RAM04ACLO20PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC05RAM04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU05RAM04ACLO30PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC05RAM04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU05RAM04ACLO50PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC05RAM04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU05RAM04ACL100PUR | 04 | A | Overmold Cable | 10 m | PUR |
| PXPPVC05RAM04ACL150PVC | 04 | A | Overmold Cable | 15 m | PVC |
| PXPTPU05RAM04ACL150PUR | 04 | A | Overmold Cable | 15m | PUR |



| Electrical |  | Mechanical: |  |
| :---: | :---: | :---: | :---: |
| No. Poles: | $3 \quad 4$ | Locking Mechanism: | Screw coupling |
| Current Rating: | $1 \mathrm{~A} \quad 1 \mathrm{~A}$ | Sealing: | IP67 |
| Voltage Rating (ac/dc) : | 60 V 60V |  |  |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | Terminations: |  |
| Insulation Resistance: | >100M $\Omega$ | 3 Pole | Single wire / PCB / Cable |
| AC Breakdown Voltage: |  | 4 Pole | Single wire / PCB / Cable |
| 3 Pole | 1.5KV | Mechanical Operation: | 500 mating cycles |
| 4 Pole | 1.5 KV |  |  |
| Operating Temp Range: | $-25^{\circ} \mathrm{C}$ to $80^{\circ} \mathrm{C}$ | Diameter over coupling ring: | 6.5 mm |
| Materials: | Panel Mount: | Cable Connector |  |
| Body: | Nickel Plated Brass | TPU / PVC |  |
| Coupling Nut: | Nickel Plated Brass | Nickel Plated Brass |  |
| Colour: | Grey | Black |  |
| Pin Contacts: | Brass, Gold plating | Brass, Gold plating |  |
| Socket Contacts: | Phosphor Bronze, Gold plating | Phosphor Bronze, Gold | ting |
| O Rings \& Gaskets: | Viton | Viton |  |
| RoHS: | Compliant | Compliant |  |


| MX |  | KXK |  |  |  | K |  | KXK |  | K |  | $\mathbf{X X}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1 |  | 1 |  | 1 |  | 1 |  |
|  |  |  |  |  | 1 |  | I |  |  |  |  |  |
| Series |  | Material | Series Size | Body Style | 1 | Orientation | I | NO. Contacts |  | Code | , | Termination |
|  |  |  |  |  | 1 |  | 1 |  | , |  |  |  |
| PXM |  | BNI = Brass Nickel | 05 | FB = Flex Body | I | M | 1 | 03 | , | A |  | $P C=P C B$ |
|  |  |  |  |  | , |  | 1 |  | , |  |  |  |
| PXP |  | $\mathrm{J}=$ overmold for PUR |  | FI = Flex Inline Body | 1 | F | I | 04 | I |  |  | L = Flying Lead |
|  |  |  |  |  | , |  | 1 |  | I |  |  |  |
|  | PVC | C = overmold for PVC |  | FP $=$ Front Panel Mounting | I |  | 1 |  | I |  | 1 | CL = Cable |
|  |  |  |  |  | I |  | , |  | , |  |  |  |
|  |  |  |  |  | 1 |  | 1 |  | I |  |  |  |
|  |  |  |  | RP = Rear Panel Mounting | 1 |  | I |  | I |  |  |  |
|  |  |  |  |  | I |  | 1 |  | I |  |  |  |
|  |  |  |  | RA = Right Angle | I |  | I |  | 1 |  | I |  |
|  |  |  |  | RA = Right Angle | 1 |  |  |  | I |  | 1 |  |
| KKX |  | $\mathbf{X K K}$ |  |  |  |  |  |  |  |  |  |  |
|  | I |  |  |  |  |  |  |  |  |  |  |  |
| Lead Length |  | Cable Material |  |  |  |  |  |  |  |  |  |  |
| 001 | I | PUR |  |  |  |  |  |  |  |  |  |  |
|  | 1 |  |  |  |  |  |  |  |  |  |  |  |
| 002 | PVC |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 003 | 1 |  |  |  |  |  |  |  |  |  |  |  |
|  | 1 |  |  |  |  |  |  |  |  |  |  |  |
| 010 | 1 |  |  |  |  |  |  |  |  |  |  |  |
|  | 1 |  |  |  |  |  |  |  |  |  |  |  |
| 030 | , |  |  |  |  |  |  |  |  |  |  |  |
|  | : |  |  |  |  |  |  |  |  |  |  |  |
| 050 |  |  |  |  |  |  |  |  |  |  |  |  |
| 100 |  |  |  |  |  |  |  |  |  |  |  |  |
| 150 |  |  |  |  |  |  |  |  |  |  |  |  |

# Bulgin's M8 circular connectors and overmolded cables are designed to fulfil the ever growing demand for sensor, actuator and data connections in process control, industrial machinery and factory automation applications. 



These compact sensor and automation connectors with screw lock coupling are mechanically and chemically robust, easy to install, minimise downtime and help to increase production efficiency. Rated to the IP67 standard, Bulgin's M8 Series ensure safe, secure and reliable protection from liquids, dust, moisture and dirt whilst also providing great resistance against vibrations to ensure that connections are not disrupted.

Key features:

| O | Straight \& right angled configurations | 0 | Environmental protection class IP67 |
| :--- | :--- | :--- | :--- |
| 0 | 3,4 or 5 contacts | 0 | Field installable connectors, panel mounts \& overmolded cable options |
| O | Metal \& plastic shell options | 0 | PVC or PUR jacketed cable variants with many lengths from $1 \mathrm{~m}-15 \mathrm{~m}$ |
| O | A \& B coded |  |  |



| Part Number | Poles | Code | Termination | Lead Length |
| :---: | :---: | :---: | :---: | :---: |
| PXMBNI08RPF03APC | 03 | A | PCB Terminal | - |
| PXMBNI08RPF04APC | 04 | A | PCB Terminal | - |
| PXMBNI08RPF05BPC | 05 | B | PCB Terminal | - |
| PXMBNI08RPF03AFL001 | 03 | A | Flying Lead | 100mm |
| PXMBNI08RPF03AFL002 | 03 | A | Flying Lead | 200mm |
| PXMBNI08RPF03AFL003 | 03 | A | Flying Lead | 300 mm |
| PXMBNI08RPF04AFL001 | 04 | A | Flying Lead | 100mm |
| PXMBNI08RPF04AFL002 | 04 | A | Flying Lead | 200mm |
| PXMBNI08RPF04AFL003 | 04 | A | Flying Lead | 300 mm |
| PXMBNI08RPF05BFL001 | 05 | B | Flying Lead | 100mm |
| PXMBNI08RPF05BFL002 | 05 | B | Flying Lead | 200mm |
| PXMBNI08RPF05BFL003 | 05 | B | Flying Lead | 300mm |



M8 Front Panel Mounting Male


- Available in 3, 4 and 5 poles
- Flying lead termination
- Front panel mounting M8
- Mates with Flex Body connectors

PXMBNI08FPM


| Part Number | Poles | Code | Termination | Lead Length |
| :---: | :---: | :---: | :---: | :---: |
| PXMBNI08FPM03AFL001 | 03 | A | Flying Lead | 100 mm |
| PXMBNI08FPM03AFL002 | 03 | A | Flying Lead | 200 mm |
| PXMBNI08FPM03AFL003 | 03 | A | Flying Lead | 300 mm |
| PXMBNI08FPM04AFL001 | 04 | A | Flying Lead | 100 mm |
| PXMBNI08FPM04AFL002 | 04 | A | Flying Lead | 200 mm |
| PXMBNI08FPM04AFL003 | 04 | A | Flying Lead | 300 mm |
| PXMBNI08FPM05BFL001 | 05 | B | Flying Lead | 100 mm |
| PXMBNI08FPM05BFL002 | 05 | B | Flying Lead | 200 mm |
| PXMBNI08FPM05BFL003 | 05 | B | Flying Lead | 300 mm |




| M8 Right Angled Male |  | - Available in 3,4 and 5 poles$1,2,3,5,10$ \& 15 M cable optionsOvermold Flex Inline BodyMates with Flex Body \& panel mount connectors |  |  | $2$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| PXPPVC08RAM03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU08RAM03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC08RAM03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU08RAM03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC08RAM03ACL030PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU08RAM03ACL030PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC08RAM03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU08RAM03ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC08RAM03ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU08RAM03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC08RAM03ACL150PVC | 03 | A | Overmold Cable | 15 m | PVC |
| PXPTPU08RAM03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC08RAM04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU08RAM04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC08RAM04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU08RAM04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC08RAM04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU08RAM04ACL030PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC08RAM04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU08RAM04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC08RAM04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU08RAM04ACL100PUR | 04 | A | Overmold Cable | 10 m | PUR |
| PXPPVC08RAM04ACL150PVC | 04 | A | Overmold Cable | 15m | PVC |
| PXPTPU08RAM04ACL150PUR | 04 | A | Overmold Cable | 15 m | PUR |
| PXPPVC08RAM05BCL010PVC | 05 | B | Overmold Cable | 1 m | PVC |
| PXPTPU08RAM05BCL010PUR | 05 | B | Overmold Cable | 1 m | PUR |
| PXPPVC08RAM05BCL020PVC | 05 | B | Overmold Cable | 2 m | PVC |
| PXPTPU08RAM05BCL020PUR | 05 | B | Overmold Cable | 2 m | PUR |
| PXPPVC08RAM05BCL030PVC | 05 | B | Overmold Cable | 3 m | PVC |
| PXPTPU08RAM05BCL030PUR | 05 | B | Overmold Cable | 3 m | PUR |
| PXPPVC08RAM05BCL050PVC | 05 | B | Overmold Cable | 5 m | PVC |
| PXPTPU08RAM05BCL050PUR | 05 | B | Overmold Cable | 5 m | PUR |
| PXPPVC08RAM05BCL100PVC | 05 | B | Overmold Cable | 10m | PVC |
| PXPTPU08RAM05BCL100PUR | 05 | B | Overmold Cable | 10 m | PUR |
| PXPPVC08RAM05BCL150PVC | 05 | B | Overmold Cable | 15 m | PVC |
| PXPTPU08RAM05BCL150PUR | 05 | B | Overmold Cable | 15m | PUR |


| M8 Flex Body Female | 08FBF 08FBF | - Available in 3, 4 and 5 poles <br> - 1,2,3,5,10 \& 15 M cable options <br> - Overmold Flex Body <br> - Mates with Flex Inline Body \& panel mount connectors |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| PXPPVC08FBF03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU08FBF03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC08FBF03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU08FBF03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC08FBF03ACL030PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU08FBF03ACL030PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC08FBF03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU08FBF03ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC08FBF03ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU08FBF03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC08FBF03ACL150PVC | 03 | A | Overmold Cable | 15 m | PVC |
| PXPTPU08FBF03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC08FBF04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU08FBF04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC08FBF04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU08FBF04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC08FBF04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU08FBF04ACL030PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC08FBF04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU08FBF04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC08FBF04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU08FBF04ACL100PUR | 04 | A | Overmold Cable | 10 m | PUR |
| PXPPVC08FBF04ACL150PVC | 04 | A | Overmold Cable | 15 m | PVC |
| PXPTPU08FBF04ACL150PUR | 04 | A | Overmold Cable | 15 m | PUR |
| PXPPVC08FBF05BCL010PVC | 05 | B | Overmold Cable | 1 m | PVC |
| PXPTPU08FBF05BCL010PUR | 05 | B | Overmold Cable | 1 m | PUR |
| PXPPVC08FBF05BCL020PVC | 05 | B | Overmold Cable | 2 m | PVC |
| PXPTPU08FBF05BCL020PUR | 05 | B | Overmold Cable | 2 m | PUR |
| PXPPVC08FBF05BCL030PVC | 05 | B | Overmold Cable | 3 m | PVC |
| PXPTPU08FBF05BCL030PUR | 05 | B | Overmold Cable | 3 m | PUR |
| PXPPVC08FBF05BCL050PVC | 05 | B | Overmold Cable | 5 m | PVC |
| PXPTPU08FBF05BCL050PUR | 05 | B | Overmold Cable | 5 m | PUR |
| PXPPVC08FBF05BCL100PVC | 05 | B | Overmold Cable | 10 m | PVC |
| PXPTPU08FBF05BCL100PUR | 05 | B | Overmold Cable | 10 m | PUR |
| PXPPVC08FBF05BCL150PVC | 05 | B | Overmold Cable | 15 m | PVC |
| PXPTPU08FBF05BCL150PUR | 05 | B | Overmold Cable | 15 m | PUR |



- Available in 3, 4 and 5 poles
- 1,2,3,5,10 \& 15M cable options
- Overmold Flex Inline Body

O Mates with Flex Body \& panel mount connectors


PXPTPU08FIM PXPPVC08FIM

| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PXPPVC08FIM03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU08FIM03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC08FIM03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU08FIM03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC08FIM03ACL030PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU08FIM03ACL030PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC08FIM03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU08FIM03ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC08FIM03ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU08FIM03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC08FIM03ACL150PVC | 03 | A | Overmold Cable | 15 m | PVC |
| PXPTPU08FIM03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC08FIM04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU08FIM04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC08FIM04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU08FIM04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC08FIM04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU08FIM04ACL030PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC08FIM04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU08FIM04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC08FIM04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU08FIM04ACL100PUR | 04 | A | Overmold Cable | 10m | PUR |
| PXPPVC08FIM04ACL150PVC | 04 | A | Overmold Cable | 15m | PVC |
| PXPTPU08FIM04ACL150PUR | 04 | A | Overmold Cable | 15 m | PUR |
| PXPPVC08FIM05BCL010PVC | 05 | B | Overmold Cable | 1 m | PVC |
| PXPTPU08FIM05BCL010PUR | 05 | B | Overmold Cable | 1 m | PUR |
| PXPPVC08FIM05BCL020PVC | 05 | B | Overmold Cable | 2 m | PVC |
| PXPTPU08FIM05BCL020PUR | 05 | B | Overmold Cable | 2 m | PUR |
| PXPPVC08FIM05BCL030PVC | 05 | B | Overmold Cable | 3 m | PVC |
| PXPTPU08FIM05BCL030PUR | 05 | B | Overmold Cable | 3 m | PUR |
| PXPPVC08FIM05BCL050PVC | 05 | B | Overmold Cable | 5 m | PVC |
| PXPTPU08FIM05BCL050PUR | 05 | B | Overmold Cable | 5 m | PUR |
| PXPPVC08FIM05BCL100PVC | 05 | B | Overmold Cable | 10m | PVC |
| PXPTPU08FIM05BCL100PUR | 05 | B | Overmold Cable | 10m | PUR |
| PXPPVC08FIM05BCL150PVC | 05 | B | Overmold Cable | 15m | PVC |
| PXPTPU08FIM05BCL150PUR | 05 | B | Overmold Cable | 15 m | PUR |



| MX | $\mathbf{X X X}$ | XX | XX | X | XX | X | XX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I |  |  |  |  | ' |  |  |
| Series | Material | Series Size | Body Style | Orientation | NO. Contacts | Code | Termination |
| PXM | BNI $=$ Brass Nickel | 08 | FB = Flex Body | M | 03 | A | ST = Screw Terminal |
| PXP | PAM = Polyamide |  |  |  | I |  |  |
| PXP IT | TPU = overmold for PUR |  | FI = Flex Inline Body | F | 04 ' | B | $P C=P C B$ |
|  | PVC = overmold for PVC |  |  |  | I |  |  |
| I |  |  | FP = Front Panel Mounting |  | 05 |  | FL = Flying Lead |
| I |  |  |  |  | I |  |  |
| ' |  |  |  |  | ' |  | CL $=$ Cable |
| I |  |  | RP = Rear Panel Mounting |  | I |  | CL = Cable |
| ' |  |  |  |  | I |  | SC = Solder |
| 1 |  |  | RA = Right Angle |  | I |  | SC = Solder |
| XXX | $\mathbf{X X X}$ |  |  |  |  |  |  |
|  | I |  |  |  |  |  |  |
| Lead Length | : Cable Material |  |  |  |  |  |  |
| 001 | PUR |  |  |  |  |  |  |
| 002 | 1 PVC |  |  |  |  |  |  |
| 002 | PVC |  |  |  |  |  |  |
| 003 | I |  |  |  |  |  |  |
|  | , |  |  |  |  |  |  |
| 010 | 1 |  |  |  |  |  |  |
| 020 | I |  |  |  |  |  |  |
| 030 |  |  |  |  |  |  |  |
| 050 |  |  |  |  |  |  |  |
| 100 |  |  |  |  |  |  |  |
| 150 |  |  |  |  |  |  |  |

With a high degree of mechanical and electrical stability, Bulgin's M12 connectors provide a cost effective and flexible connectivity solution for onsite installations, helping to decrease downtime in process control, manufacturing automation and industrial instrumentation applications.

Key features:

```
Reliable industry standard screw locking mechanism
- IP67 degree of protection
0 A, B and D Coded versions
0 Field installable, cableand panel mount options
0. Plastic and metal options variants
0 Straight and right angled forms
0 Overmolded PVC or PUR cable connectors
0 Shielded options
0. Pole variants from 3-12
```

M12 connectors are established as one of the most reliable and efficient connection standards for Industrial Machinery and Factory Automation applications. With a small footprint, extremely low failure rate and high performance capabilities, this range is ideal not only for sensor connections but also for a variety of fieldbus systems.

These M12 Series circular connectors are rugged, easy to use and extremely reliable solutions for sensor/actuator connectivity in industrial automation and control applications. With an IP67 rating, they are also extremely effective in harsh environments outside of industrial automation applications where compact and dependable connections with environmental protection are required.

Bulgin's field attachable M12 connectors feature a robust aluminium coupling nut, making them a lightweight and durable alternative to the more common nickel-plated M12 nut variants and an ideal plug and play solution for upgrading sensor systems with M12 connectivity.


Bulgin's M12 Series connectors are available in a variety of industry standard keying/coding options to further minimize wiring errors and serve a large variety of customer needs.

M12 Series coding options:


A-Coding
Primarily for general sensor-actuator connections


B-Coding
For fieldbus and signal connections (PROFIBUS \& INTERBUS systems)


## D-Coding

For industrial
Ethernets and PROFINET

## M12 Rear Panel Mounting Male



- 3, 4, 5, 8 and 12 poles
- PCB termination
- Different panel mounting options available
- Mates with Flex Body connectors


| Part Number | Poles | Code | Termination | Mounting Nut |
| :--- | :--- | :--- | :--- | :--- |
| PXMBNI12RPM03APCPG9 | 03 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPM04APCPG9 | 04 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBN12RPM05APCPG9 | 05 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPM08APCPG9 | 08 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPM12APCPG9 | 12 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPM05BPCPG9 | 05 | B | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPM04DPCPG9 | 04 | DCB Terminal | PG9 Mounting / Gland Nut Thread |  |
| PXMBNI12RPM03APCM16 | 03 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPM04APCM16 | 04 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPM05APCM16 | 05 | PCB Terminal | M16 Mounting / Gland Nut Thread |  |
| PXMBNI12RPM08APCM16 | 08 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPM12APCM16 | 12 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPM05BPCM16 | 05 | B | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPM04DPCM16 | 04 | PCB Terminal | M16 Mounting / Gland Nut Thread |  |
| PXMBNI12RPM03APCM12 | 03 | A | PCB Terminal | M12 Mounting / Gland Nut Thread |
| PXMBNI12RPM04APCM12 | 04 | PCB Terminal | M12 Mounting / Gland Nut Thread |  |
| PXMBNI12RPM05APCM12 | 05 | PCB Terminal | M12 Mounting / Gland Nut Thread |  |
| PXMBNI12RPM08APCM12 | 08 | A | PCB Terminal | M12 Mounting / Gland Nut Thread |
| PXMBNI12RPM12APCM12 | 12 | P | PCB Terminal | M12 Mounting / Gland Nut Thread |
| PXMBNI12RPM05BPCM12 | 05 | P | PCB Terminal | M12 Mounting / Gland Nut Thread |
| PXMBNI12RPM04DPCM12 | 04 |  | PCB Terminal | M12 Mounting / Gland Nut Thread |

M12 Rear Panel Mounting Female


- 3, 4, 5, 8 and 12 poles
- PCB termination
- Different panel mounting options available
- Mates with Flex Inline Body connectors

PXMBNI12RPF

| Part Number | Poles | Code | Termination | Mounting Nut |
| :--- | :--- | :--- | :--- | :--- |
| PXMBNI12RPF03APCPG9 | 03 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPF04APCPG9 | 04 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPF05APCPG9 | 05 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPF08APCPG9 | 08 | PCB Terminal | PG9 Mounting / Gland Nut Thread |  |
| PXMBNI12RPF12APCPG9 | 12 | A | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPF05BPCPG9 | 05 | B | PCB Terminal | PG9 Mounting / Gland Nut Thread |
| PXMBNI12RPF04DPCPG9 | 04 | DCB Terminal | PG9 Mounting / Gland Nut Thread |  |
| PXMBNI12RPF03APCM16 | 03 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBN12RPF04APCM16 | 04 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPF05APCM16 | 05 | PCB Terminal | M16 Mounting / Gland Nut Thread |  |
| PXMBNI12RPF08APCM16 | 08 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPF12APCM16 | 12 | A | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPF05BPCM16 | 05 | B | PCB Terminal | M16 Mounting / Gland Nut Thread |
| PXMBNI12RPF04DPCM16 | 04 | PCB Terminal | M16 Mounting / Gland Nut Thread |  |




- $3,4,5$ and 8 poles
- Screw termination
- Plastic Flex Body
- Mates with Flex Inline Body and panel mount connectors

PXPPAM12FBF


| Part Number | Poles | Code | Termination |
| :--- | :--- | :--- | :--- |
| PXPPAM12FBF03ASTPG9 | 03 | A | Screw Terminal |
| PXPPAM12FBF04ASTPG9 | 04 | A | Screw Terminal |
| PXPPAM12FBF05ASTPG9 | 05 | A | Screw Terminal |
| PXPPAM12FBF08ASTPG9 | 08 | A | Screw Terminal |

## M12 Right Angled Male



- $3,4,5$ and 8 poles
- Screw termination
- Plastic Flex Inline Body
- Mates with Flex Body and panel mount connectors

PXPPAM12RAM


| PXPPAM12RAM |  |  |  |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
|  |  |  |  |
| Part Number | Poles | Code | Termination |
| PXPPAM12RAM03ASTPG9 | 03 | A | Screw Terminal |
| PXPPAM12RAM04ASTPG9 | 04 | A | Screw Terminal |
| PXPPAM12RAM05ASTPG9 | 05 | A | Screw Terminal |
| PXPPAM12RAM08ASTPG9 | 08 | A | Screw Terminal |




| M12 Right Angled Female |  | - 3, 4, 5, 8 and 12 poles$1,2,3,5,10$ \& 15 M cable optionsOvermold Flex BodyMates with Flex Inline Body \& panel mount connectors |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| PXPPVC12RAF03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12RAF03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12RAF03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12RAF03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12RAF03ACL030PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12RAF03ACL030PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12RAF03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12RAF03ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12RAF03ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12RAF03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12RAF03ACL150PVC | 03 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12RAF03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12RAF04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12RAF04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12RAF04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12RAF04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12RAF04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12RAF04ACL030PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12RAF04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12RAF04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12RAF04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12RAF04ACL100PUR | 04 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12RAF04ACL150PVC | 04 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12RAF04ACL150PUR | 04 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12RAF05ACL010PVC | 05 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12RAF05ACL010PUR | 05 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12RAF05ACL020PVC | 05 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12RAF05ACL020PUR | 05 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12RAF05ACL030PVC | 05 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12RAF05ACL030PUR | 05 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12RAF05ACL050PVC | 05 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12RAF05ACL050PUR | 05 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12RAF05ACL100PVC | 05 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12RAF05ACL100PUR | 05 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12RAF05ACL150PVC | 05 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12RAF05ACL150PUR | 05 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12RAF08ACL010PVC | 08 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12RAF08ACL010PUR | 08 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12RAF08ACL020PVC | 08 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12RAF08ACL020PUR | 08 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12RAF08ACL030PVC | 08 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12RAF08ACL030PUR | 08 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12RAF08ACL050PVC | 08 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12RAF08ACL050PUR | 08 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12RAF08ACL100PVC | 08 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12RAF08ACL100PUR | 08 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12RAF08ACL150PVC | 08 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12RAF08ACL150PUR | 08 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12RAF12ACL010PVC | $12$ | A | Overmold Cable | 1 m | PVC |
| PXPTPU12RAF12ACL010PUR | 12 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12RAF12ACL020PVC | 12 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12RAF12ACL020PUR | 12 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12RAF12ACL030PVC | 12 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12RAF12ACL030PUR | 12 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12RAF12ACL050PVC | 12 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12RAF12ACL050PUR | 12 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12RAF12ACL100PVC | 12 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12RAF12ACL100PUR | 12 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12RAF12ACL150PVC | 12 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12RAF12ACL150PUR | 12 | A | Overmold Cable | 15 m | PUR |

PXPPVC12RAF05BCL010PVC PXPTPU12RAF05BCL010PUR PXPPVC12RAF05BCL020PVC PXPTPU12RAF05BCL020PUR PXPPVC12RAF05BCL030PVC PXPTPU12RAF05BCL030PUR PXPPVC12RAF05BCL050PVC PXPTPU12RAF05BCL050PUR PXPPVC12RAF05BCL100PVC PXPTPU12RAF05BCL100PUR PXPPVC12RAF05BCL150PVC PXPTPU12RAF05BCL150PUR PXPPVC12RAF04DCL010PVC PXPTPU12RAF04DCL010PUR PXPPVC12RAF04DCL020PVC PXPTPU12RAF04DCL020PUR PXPPVC12RAF04DCL030PVC PXPTPU12RAF04DCL030PUR PXPPVC12RAF04DCL050PVC PXPTPU12RAF04DCL050PUR PXPPVC12RAF04DCL100PVC PXPTPU12RAF04DCL100PUR PXPPVC12RAF04DCL150PVC PXPTPU12RAF04DCL150PUR

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| Overmold Cable | 1 m | PVC |
| :--- | :--- | :--- |
| Overmold Cable | 1 m | PUR |
| Overmold Cable | $2 m$ | PVC |
| Overmold Cable | $2 m$ | PUR |
| Overmold Cable | $3 m$ | PVC |
| Overmold Cable | $3 m$ | PUR |
| Overmold Cable | $5 m$ | PVC |
| Overmold Cable | $5 m$ | PUR |
| Overmold Cable | $10 m$ | PVC |
| Overmold Cable | $10 m$ | PUR |
| Overmold Cable | $15 m$ | PVC |
| Overmold Cable | $15 m$ | PUR |
| Overmold Cable | $1 m$ | PVC |
| Overmold Cable | $1 m$ | PUR |
| Overmold Cable | $2 m$ | PVC |
| Overmold Cable | $2 m$ | PUR |
| Overmold Cable | $3 m$ | PVC |
| Overmold Cable | $3 m$ | PUR |
| Overmold Cable | $5 m$ | PVC |
| Overmold Cable | $5 m$ | PUR |
| Overmold Cable | $10 m$ | PVC |
| Overmold Cable | $10 m$ | PUR |
| Overmold Cable | $15 m$ | PVC |
| Overmold Cable | $15 m$ | PUR |

## M12 Flex Body Female



- $3,4,5,8$ and 12 poles
- $1,2,3,5,10 \& 15 \mathrm{M}$ cable options
- Overmold Flex Body
- Mates with Flex Inline Body \& panel mount connectors


PXPTPU12FBF PXPPVC12FBF

| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PXPPVC12FBF03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FBF03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FBF03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FBF03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FBF03ACL030PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FBF03ACL030PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FBF03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FBF03ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FBF03ACL100PVC | 03 | A | Overmold Cable | 10m | PVC |
| PXPTPU12FBF03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12FBF03ACL150PVC | 03 | A | Overmold Cable | 15m | PVC |
| PXPTPU12FBF03ACL150PUR | 03 | A | Overmold Cable | 15m | PUR |
| PXPPVC12FBF04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FBF04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FBF04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FBF04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FBF04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FBF04ACL030PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FBF04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FBF04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FBF04ACL100PVC | 04 | A | Overmold Cable | 10m | PVC |
| PXPTPU12FBF04ACL100PUR | 04 | A | Overmold Cable | 10m | PUR |
| PXPPVC12FBF04ACL150PVC | 04 | A | Overmold Cable | 15m | PVC |
| PXPTPU12FBF04ACL150PUR | 04 | A | Overmold Cable | 15m | PUR |
| PXPPVC12FBF05ACL010PVC | 05 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FBF05ACL010PUR | 05 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FBF05ACL020PVC | 05 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FBF05ACL020PUR | 05 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FBF05ACL030PVC | 05 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FBF05ACL030PUR | 05 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FBF05ACL050PVC | 05 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FBF05ACL050PUR | 05 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FBF05ACL100PVC | 05 | A | Overmold Cable | 10m | PVC |
| PXPTPU12FBF05ACL100PUR | 05 | A | Overmold Cable | 10m | PUR |
| PXPPVC12FBF05ACL150PVC | 05 | A | Overmold Cable | 15m | PVC |
| PXPTPU12FBF05ACL150PUR | 05 | A | Overmold Cable | 15m | PUR |

PXPTPU12RAM PXPPVC12RAM

PXPPVC12FBF08ACL010PVC PXPTPU12FBF08ACL010PUR PXPPVC12FBF08ACL020PVC PXPTPU12FBF08ACL020PUR PXPPVC12FBF08ACL030PVC PXPTPU12FBF08ACL030PUR PXPPVC12FBF08ACL050PVC PXPTPU12FBF08ACL050PUR PXPPVC12FBF08ACL100PVC PXPTPU12FBF08ACL100PUR PXPPVC12FBF08ACL150PVC PXPTPU12FBF08ACL150PUR PXPPVC12FBF12ACL010PVC PXPTPU12FBF12ACL010PUR PXPPVC12FBF12ACL020PVC PXPTPU12FBF12ACL020PUR PXPPVC12FBF12ACL030PVC PXPTPU12FBF12ACL030PUR PXPPVC12FBF12ACL050PVC PXPTPU12FBF12ACL050PUR PXPPVC12FBF12ACL100PVC PXPTPU12FBF12ACL100PUR PXPPVC12FBF12ACL150PVC PXPTPU12FBF12ACL150PUR PXPPVC12FBF05BCL010PVC PXPTPU12FBF05BCL010PUR PXPPVC12FBF05BCL020PVC PXPTPU12FBF05BCL020PUR PXPPVC12FBF05BCL030PVC PXPTPU12FBF05BCL030PUR PXPPVC12FBF05BCL050PVC PXPTPU12FBF05BCL050PUR PXPPVC12FBF05BCL100PVC PXPTPU12FBF05BCL100PUR PXPPVC12FBF05BCL150PVC PXPTPU12FBF05BCL150PUR PXPPVC12FBF04DCL010PVC PXPTPU12FBF04DCL010PUR PXPPVC12FBF04DCL020PVC PXPTPU12FBF04DCL020PUR PXPPVC12FBF04DCL030PVC PXPTPU12FBF04DCL030PUR PXPPVC12FBF04DCL050PVC PXPTPU12FBF04DCL050PUR PXPPVC12FBF04DCL100PVC PXPTPU12FBF04DCL100PUR PXPPVC12FBF04DCL150PVC PXPTPU12FBF04DCL150PUR


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| 1 m | PVC |
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| 1 m | PUR |
| 2 m | PVC |
| 2 m | PUR |
| 3 m | PVC |
| 3 m | PUR |
| 5 m | PVC |
| 5 m | PUR |
| 10 m | PVC |
| 10 m | PUR |
| 15m | PVC |
| 15 m | PUR |
| 1 m | PVC |
| 1 m | PUR |
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| 15m | PVC |
| 15m | PUR |



- 3, 4, 5, 8 and 12 poles
- 1,2,3,5,10 \& 15M cable options
- Overmold Flex Inline Body
- Mates with Flex Body \& panel mount connectors

M12 Right Angled Male


PXPPVC12RAM04ACL010PVC PXPTPU12RAM04ACL010PUR PXPPVC12RAM04ACL020PVC PXPTPU12RAM04ACL020PUR PXPPVC12RAM04ACL030PVC PXPTPU12RAM04ACL030PUR PXPPVC12RAM04ACL050PVC PXPTPU12RAM04ACL050PUR PXPPVC12RAM04ACL100PVC PXPTPU12RAM04ACL100PUR PXPPVC12RAM04ACL150PVC PXPTPU12RAM04ACL150PUR PXPPVC12RAM05ACL010PVC PXPTPU12RAM05ACL010PUR PXPPVC12RAM05ACL020PVC PXPTPU12RAM05ACL020PUR PXPPVC12RAM05ACL030PVC PXPTPU12RAM05ACL030PUR PXPPVC12RAM05ACL050PVC PXPTPU12RAM05ACL050PUR PXPPVC12RAM05ACL100PVC PXPTPU12RAM05ACL100PUR PXPPVC12RAM05ACL150PVC PXPTPU12RAM05ACL150PUR PXPPVC12RAM08ACL010PVC PXPTPU12RAM08ACL010PUR PXPPVC12RAM08ACL020PVC PXPTPU12RAM08ACL020PUR PXPPVC12RAM08ACL030PVC PXPTPU12RAM08ACL030PUR PXPPVC12RAM08ACL050PVC PXPTPU12RAM08ACL050PUR PXPPVC12RAM08ACL100PVC PXPTPU12RAM08ACL100PUR PXPPVC12RAM08ACL150PVC PXPTPU12RAM08ACL150PUR PXPPVC12RAM12ACL010PVC PXPTPU12RAM12ACL010PUR PXPPVC12RAM12ACL020PVC PXPTPU12RAM12ACL020PUR PXPPVC12RAM12ACL030PVC PXPTPU12RAM12ACL030PUR PXPPVC12RAM12ACL050PVC PXPTPU12RAM12ACL050PUR PXPPVC12RAM12ACL100PVC PXPTPU12RAM12ACL100PUR PXPPVC12RAM12ACL150PVC PXPTPU12RAM12ACL150PUR PXPPVC12RAM05BCL010PVC PXPTPU12RAM05BCL010PUR PXPPVC12RAM05BCL020PVC PXPTPU12RAM05BCL020PUR PXPPVC12RAM05BCL030PVC PXPTPU12RAM05BCL030PUR PXPPVC12RAM05BCL050PVC PXPTPU12RAM05BCL050PUR PXPPVC12RAM05BCL100PVC PXPTPU12RAM05BCL100PUR PXPPVC12RAM05BCL150PVC PXPTPU12RAM05BCL150PUR PXPPVC12RAM04DCL010PVC PXPTPU12RAM04DCL010PUR PXPPVC12RAM04DCL020PVC PXPTPU12RAM04DCL020PUR PXPPVC12RAM04DCL030PVC PXPTPU12RAM04DCL030PUR PXPPVC12RAM04DCL050PVC PXPTPU12RAM04DCL050PUR PXPPVC12RAM04DCL100PVC PXPTPU12RAM04DCL100PUR PXPPVC12RAM04DCL150PVC PXPTPU12RAM04DCL150PUR


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| M12 Flex Inline Body Male | PXPTPU12FIM PXPPVC12FIM | $\begin{array}{ll} 0 & 3,4, \\ 0 & 1,2,3, \\ 0 & \text { Overn } \\ 0 & \text { Mates } \\ & \text { moun } \end{array}$ | les able options e Body dy \& panel |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | Poles | Code | Termination | Lead Length | Cable Material |
| PXPPVC12FIM03ACL010PVC | 03 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FIM03ACL010PUR | 03 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FIM03ACL020PVC | 03 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FIM03ACL020PUR | 03 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FIM03ACL030PVC | 03 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FIM03ACL030PUR | 03 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FIM03ACL050PVC | 03 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FIM03ACL050PUR | 03 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FIM03ACL100PVC | 03 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12FIM03ACL100PUR | 03 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12FIM03ACL150PVC | 03 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12FIM03ACL150PUR | 03 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12FIM04ACL010PVC | 04 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FIM04ACL010PUR | 04 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FIM04ACL020PVC | 04 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FIM04ACL020PUR | 04 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FIM04ACL030PVC | 04 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FIM04ACL030PUR | 04 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FIM04ACL050PVC | 04 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FIM04ACL050PUR | 04 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FIM04ACL100PVC | 04 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12FIM04ACL100PUR | 04 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12FIM04ACL150PVC | 04 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12FIM04ACL150PUR | 04 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12FIM05ACL010PVC | 05 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FIM05ACL010PUR | 05 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FIM05ACL020PVC | 05 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FIM05ACL020PUR | 05 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FIM05ACL030PVC | 05 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FIM05ACL030PUR | 05 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FIM05ACL050PVC | 05 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FIM05ACL050PUR | 05 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FIM05ACL100PVC | 05 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12FIM05ACL100PUR | 05 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12FIM05ACL150PVC | 05 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12FIM05ACL150PUR | 05 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12FIM08ACL010PVC | 08 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FIM08ACL010PUR | 08 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FIM08ACL020PVC | 08 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FIM08ACL020PUR | 08 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FIM08ACL030PVC | 08 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FIM08ACL030PUR | 08 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FIM08ACL050PVC | 08 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FIM08ACL050PUR | 08 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FIM08ACL100PVC | 08 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12FIM08ACL100PUR | 08 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12FIM08ACL150PVC | 08 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12FIM08ACL150PUR | 08 | A | Overmold Cable | 15 m | PUR |
| PXPPVC12FIM12ACL010PVC | 12 | A | Overmold Cable | 1 m | PVC |
| PXPTPU12FIM12ACL010PUR | 12 | A | Overmold Cable | 1 m | PUR |
| PXPPVC12FIM12ACL020PVC | 12 | A | Overmold Cable | 2 m | PVC |
| PXPTPU12FIM12ACL020PUR | 12 | A | Overmold Cable | 2 m | PUR |
| PXPPVC12FIM12ACL030PVC | 12 | A | Overmold Cable | 3 m | PVC |
| PXPTPU12FIM12ACL030PUR | 12 | A | Overmold Cable | 3 m | PUR |
| PXPPVC12FIM12ACL050PVC | 12 | A | Overmold Cable | 5 m | PVC |
| PXPTPU12FIM12ACL050PUR | 12 | A | Overmold Cable | 5 m | PUR |
| PXPPVC12FIM12ACL100PVC | 12 | A | Overmold Cable | 10 m | PVC |
| PXPTPU12FIM12ACL100PUR | 12 | A | Overmold Cable | 10 m | PUR |
| PXPPVC12FIM12ACL150PVC | 12 | A | Overmold Cable | 15 m | PVC |
| PXPTPU12FIM12ACL150PUR | 12 | A | Overmold Cable | 15 m | PUR |

PXPPVC12FIM05BCL010PVC PXPTPU12FIM05BCL010PUR PXPPVC12FIM05BCL020PVC PXPTPU12FIM05BCL020PUR PXPPVC12FIM05BCL030PVC PXPTPU12FIM05BCL030PUR PXPPVC12FIM05BCL050PVC PXPTPU12FIM05BCL050PUR PXPPVC12FIM05BCL100PVC PXPTPU12FIM05BCL100PUR PXPPVC12FIM05BCL150PVC PXPTPU12FIM05BCL150PUR PXPPVC12FIM04DCL010PVC PXPTPU12FIM04DCL010PUR PXPPVC12FIM04DCL020PVC PXPTPU12FIM04DCL020PUR PXPPVC12FIM04DCL030PVC PXPTPU12FIM04DCL030PUR PXPPVC12FIM04DCL050PVC PXPTPU12FIM04DCL050PUR PXPPVC12FIM04DCL100PVC PXPTPU12FIM04DCL100PUR PXPPVC12FIM04DCL150PVC PXPTPU12FIM04DCL150PUR


Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable Overmold Cable

| $1 m$ | PVC |
| :--- | :---: |
| $1 m$ | PUR |
| $2 m$ | PVC |
| $2 m$ | PUR |
| $3 m$ | PVC |
| $3 m$ | PUR |
| $5 m$ | PVC |
| $5 m$ | PUR |
| $10 m$ | PVC |
| $10 m$ | PUR |
| $15 m$ | PVC |
| $15 m$ | PUR |
| $1 m$ | PVC |
| $1 m$ | PUR |
| $2 m$ | PVC |
| $2 m$ | PUR |
| $3 m$ | PVC |
| $3 m$ | PUR |
| $5 m$ | PVC |
| $5 m$ | PUR |
| $10 m$ | PVC |
| $10 m$ | PUR |
| $15 m$ | PVC |
| $15 m$ | PUR |

## PA66 M12 Sealing Cap



- Sealing caps to maintain IP rating
- Male \& Female versions


PXPPAM12

| Part Number | Series | Type | Material |
| :--- | :--- | :--- | :--- |
| PXPPAM12CAM | M12 | Male | PA66 |
| PXPPAM12CAF | M12 | Female | PA66 |



PXMBNI12

| Part Number | Series | Type | Material |
| :--- | :--- | :--- | :--- |
| PXMBNI12CAM | M12 | Male | Brass - Nickel Plating |
| PXMBNI12CAF | M12 | Female | Brass - Nickel Plating |




With a rugged metal housing and environmental protection rating of IP67 when mated, Bulgin's robust M16 circular DIN connector range is an ideal solution for ensuring that power and signal connections are not compromised in harsh environments and industrial applications.

Key features:


- Screw locking compliant with DIN EN 61076-2-106
- IP67 degree of protection
- Robust metal connector
- Excellent EMI shielding
- Pole variants from 3-12


| M16 Flex Body Female | 0 $3,4,5,6,8$ and 12 poles <br> 0 Solder termination <br> 0 Metal Flex Body <br> 0 Mates with Flex Inline Body <br> and panel mount connectors  |  |
| :--- | :--- | :--- |


| Part Number | Poles | Code | Termination |
| :--- | :--- | :--- | :--- |
| PXMBN116FBFO3ASC | 03 | A | Solder Terminal |
| PXMBN16FBFO4ASC | 04 | A | Solder Terminal |
| PXMBN16FBEF5ASC | 05 | A | Solder Terminal |
| PXMBN16FBFO6ASC | 06 | A | Solder Terminal |
| PXMBN16FBFO8ASC | 08 | A | Solder Terminal |
| PXMBN116FBF12ASC | 12 | A | Solder Terminal |


| M16 Rear Panel Mounting Female | 0 $3,4,5,6,8$ and 12 poles <br> 0 Solder termination <br> 0 Rear panel mount M 16 <br> Mates with Flex Inline Body  <br> connectors  |
| :--- | :--- |
| PXMBNI16RPF |  |


| Part Number | Poles | Code | Termination |
| :--- | :--- | :--- | :--- |
| PXMBNI16RPF03ASC | 03 | A | Solder Terminal |
| PXMBNI16RPF04ASC | 04 | A | Solder Terminal |
| PXMBNI16RPF05ASC | 05 | A | Solder Terminal |
| PXMBNI16RPF06ASC | 06 | A | Solder Terminal |
| PXMBNI16RPF08ASC | 08 | A | Solder Terminal |
| PXMBNI16RPF12ASC | 12 | A | Solder Terminal |


| Electrical |  |  |  |  |  |  | Mechanical: |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. Poles: | 3 | 4 | 5 | 6 | 8 | 12 | Locking Mechanism: | Screw coupling |
| Current Rating: | 7A | 7A | 6A | 5A | 5A | 3A | Sealing: | IP67 |
| Voltage Rating (ac/dc) : | 250 V | 250 V | 250 V | 125 V | 60V | 60V | Contact Accomodation: |  |
| Contact Resistance: |  | $\begin{aligned} & <5 m \\ & <3 m \end{aligned}$ | $\begin{array}{ll} 2 & 3,4 \\ 2 & 12 \end{array}$ | $\begin{aligned} & \text { 5, } 6 \text { a } \\ & \text { ole } \end{aligned}$ |  |  | 3, 4, 5, 6 and 8 Pole 12 Pole | 20AWG 24 AWG |
| Insulation Resistance: |  | >100 | ${ }^{3} \mathrm{M} \Omega$ |  |  |  | Cable Acceptance: | 5.0-7.5mm Dia |
|  |  |  |  |  |  |  | Terminations: | Solder |
| AC Breakdown Voltage: 3 Pole |  | 2.0K |  |  |  |  | Mechanical Operation: | 500 mating cycles |
| 4 Pole |  | 2.0 K |  |  |  |  |  |  |
| 5 Pole |  | 2.0K |  |  |  |  | Diameter over coupling ring: |  |
| 6 Pole |  | 1.5 K |  |  |  |  |  | 18.5 mm |
| 8 Pole |  | 1.5 K |  |  |  |  |  |  |
| 12 Pole |  | 1.5 K |  |  |  |  |  |  |
| Operating Temp Range: |  | $-25^{\circ}$ | to 80 |  |  |  |  |  |


| Materials: | Panel Mount: | Flex \& Inline Connectors: |
| :--- | :--- | :--- |
| Body: | Nickel Plated Brass | Nickel Plated Brass |
| Coupling Nut: | Nickel Plated Brass | Nickel Plated Brass |
| Colour: | Grey | Grey |
| Pin Contacts: | Brass, Gold plating | Brass, Gold plating |
| Socket Contacts: | Phosphor Bronze, Gold plating | Phosphor Bronze, Gold plating |
| O Rings \& Gaskets: | Viton | Viton |
| RoHS: | Compliant | Compliant |


| MX | XXX | XX | $\mathbf{X X}$ | X | $\mathbf{X X}$ | X | XX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | ' |  |  |
| Series | Material | Series Size | Body Style | Orientation | NO. Contacts | Code | Termination |
| PXM | BNI = Brass Nickel | 16 | FB = Flex Body | M | 03 | A | SC = Solder |
|  |  |  |  |  | 04 ' |  |  |
|  |  |  | FI = Flex Inline Body | F | 04 |  |  |
|  |  |  | RP = Rear Panel Mounting |  | 05 |  |  |
|  |  |  |  |  | 05 |  |  |
|  |  |  |  |  | 06 |  |  |
|  |  |  |  |  | 06 |  |  |
|  |  |  |  |  | 08 |  |  |
|  |  |  |  |  | 12 |  |  |

Typically used for providing high performance, reliable and robust connections in commercial and industrial automation applications, these IP67 rated signal and power connectors offer a high degree of protection against environmental factors such as water, dirt and moisture.

Bulgin's range of M23 Connectors includes field installable male and female connectors as well as front panel mount options from 12- to 19-pole in straight and right angled versions.

Key features:


| Electrical |  |  | Mechanical: |  |
| :---: | :---: | :---: | :---: | :---: |
| No. Poles: | 12 | 19 | Locking Mechanism: | Screw coupling |
| Current Rating: | 8A | 8A | Sealing: | IP67 |
| Voltage Rating (ac/dc) : | 200 V | 200V | Contact Accomodation: |  |
| Contact Resistance: |  | $<3 \mathrm{~m} \Omega$ | 12 Pole 19 Pole | 18 AWG 17 AWG |
| Insulation Resistance: |  | $>100^{3} \mathrm{M} \Omega$ | Cable Acceptance: | 6.0-8.0mm Dia |
| AC Breakdown Voltage: 12 Pole 19 Pole |  | $\begin{aligned} & 1.5 \mathrm{KV} \\ & 1.5 \mathrm{KV} \end{aligned}$ | Terminations: Mechanical Operation: | Solder <br> 500 mating cycles |
| Operating Temp Range: |  | $-25^{\circ} \mathrm{C}$ to $80^{\circ} \mathrm{C}$ | Diameter over coupling ring: | 26.0 mm |


| Materials: | Panel Mount: | Flex \& Inline Connectors: |
| :--- | :--- | :--- |
| Body: | Nickel Plated Brass | Nickel Plated Brass |
| Coupling Nut: | Nickel Plated Brass | Nickel Plated Brass |
| Colour: | Grey | Grey |
| Pin Contacts: | Brass, Gold plating | Brass, Gold plating |
| Socket Contacts: | Phosphor Bronze, Gold plating | Phosphor Bronze, Gold plating |
| O Rings \& Gaskets: | Viton | Viton |
| RoHS: | Compliant | Compliant |


| MX | $\mathbf{X X X}$ | $\mathbf{X X}$ | XX | X | $\mathbf{X X}$ | X | $\mathbf{X X}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | I |  |  |
| Series | Material | Series Size | Body Style | Orientation | NO. Contacts | Code | Termination |
| PXM | BNI $=$ Brass Nickel | 23 | FB = Flex Body | M | 12 | A | SC = Solder |
|  |  |  |  |  | - |  |  |
| PXP |  |  | FI = Flex Inline Body | F | 19 |  |  |
|  |  |  | , |  | - |  |  |
|  |  |  | FP = Front Panel Mounting |  | - |  |  |
|  |  |  | - Front Panel Mount |  | - |  |  |
|  |  |  | RA $=$ Right Angle |  | I |  |  |
|  |  |  | RA Right |  | ' |  |  |
|  |  |  | 1 |  | 1 |  |  |

Passive distribution boxes provide a convenient and compact connectivity solution that can be installed quickly and easily in the field. They offer considerable cost saving benefits when compared to hard-wiring I/O connections due to their pre-wired connector slot configurations which enables numerous sensor and actuator signals to be transmitted back to a control system with ease.



## The Benefits:



## Save Time

With the need to hard wire I/O connections removed and variants coming equipped with identification labels and integrated LEDs, Bulgin's distribution boxes help to save on costs associated with installation, maintenance and repair time by making it easy and quick to troubleshoot connection faults.


## Save Space

Distribution boxes save space in the field as they require less space than more conventional distribution systems due to their compact design. They take up far less space than loose wires and require fewer terminal blocks/boxes, making them the ideal solution for many machine requirements or automation systems.


## Save Money

By simplifying the wiring control system and eliminating the need for additional enclosures, distributor boxes can be installed quickly which saves time and costs. Their ability to reduce troubleshooting time also means that downtime can be significantly minimised in manufacturing, food-processing and industrial automation applications.


- 5 outputs
- Sealed using sealing caps
- Anodised aluminium body
- Mates with Flex Body and Flex Inline connectors


| Part Number | Input Type | Input Pole Count | Output Type | Output Pole Count | Output Ports |
| :--- | :--- | :--- | :--- | :--- | :--- |
| BOX1M1205MA05M805F | M12 | 5 Contacts | M8 | 5 Contacts | 5 Ports |


| BOX1M1212MA08 |  | - 8 outputs <br> - Sealed using sealing caps <br> - Anodised aluminium body <br> - Mates with Flex Body and <br> Flex Inline connectors |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | Input Type | Input Pole Count | Output Type | Output Pole Count | Output Ports |
| B0X1M1212MA08M803F | M12 | 12 Contacts | M8 | 3 Contacts | 8 Ports |



M-Series Power Distribution

## Specifications:

Locking mechanism:
Sealing:
Operating Temp Range:

Screw coupling
IP67
$-25^{\circ} \mathrm{C}$ to $80^{\circ} \mathrm{C}$

Box \& Panel Mount:

Anodised Aluminium

## Black

Brass, Gold plating
Phosphor Bronze, Gold plating
Compliant

Wiring diagram for BOX1M1212MA08M803F


| $\mathbf{B O X}$ | $\mathbf{X}$ | $\mathbf{X X}$ | $\mathbf{X X}$ | $\mathbf{X}$ | $\mathbf{X}$ | $\mathbf{X X}$ | $\mathbf{X X}$ | $\mathbf{X X}$ | $\mathbf{X}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Series | Inputs | Input Series | Input Poles | Orientation | Code | Outputs | Output Series | Output Poles | Orientation |  |
| Box | 1 | M12 | 05 | M | A | 05 | M |  | 03 | F |
|  |  |  | 12 |  |  | 08 |  | 05 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

# A full range of IP68 rated environmentally sealed circular connectors designed to provide secure and safe connections in harsh or hostile conditions. 

The Data Buccaneer range now includes designs specifically for Ethernet, USB and SMB applications. Ethernet Buccaneer meets Cat 5e requirements for data rates up to 100Mbs, USB Buccaneer is designed to meet USB version 2.0 specification for data rates up to 480 Mbs , SMB Buccaneer has a frequency response up to 4GHz.

The Buccaneer series finds numerous applications either in external or internal environments where protection against the ingress of dust and moisture is a system requirement.

Standard Buccaneer - Ethernet Standard Buccaneer - USB
400 Series - Mini USB Buccaneer
400 Series - SMB Buccaneer
400 Series - Wireless Buccaneer
4000 Series - Micro USB
6000 Series Buccaneer - USB
6000 Series Buccaneer - Ethernet

102-107
108-113
114-118
119-121
122-128
129-131
132-137
138-142


- IP68 rated
- IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
- Cat 5e compliant
- PUR jacket on cable
- Shielded system
- Cat 5 e shielded coupler
- Shroud on RJ45
- Screw coupling
- Rewireable flex connector
- PCB mounted panel connector
- IDC termination panel connector
- Earth lead version of panel adaptor
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

D Dust and waterproof sealing when mated

- Data rate up to 100 MHz
- Good chemical resistance, flame retardant
- High noise immunity and EMI protection
- Maintains shielding
- Protection from abuse and mis-mating
- Secure, proven locking system
- Ability to 'field' terminate
- Direct PCB mount panel connector
- Simple termination
- Continuous screening of panel mount connector

- Mates with all panel mounting connectors
- Patchcords with IP68 connector
- Supplied with shielded RJ45 plug
- Single or double end terminated
- Standard lengths: $2 \mathrm{~m}, 3 \mathrm{~m}$ \& 5 m
- S-FTP cable construction
- PUR jacket cable
- Wiring configuration to 568-B
- Exceeds EIA/TIA Cat 5e

| Part no. | Type | Length | Description |
| :--- | :--- | :--- | :--- |
| PX0836/2M00 | Wire end | $2 m$ | IP68 RJ45 Buccaneer to bare end |
| PX0836/3M00 | Wire end | $3 m$ | IP68 RJ45 Buccaneer to bare end |
| PX0836/5M00 | Wire end | $5 m$ | IP68 RJ45 Buccaneer to bare end |
| PX0837/2M00 | Single ended | $2 m$ | IP68 RJ45 Buccaneer to Shielded RJ45 |
| PX0837/3M00 | Single ended | 3 m | IP68 RJ45 Buccaneer to Shielded RJ45 |
| PX0837/5M00 | Single ended | 5 m | IP68 RJ45 Buccaneer to Shielded RJ45 |
| PX0838/2M00 | Double ended | $2 m$ | IP68 RJ45 Buccaneer to IP68 RJ45 Buccaneer |
| PX0838/3M00 | Double ended | 3 m | IP68 RJ45 Buccaneer to IP68 RJ45 Buccaneer |
| PX0838/5M00 | Double ended | 5 m | IP68 RJ45 Buccaneer to IP68 RJ45 Buccaneer |


Re wireable Flex Connector

| Mates with all panel mounting |
| :--- |
| connectors |
| Supplied with shielded RJ45 |

plug versions:
for PUR jacket cable (Cat 5 e )
for other cable sizes from
3.5 to 8mm dia.

Part no. Description

PX0834/A Cable glands optimised for PUR jacket cable to maintain Cat 5e performance
PX0834/B Suitable for use with cables from 3.5 to 8 mm diameter


Part no.
PX0833
Description
Fixing
Cat 5 e coupler
PX0833/E
Cat 5 e coupler + earth wire
Front panel mounted
Front panel mounted


PX0870

- Cat 5 e shielded coupler
- Mates with PX0836, PX0837,
- PX0838 and PX0834 flex connectors
- Standard RJ45 patchcord can be plugged into rear
- Version with earth wire available
- Flange fixing
- Complete with panel sealing gasket \& screw sealing washers



## Fixing

Flange mounting
Flange mounting

| PCB Mounting Connector |
| :--- | :--- | :--- |
|  |
| PX0839/PC |


| Part no. | Description | Fixing |
| :--- | :--- | :--- |
| PX0839/PC | Cat 5e connector - PC | Rear panel mounted |





| Accessories | Sealing caps to maintain IP68 <br> rating when connectors are <br> not in use <br> Replacement shielded RJ45s |
| :--- | :--- |
| Hand crimp tool for shielded <br> RJ45 <br> Patch cord cable available in <br> 50 m reels |  |
| Sealing Caps |  |

## Part no. Description

| PX0835 | Sealing Cap for flex connectors (PX0834, PX0836-838) |
| :--- | :--- |
| PX0733 | Sealing Cap for panel mounting connector (PX0833, PX0870) |
| PX0711 | Sealing Cap for rear panel mounting connector (PX0839) |
| 14151 | Hand crimp tooling + die set |
| 14199 | PUR Jacket Cable -50 m reel |
| 14150 | Replacement shielded RJ45 |

## Connectors

| Sealing | IP69K, Tested in accordance with <br>  <br> DIN 40050/Part 9 IP6k9k |
| :--- | :--- |
|  | IP68, EN60529:1992+A2:2013 <br> $(10 \mathrm{~m}$ depth for 2 weeks) |
|  | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Operating Temperature |  |
| Materials - Overmoulded | PVC (black) |
| Overmould material <br> Flammability rating | UL94V-0 |
| Salt Mist | EN60068-2-52 Test Kb Salt Mist |
|  | (Cyclic) Marine Severity Level 1 |

## Materials - Re-wireable and Panel Connectors

Connector body \& locking ring
Panel connector
Polyester
Flammability rating 'O' rings
Panel Gasket - round
Panel Gasket - flange
RoHS

Nylon 6
UL94V-0
Silicone
Silicone
Neoprene
Compliant

## Stranded S-FTP Patch cord cable - PUR Jacket

Polyurethane (PUR) jacket cable with internal construction exceeding Cat 5e performance levels. The PUR jacket has excellent abrasion, chemical and ozone resistance, low smoke, low halogen flame retardant construction suitable for internal and external industrial environments.

## Cable

| Conductors | 24AWG (7/0.2mm) bare copper |
| :---: | :---: |
| Insulation | HD-PE |
| Pair | 2 of the above cores twisted |
| Core | 4 of the above cores |
| Tape | 1 lap mylar tape |
| Screen | 1 layer mylar and aluminium tape, 0.12 mm |
| Sheath | tinned copper braid |
| Op Temperature | PUR Jacket Black |
| Min. bend radius | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Min. bend radius | $10 \times \mathrm{o} / \mathrm{d}$ (installation) |
| Diameter | $6 \times \mathrm{o} / \mathrm{d}$ (installed) |
|  | 6.1 mm nominal |
| Electrical @ $20^{\circ} \mathrm{C}$ |  |
| Characteristic |  |
| Impedance | $100 \Omega \pm 15 \Omega$ @ 100MHz |
| Capacitance | $330 \mathrm{pF} / \mathrm{km}$ |
| Conductor Loop resistance | 29/ת100m maximum |
| Skew | $45 \mathrm{nsec} / 100 \mathrm{~m}$ @ 100MHz |
| TIA/EIA Rating | Cat 5 e |

24 AWG
$7 / 0.20 \mathrm{~mm}$ conductor
Braiding
$7 / 0.12 \mathrm{~mm}$
Jacket
6.10 mm dia

[^3]
## RJ45 Plug

## Materials

| Moulding | Polycarbonate |
| :--- | :--- |
| Flammability | UL94V-0 |
| Contact material | Phosphor Bronze |
| Contact plating | 50 micron gold |
| Operating Temperature | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Mating cycles | 1,000 cycles |
| RoHS | Compliant |
|  |  |
| Electrical | 8 |
| No. Conductors | $24-28 A W G$, solid or |
| Conductor types | multistranded |
|  |  |
| Current rating | 1.5 A |
| Voltage rating | 30 V ac, 42 V dc |
| Contact resistance | $10 \mathrm{~m} \Omega$ max. |
| Performance | Cat 5 e |

## RJ45 Coupler

Materials

| Coupler Shell | Copper Alloy |
| :--- | :--- |
| Coupler Plating | Nickel |
| Moulding | ABS |
| Flammability | UL94V-0 |
| Contact material | Phosphor Bronze |
| Contact plating | 50 micron gold |
| Operating Temperature | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Mating cycles | 1,000 cycles |
| RoHS | Compliant |
| Electrical | 8 |
| No. Conductors | 8 |
| Current rating | 1.5 A |
| Voltage rating | $30 \mathrm{~V} \mathrm{ac}, 42 \mathrm{~V}$ dc |
| Contact resistance | $10 \mathrm{mV} \mathrm{max}$. |
| Performance | Cat 5 e |

## RJ45 PCB Connector

Materials

| Coupler Shell | Copper Alloy |
| :--- | :--- |
| Coupler Plating | Nickel |
| Moulding | ABS |
| Flammability | UL94V-0 |
| Contact material | Phosphor Bronze |
| Contact plating | 50 micron gold |
| PC Pins | Tin plated |
| Operating Temperature | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Mating cycles | 1,000 cycles |
| RoHS | Compliant |
| Electrical |  |
| No. Conductors | 8 |
| Current rating | 1.5 A |
| Voltage rating | $30 \mathrm{~V} \mathrm{ac}, 42 \mathrm{~V}$ dc |
| Contact resistance | $10 \mathrm{~m} \Omega$ max. |
| Performance | Cat 5 e |



- IP68 Rating
- For Sealed In-Line RJ45 Connections
- Supplied Complete with

Coupler

- Shielded (STP) \& Unshielded (UTP) versions
- Cat5e Shielded Coupler also available
- Cable Range 3.5-8mm (with glands supplied)


| Specifications | PX0777/UTP | PX0777/STP | PX0777/CAT5ESTP |
| :---: | :---: | :---: | :---: |
| Rating: | $1.5 \mathrm{~A}, 30 \mathrm{~V}$ a.c., 42 V d.c. | $1.5 \mathrm{~A}, 30 \mathrm{~V}$ a.c., 42 V d.c. | $1.5 \mathrm{~A}, 30 \mathrm{~V}$ a.c., 42 V d.c. |
| No. of Conductors: | 8 | 8 | 8 |
| Coupler Type: | Unshielded | Shielded | Shielded CAT5e performance |
| Cable Range: | 3.5-8mm | 3.5-8mm | 3.5-8mm |
|  | With glands supplied: | With glands supplied: | With glands supplied: |
|  | $3.5-5 \mathrm{~mm}$ (Blue) | $3.5-5 \mathrm{~mm}$ (Blue) | $3.5-5 \mathrm{~mm}$ (Blue) |
|  | 5-7mm (Green) | 5-7mm (Green) | 5-7mm (Green) |
|  | 6-8mm (Red) | 6-8mm (Red) | 6-8mm (Red) |
| Material: | Glass Filled Polyamide UL94V-0 | Glass Filled Polyamide UL94V0 | Glass Filled Polyamide UL94V0 |
| Sealing: | IP68 to BSEN | IP68 to BSEN | IP68 to BSEN |
|  | 60529:1992+A2:2013 | 60529:1992+A2:2013 | 60529:1992+A2:2013 |
|  | (10m depth for 2 weeks) | (10m depth for 2 weeks) | (10m depth for 2 weeks) |
| Salt Mist | EN60068-2-52 Test Kb Salt Mist (Cyclic) | EN60068-2-52 Test Kb Salt Mist (Cyclic) | EN60068-2-52 Test Kb Salt Mist (Cyclic) |
|  | Marine Severity Level 1 | Marine Severity Level 1 | Marine Severity Level 1 |
| Operating Temp |  |  |  |
| Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Colour: | Black | Black | Black |
| RoHS | Compliant | Compliant | Compliant |



IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k

USB version 2.0 performancePlug and play capabilityVisual mating indicationShielded systemSingle and double ended cables

- Screw coupling
- PCB versions

0
Dust and waterproof sealing when mated

- Low and high speed bus connection,
1.5 Mbs to 480 Mbs

0
Hot pluggable, standard 4 pole interface

- Alignment indicator reduces risk of damage during mating
0
High noise immunity and EMI protection
- Suitable for PC and peripheral configuration
- Secure, proven locking system
- Direct mounting or via adaptor leads
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

Part no. Length Description
PX0840/A/2M00 $2 m \quad$ IP68 A type USB to standard B type USB
PX0840/A/3M00 $3 \mathrm{~m} \quad$ IP68 A type USB to standard B type USB

PX0840/A/5M00 5m IP68 A type USB to standard B type USB
PX0840/B/2M00 $2 m \quad$ IP68 B type USB to standard A type USB
PX0840/B/3M00 3m IP68 B type USB to standard A type USB
PX0840/B/5M00 $5 \mathrm{~m} \quad$ IP68 B type USB to standard A type USB

| Sealed USB Cables Double Ended | Double ended sealed cable <br> assembly |
| :--- | :--- |
| 0  <br> IP68 'A' type USB connector to  <br> 0 IP68 ' B ' type USB connector <br> Mates with all panel mount  <br> connectors  <br> Available in $2 \mathrm{~m}, 3 \mathrm{~m}$ and 5 m  <br> lengths  |  |
| PX0841/AB |  |


| Part no. | Length | Description |
| :--- | :--- | :--- |
| PX0841/AB/2M00 | $2 m$ | IP68 A type USB to IP68 B type USB |
| PX0841/AB/3M00 | $3 m$ | IP68 A type USB to IP68 B type USB |
| PX0841/AB/5M00 | $5 m$ | IP68 A type USB to IP68 B type USB |

Front Panel Mounting Connector


PX0842/A

- PX0842/A - USB 'A' type IP68 connector
- PX0842/B - USB 'B' type IP68 connector
- Opposite connector to rear of panel
- Mates with PX0840 and PX0841 cable connectors


Part no. Description

PX0842/A
IP68 A type USB, front panel mounted. Sealed A type at front of panel, standard B type at rear
PX0842/B IP68 B type USB, front panel mounted. Sealed B type at front of panel, standard A type at rear.

Front Panel Mounting Connector

- PX0843/A - USB 'A' type IP68 connector
- PX0843/B - USB 'B' type IP68 connector
- Leaded with 5 way crimp connector
- Mates with PX0840 and PX0841 cable connectors


Part no.
PX0843/A
PX0843/B
PX0460/A
PX0460/B

## Description

IP68 A type USB, front panel mounted. Sealed A type at front of panel, 5 way crimp connector at rear. IP68 B type USB, front panel mounted. Sealed B type at front of panel, 5 way crimp connector at rear. As PX0843/A with exposed braid for use with PX0465 screening can
As PX0843/B with exposed braid for use with PX0465 screening can

Front Panel Mounting Connector


PX0844/A

PX0844/B

- IP68 Sealed through panel
- PX0844/A - USB 'A' type IP68 connector
- PX0844/B - USB 'B' type IP68 connector
- Standard USB interface plug options to rear of panel
- 500 mm standard cable length, other lengths available
- Mates with PX0840 and PX0841 cable connectors



## Part no.

PX0844/A/0M50/A PX0844/A/0M50/B PX0844/B/0M50/A PX0844/B/0M50/B

## Description

IP68 A type USB, sealed through panel, Sealed 'A' type at front of panel, standard 'A' type at rear IP68 A type USB, sealed through panel, Sealed 'A' type at front of panel, standard 'B' type at rear IP68 B type USB, sealed through panel, Sealed 'B' type at front of panel, standard 'B' type at rear IP68 B type USB, sealed through panel, Sealed 'B' type at front of panel, standard 'B' type at rear


PX0848/A

- PX0848/A - USB 'A' type IP68 connector
- PX0848/B - USB 'B' type IP68 connector
- Opposite connector to rear of panel
- Mates with PX0840 and PX0841 cable connectors


Part no.

## Description

PX0848/A
IP68 A type USB, rear panel mounted. Sealed A type at front of panel, standard B type at rear.
PX0848/B IP68 B type USB, rear panel mounted. Sealed B type at front of panel, standard A type at rear.


Part no.

## Description

PX0849/A
IP68 A type USB, rear panel mounted. Sealed A type at front of panel, 5 way header at rear.
PX0849/B IP68 B type USB, rear panel mounted. Sealed B type at front of panel, 5 way header at rear.

PCB Panel Mounting Connector- PCB Dlrect
Mount


PX0845/A
PX0845/B

- PX0845/A - USB 'A' type IP68 connector
- PX0845/B - USB 'B' type IP68 connector
- PCB contacts at rear
- Direct PCB mount
- Mates with PX0840 and PX0841 cable connectors


Part no.
PX0845/A
PX0845/B

## Description

IP68 A type USB, rear panel mounted. Sealed A type at front of panel, direct mount PCB contacts at rear. IP68 B type USB, rear panel mounted. Sealed B type at front of panel, direct mount PCB contacts at rear.


Cables \& connectors

Mechanical
Sealing

Operating temperature
Salt Mist

## Electrical

No. of poles
Current rating
Voltage rating
Contact resistance
Performance
Materials - Overmoulded
Overmould material
Flammability rating

Materials - Re-wireable and Panel Connectors
Shell material
Shell plating
Contact material
Contact plating
Connector body \& locking ring
Panel connector
Flammability rating
' O ' rings
Panel Gasket - round
Panel Gasket - square
Mating cycles
RoHS

## Materials - cable

Cable Jacket
Screen
Flammability
RoHS

Length:
$2 m$
$3 m$
5 m

IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k

IP68, EN60529:1992+A2:2013
(10m depth for 2 weeks)
$0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

4
1A
30Vac (RMS)
$30 \mathrm{~m} \Omega$ max.
USB version 2.0

PVC (black)
UL94V-0

Steel
Nickel
Copper Alloy
30 micro inch Gold
Glass Loaded Polyester
Nylon 6
UL94V-0
Silicone
Silicone
Neoprene
1,000
Compliant

PVC (black)
Tinned copper braid
UL94V-0
Compliant

|  | Conductors | Conductors |
| :--- | :--- | :--- |
| Dia | Signal | Power |
| 4.8 mm | $2 \times 28 A W G$ | $2 \times 24 A W G$ |
| 5.0 mm | $2 \times 28 A W G$ | $2 \times 22 A W G$ |
| 5.2 mm | $2 \times 25 A W G$ | $2 \times 20 A W G$ |

PCB adaptor leads

## Electrical

No. of conductors 4
Current rating 1A

Voltage rating
Contact resistance
PCB pitch
Materials
Moulding
Flammability
Contact material
Contact plating
Wire insulation
Flammability
Conductors
Operating temperature
Mating cycles
RoHS Compliant

## Cable construction - PX0840, PX0841




- IP68 rated
- IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
- USB V2.0 performance
- Plug and play capability
- Shielded system
- Overmoulded cables
- Screw coupling
- PCB versions
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

D Dust and waterproof to EN60529

- Data rates up to 480 Mbs
- Hot pluggable, standard 4 pole interface

0. High noise immunity

- Tamperproof construction
- Secure, proven locking system

D Direct mounting or via adaptor leads


| Part No. | Length | Description |
| :---: | :---: | :---: |
| PX0441/2M00 | 2.0 m | IP68 mini 'B' to Std 'A' type USB |
| PX0441/3M00 | 3.0 m | IP68 mini 'B' to Std 'A' type USB |
| PX0441/4M50 | 4.5 m | IP68 mini 'B' to Std 'A' type USB |
| PX0442/2M00 | 2.0 m | IP68 mini ' $B$ ' to Mini ' $A$ ' type USB |
| PX0442/3M00 | 3.0 m | IP68 mini ' $B$ ' to Mini ' $A$ ' type USB |
| PX0442/4M50 | 4.5 m | IP68 mini 'B' to Mini 'A' type USB |
| PX0444/2M00 | 2.0 m | IP68 mini 'A' to Mini 'B' type USB |
| PX0444/3M00 | 3.0 m | IP68 mini 'A' to Mini 'B' type USB |
| PX0444/4M50 | 4.5 m | IP68 mini 'A' to Mini 'B' type USB |



Part no. Description

PX0443
IP68 B type Mini USB, front panel mounted. 5 way crimp connector at rear.
PX0459 As PX0443 with exposed braid for use with PX0464 screening can
Front Panel Mounting Connector

Part no. Description

PX0456 IP68 AB type Mini USB, front panel mounted. 6 way crimp connector at rear.
Rear Panel Mounting Connector

## Part no.

PX0446

## Description

PX0447

IP68 B type Mini USB, rear panel mounted. 5 way header connector at rear. IP68 B type Mini USB, rear panel mounted. PC terminals at rear.
Rear Panel Mounting Connector
Rear Panel Mounting Connector
Part nos

| Screening Can | Maintains cable screening <br> directly to panel <br> Shielding can clips around the <br> panel fixing nut <br> For use on PX0459 |
| :--- | :--- |
|  | PX0464 |

Accessories

© Sealing caps to maintain IP

- rating when connectors are not in use
- PCB headers for use with PX0443 \& PX0456

Part no.

| PX0485 | Sealing cap for use with PX0441, PX0442 \& PX0444 |
| :--- | :--- |
| PX0480 | Sealing cap for use with PX0443 \& PX0456 |
| PX0484 | Sealing cap for use with PX0446, PX0447, PX0457 \& PX0458 |
| 14191 | 5 way straight header |
| 14192 | 5 way right angle header |
| 14563 | 6 way straight header |
| 14564 | 6 way right angle header |

Cables \& connectors
Mechanical

## Sealing

IP68, EN60529:1992+A2:2013 (10m depth for 2 weeks) IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k

Operating temperature
$0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Salt Mist
EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

## Electrical

No. of poles
4 and 5
Current rating
Voltage rating
Contact resistance
1A
$30 \mathrm{Vac}, 42 \mathrm{Vdc}$
Performance
$50 \mathrm{~m} \Omega$ max.

Materials - Overmoulded
Overmould material
PVC (black)
Flammability rating
UL94V-0
Materials - Re-wireable and Panel Connectors

Shell material
Steel
Shell plating
Nickel
Contact material
Copper Alloy
Contact plating
50 micro inch Gold
Connector body \& locking ring Polyester
Panel connector
Nylon 6
Flammability rating
'O' rings
UL94V-0
Mating cycles
RoHS
Nitrile
5,000
Compliant

## Materials - cable

Cable Jacket
Screen
PVC (black)
Tinned copper braid
Flammability
RoHS
UL94V-0
Compliant

|  | Conductors | Con |
| :---: | :---: | :---: |
| Dia | Signal | Power |
| 4.8 mm | $2 \times 28 A W G$ | $2 \times 24 \mathrm{AW}$ |
| 5.0 mm | $2 \times 28$ AWG | $2 \times 22$ AW |
| 5.2 mm | $2 \times 25 A W G$ | $2 \times 20$ |

Length:
$2 m$
3 m
5 m
$5.2 \mathrm{~mm} 2 \times 25$ AWG $2 \times 20 \mathrm{AWG}$

Cable construction - PX0441, PX0442, PX0444
PVC Jacket
Braid
Insulation
SR-PVC
Conductor
2M-24AWG
3M-22AWG
5M-20AWG
Drain Wire
Insulation - Polyofein


0
Sealed to IP68 when mated

- IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
- $50 \Omega$ Impedance SMB connector
- Frequency range $0-4 \mathrm{GHz}$
- Contact resistance
- centre - $6 \mathrm{~m} \Omega$ max
- outer - $2.5 \mathrm{~m} \Omega$ max
- Gold plated contacts

0
Diameter over coupling ring 19mm

- Body moulding, Nylon UL94-V0 rated
- Two versions of Flex Connector
- re-wireable
- pre-wired - lengths 1m, 3m \& 5m
- Panel connector - pre-wired - lengths $0.5 \mathrm{~m}, 1 \mathrm{~m}$ \& 1.5 m
- Cable accommodation (flex re-wireable), RG-174
- Cable type (pre-wired connectors), RG-174

- Mates with Panel connector (PX0414)
() Re-wireable connector
- For RG-174 cable
- Supplied with SMB plug

PX0415/1

Part no. Description
PX0415/1
Re-wireable connector with SMB Plug - for RG-174 cable


Part no.

## Description

PX0416/1M00
Overmoulded connector with SMB plug - cable length 1 m
PX0416/3M00 Overmoulded connector with SMB plug - cable length 3 m
PX0416/5M00
Overmoulded connector with SMB plug - cable length 5 m


## Electrical

| Impedance: | $50 \Omega$ |
| :--- | :--- |
| Frequency Range: | $0-4 \mathrm{GHz}$ |
| Contact Resistance: |  |
| Centre: | $6 \mathrm{~m} \Omega$ (max.) |
| Outer: | $2.5 \mathrm{~m} \Omega$ (max.) |
| Insulator Resistance: | $1000 \mathrm{M} \Omega$ (max.) |

Mechanical:

| Sealing: | IP69K, Tested in accordance <br> with DIN 40050/Part 9 IP6k9k |
| :--- | :--- |
|  | IP68, EN60529:1992+A2:2013 |
|  | (10m depth for 2 weeks) |
| Salt Mist | EN60068-2-52 Test Kb Salt Mist <br>  <br> (Cyclic) Marine Severity Level 1 |

Cable Acceptance:
Insertion/Withdrawal Force:
Insertion Force:
Withdrawal Force
Cable Retention Force:
Mating Cycles:
Operating Temperature:

## Material:

PX0415/1 and PX0414
Body Mouldings:
Flammability Rating:
UV Resistance:
PX0416
Body Mouldings: PVC (black)
Flammability Rating: UL94V-0
O Rings:
Panel Sealing O Ring:
SMB Connector
Body:
Centre Contact:
Plug: Brass to QQ-B-626, Gold Plated
Jack:
Insulator:
Crimp Ferrules:
RoHS

Nitrile
Polyamide
UL94V-0
To EN 50021:1999

Nitrile
Brass to QQ-B-626, Gold Plated

Beryllium Copper to QQ-B-530, Gold Plated
Teflon
Annealed Copper
Compliant


SMB Antenna

- IP68 Sealing
- IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
- SMB 50 ohm interface
- For use with SMB Buccaneer
- Three frequency bands:

440 to 470 MHz
900/1800/1900MHz
2.4 to 2.5 GHz

0
Maintains sealing integrity of equipment

## Bluetooth Cable Replacement

- IP68 Sealing
- RS485/RS232 serial interfaces
- Serial data to Bluetooth
- Wireless transparent data connection
© Up to 100m range (class 1)
- Maintains sealing integrity of equipment


Part no.
Description

PX0407
PX0408
PX0409
PX0407/90
PX0408/90
PX0409/90

IP68 rated, Buccaneer Antenna, 2.4 to 2.5 GHz frequency band IP68 rated, Buccaneer Antenna, 440 to 470 MHz frequency band IP68 rated, Buccaneer Antenna, 900/1800/1900MHz frequency band IP68 rated, Buccaneer Antenna, 2.4 to 2.5 GHz frequency band IP68 rated, Buccaneer Antenna, 440 to 470 MHz frequency band IP68 rated, Buccaneer Antenna, 900/1800/1900MHz frequency band

## Specification

## Electrical

Frequency
PX0407 $\quad 2.4$ to 2.5 GHz

PX0408 440 to 470 MHz
PX0409 850-900/1800/1900MHz

Configuration
PX0407 1/4 Wavelength
PX0408 1⁄2 Wavelength
PX0409 1⁄2 Wavelength

Radiation Omnidirectional
Polarization Vertica
Impedance $50 \Omega$ nominal

VSWR
<2

Mechanical

| Sealing | IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k |
| :--- | :--- |
|  | IP68, EN60529:1992+A2:2013, when mated (10m depth for 2 weeks) |
| Operating Temperature: | $-20^{\circ} \mathrm{C}$ to $+65^{\circ} \mathrm{C}$ |
| Salt Mist | EN60068-2-52 Test Kb Salt Mist (Cyclic) |
|  | Marine Severity Level 1 |

## Material

Body Mouldings
Flammability Rating
UV Resistance
RoHS

PVC
UL94V-0
EN50021:1999
Compliant

## 400 Series - Wireless Buccaneer

Polar/Antenna Plots

## PX0407 Polar plots



PX0407 Radiation Pattern plots

$1-12624 \mathrm{~dB} 2 . \mathrm{vO} \mathrm{GHz}$
2 -34951 dB 2.45000 GHz
3-12.777 dB 2500.000000 MHz

11.5659 dB 2.40000 GHz
21.6514 dB 2.45000 GHz
31.6032 dB 2500.000000 MHz

## 400 Series - Wireless Buccaneer

Polar/Antenna Plots

Pattern Field

E


Pattern Field


H

## PX0408 Radiation Pattern plots



## 400 Series - Wireless Buccaneer



Pattern Field


H

## PX0409 / 900MHz Radiation Pattern plots


$1900.00000 \mathrm{MHz}-3.4307 \mathrm{~dB}$
$21.8000000 \mathrm{GHz}-9.0130 \mathrm{~dB}$
$31.8800000 \mathrm{GHz}-19.516 \mathrm{~dB}$
$41.9000000 \mathrm{GHz}-20.297 \mathrm{~dB}$

1900.00000 MHz 5.1694 dB
21.8000000 GHz 2.2481 dB
31.8800000 GHz 1.2377 dB
41.9000000 GHz 1.2052 dB

PX0409 / 1800MHz Polar plots


Pattern Field


H

## PX0409 / 1800MHz Radiation Pattern plots


$1900.00000 \mathrm{MHz}-3.4307 \mathrm{~dB}$
$21.8000000 \mathrm{GHz}-9.0130 \mathrm{~dB}$
$31.8800000 \mathrm{GHz}-19.516 \mathrm{~dB}$
$41.9000000 \mathrm{GHz}-20.297 \mathrm{~dB}$

1900.00000 MHz 5.1694 dB
21.8000000 GHz 2.2481 dB
31.8800000 GHz 1.2377 dB
41.9000000 GHz 1.2052 dB



Pattern Field
H

1900.00000 MHz 5.1694 dB
21.8000000 GHz 2.2481 dB
31.8800000 GHz 1.2377 dB
41.9000000 GHz 1.2052 dB


- IP66, IP68 and IP69K rated
- USB V2.0 performance
- Plug and play capability
- Shielded system
- Overmoulded cables
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1
- Data rates up to 480 Mbs
- Secure, proven locking system
- Tamperproof Construction
- Colour coded O-rings \& washers for easy identificaiton purposes


Part no.

## Description

PXP4043 IP-sealed B type Micro USB, rear panel mounted. 5 way header connector at rear.


- Sealing caps to maintain IP rating when connectors are not in use
$\left.\begin{array}{ll}\text { Part no. } & \begin{array}{l}\text { Description } \\ \text { PXP4081 }\end{array} \\ \text { Sealing cap for use with } \\ \text { PXP4010 \& PXP4040 }\end{array}\right\}$

Gland Packs

|  | Part no . | Description |
| :---: | :---: | :---: |
|  | PXP4088/0305 | Pack of 4 pairs cable glands and collets to suit cables from 3.0 to 5.0 mm diameter. |
|  | PXP4088/0507 | Pack of 4 pairs cable glands and collets to suit cables from 5.0 to 7.0 mm diameter. |
| O-ring \& washer pack |  |  |
|  | Part no. | Description |
|  | PXP4089/WH | White coloured O-ring and washer pack |
|  | PXP4089/RD | Red coloured O-ring and washer pack |
|  | PXP4089/BL | Blue coloured O-ring and washer pack |
|  | PXP4089/YL | Yellow coloured O-ring and washer pack |
|  | PXP4089/GN | Green coloured O-ring and washer pack |

## Cables \& connectors

Mechanical
Sealing

Panel Mount Nut
Operating temperature
Salt Mist

## Electrical

No. of poles
Current rating
Voltage rating
Contact resistance
Performance

IP69K, DIN40050-9
IP68, EN60529:1992+A2:2013
( 10 m depth for 2 weeks)
IP66, EN60529:1992+A2:2013
1.0-1.1NM (91lb.in)
$-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
EN60068-2-52 Test Kb Salt Mist
(Cyclic) Marine Severity Level 1

4 and 5
1A
$30 \mathrm{Vac}, 42 \mathrm{Vdc}$
50m $\Omega$ max.
USB version 2.0

Materials - Re-wireable and Panel Connectors

Shell material Shell plating Contact material
Contact plating
Connector body \& locking ring
Panel connector
Flammability rating
' O ' rings
Mating cycles
RoHS
Materials - cable
Cable Jacket
Screen
Flammability
RoHS

Steel
Nickel
Copper Alloy
50 micro inch Gold
PC/PBT
PC/PBT
UL94V-0
Silicone
1,000
Compliant

PVC (black)
Tinned copper braid
UL94V-0
Compliant

Length:
$2 m$
3 m
5m

Dia Signal
$4.8 \mathrm{~mm} 2 \times 28$ AWG $2 \times 24 \mathrm{AWG}$
$5.0 \mathrm{~mm} 2 \times 28$ AWG $2 \times 22$ AWG
$5.2 \mathrm{~mm} 2 \times 25 A W G \quad 2 \times 20 A W G$

## Cable construction - PXP4040 \& PXP4043



6000 Series Buccaneer - circular connectors that combine the ease of use of a push/pull coupling mechanism with proven environmental sealing. Available with metal or plastic bodies, the range supports both data (USB and Ethernet), signal and mains power. Designed and independently tested to IP66, IP68 \& IP69K standards, they are ideal for applications where ingress of dust and water must be avoided and where ease of connection, space and appearance are important considerations.

- $30^{\circ}$ twist locking

Tamperproof lock prevents accidental un-mating
〕 IP66, IP68 and IP69K when mated
Suitable for a wide range of dust and water borne environments

- Independent sealing tests

IP Ratings independently verified

- USB version 2.0 performance

Low and high speed bus connection, 1.5 Mbs to 480 Mbs

- Plug and play capability

Hot pluggable, standard 4 pole interface

- Shielded system

High noise immunity and EMI protection

- Single and double ended cables

Suitable for PC and peripheral configuration
$\bigcirc$ Push-pull latching system*
Secure, instant latching. Quick connector mating and release

- Cat 5 e compliant

Data rate up to 100 MHz

- PUR jacket on cable

Good chemical resistance, flame retardant
$\checkmark$ Cat 5e shielded coupler
Maintains shielding

- Visual mating indication

Alignment indicator reduces risk of damage during mating
$\checkmark$ Earth lead version of panel adaptor on plastic connector Continuous screening of panel mount connector

- Metal connector grounded to cable screen Continuous screening of panel mount connector
- Sealed through panel Ethernet

Prevent water ingress into equipment

- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1



PXP6040/A


PXP6040/B

- Single ended sealed cable assembly
- Mates with all panel mounting connectors
- $30^{\circ}$ twist locking
- IP rated 'A' type USB connector to standard ' $B$ ' type USB connector, mates with all panel mount connectors
- IP rated 'B' type USB connector to standard ' $A$ ' type USB connector, mates with all panel mount connectors
- Available in $2 \mathrm{~m}, 3 \mathrm{~m}$ and 5 m lengths


| Part no | Length |
| :--- | :--- |
| PXP6040/A/2M00 | $2 m$ |
| PXP6040/A/3M00 | $3 m$ |
| PXP6040/A/5M00 | $5 m$ |
|  |  |
| PXP6040/B/2M00 | $2 m$ |
| PXP6040/B/3M00 | $3 m$ |
| PXP6040/B/5M00 | $5 m$ |

## Description

IP rated A type USB to standard B type USB
IP rated A type USB to standard B type USB
IP rated A type USB to standard B type USB
IP rated B type USB to standard A type USB
IP rated B type USB to standard A type USB
IP rated B type USB to standard A type USB


| Part no | Length | Description |
| :--- | :--- | :--- |
| PXP6041/AB/2M00 | $2 m$ | IP rated A type USB to standard B type USB |
| PXP6041/AB/3M00 | $3 m$ | IP rated A type USB to standard B type USB |
| PXP6041/AB/5M00 | 5 m | IP rated A type USB to standard B type USB |

Front Panel Mounting Connector | PXP6042/A - USB 'A' type IP |
| :--- |
| rated connector |
| PXP6042/B - USB 'B' type IP |
| rated connector |
| Opposite USB type connector |
| to rear of panel |
| Mates with PXP6040 and |
| PXP6041 cable connectors |

Part No.
PXP6042/A
PXP6042/B

## Description

IP rated A type USB, front panel mounted. Sealed A type at front of panel, standard B type at rear. IP rated B type USB, front panel mounted. Sealed B type at front of panel, standard A type at rear.


Part No.

## Description

PXP6043/A
IP rated A type USB, front panel mounted. Sealed A type at front of panel, 5 way crimp connector at rear.
PXP6043/B

$$
\text { IP rated B type USB, front panel mounted. Sealed B type at front of panel, } 5 \text { way crimp connector at rear. }
$$



- Standard A and B type USB connectors to 5 way crimp adaptor leads
- 5 way headers, 2.54 mm pitch, horizontal or vertical mounting

| Part No. | Description |
| :--- | :--- |
| 14193 | USB 'A' type to 5 way crimp connector |
| 14194 | USB 'B' type to 5 way crimp connector |
| 14191 | 5 way PCB header straight |
| 14192 | 5 way PCB header right angle |



Sealing Caps


- Sealing caps to maintain IP rating when connectors are not in use
- PXP6081 for cable connectors PXP6040 \& PXP6041
- PXP6083 for front panel mount connectors PXP6042 \& PXP6043, with $30^{\circ}$ twist lock


| Part No. | Description |
| :--- | :--- |
| PXP6081 | Sealing Cap for Flex cable connectors (PXP6040, PXP6041) |
| PXP6083 | Sealing Cap for front panel mounting connector (PXP6042, PXP6043) |



## Examples

PXP6040/A/2M00 = Cable assembly with sealed ' $A$ ' type connector to unsealed ' $B$ ' type connector, 2 metres long

PXP6042/A = Panel mounted adapter with sealed ' $A$ ' type to unsealed ' $B$ ' type at rear

Cables \& connectors
Mechanical
Sealing
IP68, EN60529:1992+A2:2013
(10m depth for 2 weeks)
IP66, EN60529:1992+A2:2013

| Salt Mist | EN60068-2-52 Test Kb Salt Mist <br> (Cyclic) Marine Severity Level 1 |
| :--- | :--- |

Operating temperature

## Electrical

No. of poles
Current rating
Voltage rating
Contact resistance
Performance
Materials - Overmoulded
Overmould material
Flammability rating
Materials - Re-wireable and Panel Connectors

Plastic
Metal
Flammability rating
'O' rings
Panel Gasket - round
Panel Gasket - flange
Materials - cable
Cable Jacket
Screen
Flammability
RoHS
Length:
$2 m$
3 m
5 m

IP69K, DIN40050-9
IP68, EN60529:1992+A2:2013
IP66, EN60529:1992+A2:2013
(Cyclic) Marine Severity Level 1
$0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$

4
1A
30Vac (RMS)
$30 \mathrm{~m} \Omega$ max.
USB version 2.0

PVC (black)
UL94V-0

PC/PBT
Machined Brass, Nickel Plated
UL94V-0
Silicone
Silicone
Silicone

PVC (black)
Tinned copper braid
UL94V-0
Compliant

|  | Conductors | Conductors |
| :--- | :--- | :--- |
| Dia | Signal | Power |
| 4.8 mm | $2 \times 28$ AWG | $2 \times 24 \mathrm{AWG}$ |
| 5.0 mm | $2 \times 28 A W G$ | $2 \times 22 A W G$ |
| 5.2 mm | $2 \times 28 A W G$ | $2 \times 20 A W G$ |

## PCB adaptor leads

Electrical
No. of conductors 4
Current rating 1A

Current rating
Voltage rating
Contact resistance
PCB pitch
Materials
Moulding
Flammability
Contact material
Contact plating
Wire insulation
Flammability
Conductors
Operating temperature
Mating cycles
RoHS
${ }^{4} 1 \mathrm{~A}$
30Vac (RMS)
$<10 \mathrm{~m} \Omega$ max.
2.54 mm

Polycarbonate
UL94V-0
Copper Alloy
30 micro inch Gold
PVC (black)
UL94-V0
$4 \times 28 A W G$
$0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
1,000
Compliant

Cable construction - PXP6040, PXP6041


- Mates with PXP6033TP type panel mounting connectors
- $30^{\circ}$ twist locking


PXP6037
O Overmoulded patchcords with IP rated connector

- Supplied with shielded RJ45 plug
- Single or double end terminated

Standard lengths: $2 \mathrm{~m}, 3 \mathrm{~m} \& 5 \mathrm{~m}$

- S-FTP cable construction
- PUR jacket cable
- Wiring configuration to 568-B
- Exceeds EIA/TIA Cat 5 e



| Part no | Description |
| :--- | :--- |
| PXP6034/A | Cable glands optimised for PUR jacket cable to maintain Cat 5e performance |
| PXP6034/B | Suitable for use with cables from 4.0 to 10.0 mm diameter |



- Mates with PXM6033TP type panel mounting connectors
- $30^{\circ}$ twist locking
- Supplied with shielded RJ45 plug
〕 Two versions: for PUR jacket cable (Cat 5e) for other cable sizes from 4.0 to 10.0 mm dia.

PXM6034

| Part no | Description |
| :--- | :--- |
| PXM6034/A | Cable glands optimised for PUR jacket cable to maintain Cat 5e performance |
| PXM6034/B | Suitable for use with cables from 4.0 to 10.0 mm diameter |

Front Panel Mounting Connector


PXM6033

- Sealed through panel
- Cat 5e shielded coupler
- Mates with PXM6034 type flex connectors
- Standard RJ45 patchcord can be plugged into rear
- Connector shell ground to cable screen
- Single hole fixing
- Complete with panel sealing gasket


| Part no | Description | Fixing |
| :--- | :--- | :--- |
| PXM6033TP | Cat 5 e coupler | Front panel mounted - sealed through panel |

Accessories For Ethernet Connectors


PXM6034

Plastic connectors

- PXP6081 for cable connectors PXP6034, PXP6037 \& PXP6038
- PXP6083 for front panel mount connectors PXP6033, with $30^{\circ}$ twist lock

Sealing caps to maintain IP rating when connectors are not in use

| Part no | Description |
| :--- | :--- |
| PXP6081 | Sealing Cap for plastic Flex cable connectors |
| PXP6083 | Sealing Cap for plastic front panel mounting connector |



PXM6081


PXM6083

Metal connectors

- PXM6081 for cable connectors PXM6034
- PXM6083 for front panel mount connectors

Sealing caps to maintain IP rating when connectors are not in use

PXM6033

| Part no | Description |
| :--- | :--- |
| PXM6081 | Sealing Cap for metal Flex cable connectors |
| PXM6083 | Sealing Cap for metal front panel mounting connector |
|  |  |
| 14151 | Hand crimp tooling + die set |
| 14199 | PUR Jacket cable -50 m reel |
| 14150 | Replacement shielded RJ45 |



## Examples

PXP6033TP/E = Panel mounted coupler, sealed through panel with earth lead
PXP6037/2M00= Patchcord with one sealed end, 2 metres long
PXM6034/A = Flex re-wireable connector for use with PUR cable
PXM6033TP = Panel mounted coupler, through panel sealed

## Ethernet - Metal and Thermo-plastic versions

| Connectors |  | PCB adaptor leads |  |
| :---: | :---: | :---: | :---: |
| Mechanical |  | Electrical |  |
| Sealing | IP69K, DIN40050-9 | No. of conductors | 4 |
|  | IP68, EN60529:1992+A2:2013 | Current rating | 1A |
|  | (10m depth for 2 weeks) | Voltage rating | 30Vac (RMS) |
|  | IP66, EN60529:1992+A2:2013 | Contact resistance | $<10 \mathrm{~m} \Omega$ max. |
|  |  | PCB pitch | 2.54 mm |
| Salt Mist: | EN60068-2-52 Test Kb Salt Mist | Materials |  |
| Operating Temperature |  | Moulding | Polycarbonate |
| Re-wireable and Metal | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | Flammability | UL94V-0 |
| Overmoulded patchcords | $0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | Contact material | Copper Alloy |
|  |  | Contact plating | 30 micro inch Gold |
| Materials - Overmoulded |  | Wire insulation | PVC (black) |
| Overmould material | PVC (black) | Flammability | UL94-V0 |
| Flammability rating | UL94V-0 | Conductors | $4 \times 28 A W G$ |
|  |  | Operating temperature | $0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Materials - Re-wireable and Panel Connectors |  | Mating cycles | 1,000 |
|  |  | RohS | Compliant |
| Plastic | PC/PBT |  |  |
| Metal | Machined Brass, Nickel Plated | Cable construction - PXP6040, PXP6041 |  |
| Flammability rating | UL94V-0 |  |  |

Flammability rating
Panel Gasket - round
Panel Gasket - flange
Approvals
Sil
Silicone
Silicone

RoHS
Compliant
Stranded S-FTP Patch cord cable - PUR Jacket
Polyurethane (PUR) jacket cable with internal construction exceeding Cat 5 e performance levels. The PUR jacket has excellent abrasion, chemical and ozone resistance, low smoke, low halogen flame retardant construction suitable for internal and external industrial environments.

## Cable

Conductors
Insulation
Pair
Core
Tape
Screen
Sheath
Op Temperature
Min. bend radius
Min. bend radius
Diameter
24AWG ( $7 / 0.2 \mathrm{~mm}$ ) bare copper
HD-PE
2 of the above cores twisted
4 of the above cores
1 lap mylar tape
1 layer mylar and aluminium tape,
0.12 mm tinned copper braid

PUR Jacket Black
$-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
$10 \times \mathrm{o} / \mathrm{d}$ (installation)
$6 \times \mathrm{o} / \mathrm{d}$ (installed)
6.1 mm nominal

Electrical @ $20^{\circ} \mathrm{C}$
Characteristic
Impedance
$100 \Omega \pm 15 \Omega$ @ 100 MHz
330pF/km
29 $/ 100 \mathrm{~m}$ maximum
$45 \mathrm{nsec} / 100 \mathrm{~m}$ @ 100 MHz

Capacitance
Conductor Loop
resistance
Skew
TIA/EIA Rating

Cat 5 e

# Manufactured from Stainless Steel, Bulgin's extensive range of vandal resistant security switches are designed with a high resistance to wear and tear, corrosion and harsh use in potentially hostile environments such as access control applications. 

The front and rear panel mounted versions have three profiles -prominent, domed and low profile - with a choice of switching and IP66 \& IP68 front panel sealing which combined together to meet the ergonomic, electrical and environmental demands of switch panel design.
And where the ultimate strength of steel is not needed, there is a brass, chrome plated alternative. The low profile style switches are now also available with a latching, push on - push off, action.

The illuminated versions are available in dot and ring LED indication and a variety of illumination colours including bi-colour LED's. Newer versions also feature LED illumination driven by $6 \mathrm{~V}, 12 \mathrm{~V} \& 24 \mathrm{~V}$ together with rear of panel sealing, these options will add that extra dimension to control panel layouts and functionality.

Vandal Resistant
Push Button
Voltage Selectors
Piezo
12 mm Switches
Rocker Switches
Push Button
Toggle Switches
Refridgerator Switches
Side Switches

144-162
163-164
165
167-171
172-177
178-204
205-213
214-218
219-223
244

Front Panel Mounting

| Specifications | MP0027 | MP0038 |
| :---: | :---: | :---: |
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac <br> 2A, 28Vdc | 5A, 250Vac <br> 2A, 28Vdc |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| Dielectric Strength: | >2.0kVac | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Sealing (Front of panel only): |  | Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed) |
| Operations |  |  |
| Mechanical: | 1,000,000 (min) | 1,000,000 (min) |
| Electrical: | 35,000 (min) | 35,000 (min) |
| Operating Pressure: | 7.5 N (typ) | 12.5 N (typ) |
| Rear Nut Fixing Torque: | 2.5 Nm | 1.13 Nm |
| Materials |  |  |
| Mouldings: | Glass Filled Nylon | Glass Filled Nylon |
| Tags/Terminations: | Brass, Tin Plated | Brass, Tin Plated |
| Switch Body \& Button: | Stainless Steel | Stainless Steel |
| Contacts: | Fine Silver | Fine Silver |
| Thread size: | 1.01 x 26TPI | 1.0 " ${ }^{\prime \prime} 26 \mathrm{TPI}$ |
| RoHS | Compliant | Compliant |



- Front Panel Sealed to IP68
- 21.5 mm diameter
- S.P. Push to Make
- $1 \mathrm{~A}, 50 \mathrm{Vac} / \mathrm{dc}$
- Industry Standard Size

Fixing Detcil


| Specifications | MP0037 | MP0031 |
| :---: | :---: | :---: |
| Terminations: | Screw Terminals | Solder Tags |
| Switching: | S.P. Push to make Momentary action | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 1A, 50Vac/dc | 5A, 250Vac <br> 2A, 28Vdc |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{5} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| Dielectric Strength: | >1.0kVac | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Sealing (Front of panel only): | Protection Classification: IP68 EN 60529:1992+A2:2013 <br> (Micro switch not sealed) | Protection Classification: <br> IP66 EN60529-1:1992 + A2:2013. <br> (Micro switch not sealed) |
| IP68 rating |  |  |
| 10M for 2 weeks test: | Passed |  |
| Operations |  |  |
| Mechanical: | 1,000,000 (min) | 1,000,000 (min) |
| Electrical: | 30,000 (min) | 35,000 (min) |
| Operating Pressure: | 7.5 N (typ) | 4.7 N (typ) |
| Rear Nut Fixing Torque: | 0.57 Nm | 0.57 Nm |
| Materials |  |  |
| Mouldings: | Glass Filled Nylon | Glass Filled Nylon |
| Tags/Terminations: | Brass, Silver Plated | Brass, Tin Plated |
| Switch Body \& Button: | Stainless Steel | Stainless Steel |
| Contacts: | Brass, Silver Plated, Silver | Fine Silver |
| Thread size: | $0.747^{\prime \prime} \times 26 T P$ I | $0.747^{\prime \prime} \times 26 \mathrm{TPI}$ |
| RoHS | Compliant | Compliant |



| Specifications | MPI001/Termination/Colour/Voltage |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Illumination style: | Dot |  |  |  |  |  |  |  |
| Terminations: | /28 (2.8mm tabs), |  |  |  |  |  |  |  |
|  | /TERM or /TE (screw terminals) |  |  |  |  |  |  |  |
| Switching: | Single pole, push to make, tactile (momentary action) |  |  |  |  |  |  |  |
| Max. Switch Rating: | 50mA, 24Vdc |  |  |  |  |  |  |  |
| LEDs (ratings @ 20mA) |  |  |  |  |  |  |  |  |
| Part No. | /RD | /GN | /AM | /BL | WH | /D1 | /D4 | /D5 |
| Colours | Red | Green | Amber | Blue | White | Red/Green | Red/Blue | Green/Blue |
| Luminous Intensity | 900 mcd | 2500mcd | 900 mcd | 1500 mcd | 900 mcd | $2500 \mathrm{mcd} / 5000 \mathrm{mcd}$ | 2000mcd/850mcd | 4000mcd/2000mcd |
| Forward Voltage | 1.85 V | 3.5 V | 2.3 V | 3.5 V | 3.6 V | $2.05 \mathrm{~V} / 3.6 \mathrm{~V}$ | $2.0 \mathrm{~V} / 3.6 \mathrm{~V}$ | $3.6 \mathrm{~V} / 3.6 \mathrm{~V}$ |
| Forward Current | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA |
| Moulding Colour | Red | Green | Amber | Blue | White | Black | Black | Black |
| Illumination Voltage: | /no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above. |  |  |  |  |  |  |  |
|  | /6 6Vdc |  |  |  |  |  |  |  |
|  | /12 12Vdc |  |  |  |  |  |  |  |
|  | /24 24Vdc |  |  |  |  |  |  |  |
| Contact Resistance: | $<100 \mathrm{~m} \Omega$ |  |  |  |  |  |  |  |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ |  |  |  |  |  |  |  |
| Dielectric Strength: | Contact to Panel $>2.0 \mathrm{kV}$ |  |  |  |  |  |  |  |
|  | Contact to Contact 1500 |  |  |  |  |  |  |  |
| Operating Temp. Range: | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |  |  |  |  |  |  |  |
| Sealing (Front of panel only): | Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed) |  |  |  |  |  |  |  |
| Operations |  |  |  |  |  |  |  |  |
| Mechanical: | 750,000 (min) |  |  |  |  |  |  |  |
| Electrical: | 35,000 (min) |  |  |  |  |  |  |  |
| Operating Pressure: | 12 N |  |  |  |  |  |  |  |
| Rear Nut Fixing Torque: | 0.57 Nm |  |  |  |  |  |  |  |

Screw Terminal Torque $\quad 0.2 \mathrm{Nm}$ Max

## Materials

Switch assembly:
Tags:
Terminals:
Switch Body \& Button:
Lens and Lens Body:
O ring:
Internal seal:
Contact Plate:
Thread size:
$\underset{\Delta}{\Delta}$
RoHS

D5
Green/Blue
$4000 \mathrm{mcd} / 2000 \mathrm{mcd}$
/3.6V
OmA Black

12 GVa
24 24Vdc
$10^{3} \mathrm{M} \Omega$
Contact to Panel >2.0kV
Contact to Contact 1500
$-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
(Micro switch not sealed)

750,000 (min)
0.57 Nm

UL94V-0 rated Polyamide (Nylon)
Copper Alloy
Copper Alloy
Stainless Steel
Polycarbonate
Nitrile
Silicone
Gold Plated
$18.97 \mathrm{~mm} \times 26 \mathrm{TP}$
ESD Handling precautions must be taken
Compliant

```
/D1
```




| Specifications | MPI002/Termination/Colour/Voltage |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Illumination style: | Ring |  |  |  |  |  |  |  |  |
| Terminations: | /28 (2.8mm tabs), |  |  |  |  |  |  |  |  |
|  | /TERM or /TE (screw terminals) |  |  |  |  |  |  |  |  |
| Switching: | Single pole, push to make, tactile (momentary action) |  |  |  |  |  |  |  |  |
| Max. Switch Rating: | $50 \mathrm{~mA}, 24 \mathrm{Vdc}$ |  |  |  |  |  |  |  |  |
| LEDs (ratings @ 20mA) |  |  |  |  |  |  |  |  |  |
| Part No. | /RD | /GN | /AM | /BL | /WH | /D1 | /D4 | /D5 | /D6 |
| Colours | Red | Green | Amber | Blue | White | Red/Green | Red/Blue | Green/Blue | Green/White |
| Luminous intensity <br> Forward Voltage | 900 mcd | 2500 mcd | 900 mcd | 1500 mcd | 900 mcd | $2500 \mathrm{mcd} / 5000 \mathrm{mcd}$ | $2000 \mathrm{mcd} / 850 \mathrm{mcd}$ | $4000 \mathrm{mcd} / 2000 \mathrm{mcd}$ | $178 \mathrm{mcd} / 450 \mathrm{mcd}$ |
| Forward Voltage | 1.85 V | 3.5 V | 2.3 V | 3.5 V | 3.6 V | $2.05 \mathrm{~V} / 3.6 \mathrm{~V}$ | $2.0 \mathrm{~V} / 3.6 \mathrm{~V}$ | $3.6 \mathrm{~V} / 3.6 \mathrm{~V}$ | $3.4 \mathrm{~V} / 3.2 \mathrm{~V}$ |
| Moulding Colour | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA | 20 mA |
|  | Red | Green | Amber | Blue | White | Black | Black | Black | Black |

Illumination Voltage:

Contact Resistance: Insulation Resistance:
Dielectric Strength:
/no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.
/6 6Vdc
/12 12Vdc
/24 24Vdc
$<100 \mathrm{~m} \Omega$
$>10^{3} \mathrm{M} \Omega$
Contact to Panel $>2.0 \mathrm{kV}$
Contact to Contact 1500
Operating Temp. Range:
Sealing (Front of panel only):
Operations
Mechanical:
Electrical:
Operating Pressure:
Rear Nut Fixing Torque:
$-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
750,000 (min)
35,000 (min)
12 N
0.57 Nm

Screw Terminal Torque $\quad 0.2 \mathrm{Nm}$ Max

## Materials

Switch assembly:
Tags:
Terminals:
Switch Body \& Button:
Lens and Lens Body:
O ring:
Internal seal:
Contact Plate:
Thread size:

0.2 Nm Max

UL94V-0 rated Polyamide (Nylon)
Copper Alloy
Copper Alloy
Stainless Steel
Polycarbonate
Nitrile
Silicone
Gold Plated
$18.97 \mathrm{~mm} \times 26 \mathrm{TPI}$
ESD Handling precautions must be taken
Compliant

Dual Colour LED Configuration





| Specifications | MP0050 | MP0050/2 |
| :---: | :---: | :---: |
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac. <br> 2A, 28Vdc | 5A, 250Vac. <br> 2A, 28Vdc |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| Dielectric Strength: | >2.0kVac | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Sealing <br> (Front of panel only): | Protection Classification: <br> IP66 EN60529-1:1992 + A2:2013. <br> (Micro switch not sealed) | Protection Classification: <br> IP66 EN60529-1:1992 + A2:2013. <br> (Micro switch not sealed) |
| Operations |  |  |
| Mechanical: | 1,000,000 (min) | 1,000,000 (min) |
| Electrical: | 35,000 (min) | 35,000 (min) |
| Operating Pressure: | 4.7 Nm | 4.7N (typ) |
| Rear Nut Fixing Torque: | 0.57 Nm | 0.57 Nm |
| Materials |  |  |
| Mouldings: | Glass Filled Nylon | Glass Filled Nylon |
| Tags/Terminations: | Brass, Tin Plated | Brass, Tin Plated |
| Switch Body \& Button: | Stainless Steel | Stainless Steel |
| Contacts: | Fine Silver | Fine Silver |
| Thread size: | M27 x 1.0-6H | M27 x 1.0-6H |
| RoHS | Compliant | Compliant |



| Specifications | MP0027/3 | MP0038/3 |
| :---: | :---: | :---: |
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac. <br> 2A, 28Vdc | 5A, 250Vac. <br> 2A, 28Vdc |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| Dielectric Strength: | >2.0kVac | $>2.0 \mathrm{kVac}$ |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Sealing <br> (Front of panel only): |  | Protection Classification: <br> IP66 EN60529-1:1992 + A2:2013. <br> (Micro switch not sealed) |
| Operations |  |  |
| Mechanical: | 1,000,000 (min) | 1,000,000 (min) |
| Electrical: | 35,000 (min) | 35,000 (min) |
| Operating Pressure: | 7.5N (typ) | 12.5 N (typ) |
| Rear Nut Fixing Torque: | 2.5 Nm | 1.13 Nm |
| Materials |  |  |
| Mouldings: | Glass Filled Nylon | Glass Filled Nylon |
| Tags/Terminations: | Brass, Tin Plated | Brass, Tin Plated |
| Switch Body \& Button: | Stainless Steel | Stainless Steel |
| Contacts: | Fine Silver | Fine Silver |
| Thread size: | $1.0 "$ x 26TPI | $0.747^{\prime \prime} \times 26 \mathrm{TPI}$ |
| RoHS | Compliant | Compliant |




- Front Panel Sealed to IP68
- 21.5 mm diameter
- Prominent Button
- S.P. Push to Make
- $1 \mathrm{~A}, 50 \mathrm{Vac} / \mathrm{dc}$


| Specifications | MP0037/2 | MP0031/2 |
| :---: | :---: | :---: |
| Terminations: | Screw Terminals | Solder Tags |
| Switching: | S.P. Push to make Slow momentary action | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 1A, 50Vac/dc | 5A, 250Vac. <br> 2A, 28Vdc |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{5} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| Dielectric Strength: | $>1.0 \mathrm{kVac}$ | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Sealing <br> (Front of panel only): | Protection Classification: <br> IP68 EN60529-1:1992 + A2:2013. <br> (Micro switch not sealed) ( 10 m for 2 weeks) | Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed) |
| Operations |  |  |
| Mechanical: | 1,000,000 (min) | 1,000,000 (min) |
| Electrical: | 35,000 (min) | 35,000 (min) |
| Operating Pressure: | 7.5 N (typ) | 4.7 N (typ) |
| Rear Nut Fixing Torque: | 0.57 Nm | 0.57 Nm |
| Materials |  |  |
| Mouldings: | Glass Filled Nylon | Glass Filled Nylon |
| Tags/Terminations: | Brass, Tin Plated | Brass, Tin Plated |
| Switch Body \& Button: | Stainless Steel | Stainless Steel |
| Contacts: | Brass, Silver Plated, Silver | Fine Silver |
| Thread size: | $0.747^{\prime \prime} \times 26 \mathrm{TPI}$ | $0.747^{\prime \prime} \times 26 \mathrm{TPI}$ |
| RoHS | Compliant | Compliant |



| Specifications | MP0013, MP0033 | MP0013/2, MP0033/2 |
| :---: | :---: | :---: |
| Terminations: | Screw Terminals | Screw Terminals |
| Switching: | S.P. Push to make | S.P. Push to make |
|  | Slow momentary action | Slow momentary action |
| Max. Rating: | 1A,50Vac/dc | 1A, 50Vac/dc |
| Contact Resistance: | $<15 \mathrm{~m} \Omega$ | $<15 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{4} \mathrm{M} \Omega$ | $>10^{4} \mathrm{M} \Omega$ |
| Dielectric Strength: | >2.5kVac | >2.5kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Sealing (Front of panel only): | MP0033 only - internally sealed against ingress of water and dust | MP0033/2 only - internally sealed against ingress of water and dust |
| Materials |  |  |
| Mouldings: | Glass Filled Nylon | Glass Filled Nylon |
| Tags/Terminations: | Brass, Silver Plated | Brass, Silver Plated |
| Switch Body \& Button: | Body: Brass, Chrome Plated | Body: Brass, Chrome Plated |
|  | Button: Stainless Steel | Button: Stainless Steel |
| Contacts: | Copper, Silver Plated | Copper, Silver Plated |
| Thread Size: | $0.747^{\prime \prime} \times 26 \mathrm{TPI}$ | $0.747^{\prime \prime} \times 26 \mathrm{TPI}$ |
| RoHS | Compliant | Compliant |



| Specifications | MP0042/1 | MP0042/2 | MP0042/3 |
| :---: | :---: | :---: | :---: |
| Terminations: | Screw Terminals | Screw Terminals | Screw Terminals |
| Switching: | S.P. Push to make | S.P. Push to make | S.P. Push to make |
| Max. Rating: | 2A, 48Vdc | 2A, 48Vdc | 2A, 48Vdc |
| Contact Resistance: | $50 \mathrm{~m} \Omega$ at $1 \mathrm{~A}, 2 \mathrm{~V}$ | $50 \mathrm{~m} \Omega$ at $1 \mathrm{~A}, 2 \mathrm{~V}$ | $50 \mathrm{~m} \Omega$ at $1 \mathrm{~A}, 2 \mathrm{~V}$ |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ @ 500 Vdc | $>10^{3} \mathrm{M} \Omega$ @ 500 Vdc | $>10^{3} \mathrm{M} \Omega @ 500 \mathrm{Vdc}$ |
| Dielectric Strength: | >2.0kVac | >2.0kVac | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ |
| Operations |  |  |  |
| Mechanical: | 1,000,000 (min) | 1,000,000 (min) | 1,000,000 (min) |
| Electrical: | 100,000 (min) | 100,000 (min) | 100,000 (min) |
| Rear Nut Fixing Torque: | 12Nm | 12Nm | 12 Nm |
| Materials |  |  |  |
| Mouldings: | Nylon | Nylon | Nylon |
| Tags/Terminations: | Brass, Silver Plated | Brass, Silver Plated | Brass, Silver Plated |
| Switch Body \& Button: | Stainless Steel (Polished) | Stainless Steel (Polished) | Stainless Steel (Polished) |
| Contacts: | Silver | Silver | Silver |
| Thread size: | Gold Plated Brass version available | Gold Plated Brass version available | Gold Plated Brass version available |
| Sealing: | IP65 | IP65 | IP65 |
| Impact Rating: | IK08 | IK08 | IK08 |
| RoHS | Compliant | Compliant | Compliant |



| Specifications | MP0045/1D0NN000 | MP0045/3D0NN000 |
| :---: | :---: | :---: |
| Terminations: | Solder tags | Solder tags |
| Switching: | D.P.C.O Momentary Action | D.P.C.O Momentary Action |
| Max. Rating: | 250 V ac | 250 V ac |
| Contact Resistance: | $50 \mathrm{~m} \Omega$ max. @ 1A, 2V | $50 \mathrm{~m} \Omega$ max. @ 1A, 2V |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ @ 500Vdc | $>10^{3} \mathrm{M} \Omega$ @ 500Vdc |
| Dielectric Strength: | > 2.0kVac | > 2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ |
| Operations |  |  |
| Mechanical: | 200,000 (min) | 200,000 (min) |
| Electrical: | 30,000 (min) | 30,000 (min) |
| Rear Nut Fixing Torque: | 12Nm | 12Nm |
| Materials |  |  |
| Mouldings: | Nylon | Nylon |
| Tags/Terminations: | Brass, Silver Plated | Brass, Silver Plated |
| Switch Body \& Button: | Stainless Steel | Stainless Steel |
| Contacts: | Silver | Silver |
| Variants: | Nickel Plated Brass version available Details on request | Nickel Plated Brass version available Details on request |
| RoHS | Compliant | Compliant |




MP0045/1E
Prominent Button


MP0045/3E

- 18 mm bezel diameter
- 16 mm fixing hole diameter
- D.P.C.O.
- 250 V ac


Contact Layout

| Specifications | MP0045/1E0NN000 | MP0045/3E0NN000 |
| :---: | :---: | :---: |
| Terminations: | Solder Tags | Solder Tags |
| Switching: | D.P.C.O. - Latching Action | D.P.C.O. - Latching Action |
| Max. Rating: | 250 V ac | 250 V ac |
| Contact Resistance: | $50 \mathrm{~m} \Omega$ max. @ 1A, 2V | $50 \mathrm{~m} \Omega$ max. @ 1A, 2V |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ @ 500 Vdc | $>10^{3} \mathrm{M} \Omega$ @ 500Vdc |
| Dielectric Strength: | >2.0kVac | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ |
| Operations |  |  |
| Mechanical: | 200,000 (min) | 200,000 (min) |
| Electrical: | 30,000 (min) | 30,000 (min) |
| Rear Nut Fixing Torque: | 12Nm | 12Nm |
| Materials |  |  |
| Mouldings: | Nylon | Nylon |
| Tags/Terminations: | Brass, Tin Plated | Brass, Tin Plated |
| Switch Body \& Button: | Stainless Steel (Polished) | Stainless Steel (Polished) |
| Contacts: | Silver | Silver |
| Thread size: | Nickel Plated Brass version Details on request | Nickel Plated Brass version Details on request |
| RoHS | Compliant | Compliant |





| Specifications | MP0045/1E1/Colour/Voltage | MP0045/1E2/Colour/Voltage |
| :---: | :---: | :---: |
| Terminations: | Solder Tags | Solder Tags |
| Illumination: | Ring | Ring |
| Switching: | D.P.C.O. Momentary Action | D.P.C.O. Momentary Action |
| Max. Switch Rating: | 3A, 250Vac | 3A, 250Vac |
| LEDs |  |  |
| Colours | Red Green Amber Blue | Red Green Amber Blue |
| Part No. | /RD /GN /AM /BL | /RD /GN /AM /BL |
| Voltage | 12 Vdc 220Vdc | 12 Vdc 220Vdc |
| Part No. | /012 /220 | /012 /220 |
| Contact Resistance: | $50 \mathrm{~m} \Omega$ max. @ 1A, 2Vdc | $50 \mathrm{~m} \Omega$ max. @ 1A, 2Vdc |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ @ 500Vac | $>10^{3} \mathrm{M} \Omega$ @ 500Vac |
| Dielectric Strength: | >2.0kVac | >2.0kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$ |
| Operations |  |  |
| Mechanical: | 200,000 (min) | 200,000 (min) |
| Electrical: | 30,000 (min) | 30,000 (min) |
| Rear Nut Fixing Torque: | 12Nm | 12Nm |
| Materials |  |  |
| Mouldings: | Nylon | Nylon |
| Tags: | Brass, Silver Plated | Brass, Silver Plated |
| Switch Body \& Button: | Stainless Steel (Polished) | Stainless Steel (Polished) |
| Variants | Prominent Button, details on request | Prominent Button, details on request |
| RoHS | Compliant | Compliant |



## Key Features

- Momentary or latching action
- Ratings up to 12(12) @ 250Vac
- Single and double pole

Stainless steel button \& bezel

V Vandal resistant construction

Choice of body styles

- 19.2 mm or 22.5 mm mounting holes
- Front panel sealed to IP66
$\checkmark$ Raised, flat or domed actuator options


## Approvals and specifications

廠 16(4)A 250Vac T85, 1E4 (10,000 Operations) 12(12)A 250Vac T105, 1 E4 ( 10,000 Operations) 8(8)A 250Vac T105, 5 E4 (50,000 Operations) 6(6)A 250Vac T125, 5E4 (50,000 Operations)

T1 (12A 250Vac DP, 13A 250Vac SP
$250 \mathrm{Vac} 1 \mathrm{hp}, 125 \mathrm{Vac} 1 / 2 \mathrm{hp}$
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990

In house test:
10(10)A 250Vac - Indicative rating only
3 mm contact gap.
Technical data on pages $4 \& 5$ (switches),
6 (indicators).

## Dimensions

8300RP (H terminals shown)



Key Features

- Snap action switches
- Ratings up to 16 A , 250 Vac

R Round and rectangular buttons

S Single Pole C/O Switch

## Dimensions

C0911VA---
C0911VA

## Approvals and specifications

(36" 16(4)A 250Vac 5E4 T85
기자 16A 125/250Vac 3/4hp T85 50E3
$125 \mathrm{~V} 1 / 2 \mathrm{HP}, 250 \mathrm{~V} 3 / 4 \mathrm{HP}, 0.4 \mathrm{~A} 125 \mathrm{Vdc}, 0.2 \mathrm{~A}$ 250Vdc

Approvals apply to switch mechanism only. $\mu$ contact gap.


| Terminal | Function | Actuator | Body Code |
| :---: | :---: | :---: | :---: |
|  | 0911 <br> (momentary) $\mathrm{ON}-\mathrm{ON}$ | Vlat top (stainless steel) | A <br> Stainless steel Chamfer profile bezel <br> Panel cut-out Panel thickness up to 8.0 mm |


Front Panel Mounting

Switch Contact Operation

S.P. Push to Make S.P.M.B

S.P.C.O

D.P.C.O.

D.P.M.B.

| Specifications | MP0022/Colour |
| :---: | :---: |
| Terminations: | Solder Tags |
| Switching: | S.P. Push to Make Slow Momentary Action |
| Max. Rating: | 0.25A. 250Vac, 0.5A. 110Vac, 1 A .0 .1 to $28 \mathrm{Vac} / \mathrm{dc}$ |
| Contact Resistance: | $<15 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{4} \mathrm{M} \Omega$ |
| Dielectric Strength: | >2.5kVac |
| Operating Temp. Range: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Sealing: |  |
| Materials |  |
| Moulding: | Nylon |
| Tags: | Brass, Silver Plated |
| Body: | Nylon |
| Contacts/Terms: | Brass, Silver Plated |
| Variant | Button Colours: Standard - Black, /WH (White) and /RD (Red). /TERM - (Screw terminals) |
| RoHS | Compliant |



Connection Parolel 120 V


Connection Series 240 V


| Specifications | VS0001 | VS0002 |
| :---: | :---: | :---: |
| Max. Rating: | 6.3A, 120 / 240 | 6.3A, 120/240 |
| Insulation Resistance: | $>106 \mathrm{M} \Omega$ | $>106 \mathrm{M} \Omega$ |
| Termination: | 2.8 series tabs/solder tags | 2.8 series tabs/solder tags |
| Temperature Range: | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Materials: |  |  |
| Mouldings: | Glass Filled Nylon UL94V-1 | Glass Filled Nylon UL94V-1 |
| Tags: | Brass, Silver Plated | Brass, Silver Plated |
| Contacts: | Copper Silver Alloy | Copper Silver Alloy |
| Approvals: | $\text { 别 } \sqrt{1}$ | 幅E |
| Variants: | Other markings, details on request | Other markings, details on request |
| RoHS |  | Compliant |

Unlike traditional switches Piezo switches have no moving mechanical parts making them extremely durable, withstanding millions of actuations and requiring little to no maintenance.


Specification
Type
Material

Maximum Voltage
Switch Resistance "ON"
Switch Resistance "OFF"
Capacitance
Switching current (momentary)

Switching current (prolonged)

Switching pulse time (momentary)

Actuating force, typically
Life cycle

## MPZ016

Momentary
Stainless Steel
(Aluminium upon request)
24V AC/DC
$<1 \Omega$
$5 \mathrm{M} \Omega$
100pF
1A Max

300 mA
up to 0.3 sec
$3-5 \mathrm{~N}$
>10 Million

## Environmental Specification

| Sealing | IP68; IP69K |
| :--- | :--- |
| Operating temperature | $-40^{\circ} \mathrm{C}$ to $+85 \mathrm{C}^{\circ}$ |
| Vibration resistance | $5-500 \mathrm{~Hz} / 9.4 \mathrm{~m}$ |
| Shock resistance | 75 g (g-force) |
| RoHS | Compliant |

## Circuit Specification

16MM Stainless Steel Non Illuminated

| Switch voltage | $24 \mathrm{~V} \mathrm{AC} / D C$ |
| :--- | :--- |
| Switch Current | 1 A Max |
| Power Supply | $24 \mathrm{~V} \mathrm{AC/DC}$ |

- Blue Illumination
- 20 cm lead
- Flathead


MPZI019
19MM Stainless Steel Non Illuminated


- Non Illumination
- 20 cm lead
- Flathead

MPZ019

| Specification | MPZ019, MPZI019 |
| :--- | :--- |
| Type | Momentary |
| Material | Stainless Steel <br> (Aluminium upon request) |
| Maximum Voltage | 24 V AC/DC |
| Switch Resistance "ON" | $<1 \Omega$ |
| Switch Resistance "OFF" | $5 \mathrm{M} \Omega$ |
| Capacitance | 100 pF |
| Switching current <br> (momentary) | 1 A Max |
| Switching current <br> (prolonged) | 300 mA |
| Switching pulse time <br> (momentary) | up to 0.3 sec |
| LED Illumination | $24 \mathrm{~V} \mathrm{AC/DC}$ |
| Actuating force, typically | $3-5 \mathrm{~N}$ |
| Life cycle | $>10 \mathrm{Million}$ |

## Environmental Specification

| Sealing | IP68; IP69K |
| :--- | :--- |
| Operating temperature | $-40^{\circ} \mathrm{C}$ to $+85 \mathrm{C}^{\circ}$ |
| Vibration Resistances | $5-500 \mathrm{~Hz} / 9.4 \mathrm{~m}$ |
| Shock resistance | 75 g (g-force) |
| RoHS | Compliant |

## Circuit Specification

19MM Stainless Steel Non Illuminated


Switch voltage
Switch Current
Power Supply
24 V AC/DC 1A Max 24V AC/DC

19MM Stainless Steel IIluminated


Switch voltage Switch Current $\begin{array}{ll}\text { Switch Current } & \text { 1A Max } \\ \text { Colour* Illuminated } & 24 \mathrm{~V} \text { AC/DC }\end{array}$ Power Supply

24 V AC/DC 24 V AC/DC
24 V AC/DC


## Specification

Type
Material

Maximum Voltage
Switch Resistance "ON"
Switch Resistance "OFF"
Capacitance
Switching current (momentary)

Switching current (prolonged)

Switching pulse time (momentary)

LED Illumination
Actuating force, typically
Life cycle

MPZO22, MPZIO22
Momentary
Stainless Steel
(Aluminium upon request)
24 V AC/DC
$<1 \Omega$
$5 \mathrm{M} \Omega$
100pF
1A Max

300 mA
up to 0.3 sec

24V AC/DC
$3-5 \mathrm{~N}$
>10 Million

## Environmental Specification

| Sealing | IP68; IP69K |
| :--- | :--- |
| Operating temperature | $-40^{\circ} \mathrm{C}$ to $+85 \mathrm{C}^{\circ}$ |
| Vibration Resistances | $5-500 \mathrm{~Hz} / 9.4 \mathrm{~m}$ |
| Shock resistance | 75 g (g-force) |
| RoHS | Compliant |

## Circuit Specification

22MM Stainless Steel Non Illuminated

| Switch Voltage | $24 \mathrm{AC} / \mathrm{DC}$ |
| :--- | :--- |
| Switch Current |  |
| Power Supply |  |

22MM Stainless Steel Illuminated 1 colour


22MM Stainless Steel Illuminated 2 colour

|  |  | Sw |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  |  | Color* Illuminate | 24 V |
|  |  | Power Supp | 24 |



- Blue Illumination
- 1 colour
- 20 cm lead

○
MPZIO22/L


Specification

## Type

Material

Power Supply
Switching voltage
Switch Resistance "ON"
Switch Resistance "OFF"
Capacitance
Switching current
LED Illumination
Actuating force, typically
Life cycle

MPZIO22/L
Latching Toggle
Stainless Stee
(Aluminium upon request)
24V AC/DC
48V AC peak/DC
$<0.7 \Omega$
$>1000 \mathrm{M} \Omega$
<90pF
1A Max
24V AC/DC
$3-5 \mathrm{~N}$
>10 Million

## Environmental specification

| Sealing | IP68; IP69K |
| :--- | :--- |
| Operating temperature | $-40^{\circ} \mathrm{C}$ to $+85 \mathrm{C}^{\circ}$ |
| Vibration Resistances | $5-500 \mathrm{~Hz} / 9.4 \mathrm{~m}$ |
| Shock resistance | 75 g (g-force) |
| Compliant |  |

## Circuit Specification

22MM Stainless Steel Latching Toggle Illuminated


## Part No System



## Examples:

MPZ022/F = Non Illuminated Piezo, 22mm, Flathead
MPZIO22/F/RD/24 = Illuminated Piezo, 22mm, Flathead, Red Illumination, 24 volt
MPZI022/G/BL/24/L = Illuminated Piezo, 22mm, Guided Profile, Blue Illumination, 24 volt, Latching Toggle

## Circuit Specifications



Other switches are available upon request*


| MPL12 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  0 Dot and Ring Illumination <br>  0 Prominent and Flush Profile <br> 0 $12 m m$ Diameter <br> 0 $2 A, 36$ dc <br>  0 Bright daylight LEDs <br>  0 IP67 (Front of Panel Only) <br>   <br> MPL12V  |  |  |  |
| Specification | MPL12V |  |  |  |
| Terminations: | Solder Tabs |  |  |  |
| Switching: | S.P. Push to make |  |  |  |
| Max Rating: | 2A, 36Vdc |  |  |  |
| Profile: | Prominent /P Flush /F |  |  |  |
| Illumination Type | /D Dot <br> /R Ring |  |  |  |
| LED Ratings |  |  |  |  |
| Colours | $/ R$ $/ G$ $/ B$ $/ O$ $/ Y$ <br> Red Green Blue Orange Yellow |  |  |  |
| Luminous Intensity |  |  |  |  |
| Forward Voltage | $\begin{array}{lllll} 1.8 \mathrm{~V} & 2.8 \mathrm{~V} & 2.8 \mathrm{~V} & 1.8 \mathrm{~V} & 1.8 \mathrm{~V} \end{array}$ |  |  |  |
| Forward Current Moulding Current | $15 \mathrm{~mA} \quad 15 \mathrm{~mA} \quad 15 \mathrm{~mA} \quad 15 \mathrm{~mA} \quad 15 \mathrm{~mA}$ |  |  |  |
| Illumination Voltage | $\begin{array}{ll} / 12 & 12 \mathrm{~V} \\ / 24 & 24 \mathrm{~V} \end{array}$ |  |  |  |
| Contact Resistance: Insulation Resistance: Dielectric Strength: Operating Temp. Range: | $\geq 50 \mathrm{M} \Omega$ $\geq 1000 \mathrm{M} \Omega$ $1500 \mathrm{~V}, \mathrm{AC} 50 \mathrm{~Hz}$, $*-25^{\circ} \mathrm{C} \sim+55^{\circ} \mathrm{C}$ | Secs |  |  |
| Operations |  |  |  |  |
| Mechanical: Electrical: | 500,000 (min) |  |  |  |
| Sealing (Front of Panel Only) | IP67 |  |  |  |
| Shock Resistance | IK08 |  |  |  |
| Rear Nut Fixing Torque: | 0.6 Nm |  |  |  |
| Materials |  |  |  |  |
| Mouldings: Tags/Terminations: Switch Body \& Button: | PA <br> Copper, Gold Plat Stainless Steel |  |  |  |
| Contacts: | Silver Alloy |  |  |  |
| Thread size: RoHS | M12×0.75 Compliant |  |  |  |


/no suffix - No resistor fitted. An Appropriate resistor must be series connected by the user. Voltages as above

$$
\begin{array}{ll}
/ 12 & 12 \mathrm{~V} \\
/ 24 & 24 \mathrm{~V}
\end{array}
$$

$\geq 50 \mathrm{M} \Omega$
$\geq 1000 \mathrm{M} \Omega$
$1500 \mathrm{~V}, \mathrm{AC} 50 \mathrm{~Hz}$, 5 Secs
*- $25^{\circ} \mathrm{C} \sim+55^{\circ} \mathrm{C}$

500,000 (min)
200,000 (min)

Copper, Gold Plated
Stainless Steel
Silver Alloy
M12x0.75
Compliant


MPL12

| Specification | MPL12 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Terminations: | S - Solder Tabs |  |  |  |  |
| Switching: | S.P. Push to make |  |  |  |  |
| Max Rating: | 2A, 36Vdc |  |  |  |  |
| LED Ratings |  |  |  |  |  |
| Part No. | /SS-R | /SS-G | /NN-R | /ABK-R | /AG-R |
| Colours | Red | Green | Red | Red | Red |
| Luminous Intensity |  |  |  |  |  |
| Forward Voltage | 1.8 V | 2.8 V | 1.8 V | 1.8 V | 1.8 V |
| Forward Current |  |  |  |  |  |
| Moulding Current | 15 mA | 15 mA | 15 mA | 15 mA | 15 mA |
| Illumination Voltage | /no suffix - No resistor fitted. An Appropriate resistor must be series connected by the user. Voltages as above |  |  |  |  |
|  | /12 |  |  |  |  |
| Contact Resistance: | $\geq 50 \mathrm{M} \Omega$ |  |  |  |  |
| Insulation Resistance: | $\geq 1000 \mathrm{M} \Omega$ |  |  |  |  |
| Dielectric Strength: | 1500V, AC 50Hz, 5 Secs |  |  |  |  |
| Operating Temp. Range: | ${ }^{*}-25^{\circ} \mathrm{C} \sim+55^{\circ} \mathrm{C}$ |  |  |  |  |
| Operations |  |  |  |  |  |
| Mechanical: | 1,000,000 (min) |  |  |  |  |
| Electrical: | 200,000 (min) |  |  |  |  |
| Sealing (Front of Panel Only) | IP65 |  |  |  |  |
| Shock Resistance | IK08 |  |  |  |  |
| Rear Nut Fixing Torque: | 0.3 Nm |  |  |  |  |
| Materials |  |  |  |  |  |
| Mouldings: | PBT |  |  |  |  |
| Tags/Terminations: | Brass, Silver Plated |  |  |  |  |
| Switch Body \& Button: | Stainless Steel | Stainless Steel | Nickel Plated Brass | Black Anodized <br> Body, Black PBT <br> Button | Black Anodized <br> Body, Green PBT <br> Button |
| Contacts: | Silver Alloy |  |  |  |  |
| Thread size: | M12x1 |  |  |  |  |
| RoHS | Compliant |  |  |  |  |

Miniature Vandal Resistant Stainless Steel Switch


## Examples:

MP12VP $=12 \mathrm{~mm}$, Non-Illuminated, Prominent Actuator, Stainless Steel
MPL12VP-D-B-12 $=12 \mathrm{~mm}$, Illuminated, Prominent Actuator, Blue LED dot Illumination, Stainless Steel, 12 V
MPL12VP-R-G-24 = 12mm, Illuminated, Prominent Actuator, Green LED ring Illumination, Stainless Steel, 24V

Miniature Metal/Plastic Domed Pushbutton Switch

| MPXX | / X | / X | / X | X | X | X |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Series | Body Material | Button Material/ Color | Sealing | Illumination Colour | Lamp Voltage | Termination |
| MP12 - non-Illuminated MPL12 - Illuminated | S = Stainless Steel $\mathrm{N}=$ Nickel Plated Brass <br> A = Black Anodized | S = Stainless Steel $\mathrm{N}=$ Nickel Plated Brass $R=$ RED PBT G = GREEN PBT BL = BLUE PBT $B K=B L A C K P B T$ | $\begin{gathered} \text { Blank }=\text { IP65 } \\ 67=\text { IP67 } \\ \text { (non-illuminated only) } \end{gathered}$ | N/A for MP12 Types$\begin{aligned} & R=\text { RED } \\ & G=\text { GREEN } \\ & B=B L U E \\ & Y=Y E L L O W \\ & O=O R A N G E \\ & W=W H I T E \end{aligned}$ | N/A for MP12V Types $\begin{aligned} 6 & =6 \mathrm{~V} \\ 12 & =12 \mathrm{~V} \\ 24 & =24 \mathrm{~V} \end{aligned}$ <br> Other voltages require external resistor | $\begin{gathered} \mathrm{S}=\text { Screw Terminals } \\ \mathrm{P}=\text { Pin Terminals } \\ (2.0 \mathrm{~mm} \times 0.5 \mathrm{~mm}) \end{gathered}$ |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

## Examples:

MP12SS67-S = 12mm, Non Illuminated, All Stainless Steel, IP67, Screw Terminals
MP12AR-S = 12mm, Non Illuminated, Black anodized body, Red PBT button, IP65, screw terminals
MPL12NN-R-12-P = 12mm, Illuminated, All Nickel Plated Brass with 12V Red Dot illumination, IP65, Pin Terminals

## Rocker Switches

This range of panel mounting indicators consists of many different LED and Neon types, bezel styles and colours. The range has developed to meet the many different needs of panel design including IP66 environmentally sealed versions for use where a front panel seal is needed.

- Available types: Ultra-thin, Miniature, Twin unit, Miniature round and Standard
. Rating from $10 \mathrm{~A}, 250 \mathrm{~V}$ ac up to $20 \mathrm{~A}, 277 \mathrm{~V}$ ac
- Single \& double pole variants available
- Push-on, solder \& PCB terminals
- Illuminated and non-illuminated options

O High in-rush (ON-OFF types)

- Matching Indicators
- Splash resistant options
. Choice of bezel styles and sizes, panel cut-outs and actuators
- Choice of switching circuits including 3 position



## Key Features

- Ultra thin rocker switch
( Ratings up to 15A, 250 Vac
- Single and twin gang
(1) Panel cut out:

Single $19.3 \times 6.8$
Twin $19.3 \times 13.4$

## Approvals and specifications

急15 10(6)A 250Vac T100 1E4 (10,000 Operations) 6(2)A 250Vac T100 5E4 (50,000 Operations) Inrush rating 10/50A 1E4 (10,000 Operations)

제 (1) UL CSA 15A 250Vac (Twin unit is 10A 250Vac) UL CSA 125Vac 1/2hp
UL $100^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
3 mm contact gap.
Terminal

## Dimensions

8800VA (H terminals shown)


# 8800V/8800VA (H terminals shown) 



| Legend | Legend Colour | Options |
| :---: | :---: | :---: |
|  |  | Finish <br> Matt finish only. |
| Blank | Blank | Colour <br> Call sales for custom colours. A full range is available for large orders |
| 132 | B <br> Black | Legend printing Select from the examples or call sales for custom legends. |
|  | W White |  |

## Examples


Y X8800VA

-X8800VA 4 T8800VA - -

-X8800VA \#T8800VA - -

© H8800V/H8800VA \%T8800V/T8800VA


## Key Features

- Miniature rocker switch
- Ratings up to 15A, 250Vac
- Single \& double pole in same body size
( Illuminated \& non-illuminated
- Matching indicators
- Industry standard panel cut-out


## Approvals and specifications

薢 ${ }^{15}$ 10(6)A 250Vac T125 IE4 (non lit types) 6(4)A 250Vac T125 5E4 (50,000 Operations) 10(6)A 250Vac T100 (lit types)

물 UL CSA 15A Non Ind 250Vac, 14A Ind 250Vac, 10A 277Vac
UL CSA 250Vac 1/2hp, 125Vac 1/4hp UL $105^{\circ} \mathrm{C}$, (non lit) file E45221, CSA file LR10990
(1ayt) BioCote antimicrobial additive. Independently verified to ISO22196:2007.

3 mm contact gap.


## Dimensions

"B" body with barrier for $\mathrm{H}, \mathrm{T}$ and K terminals

"BC" body w/o barrier primarily for
$L$ or $R$ terminals (can be used for all terminals)


PO' Actuator and body - push button function (8500 only)


Insert Colour
Lamp Voltage
Legend
Legend Colour
Options
Biocote


## Examples




Key Features

- Miniature rocker switch
- Ratings up to 16A, 250Vac
- Single \& double pole

O ON/OFF, C/O, biased and centre off switching

- Push on, solder and PCB terminals


## Approvals and specifications

愈 ${ }^{15}$ 10(4)A 250 Vac T90 (unless noted below)
제류 UL CSA See ratings below
UL $65^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
3 mm contact gap except where marked $\mu$.

| Terminal | Function | Rocker | Body | Body Colour |
| :--- | :--- | :--- | :--- | :--- |



## Dimensions

Single pole

| Rocker Colour | Lamp Voltage | Legend | Legend Colour | Options |
| :---: | :---: | :---: | :---: | :---: |
| Lit (DP) |  |  |  | Enish |
|  | Blank | Blank | Blank | Matt finso ony. |
| $\underset{\text { Amber }}{\text { A }}$ |  |  |  | Colour <br> Call sales for custom colours <br> A full range is available for large orders |
|  | $\stackrel{2}{125 V} \text { Neon }$ | 076 | B | Legend printing <br> Select from the examples or call sales for custom legend. |
| $\mathrm{C}$ |  |  |  | Lamp voltage <br> Call sales for details of available voltages. |
|  | 3 |  |  | Blanking plate A8634FB <br> Dummy unit to fill unused panel holes. <br> Single pole size only. |
| $\underset{\text { Green }}{G}$ | 250 V Neon |  | White | Protective covers <br> 180 for SP <br> Snap on to bodies with V rocker or F <br> ens. This reduces panel thickness <br> 2.2 mm |
|  | $\stackrel{7}{\text { 12V Filament }}$ |  |  |  |
| $\underset{\text { Red }}{\mathbf{R}}$ | $\begin{gathered} 8 \\ \text { 24V Filament } \end{gathered}$ |  |  | Single Pole options <br> Most switches shown can have single <br> pole switching in double pole bodies. |
| Lit ( PP ) |  |  |  |  |

B
Black

R

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Ј H8600VB - - } \\ & \text { ₹ T8600VB -- } \end{aligned}$ | $\begin{aligned} & \text { 匹H8600VB - - } \\ & \text { 子T8600VB -- } \end{aligned}$ | $\begin{aligned} & \text { Ј H8630FB - - } \\ & \text { \% T8630FB -- } \end{aligned}$ | $\begin{aligned} & \text { Ј H8650VB - - } \\ & \text { - T8650VB -- } \end{aligned}$ | $\begin{aligned} & \text { Ј H8660VB - - } \\ & \text { 팝 } \end{aligned}$ | $\begin{aligned} & \text { ए H8653VB - } \\ & \text { \% T8653VB - } \end{aligned}$ |

## Approvals and specifications

栄15 10(4)A 250Vac T90

기아 UL CSA 15A 277Vac (Single pole)
UL CSA 250Vac 1/2hp (Single pole)
UL CSA 125Vac 1/4hp (Single pole)
UL CSA 10A 277Vac (Double pole)
UL CSA 277Vac 1/2hp (Single \& Double pole)
UL $90^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
$\mu$ contact gap.

| Terminal | Function | Rocker | Body | Body Colour |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rocker Colour |  |  |  |  |

## Dimensions

| Single pole | Double pole | Double pole |
| :---: | :---: | :---: |
|  |  |  |
| Terminals shown are "H" 4.8 push on type | Terminal spacing 10.2 between pole centres | Terminal spacing 10.2 between pole centres |


| Lamp Voltage | Legend | Legend Colour | Options |
| :---: | :---: | :---: | :---: |
| Blank | Blank | Blank | Finish <br> Matt finish only. |
|  |  |  | Colour <br> Call sales for custom colours. A full range is available for large orders. |
| $\underset{125 \mathrm{~V} \text { Neon }}{2}$ | 076 | $\underset{\text { Black }}{\mathbf{B}}$ | Legend printing <br> Select from the examples or call sales for custom legend. |
|  |  |  | Lamp voltage <br> Call sales for details of available voltages. |
| 3 |  | W | Blanking plate A8634FB Dummy unit to fill unused panel holes. Single pole size only. |
| 250 V Neon |  | White | Protective covers <br> L167 for SP <br> L180 for DP <br> Snap on to bodies with $V$ rocker or $F$ lens. This reduces panel thickness by 2.2 mm . |
| $\begin{gathered} 7 \\ \text { 12V Filament } \end{gathered}$ |  |  |  |
| $\begin{gathered} 8 \\ \text { 24V Filament } \end{gathered}$ |  |  | Single Pole options <br> Most switches shown can have single pole switching in double pole bodies. |

## Key Features



Standard rocker switch

- Double pole in single pole body

Panel cut out
$27.2 \times 12.4$ (snap in)
$26.3 \times 12.4$ (sub panel mount)

- Snap in or sub pane mount
- Integral terminal barrier
- Push on or PCB terminals

| Terminal | Function | Rocker Body Body Colour Rocker Colour |
| :--- | :--- | :--- | :--- | :--- |



## Approvals and specifications

愈15 10(6)A 250Vac T100
6A 400Vac T100
1 A 30 Vdc
피 (1) UL CSA 10A 250Vac
UL CSA 16A 250Vac Resistive
UL CSA 125Vac 1/2hp
UL CSA 1 A 30Vdc
UL $100^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
3 mm contact gap

## Dimensions

1250AN

(C terminals shown) (Xterminals shown) | 1250AN |
| :---: |
| (C terminals shown) |

Terminal spacing
0.2 between pole centres

## Legend Legend Colour Options

Finish
Matt finish only
Blank

085
Legend printing

Select from the examples or call sales for custom legend.

White


## Key Features

- Ratings up to 20A, 277Vac
- Positive switch action
- Distinctive styling
- Illuminated \& nonilluminated
- Single pole
( Panel cut out:
$30.1 \times 11.1 \mathrm{~mm}$


## Approvals and specifications

麗 European 16(4)A 250Vac T125, 10A 400Vac T125
끼자 $\mathrm{UL}=20 \mathrm{~A} 277 \mathrm{Vac}, 1$ 1/2HP 250Vac 1HP 125Vac
$\mathrm{CSA}=20 \mathrm{~A} 277 \mathrm{Vac}, 1 \mathrm{HP} 125 \mathrm{Vac}, 1 / 2 \mathrm{HP} 125 \mathrm{Vac}$
3mm contact gap with Positive Break switching
Call factory for IP details.

| Terminal $\quad$ Function | Rocker Body | Body Colour Rocker Colour Lamp Voltage |
| :--- | :--- | :--- | :--- | :--- | :--- |



Dimensions


Panel thickness L 0.75 to 2.5 mm
＊For cut－out details on momen
call sales

## Integral Splash Resistance

Current carrying parts are protected
from moisture．
Droplets which may enter the switch are channelled out through ports in the switch body．
For IP65 see options below

## Legend

Blank lank

1223

Blank

B
Black

## Options

G74
Protective Cover

Panel sealing washer W46 is available，this reduces panel thickness by 1.2 mm ．

Covers are not suitable for momentary types．For all options call the factory

## Examples

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 『 C6000AL－ | ЈC6000AL－－ | こC6010AL－－ | 『 C6003AL－－ | 『C6003PL－－ |

## Key Features

- Ratings up to 20A, 277 V ac
- Positive switch action
- Distinctive styling
- Illuminated \& non-illuminated


## Approvals and specifications

- BioCote antimicrobial option (Double pole only)

〕 DC LED Illumination Avaliable

- Panel cut out: $30.1 \times 22.2 \mathrm{~mm}$

6s European 16(4)A 250Vac T125, 10A 400Vac T125

묮ㅇ UL CSA 20A 277Vac, 250Vac 11/2hp, 125Vac 1hp
(8.047) UL $100^{\circ} \mathrm{C}$, file E45221, CSA file LR10990

BioCote antimicrobial additive.
Independently verified to ISO22196:2007.
3mm contact gap with Positive Break switching.


## Integral Splash Resistance



Current carrying parts are protected from moisture. Droplets which may enter the switch are channelled out through ports in the switch body.

For IP65 see options below

## Dimensions



Panel thickness
L 0.75 to 2.5 mm
${ }^{\text {" }}$ For cut-out details
on momentary switches
call sale
Terminal spacing - Poles 10.5 between centres

Rocker Colour
Lamp Voltage

B
Black

R
Red
w
White

Legend
Legend Colour

## Options

## G74

Protective Cover
Finish
Matt is standard
Colour
Call sales for custom colours.
A full range is available for large orders.
Legend printing
Select from the examples or
call sales for custom legends.

Protective cover
The 6050 series is a water through
design. For a higher level of sealing, a
snap on cover is available (add G after
body code).
This reduces panel thickness by 1 mm .


Panel sealing washer W42 is available. This reduces panel thickness by 1.00 mm . Covers are not suitable for momentary types.

IP Ratings
Call the sales for details.
Terminal Link P1067
connects the poles of a double pole switch or twin unit.
\# Mounting orientation may affect IP rating.

BioCote Antimicrobial Additive Barse
Moulded components have antimicrobial properties using BioCote silver ion technology.
For all options call sales.

## BioCote

## B

BioCote

## 1500 Standard \& 1300 High Inrush Switches



## Key Features

| Standard rocker switch | Matching indicator |
| :--- | :--- |
| Non-illuminated | Single pole |
| 150A inrush | Splash resistant option |
| Choice of switching <br> circuits including 3 <br> position | BioCote antimicrobial <br> option |
| Choice of bezel styles | DC LED Illumination <br> Avaliable for "P" Rocker |
| Choice of panel cut outs | Panel cut out 'A' style: <br> $27.3 \times 12.3 \mathrm{~mm}$ |

## Approvals and specifications

祭 1500 Series 16(4)A 250Vac T125
미재 UL CSA 16A Non Ind 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250Vac 1/2hp, 125Vac 1/4hp
1330 36Vdc 14A
135072 Vdc 7A
1500 \& 151014 Vdc 10A
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990

In house test:
10 A 24 Vdc -Indicative rating only
1300 series 16(6)A 250Vac T125 5E4 (50,000 Ops.) 150A Inrush to EN61058-1


## Dimensions

UL CSA 20A 250Vac 1hp, 125Vac 1/2hp UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990

In house test:
20A 24Vdc-Indicative rating only
BioCote antimicrobial additive. Independently verified to ISO22196:2007.
$3 m m$ contact gap except if marked $\mu$.

## $\xrightarrow[\sim]{2.04} \mid=-7.6$


Panel thickness A, Q 0.75 to 0.3 mm
L,B, 0.75 to 2.5 mm
R 0.75 . R 0.75 to 3.0 mm
*For cut-out details
on momentary switches
call sales

## Lamp Voltage Insert Colour

## Legend

Blank
Blank
Blank

## 2

125V Neon

3
250V Neon

## w

White

## 7

12 V Filament

## 8

24 Vdc Filament
$R \quad$ 602A
Red

3

## Splash Resistance

1500 W and B splash resistant options
Feather edge seals and a close fitting collar protect current
carrying parts from moisture
B option has Hytrel collar/seals for enhanced protection.


1300 High inrush, positive break switching
The 1300 series mechanism ensures contact welds formed at
switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.

## Options

Biocote

## Blank

## B

Black

W
White
Finish
Matt is standard.
BioCote

B
BioCote

Colour
Call sales for custom colours. A full range is available for large orders.

Legend printing
Select from the examples or call sales for custom legends.

Lamp voltage
Call sales for details.
Blanking plates A0434
Dummy units to fill unused panel holes.

Protective cover
Snaps on to A, L, Q or T bodies
(add G after body code in
cat no.), this reduces panel
thickness by 1 mm .


Panel sealing washer W46 is available for the same body sizes, this reduces panel thickness by a further 0.8 mm .
Covers are not suitable for momentary types.

BioCote Antimicrobial Additive
Moulded components have antimicrobial properties using BioCote silver ion technology.

For all options call sales.

## Examples



## Key Features

Standard rocker switch

- Single pole
$\bigcirc$ Splash resistant option
$\bigcirc$ Panel cut out ' $A$ ' style:


## Approvals and specifications

迩 16(4)A 250Vac T85
10(3)A 250Vac T100, (12A 250Vac T125 for
Procker only)
표 (1) UL CSA 15A 250Vac, CSA 16A Non Ind 250Vac UL CSA 250Vac 1hp, 125Vac 1/2hp UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
$\mu$ contact gap.
For Twin units repeat the order details for both the left and right sides.

| Terminal | Function | Rocker | Body | Body Colour | Rocker Col |
| :---: | :---: | :---: | :---: | :---: | :---: |
| C | Approvals \& ratings vary with function ON OFF Switches ON when pressed over terminal 3 <br> 121 | A <br> Softline (Matt only) | A Panel Cut-outs <br> Bezel <br> 30.2 | $\underset{\text { Black }}{\text { B }}$ | Un-Lit <br> B <br> Black |
| H |  | P <br> Lit window (Matt only) $\square$ | B <br> L | $\underset{\text { White }}{\mathbf{W}}$ | R <br> Red <br> W <br> White <br> Lit |
|  | $5508$ |  |  |  | A <br> Amber <br> C <br> Clear <br> G <br> Green <br> R <br> Red |

Dimensions

| Panel thickness |  |
| :--- | ---: |
| A,Q | 0.75 to 3.3 mm |
| L,B,T | 0.75 to 2.5 mm |
| R | 0.75 to 3.0 mm |

$\begin{array}{ll}\text { A,Q } & 0.75 \text { to } 3.3 \mathrm{~mm} \\ \text { L,B,T } & 0.75 \text { to } 2.5 \mathrm{~mm}\end{array}$
R $\quad 0.75$ to 3.0 mm


Terminal spacing -
Poles 10.8 between centres (twin units)

## Twin units

Two single switches or a switch and an indica-
tor light can be assembled side by side in one double pole body.
For 5500 range panel cut-out details (L, B and
T) call sales.


For twin units the first set of order format details refer to the eft hand unit, when looking at the front of the assembly. (This has terminal numbers 1,2 \& 3)

Lamp Voltage
Legend

Blank

2 125V Neon

3
250V Neon

5
12Vdc LED (P Rocker)

6
24Vdc LED (P Rocker)

## 7

12V Filament

## Legend Colour

## Options

Blank

B
Black

## W

White

Finish
Matt is standard.
Colour
Call factory for custom colours A full range is available for large orders

Legend printing
Select from the examples or call factory for custom legends.

Lamp voltage
Call factory for details.
Blanking plate A0434 - - (SP) A0494 - - (DP)
Dummy units to fill unused panel holes
Protective cover
Snaps on to A, L, Q or T bodies (add G after body in cat no.), this reduces panel thickness by 1.00 mm .

Panel sealing washers W46 (Single Pole) and W42 (Double Pole) are available for these body types, this reduces panel thickness by 2 mm .

For all options call the factory.

## 8

24Vdc Filamen

## Examples



[^4]Key Features

- Twin unit rocker switch
( Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Single pole switches


## Approvals and Specifications

㞼 16(4)A 250Vac T125
께 UL CSA 16A 250Vac
UL CSA (2 posn) 250Vac 1hp, 125Vac
1/2hp, (3 posn) 250 Vac
$1 / 2 \mathrm{hp}, 125 \mathrm{Vac} 1 / 4 \mathrm{hp}$
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
For versions with High Inrush or for 50,000
operations,
3 mm contact gap except where marked $\mu$.
Terminal

Body Colour
Rocker Colour


## Dimensions

Panel thickness
A,Q $\quad 0.75$ to 3.3 mm
$\begin{array}{ll}\text { A,Q } & 0.75 \text { to } 3.3 \mathrm{~mm} \\ \mathbf{L , B}, \mathbf{T} & 0.75 \text { to } 2.5 \mathrm{~mm}\end{array}$
R $\quad 0.75$ to 3.0 mm


Call sales for terminal spacing details

Twin units
Two single switches or a switch and an indicator light can be assembled side by side in one double pole body.


For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly.
(This has terminal numbers 1, 2 \& 3)

## Splash Resistant



Feather edge seals and a close fitting collar protect current carrying parts from moisture.

B option has Hytrel collar/ seals for enhanced protection.

| Insert Colour | Lamp Voltage | Legend | Legend Colour | Options | Biocote |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Blank | Blank | Blank | Blank | Finish <br> Matt is standard. | $\underset{\text { Biocote }}{\mathbf{B}}$ |
|  |  |  |  | Colour <br> Call factory for custom colours. Atul range is avalabel tor large orders. ander. |  |
| $\underset{\text { Red }}{\mathbf{R}}$ | $\underset{\text { 125V Neon }}{2}$ | 602A | B <br> Black | Legend printing <br> Select from the examples or <br> call factory for custom legends. |  |
| $\underset{\text { White }}{\text { W }}$ | $\stackrel{3}{250 \mathrm{~V} \text { Neon }}$ |  |  | Lamp voltage <br> Call factory for details. |  |
|  |  |  | W |  |  |
|  | $\begin{gathered} 5 \\ \text { 12Vdc LED (P Rockerer } \end{gathered}$ |  |  |  |  |

6
24Vdc LED (P Rocker)

7
12V Filament

8
24 Vdc Filament

## Examples

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| - C1500A/C1500AL | - C1500A/C0430AL | - C1500X/C1500XL | - - $^{\text {C1520A/C1510AL }}$ | - C1500A/C1520AL | - -10430 / C0430AL |




Key Features

| Standard rocker switch | Matching indicator |
| :--- | :--- |
| 1350/53 high inrush | Double pole |
| Choice of switching | Splash resistant option |
| circuits including 3 <br> position | BioCote antimicrobial <br> option |
| Push-on, solder and <br> PCB terminals | Panel cut out 'A' style: <br> $27.2 \times 22.3 m m$ |
| Choice of bezel styles |  |
| Choice of panel cut outs |  |

## Terminal


$6.3 \times 0.8$

$4.8 \times 0.8^{*}$
1553
Not w , X or B rocker
K

$1561 \mu$
HP rating N/A
$1562 \mu$
In house tests only

## $1570 \mu$ <br> $125 \mathrm{~V} \& 250 \mathrm{~V} 1 / 2 \mathrm{HP}$ H terminal rated T100 only H <br> Herminal rated T100 only



ON - OFF - ON


## Approvals and specifications

(20 1550 Series 16(4)A 250Vac T125

메저 UL CSA 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, 135072 Vdc 7A
(3 posn) 250 Vac 1/2hp, 125Vac 1/4hp.
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990.

In house test:
10 A 24 Vdc -Indicative rating only
舜: 1350 series 16(4)A 250Vac T85 1E4 (10,000 Ops.)
1330 series 16(6)A 250Vac T125 5E4 (50,000 Ops.) 150A Inrush to EN61058-1.

Rocker
Body

## Approvals and specifications (continued)

9®
UL 72Vdc 7A, 36Vdc 14A.
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990.
(34) In house test.

20A 24Vdc-Indicative rating only
BioCote antimicrobial additive. Independently verified to ISO22196:2007.

## Splash Resistance



1300 High inrush, positive break switching The 1300 series mechanism ensures contact welds formed at
switch-on are positively separated by the
plunger tube acting directly
on the step in the moving contact

## Dimensions



Panel thickness
A, Q 0.75 to 3.3 mm
$\mathrm{L}, \mathrm{B}, \mathrm{T} 0.75$ to 2.5 mm
R 0.75 to 3.0 mm

* For cut-out details
on momentary switches

3 mm contact gap except if marked $\mu$.

| Finish | Body <br> Colour | Rocker <br> Colour | Insert <br> Colour | Lamp Voltage | Legend | Legend <br> Colour | Options |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



## Key Features



- Standard rocker switch
- 1350/53 high inrush
- Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles

Choice of panel cut outs

## Approvals and specifications

1550 Series 16(4)A 250Vac T125
미유 UL CSA 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp,
(3 posn) 250 Vac 1/2hp, 125Vac 1/4hp.
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990.

In house test:
10 A 24 Vdc - Indicative rating only
1350 Series
제쥬 UL CSA 20A 250Vac 1hp, 125Vac 1/2hp.
UL 72Vdc 7A, 36Vdc 14A, UL $85^{\circ} \mathrm{C}$, file E45221,
CSA file LR10990.

| Terminal | Function | Rocker | Body | FinishBody <br> Colour Rocker <br> Colour |
| :--- | :--- | :--- | :--- | :--- | :--- |



## Splash Resistance

(3i4) In house test:
20A 24Vdc-Indicative rating only
BioCote antimicrobial additive. Independently verified to ISO22196:2007.
$3 m m$ contact gap except if marked $\mu$.


1350 High inrush, positive break switching The 1350 series mechanism ensures contact welds formed at
switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.

## Dimensions



Insert Colour Lamp Voltage Legend Legend Colour Options Biocote

| Blank | Blank | Blank | Blank | Finish Matt is standard |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| R | $\frac{2}{125 \mathrm{~V} \text { Neon }}$ |  |  | Colour <br> Call sales for custom colours. <br> A full range is available |  |
| Red | 3 <br> 250V Neon | 602A | $\underset{\text { Black }}{\mathbf{B}}$ | for large orders. <br> Legend printing Select from the examples or call sales for custom legends. |  |
| White | $5$ <br> 12Vdc LED (P Rocker) |  | $\begin{gathered} \text { White } \end{gathered}$ | Lamp voltage Call sales for details. <br> BioCote Antimicrobial Additive (3ic) |  |
|  | $6$ <br> 24Vdc LED (P Rocker) |  |  | Moulded components have antimicrobial properties using BioCote silver ion technology. |  |
|  | $7$ |  |  |  |  |

24 Vdc Filament

## Examples



202 Switches

## R13 Round Rocker Switches



## Key Features

- Miniature round rocker switch
- Ratings up to 10A, 250Vac
- Single \& double pole
- Illuminated \& nonilluminated, neon andLED

Choice of actuators
〕 Matching indicator

- Panel cut out: 20.2 dia.


## Approvals and specifications

SP 10(4)A 250Vac T85 1E4


주자 UL CSA SP 16A 125Vac \& 10A 250Vac
UL CSA DP 16A 125Vac, 10A 250Vac, 10A 28Vdc
UL $85^{\circ} \mathrm{C}$, file E67774(S), CSA file LR45128
RoHS compliant
Single pole has $\mu$ contact gap.
Special products
Are made to order and can be supplied with a range of
body and rocker / lens colours, print \& lamp voltage.

## Dimensions



Snap fixing into panel
thickness up to 3.0


Snap fixing into


Snap fixing into
0.7 to 3.0 mm pane

Single Pole


Double Pole


Protective cover L188


Examples


R13 112B NAA


R13 112A AAA


स13 112A2 ---


SP ON - OFF $\mu$
Lit 230 V
Cat no.
R13 112B NAC


SP ON - OFF $\mu$
(Momentary ON)
Cat no.
R13 208F AAA*


[^5]

DP ON - OFF
Lit 230V
Cat no.
R13 244B NAA

Bulgin's broad line of pushbutton switches are available in various sizes and configurations.
This includes a variety of illumination and terminal options as well as several with high inductive power ratings suitable for motor driven applications. These switches can be found in many markets including home appliances, commercial, medical, audio and security.

- Miniature, round and rectangular push button switches available
© Ratings up to 16A, 250 V ac $12(12) \mathrm{A} 250 \mathrm{~V}$ ac rating also available
- Latching and momentary actions
- Choice of actuators
(custom option also available)
- Square and Round Mounting Styles


Key Features

- Miniature push button
- 8A Inductive current rating
- Ratings up to 12(12)A, 250 V ac (H suffix)
- Illuminated and nonilluminated
- Single and double pole
- Latching and momentary
- Slotted actuator for custom buttons


## Approvals and specifications

46s 16(4)A 250Vac T85, 1E4 (10,000 Operations) 12(12)A 250Vac T105, 1 E4 ( 10,000 Operations) 8(8)A 250Vac T105, 5 E4 ( 50,000 Operations) 6(6)A 250Vac T125, 5 E4 ( 50,000 Operations)

데 (13 8350, 8351, 8353,8354
12A 250 Vac DP, $250 \mathrm{Vac} 1 \mathrm{hp}, 125 \mathrm{Vac} 1 / 2 \mathrm{hp}$
8300, 8301, 8303, 8304
13A 250Vac SP, 250Vac 1hp, 125Vac 1/2hp
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
In house test:
10(10)A 250Vac-Indicative rating only
(3a) BioCote antimicrobial additive. Independently verified to ISO22196:2007.

3 mm contact gap.


## Dimensions



Examples

|  | चH8353JE उT8353JE－－ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Ј H8350AB - } \\ & \text { Ј T8350AB - - } \end{aligned}$ |  |  | $\begin{aligned} & \text { 匹 H8353EB - - } \\ & \text { 匹 T8353EB - - } \end{aligned}$ | $\begin{aligned} & \text { 世 H8353CB - - } \\ & \text { 匹 T8353CB -- } \end{aligned}$ |  |
| Actuator Colour | Lamp Voltage | Legend | Legend Colour | Options | Biocote |




## Key Features

- Miniature push button
- 8A Inductive current rating
- Ratings up to 12(12)A, 250 V ac (H suffix)
- Without button
$\bigcirc$ Sub panel mount
- Push on, solder or PCB terminals

Latching and momentary

## Approvals and specifications

3 16(4)A 250Vac T85, 1 E4 (10,000 Operations) 12(12)A 250Vac T105, 1 E4 (10,000 Operations) 8(8)A 250Vac T105, 5 E4 (50,000 Operations) 6 (6)A 250Vac T125, 5 E4 (50,000 Operations)

12A 250Vac
$250 \mathrm{Vac} 1 \mathrm{hp}, 125 \mathrm{Vac} 1 / 2 \mathrm{hp}$
吅 ब UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
3 mm contact gap.


Dimensions
'A' body with 'H' 4.8 terminals


Example of possible mounting styles
' $A$ ' body with ' $A$ ' right angle 4.8 terminals


Alternative Actuator
' $C$ ' body with ' $M$ ' right angle PCB terminals



Examples

T. C8250AA - with impact with im washer M1226


Trex X8201AA - -


है K8200AA - -

$\|^{1}$ A8200AA - -

\$M8200AC--


Example of M8200AC

## Key Features

- Round and rectangular push button switches
- Ratings up to 16A, 250 V ac
- Latching and momentary
- Illuminated \& non-illuminated

Matching indicators

- Low profile version
- Panel cut outs: 25.0 dia $27.2 \times 22.3$


## Approvals and specifications

烝 $16(4) \mathrm{A} 250 \mathrm{Vac}$ T125 8(8)A 250Vac T85

제재 UL CSA 16A Non Ind, 250Vac $1 \mathrm{hp}, 125 \mathrm{Vac} 1 / 2 \mathrm{hp}$ UL $65^{\circ} \mathrm{C}$, file no. E45221, CSA file no. LR10990

3 mm contact gap.


D $\underset{\substack{\text { Round actuator - sub panel } \\ \text { mount }}}{ }$
Round actuator

A
Round actuator
shown in $G$ body
相
B $\begin{gathered}\text { Round actutarer medium } \\ \text { sonewnin beat }\end{gathered}$
C
Round a atuatoot - Iong
shoum in F Foory


A $\underset{\text { F body }}{\text { Round actuator shown in }}$


A
F H G
Body types fit either cut-out


Panel cut-outs
S $\begin{aligned} & \text { Rectangular actuator } \\ & \text { Shown in " } A \text { " body }\end{aligned}$ N/A for 7030




## Dimensions

## Panel thickness:

A - $\mathbf{0 . 8} \mathbf{8}-2.5 \mathrm{~mm}$
F, G, H-0.8-5.0mm


Examples

©C7000AF--- चC7003AF---


J C7050SA - . -


をC7053AG - -

| Body <br> Colour | Actuator <br> Colour | Lamp <br> Voltage | Legend | Legend <br> Colour | Options |
| :---: | :---: | :---: | :---: | :---: | :---: |


|  | LIT |  |
| :---: | :---: | :---: |
| B <br> Black | A <br> Amber | None |
| W | C | 2 |
| White | Clear | 125V Neon |
|  | G | 3 |
|  | Green | 250V Neon |
|  | R | 7 |
|  | Red | $\begin{aligned} & 12 \mathrm{~V} \\ & \text { Filament } \end{aligned}$ |
|  |  | 8 |
|  | UNLIT | $\begin{gathered} 24 \mathrm{~V} \\ \text { Filament } \end{gathered}$ |
|  | B |  |
|  | Black |  |
|  | R |  |
|  | Red |  |
|  | W |  |
|  | White |  |

Finish
Matt finish is standard on bodies. Gloss finish is standard on actuators.

Colour
Call sales for custom colours.
A full range is available for large orders.
Legend printing
A wide range is available or call sales for custom legends.

Lamp voltage
Call sales for details of available voltages.
Weatherproof housing (E)
Additional housing which fits round body switches with an oversize housing with a clear silicone cover designed to IP65.
Mounting hole dia: 38.0 mm

## Key Features

- Snap action switches
- Ratings up to 16A, 250Vac
- Round and rectangular buttons


## Approvals and specifications

为 16(4)A 250Vac 5E4 T85
메자 16A 125/250Vac 3/4hp T85 50E3
$125 \mathrm{~V} 1 / 2 \mathrm{HP}, 250 \mathrm{~V} 3 / 4 \mathrm{HP}, 0.4 \mathrm{~A} 125 \mathrm{Vdc}, 0.2 \mathrm{~A} 250 \mathrm{Vdc}$
Approvals apply to switch mechanism only $\mu$ contact gap.

## Dimensions

R




## Key Features

- Self wiping contacts
- Slow make \& break
- Momentary action

Choice of switch circuits

- Choice of actuators


## Dimensions

## Dimensions (mm) Nylon S

and $L$ actuators

Neck thread - 40 TPI Whit. Actuator travel - 2.5 max


## Approvals and specifications

[^6]
## Stainless steel V actuator

 (IP66)

Neck thread - 26 TPI Whit. Actuator travel - 2.5 max


White base
DP ON - OFF (momentary ON)

## Toggle Switches

Well known for their quality and reliability,
Bulgin's toggle switches are cost effective solutions to many existing applications. These switches offer features at an attractive price point often well below that of the existing competition.
© Nylon and Metal switch variants

- Multiple Lever Options
- Ratings up to $20 \mathrm{~A}, 250 \mathrm{~V}$ ac -277 V ac
- IP67 panel seal versions, supplied complete with gaskets ( 3900 Series - All Variants)
- Single and double pole

Choice of circuit options including 3 position and momentary
© Mounting hole: 12.7 mm diameter.

- Sealing accessories available
- Quick Connect, Solder, Screw and PCB Termination Options


## Key Features



- Metal toggle switches
$\bigcirc$ Panel seal version to IP67
- Ratings up to 20A,
© 6.3 mm terminals
277 V ac
- Guard option
- Single and double pole
- Choice of circuits
including 3 position and momentary
- Sealed version supplied complete with gaskets

| Terminal | Function | Actuator | Body | Options |
| :--- | :--- | :--- | :--- | :--- |


| C | Sintic | Double Pole | A | A snogeooe <br> Thread: 15/32" $\times 32 \mathrm{TP}$ | Neck Seal M539 Actuator is visible |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\underbrace{\text { - }}_{4.8 \times 08} \underset{1}{10.5}$ | $\begin{aligned} & 3900 \\ & \text { ON- OFF } \end{aligned}$ | $\begin{aligned} & 3950 \\ & \text { on- off } \end{aligned}$ | $\underbrace{10.0}$ |  | Cover M M 180 |
|  | $\begin{aligned} & 3901 \\ & \text { ON - OFF } \\ & \text { (momentary ON) } \end{aligned}$ | $3951$ <br> ON - OFF <br> (momentary ON) 1 :T: |  |  |  |
|  | $3902$ <br> ON - OFF <br> (momentary OFF) <br> $\downarrow \bullet$ | $\begin{aligned} & 3952 \\ & \text { ON - OFF } \\ & \text { (momentary OFF) } \\ & \forall \mathbb{T} \text { : } \end{aligned}$ |  |  | Covers have internal nylon nuts M1080-2 |
|  | $\begin{aligned} & 3910 \\ & \text { ON-ON } \end{aligned}$ | $\begin{aligned} & 3960 \\ & \text { ON-ON } \\ & : 1 \end{aligned}$ | D |  | Covers have internal metal hex nuts |
| S | $3911$ <br> ON - ON (momentary 1 side) $\qquad$ | 3961 <br> ON - ON <br> (momentary 1 side) :T: | $\underbrace{25}$ | B | $\stackrel{14.0}{1,00} 1$ |
| (in) | $\begin{aligned} & 3920 \\ & \text { ON-OFF- ON } \mu \end{aligned}$ | $\begin{aligned} & 3970 \\ & \text { ON-OFF- ON } \end{aligned}$ |  |  |  |
| $\begin{gathered} \text { Screw \& Clamp } \\ \text { N/A for assemblies } \\ \text { with } 3 \text { terminals } \end{gathered}$ | $3921$ <br> ON - OFF - ON $\mu$ (momentary 1 side) | $3971$ <br> ON - OFF - ON $\mu$ (momentary 1 side) १: IT: I: |  |  | Plate SP or DP |
|  | $3922$ <br> ON - OFF - ON $\mu$ (momentary 2 sides) $1 . \rightarrow$. 1 | $3972$ <br> ON - OFF - ON <br> (momentary 2 sides) 1:1:1:4 |  |  |  |
|  |  |  |  |  |  |

## Approvals and specifications

| 系 UL/CSA Ratings 3901, 3902, 3920, 3921, 3922 | 3900, 3950 |
| :---: | :---: |
| 16A, 277Vac | 20A, 277Vac |
| $1 \mathrm{HP}, 250 \mathrm{Vac}$ | $1 \mathrm{HP}, 250 \mathrm{Vac}$ |
|  | 1/2 HP, 125Vac |
| \%1® 7A, 72 Vdc | 7A, 72Vdc |
| 14A, 36Vdc | 14A, 36Vdc |
|  | ENEC Ratings |
| 16A, 277Vac | 3900, 3901, 3902, 3950, 3952, 3960, 3961 |
| $1 \mathrm{HP}, 250 \mathrm{Vac}$ | 16(4)A 250Vac |
| 1/2 HP, 125Vac |  |
| $7 \mathrm{~A}, 72 \mathrm{Vdc}$ | 20, 3921, 3922, 3951, 3970, 3972 <br> 10 4)A 250Vac |

UL/CSA Ratings 3901, 3902, 3920, 3921, 3922 16A, 277Vac

7A, 72Vdc
14A, 36Vdc
, 3901, 3952, 3960, 3961, 3970, 3971, 3972
16A, 277Vac
1/2 HP, 125Vac
$7 \mathrm{~A}, 72 \mathrm{Vdc}$
$14 \mathrm{~A}, 36 \mathrm{Vdc}$

3900, 3950
10A,
1 HP, 2JOVac
7A, 72Vdc
14A, 36Vdc
ENEC Ratings
3900, 3901, 3902, 3950, 3952, 3960, 3961

3910, 3911, 3920, 3921, 3922, 3951, 3970, 3972
10 4)A 250Vac

Approvals and ratings vary with function 3 mm contact gap except where marked $\mu$.

* CSA approval for A and B bodies only

Dimensions mm) * Indicates ON position (for ON - OFF switches)

Single pole
(C terminals shown)


Double pole
C terminals shown with barrier)


2025

Toggle Switch - sealed version
BE and BF types


Guard TG1-RED


## Examples



- C3900BE . . .

- C3920BA - -

- C3950BF - -

- C3972BB - -


## Key Features



Nylon toggle switches

- Ratings up to 20A, 250 V ac
- Single and double pole
- Wide choice of terminals
- Choice of circuit options including 3 position
- Flat \& round actuator options


## Approvals and specifications

(80 16(4)A 250Vac T85
밍 UL 20A 250Vac Non Ind (Single pole)
UL 16A 250Vac Non Ind (Double pole)
UL CSA (2 pos types) 250Vac 1 hp , 125Vac $1 / 2 \mathrm{hp}$
UL CSA (3 pos types) 250Vac $1 / 2 \mathrm{hp}$, 125Vac $1 / 4 \mathrm{hp}$
CSA 16A 250Vac Non Ind
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
UL and CSA N/A on momentary types
Selective "A, B, C" and "OFF, A, A+B" circuits at 5
amp also available.
3 mm contact gap except where marked $\mu$.


## Dimensions

Single pole
(C terminals shown)


Coms
Optiona
F00232PAAA
plate SP or DP
$\mathrm{mm})^{*}$ Indicates ON position (for ON - OFF switches)
Double pole
(C terminals shown)


Without barrier With barrier

## Examples



## Refridgerator Switches

Long recognised as a leader in refigerator door switches, Bulgin's wide range of types and configurations will suit almost any need. With both double pole and single pole options, our switches are not only ideal for traditional reffigerator and freezer applications but can and have been used in a variety of door applications as well.

- Door switches
- Switch rating from $0.2 \mathrm{~A}, 250 \mathrm{~V}$ ac up to $5 \mathrm{~A}, 250 \mathrm{Vac}$
- Splash resistant variants
- Choice of actuators
- Momentary on and momentary off switching





## Dimensions and Properties



Panel thickness 1.0-2.5mm
B Actuator

3006


Panel thickness 1.0-2.5mm
B Actuator C Actuator
$\mathrm{R}, \mathrm{L} \& \mathrm{~B}$ terminals
Terminal Function Actuator


## Key Features

D Door switches

- Ratings up to 5 A , 250 V ac

Splash resistant

- Changeover, momentary ON and momentary OFF
- Choice of actuators


## Approvals and specifications

憨5A 250Vac 25 T 855 E 4 ( 50,000 Operations)

Tu® UL CSA 5A 250Vac
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
$\mu$ contact gap.
Sealed terminals option available.

## Dimensions and Properties

3101 uses terminals 1,2
3102 uses terminals 1,2
3111 uses terminals 1,2,3
For details of actuator travel and switching angles call sales.




H3145AA -- -

Key Features

- Door switches
- Ratings up to 5 A , 250 V ac
- Splash resistant
- Momentary action

Choice of actuators

- 2 circuit switch


## Approvals and specifications

迻 5A 250Vac 25 T85 5E4 (50,000 Operations)

묘자 UL CSA 5A 250Vac
UL $85^{\circ} \mathrm{C}$, file E45221, CSA file LR10990
3141 , $\mu$ contact gap.
3145 and 3146 , 3mm contact gap.
Sealed terminals option available.

## Dimensions and Properties

3141 uses terminals 1,2,3,4
3145 uses terminals 3,4
3146 uses terminals 1,2



## Key Features



C0305RT---
C0305LT - - -

- E12 and E14 lamps
- Switch rating up to 0.06 A , 250 V ac
- Auto switching

O Mercury free

- Available with right or left hand orientation
- Available as lampholder only


## Approvals and specifications

(203" 0.06A 250Vac 25 T 85 (0305 only)
TU® UL 15W 125/250Vac (0305 only)
UL $65^{\circ} \mathrm{C}$, file E116391 (0305 only)
Switched units have $\mu$ contact gap.

## Dimensions and Properties

The mechanism of this switch/lampholder does not contain mercury and may be safely used in food storage equipment. When fitted to the lid of a freezer storage cabinet, the switch will operate the lamp when the lid is opened to the angle of tilt shown in the drawing.

Terminal Function

# Manufactured from quality moulding and metal components to ensure a secure and reliable connection, Bulgin's battery holder range caters for battery sizes AAA(R03), AA(R6), C(R14), D(R20) and PP3(6R61), accommodating 1, 2, 3 or 4 cells. 



There's a choice of fixing styles including screw and flange panel fixing, PCB and base mounting versions.

The panel mounting versions are now available in two styles; standard fixing and front panel sealed to IP67, extending the applications into harsher external environments where dust or water would inhibit equipment operation.

The open frame styles are designed to be either PCB or base mounted and most have an interlocking facility to join adjacent holders together.

Principle applications include portable equipment and memory back-up.

| Battery size | Battery Dimensions | No. of Cells | Mounting | Part No. |
| :---: | :---: | :---: | :---: | :---: |
| AAA (R03) | $\varnothing 10.5 \times 44.5$ | 1 | PCB/Base | BX0034 |
| AA (R6) | $\varnothing 14.5 \times 50.5$ | 1 | PCB/Base | BX0035 |
|  |  | 1 | Panel | BX0011/1 |
|  |  | 2 | Panel | BX0012/1 |
|  |  | 3 | Panel | BX0013/1 |
|  |  | 4 | Panel | BX0027 |
|  |  | 1 | Panel Sealed | BXS011/1 |
|  |  | 2 | Panel Sealed Panel | BXS012/1 |
|  |  | 3 | Sealed | BXS013/1 |
| CR123 | $\varnothing 17.0 \times 34.5$ | 1 | PCB/Base | BX0123 |
| C (R14) | $\varnothing 26.2 \times 50$ | 1 | PCB/Base | BX0036 |
|  |  | 1 | Panel | BX0001/1 |
|  |  | 2 | Panel | BX0002/1 |
|  |  | 3 | Panel | BX0003/1 |
|  |  | 1 | Panel Sealed | BXS001/1 |
|  |  | 2 | Panel Sealed | BXS002/1 |
|  |  | 3 | Panel Sealed | BXS003/1 |
| D (R20) | $\varnothing 34.2 \times 61.5$ | 1 | PCB/Base | BX0037 |
|  |  | 1 | Panel | BX0016 |
|  |  | 2 | Panel | BX0017 |
|  |  | 3 | Panel | BX0018 |
|  |  | 1 | Panel Sealed | BXS016 |
|  |  | 2 | Panel Sealed | BXS017 |
|  |  | 3 | Panel Sealed | BXS018 |
| PP3 (6R61) | W26.5 $\times$ D17.5 $\times$ H48.5 | 1 | PCB/Base | BX0033 |
|  |  | 1 | Panel | BX0023 |
|  |  | 2 | Panel | BX0026 |



As batteries from different manufacturers may vary slightly in size, Dimensions \& Drawings are approximate only.
All Bulgin Battery Holders have polarity clearly marked.


- 1, 2 or 3 Cells
- Flanged Panel Mount
Bayonet with finger/coin slot release
- Supplied with gasket and sealing grommets for screws

BXS011/1


## - 1, 2 or 3 Cells

- Panel Mount
- Screw Cap/Hand release
Supplied with gasket
$\qquad$
D SIZE BATTERY HOLDER

- 1,2 or 3 Cells
- Flanged Panel Mount
- Bayonet/finger release
Supplied with flange gasket and sealing grommets for screws
BXS016

Specification

Battery/Cell Type:
No. Cells:

Terminations:
Operating Temperature:
Mouldings:

Flammability Rating:
Contacts:

Features:

Sealing (front of panel):

Notes:

RoHS

BXS011/1, BXS012/1, BXS013/1

AA (R6)
BXS011/1-1 cell
BXS012/1-2 cells
BXS013/1-3 cells
2.8 series tabs/solder tags
$-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Nylon
Glass filled Polyester
Polycarbonate
UL94V-0
Brass,Tin Plated - rear contact Nickel Silver, clean - front contact and cap contact plate

Bayonet cap with finger grip and coin slot
Rear support bracket
Protection classification
IP67, EN60529:1992+A2:2013
Recommend 2 \& 3 cell versions are supported by rear bracket

Compliant

BXS001/1, BXS002/1, BXS003/1

C (R14)
BXS001/1-1 cell
BXS002/1-2 cells
BXS003/1-3 cells
2.8 series tabs/solder tags
$-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Nylon
Glass filled Polyester

UL94V-0
Brass, Tin Plated - front and rear contacts Nickel Silver, clean - cap contact plate

Screw on cap with finger grip
Recommended torque for panel ring
$1.13-1.7 \mathrm{Nm}$ (10-15lbf.in)
Protection classification
IP67, EN60529:1992+A2:2013

Compliant

BXS016, BXS017, BXS018

D (R20)
BXS016-1 cell
BXS017-2 cells
BXS018-3 cells
4.8 series tabs/solder tags
$-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Nylon
Glass filled Polyester

UL94V-0
Brass, Nickel Plated - front and rear contacts and cap contact plate

Bayonet cap with finger grip Rear support bracket

Protection classification
IP67, EN60529:1992+A2:2013
Recommend 2 \& 3 cell versions are supported by rear bracket

Compliant


| Specification | BX0011/1, BX0012/1, BX0013/1 | BX0027 | BX0001/1, BX0002/1,BX0003/1 |
| :---: | :---: | :---: | :---: |
| Battery/Cell Type: | AA (R6) | AA (R6) | C (R14) |
| No. Cells: | $\begin{aligned} & \text { BX0011/1-1 cell } \\ & \text { BX0012/1 }-2 \text { cells } \\ & \text { BX0013/1 }-3 \text { cells } \end{aligned}$ | 4 cells | $\begin{aligned} & \text { BX0001/1-1 cell } \\ & \text { BX0002/1-2 cells } \\ & \text { BX0003/1-3 cells } \end{aligned}$ |
| Terminations: | 2.8 series tabs/solder tags | 4 solder tags (can be wired in series or in pairs) | 2.8 series tabs/solder tags |
| Operating Temperature: | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Flammability Rating: | UL94V-0 | UL94HB | UL94V-0 |
| Mouldings: | Glass Filled Nylon \& Polyester | Glass Filled Nylon | Nylon \& Glass Filled Nylon |
| Contacts: | Brass, Tin Plated Nickel Silver, clean | Phosphor Bronze, Tin Plated Nickel Silver, clean | Nickel Silver, clean Brass, Tin Plated |
| Features: | Bayonet cap with coin slot Rear support bracket | Removable loading/latching drawer | Screw on cap. Recommended torque for panel ring 1.13-1.7 Nm (10-15lbf.in) |
| Notes: | Recommend 2 \& 3 cell versions are supported by rear bracket |  |  |
| RoHS | Compliant | Compliant | Compliant |



| Specification | BXS011/1, BXS012/1, BXS013/1 | BX0023 | BX0026 |
| :---: | :---: | :---: | :---: |
| Battery/Cell Type: | D (R20) | PP3 (6R61) | PP3 (6R61) |
| No. Cells: | BX0016-1 cell <br> BX0017-2 cells <br> BX0018-3 cells | 1 cell | 2 cells |
| Terminations: | 4.8 series tabs/solder tags | Solder tag | Solder tags |
| Operating Temperature: | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Flammability Rating: | UL94V-0 | UL94HB | UL94HB |
| Mouldings: | Nylon \& Polycarbonate | Glass Filled Nylon | Glass Filled Nylon |
| Contacts: | Brass, Nickel Plated | Phosphor Bronze, Tin Plated | Phosphor Bronze, Tin Plated |
| Features: | Bayonet cap with coin slot Rear support bracket | Removable loading drawer | Removable loading drawer |
| Notes: | Recommend 2 \& 3 cell versions are supported by rear bracket |  |  |
| RoHS | Compliant | Compliant | Compliant |

CR123 SIZE BATTERY HOLDER
BX0123
AAA SIZE BATTERY HOLDER
$\qquad$

- 1 Cell
- PC/Base Mount
O Open style
AA SIZE BATTERY HOLDER

- 1 Cell
- PC/Base Mount
- Open style
BX0035


| Specification | BX0123 | BX0 |
| :--- | :--- | :--- |
| Battery/Cell Type: | CR123 | A |
| No. Cells: | 1 cell | 1 |
| Terminations: | Dual connections, P.C. spills \& 2.8 <br> series tabs/solder tags. (P.C. spills may <br> be removed if required) | S |
| Operating Temperature: | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | b |
| Flammability Rating: | UL94HB | -3 |
| Mouldings: | Glass Filled Nylon | Nickel Silver, clean |
| Contacts: | Compliant | In |
| Features: |  |  |
| RoHS |  |  |

\(\left.$$
\begin{array}{l|l}\text { BX0034 } & \text { BX0035 } \\
\hline \text { AAA (R03) } & \text { AA (R6) } \\
1 \text { cell } & 1 \text { cell } \\
\begin{array}{l}\text { Dual connections, P.C. spills \& 2.8 } \\
\text { series tabs/solder tags. (P.C. spills may } \\
\text { be removed if required) }\end{array} & \begin{array}{l}\text { Dual connections, P.C. spills \& 2.8 } \\
\text { series tabs/solder tags. (P.C. spills may } \\
\text { be removed if required) }\end{array}
$$ <br>

-30^{\circ} \mathrm{C} to+70^{\circ} \mathrm{C} \& -30^{\circ} \mathrm{C} to+70^{\circ} \mathrm{C}\end{array}\right]\)\begin{tabular}{ll}
UL94HB \& UL94HB

 

Glass Filled Nylon \& Glass Filled Nylon <br>
Nickel Silver, clean
\end{tabular}



| Specification | BX0036 |
| :--- | :--- |
| Battery/Cell Type: | C (R14) |
| No. Cells: | 1 cell |
| Terminations: | $\begin{array}{l}\text { Dual connections, P.C. spills \& } 2.8 \\ \text { series tabs/solder tags. (P.C. spills may } \\ \text { be removed if required) }\end{array}$ |
| Operating Temperature: | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |$]$| UL94HB |
| :--- |
| Flammability Rating: |
| Mouldings: |
| Contacts: |
| Features: |
| RoHs Filled Nylon |


| BX0037 | BX0033 |
| :--- | :--- |
| D (R20) | PP3 (6R61) |
| 1 cell | 1 cell |
| Dual connections, P.C. spills \& 2.8 <br> series tabs/solder tags. (P.C. spills may <br> be removed if required) | Dual connections, P.C. spills \& 2.8 <br> series tabs/solder tags. (P.C. spills may <br> be removed if required) |
| $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | | UL94HB |
| :--- |
| Glass Filled Nylon |
| Nickel Silver, clean |
| Interlocking for multiple assemblies |$\quad$ Nylon \& Glass Filled Nylon | Nickel Silver, clean |
| :--- |
| Compliant |

# A full range of quality mains rated inlets, outlets and connectors conforming to IEC and EN 60320 specifications carrying UL, CSA, VDE and other approvals. 

With electrical ratings up to 20A, 250V (UL) these connector ranges offer solutions to most mains powered equipment and cable applications.

The combinations of mounting styles and terminations include: flange fixing, snap to panel and PCB mounting versions together with 2.8/ solder tabs, 4.8 and 6.3 fast on tabs, screw terminal and PC spill versions.

Completing the range are insulating boots, retaining and safety covers

In addition to the standard black moulding, most styles are also available in either white or grey and special colours to match OEM equipment can also be supplied. (Subject to product approval requirements)


IEC60320 Main Inlets and Outlets

| IEC60 320-1 | Sheet No: | No Pins | Current Rating | Flange Fixing | Snap fit | Fused Flange | Fused Snap fit | Filtered | Fuse Filtered |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | C14 | 3 | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | PX0579 PX0580 PX0580/PC PX0580/PC/12132 PX0580/PC/7 PX0580/PC/7LC | $\begin{gathered} \text { PX0575 } \\ \text { PX0575/PC } \end{gathered}$ | PF0001 PF0001/PC PF0002 PF0030 PF0030/PC | $\begin{gathered} \text { PF0011 } \\ \text { PF0011/PC } \end{gathered}$ | $\begin{aligned} & \text { PSO0 } \\ & \text { PS01 } \end{aligned}$ | $\begin{aligned} & \text { PS20 } \\ & \text { PS21 } \\ & \text { PS25 } \\ & \text { PS26 } \end{aligned}$ |
|  | C16 | 3 | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | PX0590 | PX0595 |  |  |  |  |
|  | C18 | 2 | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | PX0690 | $\begin{gathered} \text { PX0691 } \\ \text { PX0691/PC } \end{gathered}$ | $\begin{aligned} & \text { PF0006 } \\ & \text { PF0007 } \end{aligned}$ | PF0016 |  |  |
|  | C20 | 3 | $316 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | PX0596 | PX0598 |  |  |  |  |


| IEC60 320-2-2 | Sheet No: | No Pins | Current Rating | Flange Fixing | Snap fit | Fused Flange | Fused Snap fit | Filtered | Fuse Filtered |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | F | 3 | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | PX0675 PX0675/PC PX0675/PC/12599 PX0793 (Shuttered) PX0793/1(Shuttered) | PX0695 PX0695/PC PX0783 (Shuttered) PX0716 PX0717 PX0718 |  |  |  |  |
|  | H | 2 | 10A, 250 V a.c. | PX0705 | PX0725 |  |  |  |  |
|  | J | 3 | 16A, 250 V a.c. | PX0591 | PX0592 |  |  |  |  |


| IEC60 320-1 | Sheet No: | No Pins | Current Rating | Rewirable | Side Entry Rewirable |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | C13 | 3 | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | $\begin{aligned} & \text { PX0587 } \\ & \text { PX0588 } \end{aligned}$ | PX0587/SE |
|  | C15 | 3 | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | PX0597 |  |
|  | C19 | 3 | 16A, 250 V a.c. | PX0599 |  |
| IEC60 320-2-2 | Sheet No: | No Pins | Current Rating | Rewirable | Side Entry <br> Rewirable |
|  | E | 3 | 10A, 250 V a.c. | PX0686 | $\begin{gathered} \text { PX0685 } \\ \text { PX0686/SE } \end{gathered}$ |




| Specifications | PX0575/Panel/Term/Col | PX0575/Panel/PC/Col |
| :---: | :---: | :---: |
| Fixing(Panel): | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) |
| Terminations: | /28 (2.8mm solder), /48 (4.8mm tab) | P.C. Spills |
| Colours: | No suffix (Black), /WH (White), /GY (Grey) | No suffix (Black), /WH (White), /GY (Grey) |
| Max. Rating: | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| A.C. Breakdown: | Pole-Pole 5kV. Poles-Panel 5.4kV | Pole-Pole 5kV. Poles-Panel 5.4kV |
| Operating Temp. Range: | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp.: | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass: Pins, Nickel Plated. Tabs, Tin | Brass: Pins, Nickel Plated. |
|  | Plated, Screw Terms, Nickel Plated | Spills, Tin Plated |
| Approvals: |  |  |
| Accessories / Notes: | P.No. 11328 (See Page 152) VDE and ENEC approval for black versions only. | Standard without cover. <br> With cover add /C to P.No. <br> PX0587, PX0587/SE, PX0588 <br> VDE and ENEC approval for black versions only. |
| Mating Connectors: | PX0587, PX0587/SE, PX0588 | PX0587, PX0587/SE, PX0588 |
| RoHS | Compliant | Compliant |



| Specifications | PX0580／Term／Col | PX0579／Term／Col |
| :---: | :---: | :---: |
| Fixing： | Flange | Flange |
| Terminations： | ／28（ 2.8 mm solder），／48（4．8mm tab） ／63（ 6.3 mm tab），／TERM（screw） | ／28（2．8mm solder），／48（4．8mm tab） ／63（6．3mm tab） |
| Colours： Max．Rating： | No suffix（Black），WH（White），／GY（Grey） 10A， 250 V a．c． <br> （UL \＆CSA 15A，250V a．c．） | No suffix（Black），／WH（White），／GY（Grey） $10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． <br> （UL \＆CSA 15A， 250 V a．c．） |
| Contact Resistance： Insulation Resistance： A．C．Breakdown： Operating Temp． Max．Pin Temp．： | ```<10m\Omega >103 M\Omega Pole-Pole 5kV. Poles-Panel 10kV -40 % to +70'⿳一⿻口⿰丨丨一心 +70}\mp@subsup{}{}{\circ}\textrm{C``` | $\begin{aligned} & <10 \mathrm{~m} \Omega \\ & >10^{3} \mathrm{M} \Omega \\ & \text { Pole-Pole } 5 \mathrm{kV} \text {. Poles-Panel } 10 \mathrm{kV} \\ & -40^{\circ} \mathrm{C} \text { to }+70^{\circ} \mathrm{C} \\ & +70^{\circ} \mathrm{C} \end{aligned}$ |
| Mouldings： | Nylon，Flammability Rating UL94V－0 | Nylon，Flammability Rating UL94V－0 |
| Contacts： | Brass：Pins，Nickel Plated．Tabs，Tin Plated，Screw Terms，Nickel Plated | Brass：Pins，Nickel Plated．Tabs，Tin Plated |
| Approvals： |  |  |
| Accessories／Notes： | P．No．11328，KT0006（PX0587 only） （See Pages 150 and 152） VDE and ENEC approval for black versions only． | P．No． 11328 （See Page 152） |
| Mating Connectors： | PX0587，PX0587／SE，PX0588 | PX0587，PX0587／SE，PX0588 |
| RoHS | Compliant | Compliant |




| Specifications | PF0001／Term／Col | PF0001／PC／Col | PF0002／Term／Col |
| :---: | :---: | :---: | :---: |
| Fixing（Panel）： | Flange | P．C．B．／Flange | Flange |
| Terminations： | ／28（2．8mm solder），／48（4．8mm tab） ／63（6．3mm tab） | P．C．Spills | ／28（2．8mm solder），／48（4．8mm tab） ／63（6．3mm tab） |
| Colours： | No suffix（Black），WH（White）， ／GY（Grey） | No suffix（Black），／WH（White）， ／GY（Grey） | No suffix（Black），／WH（White）， ／GY（Grey） |
| Max．Rating： | 10A， 250 V a．c． | 10A， 250 V a．c． | 10A， 250 V a．c． |
| Max．Fuse Rating： | $2.5 \mathrm{~W} / 10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． | $2.5 \mathrm{~W} / 10 \mathrm{~A}, 250 \mathrm{~V}$ a．c | $2.5 \mathrm{~W} / 10 \mathrm{~A}, 250 \mathrm{~V}$ a．c |
| Contact Resistance： | $<10 \mathrm{~m} \Omega(<15 \mathrm{~m} \Omega$ including Fuseholder） | $<10 \mathrm{~m} \Omega(<15 \mathrm{~m} \Omega$ including Fuseholder） | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance： | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| A．C．Breakdown： | Pole－Pole 5．5kV．Poles－Panel 4kV | Pole－Pole 5．5kV．Poles－Panel 4kV | Pole－Pole 5．5kV．Poles－Panel 4kV |
| Operating Temp． | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max．Pin Temp．： | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ |
| Mouldings： | Nylon，Flammability Rating UL94V－0 | Nylon，Flammability Rating UL94V－0 | Nylon，Flammability Rating UL94V－0 |
| Contacts： | Brass：Pins，Nickel Plated．Tabs，Tin Plated | Brass：Pins，Nickel Plated．Tabs，Tin Plated | Brass：Pins，Nickel Plated．Tabs，Tin Plated |
| Approvals： |  | 绿 ${ }^{10}$ 隹 | 积 ${ }^{10}$ 别 |
| Accessories／Notes： | P．No．11987，KT0009 <br> See Pages 150 \＆152） <br> VDE and ENEC approval for black versions only． | KT0009（front of panel mounting only） <br> （See Page 150） <br> VDE and ENEC approval for black versions only． | P．No．11987，KT0009（See Pages 150 \＆152） <br> （Note：Fuse contact isolated） <br> VDE and ENEC approval for black versions only． |
| Mating Connectors： | PX0587，PX0587／SE，PX0588 | PX0587，PX0587／SE，PX0588 | PX0587，PX0587／SE，PX0588 |
| RoHS | Compliant | Compliant | Compliant |



| Specifications | PF0011/Panel/Term/Col | PF0011/Panel/PC/Col |
| :---: | :---: | :---: |
| Fixing: | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) |
| Terminations: | /28 (2.8mm solder), /48 (4.8mm tab) /63 (6.3mm tab) | P.C. Spills |
| Colours: Max. Rating: | No suffix (Black), /WH (White), /GY (Grey) $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. | No suffix (Black), /WH (White), /GY (Grey) 10A, 250 V a.c. |
| Max. Fuse Rating | 2.5W/10A, 250V a.c | 2.5W/10A, 250V a.c |
| Contact Resistance: | $<10 \mathrm{~m} \Omega(<15 \mathrm{~m} \Omega$ including Fuseholder) | $<10 \mathrm{~m} \Omega(<15 \mathrm{~m} \Omega$ including Fuseholder) |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| A.C. Breakdown: | Pole-Pole 5.5kV. Poles-Panel 4kV | Pole-Pole 5.5kV. Poles-Panel 4kV |
| Operating Temp. | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp.: | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass: Pins, Nickel Plated. Tabs, Tin Plated | Brass: Pins, Nickel Plated. Spills, Tin Plated |
| Approvals: |  |  |
| Accessories / Notes: | P.No. 11987 (See Page 152) VDE and ENEC approval for black versions only. | VDE and ENEC approval for black versions only. |
| Mating Connectors: | PX0587, PX0587/SE, PX0588 | PX0587, PX0587/SE, PX0588 |
| RoHS | Compliant | Compliant |



| Specifications | PF0030/Termination | PF0030/PC | PF0033/Panel/Termination |
| :---: | :---: | :---: | :---: |
| Fixing(Panel): | Flange | P.C.B/Flange | Snap fit, /10 (1mm), /15 (1.5mm), /20 ( 2 mm ), /30 (3mm) |
| Terminations: | /28 (2.8mm solder), /48 (4.8mm tab) <br> /63 (6.3mm tab) | P.C. Spills | /28 (2.8mm solder), /48 (4.8mm tab) /63 (6.3mm tab) |
| Max. Rating: | 10A, 250 V a.c. | 10A, 250V a.c. | 10A, 250 V a.c. |
| Contact Resistance: | $<15 \mathrm{~m} \Omega$ (per pole) | $<15 \mathrm{~m} \Omega$ (per pole) | $<15 \mathrm{~m} \Omega$ (per pole) |
| Insulation Resistance: | $>10^{4} \mathrm{M} \Omega$ | $>10^{4} \mathrm{M} \Omega$ | $>10^{4} \mathrm{M} \Omega$ |
| A.C. Breakdown: | Pole-Pole 6kV. Poles-Panel 5kV | Pole-Pole 6kV. Poles-Panel 5kV | Pole-Pole 6kV. Poles-Panel 5kV |
| Max. Dissipation Per |  |  |  |
| Fuse: | 2.5W | 2.5W | 2.5W |
| Operating Temp. | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp.: | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass: Pins, Nickel Plated. Tabs, Tin Plated | Brass: Pins, Nickel Plated. Tabs, Tin Plated | Brass: Pins, Nickel Plated. Tabs, Tin Plated |
| Approvals: | -1 ${ }^{1}$ | -1 ${ }^{6}$ | - 6 |
| Accessories / Notes: | KT0009 (See Page 150) |  |  |
| Mating Connectors: | PX0587, PX0587/SE, PX0588 | PX0587, PX0587/SE, PX0588 | PX0587, PX0587/SE, PX0588 |
| RoHS | Compliant | Compliant | Compliant |



| Specifications | PX0597/Col | PX0590/Term/Col | PX0595/Panel/Term/Col |
| :---: | :---: | :---: | :---: |
| Fixing(Panel): |  | Flange | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) |
| Terminations: | Screw Terminals | /28 (2.8mm solder), /63 (6.3mm tab) | /28 (2.8mm solder), /48 ( 4.8 mm tab) /63 ( 6.3 mm tab), /TERM (screw) |
| Colours: | No suffix (Black), /WH (White), /GY (Grey) | No suffix (Black), /WH (White), /GY (Grey) | No suffix (Black), /WH (White), /GY (Grey) |
| Max. Rating: | 10A, 250V a.c. | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ | <10m $\Omega$ |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| A.C. Breakdown: | Pole-Pole 4.5kV. Poles-Accessible Parts 4kV | Pole-Pole 5kV. Poles-Panel 10kV | Pole-Pole 5kV. Poles-Panel 5.4kV |
| Operating Temp. Max. Pin Temp: | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $\begin{aligned} & -40^{\circ} \mathrm{C} \text { to }+70^{\circ} \mathrm{C} \\ & +120^{\circ} \mathrm{C} \end{aligned}$ | $\begin{aligned} & -40^{\circ} \mathrm{C} \text { to }+70^{\circ} \mathrm{C} \\ & +120^{\circ} \mathrm{C} \end{aligned}$ |
| Withdrawal Force: | 10N (Min.) 50 N (Max.) |  |  |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass, Clean | Brass, Pins Nickel Plated. Tabs, Tin Plated | Brass, Pins Nickel Plated. Tabs, Tin Plated |
| Approvals: |  |  |  |
| Accessories / Notes: | VDE and ENEC approval for black and white versions only. | P.No. 11328, KT0006 <br> (See Pages 150 \& 152) <br> VDE and ENEC approval for black versions only. | P.No. 11328 (See Page 152) <br> VDE and ENEC approval for black versions only. |
| Mating Connectors: | PX0590, PX0595 | PX0597 | PX0597 |
| RoHS | Compliant | Compliant | Compliant |


－Two Pin Class II（No Earth Pin）
－2．8，4．8，6．3mm Tabs or Screw Terminals
－10A， 250 V a．c．
（15A，250V a．c．UL \＆CSA）
PX0690／28

| Snap Fit to Panel Inlet <br> PX0691／10／28 | Two Pin Class II（No Earth Pin） Panel Sizes 1，1．5， 2.0 or 3.0 mm 2．8，4．8，6．3mm Tabs or Screw Terminals $10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． （15A，250V a．c．UL \＆CSA） |  |
| :---: | :---: | :---: |
| PC Snap Fit to Panel Inlet <br> PX0691／10／PC | Two Pin Class II（No Earth Pin） <br> Panel Sizes 1，1．5， 2.0 or 3.0 mm <br> PC Spills <br> $10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． <br> （15A， 250 V a．c．UL \＆CSA） |  |


| Specifications | PX0690／Term／Col | PX0691／Panel／Term／Col | PX0691／Panel／PC／Col |
| :---: | :---: | :---: | :---: |
| Fixing（Panel）： | Flange | Snap fit，／10（1mm），／15（1．5mm）， ／20（ 2 mm ），／30（3mm） | Snap fit，／10（1mm），／15（1．5mm）， ／20（ 2 mm ），／30（3mm） |
| Terminations： | ／28（2．8mm solder），／48（4．8mm tab） ／63（ 6.3 mm tab），／TERM（screw） | ／28（ 2.8 mm solder），／48（ 4.8 mm tab） ／63（ 6.3 mm tab），／TERM（screw） | P．C．Spills |
| Colours： | No suffix（Black），／WH（White），／GY（Grey） | No suffix（Black），／WH（White），／GY（Grey） | No suffix（Black），／WH（White），／GY（Grey） |
| Max．Rating： | $10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． <br> （UL \＆CSA 15A，250V a．c．） | $10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． <br> （UL \＆CSA 15A，250V a．c．） | $10 \mathrm{~A}, 250 \mathrm{~V}$ a．c． <br> （UL \＆CSA 15A， 250 V a．c．） |
| Contact Resistance： | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance： | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ | $>10^{3} \mathrm{M} \Omega$ |
| A．C．Breakdown： | Pole－Pole 5kV．Poles－Panel 10kV | Pole－Pole 5kV．Poles－Panel 5．4kV | Pole－Pole 5kV．Poles－Panel 5．4kV |
| Operating Temp． | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max．Pin Temp．： | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ |
| Mouldings： | Nylon，Flammability Rating UL94V－0 | Nylon，Flammability Rating UL94V－0 | Nylon，Flammability Rating UL94V－0 |
| Contacts： | Brass：Pins，Nickel Plated．Tabs，Tin | Brass：Pins，Nickel Plated．Tabs，Tin | Brass：Pins，Nickel Plated．Spills，Tin |
|  | Plated，Screw Terms，Nickel Plated | Plated，Screw Terms，Nickel Plated | Plated |
| Approvals： | 沓 ${ }^{10}$ 加会 |  |  |
| Accessories／Notes： | P．No． 11328 （See Page 152） <br> VDE and ENEC approval for black versions only． | P．No． 11328 （See Page 152） <br> VDE and ENEC approval for black versions only． | Standard without cover． <br> With cover add／C to P．No． <br> VDE and ENEC approval for black versions only |
| Mating Connectors： | PX0587，PX0587／SE，PX0588 | PX0587，PX0587／SE，PX0588 | PX0587，PX0587／SE，PX0588 |
| RoHS | Compliant | Compliant | Compliant |



PF0016/Panel/Term/Col
Snap fit, /10 (1mm), /15 (1.5mm),
/20 (2mm), /30 (3mm)
/28 (2.8mm solder), /48 (4.8mm tab) /63 ( 6.3 mm tab)

No suffix (Black), /WH (White), /GY (Grey)

10A, 250 V a.c.
$<10 \mathrm{~m} \Omega$ ( $<15 \mathrm{~m} \Omega$ includingFuseholder)
$>10^{3} \mathrm{M} \Omega$

Pole-Pole 5.5kV. Poles-Panel 4kV
$-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
$+70^{\circ} \mathrm{C}$
Nylon, Flammability Rating UL94V-0 Brass: Pins, Nickel Plated. Tabs, Tin Plated

## 为边 (1) ©

P.No. 11987 (See Page 152)

VDE and ENEC approval for black versions only.

PX0587, PX0587/SE, PX0588
Compliant



| Specifications | PX0714/2/15/28 | PX0714/3/15/28 | PX0714/4/15/28 |
| :---: | :---: | :---: | :---: |
| Fixing(Panel): | Snap fit /15 (1.5mm) | Snap fit /15 (1.5mm) | Snap fit /15 (1.5mm) |
| Max. Rating: | 10A, 250V a.c. 15A, 250V a.c UL | 10A, 250 V a.c. $15 \mathrm{~A}, 250 \mathrm{~V}$ a.c UL | 10A, 250 V a.c. $15 \mathrm{~A}, 250 \mathrm{~V}$ a.c UL |
| Colours: | No suffix (Black) | No suffix (Black) | No suffix (Black) |
| Operating Temp. | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Withdrawal Force: | 10N (Min.) 50 N (Max.) | 10N (Min.) 50N (Max.) | 10N (Min.) 50N (Max.) |
| Mouldings: | Glass filled Thermoplastic, UL94V-0 | Glass filled Thermoplastic, UL94V-0 | Glass filled Thermoplastic, UL94V-0 |
| Contacts: | Plated Copper Alloy | Plated Copper Alloy | Plated Copper Alloy |
| Approvals: |  |  |  |
| Mating Outlets: | PX0686, PX0686/SE, PZ0500, PZ0600 | PX0686, PX0686/SE, PZ0500, PZ0600 | PX0686, PX0686/SE, PZ0500, PZ0600 |
| RoHS | Compliant | Compliant | Compliant |

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- Fused Inlet/Outlet combination
- 1-6 outlet versions

Panel Size 1.5 mm

- Terminals:
inlet: 4.8 mm tabs
outlet: solder tags
- 10A, 250 V a.c.
(15A, 250V a.c. UL)
- All outlet terminals linked,
common earth throughout.


| Specifications | PX0716/Termination | PX0718/x/15/Termination |
| :---: | :---: | :---: |
| Fixing: | Snap fit 1.2 mm accommodation | Snap fit 1.5 mm accommodation |
| Terminations: | /48 (4.8mm tab) | /ST (outlet solder tag, inlet 4.8mm tab) |
| Max. Rating: | 10A, 250V a.c. <br> (UL 15A, 125V a.c.) | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL 15A, 250V a.c.) |
| Insulation Resistance: | $>100 \mathrm{M} \Omega$ (500V d.c., 1 min .) | $>100 \mathrm{M} \Omega$ (500V d.c., 1 min .) |
| Dielectric Strength: | 2 kV (50Hz, 1 min.$)$ | 2 kV (50Hz, 1 min.) |
| Operating Temp. | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp: | $+70^{\circ} \mathrm{C}$ | $+70^{\circ} \mathrm{C}$ |
| Mouldings: | Nylon 66, Flammability Rating UL94V-0 | Glass filled Thermoplastic, UL94V-0 |
| Contacts: | Brass, Tin Plated | Brass, Tin Plated |
| Approvals: |  |  |
| Accessories / Notes: |  |  |
| Mating With: | PX0587, PX0587/SE, PX0588, PX0686, PX0686/SE | $\begin{aligned} & \text { PX0587, PX0587/SE, PX0588, PX0686, } \\ & \text { PX0686/SE } \end{aligned}$ |
| RoHS | Compliant | Compliant |



| Specifications | PX0717/x/15/Termination | PX0578/Termination |
| :---: | :---: | :---: |
| Fixing: | Snap fit 1.5 mm accommodation | Flange |
| Terminations: | /ST (solder | /63 (6.3mm tab) |
| Max. Rating: | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL 15A, 250v a.c.) | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL 15A, 250v a.c.) |
| Insulation Resistance: | $>100 \mathrm{M} \Omega$ ( 500 V d.c., 1 min.) | $>100 \mathrm{M} \Omega$ ( 500 V d.c., 1 min.) |
| Dielectric Strength: | 2 kV ( $50 \mathrm{~Hz}, 1 \mathrm{~min}$.) | 2 kV (50Hz, 1 min.) |
| Operating Temp. | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp: |  |  |
| Mouldings: | Glass filled Thermoplastic, UL94V-0 | Glass filled Thermoplastic, UL94V-0 |
| Contacts: | Brass, Tin plated | Brass, Tin plated |
| Approvals: | c- | ${ }_{c}-\mathbf{u}_{\mathrm{us}}$ |
| Accessories / Notes: |  |  |
| Mating With: | PX0686, PX0686/SE | PX0686, PX0686/SE |
| RoHS | Compliant | Compliant |



| Specifications | PX0675/Term/Col | PX0675/PC/Col |
| :---: | :---: | :---: |
| Fixing: | Flange | P.C.B./Flange |
| Terminations: | /28 (2.8mm solder), /48 (4.8mm tab), /63 (6.3mm tab) | P.C. Spills |
| Colours: Max. Rating: | No suffix (Black), /WH (White), /GY (Grey) $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) | No suffix (Black), /WH (White), /GY (Grey) $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: A.C. Breakdown: Operating Temp. | $\begin{aligned} & >10^{4} \mathrm{M} \Omega \\ & \text { Pole-Pole } 7 \mathrm{kV} \text {. Poles-Panel } 9 \mathrm{kV} \\ & -40^{\circ} \mathrm{C} \text { to }+70^{\circ} \mathrm{C} \end{aligned}$ | $\begin{aligned} & >10^{4} \mathrm{M} \Omega \\ & \text { Pole-Pole } 4 \mathrm{kV} \text {. Poles-Panel } 9 \mathrm{kV} \\ & -40^{\circ} \mathrm{C} \text { to }+70^{\circ} \mathrm{C} \end{aligned}$ |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass, Tin Plated | Brass, Tin Plated |
| Approvals: | $z^{10}$ | $\square^{10} \mathrm{O}_{0}$ |
| Accessories / Notes: | P.No. 12075, KT0006, 14228 <br> (See Pages 150-152) <br> VDE and ENEC approval for black versions only. | Standard without cover. With cover add /12599 to P.No., 14228 (see page 151) VDE and ENEC approval for black versions only. |
| Mates with: | PX0685, PX0686, PX0686/SE | PX0685, PX0686, PX0686/SE |
| RoHS | Compliant | Compliant |



| Specifications | PX0695/Panel/Term/Col | PX0695/Panel/PC/Col |
| :---: | :---: | :---: |
| Fixing: | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) | Snap fit, /10 (1mm), /15 (1.5mm), /20 ( 2 mm ), /30 (3mm) |
| Terminations: | /28 (2.8mm solder), /63 (6.3mm tab) | P.C. Spills |
| Colours: | No suffix (Black), /WH (White), /GY (Grey) | No suffix (Black), /WH (White), /GY (Grey) |
| Max. Rating: | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) | $10 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 15A, 250 V a.c.) |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{4} \mathrm{M} \Omega$ | $>10^{4} \mathrm{M} \Omega$ |
| A.C. Breakdown: | Pole-Pole 7kV. Poles-Panel 9kV | Pole-Pole 4kV. Poles-Panel 9kV |
| Operating Temp. | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass, Tin Plated | Brass, Tin Plated |
| Approvals: |  |  |
| Accessories / Notes: | P.No. 12075, 14228 (See Page 151-152) VDE and ENEC approval for black versions only. | P.No. 14228 (see page 151) VDE and ENEC approval for black versions only. |
| Mates with: | PX0685, PX0686, PX0686/SE, | PX0685, PX0686, PX0686/SE, |
| RoHS | Compliant | Compliant |



| Specifications | PX0783/Panel/Term/Col | PX0793/Panel/PC/Col | PX0793/1/Term/Col |
| :---: | :---: | :---: | :---: |
| Fixing: | Snap fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) | Flange | Rectangular Flange |
| Terminations: | /28 (2.8mm solder), /48 (4.8mm tab) | /28 (2.8mm solder), /48 (4.8mm tab) | /28 (2.8mm solder), /48 ( 4.8 mm tab) |
| Colours: | No suffix (Black), /WH (White), /GY (Grey) | No suffix (Black), /WH (White), /GY (Grey) | No suffix (Black), /WH (White), /GY (Grey) |
| Max. Rating: | 10A, 250 V a.c. <br> (UL \& CSA 15A, 250V a.c.) | 10A, 250 V a.c. <br> (UL \& CSA 15A, 250V a.c.) | 10A, 250 V a.c. <br> (UL \& CSA 15A, 250V a.c.) |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Insulation Resistance: | $>10^{4} \mathrm{M} \Omega$ | $>10^{4} \mathrm{M} \Omega$ | $>10^{4} \mathrm{M} \Omega$ |
| A.C. Breakdown: | Pole-Pole 7kV. Poles-Panel 9kV | Pole-Pole 7kV. Poles-Panel 9kV | Pole-Pole 7kV. Poles-Panel 9kV |
| Operating Temp. | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Mouldings: | Nylon, Flammability Rating UL 94V-0 | Nylon, Flammability Rating UL 94V-0 | Nylon, Flammability Rating UL 94V-0 |
| Contacts: | Brass, Tin Plated | Brass, Tin Plated | Brass, Tin Plated |
| Approvals: |  | Fin (10 ${ }^{10}$ UR approvals does not |  |
| Accessories / Notes: | P.No. 12075, 14228 (See Page 151-152) VDE and ENEC approval for black versions only. | P.No. 12075, KTO006, 14228 <br> (See Pages 150-152) <br> VDE and ENEC approval for black versions only. | P.No. 12075, KTO006, 14228 <br> (See Pages 150-152) <br> VDE and ENEC approval for black versions only. |
| Mates with: | PX0685, PX0686, PX0686/SE | PX0685, PX0686, PX0686/SE | PX0685, PX0686, PX0686/SE |
| RoHS | Compliant | Compliant | Compliant |



| C19 Straight Female Cable Connector <br> PX0599 | Rewirable Screw Terminals <br> 16A, 250V a.c. <br> (20A, 250 V a.c. UL and CSA) <br> Wire Sizes (max); <br> $3 \times 2.5 \mathrm{~mm} 2,3 \times 12 \mathrm{AWG}$ <br> Overall cable diameter up to 12 mm |  |
| :---: | :---: | :---: |
| C20 Flange Mount Inlet <br> PX0596 | 6.3 mm or 4.8 mm Tabs <br> 16A, 250V a.c. <br> (20A, 250V a.c. UL and CSA) | FIXING DETAILSLIST No. DIM A <br> P10596/48 27.2 <br> PY0596/63 28.3 |
| C20 Snap Fit to Panel Inlet <br> PX0598 | Fits panel sizes 1, 1.5, 2.0 or 3.0 mm <br> 6.3 mm or 4.8 mm Tabs <br> 16A, 250 V a.c. <br> (20A, 250 V a.c. UL and CSA) | IIA1NG OETAILS |


| Specifications | PX0599 | PX0596/Termination | PX0598/Panel/Termination |
| :---: | :---: | :---: | :---: |
| Fixing (Panel): |  | Flange | Snap Fit, /10 (1mm), /15 (1.5mm), /20 (2mm), /30 (3mm) |
| Terminations: | Screw Terminals | /63 (6.3mm tab), /48 (4.8mm tab) | /63 ( 6.3 mm tab), /48 (4.8mm tab) |
| Max. Rating: | 16A, 250 V ac | 16A, 250 V ac | 16A, 250 V ac |
|  | 20A, 250V ac UL and CSA | 20A, 250 V ac UL and CSA | 20A, 250V ac UL and CSA |
| Insulation Resistance: | $>5 \mathrm{M} \Omega$ | $>10^{6} \mathrm{M} \Omega$ | $>10^{6} \mathrm{M} \Omega$ |
| Dielectric Strength |  |  |  |
| Between contacts: | 1.5 kV ac | 1.5 kV ac | 1.5 kV ac |
| Between contacts \& |  |  |  |
| Operating Temp. Range: | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp.: |  | $70^{\circ} \mathrm{C}$ | $70^{\circ} \mathrm{C}$ |
| Withdrawal Force: | 15N Min, 60N Max. |  |  |
| Mouldings: | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 | Nylon, Flammability Rating UL 94V-0 |
| Contacts: | Brass, Clean | Pins: Brass, Nickel Plated | Pins: Brass, Nickel Plated |
|  |  | Tabs: Brass, Tin Plate | Tabs: Brass, Tin Plated |
| Approvals: |  |  |  |
| Mating Connectors: | C20 Inlets; PX0596 Flange and PX0598 Snapfit | PX0599 Rewirable Connector | PX0599 Rewirable Connector |
| Accessories: |  | KT0012, P.No. 14064 (see Pages 150 \& 152) | P.No. 14064 (see Page 152) |
| RoHS | Compliant | Compliant | Compliant |



| Specifications | PX0591/Termination | PX0592/15/Termination |
| :---: | :---: | :---: |
| Fixing (Panel): | Flange | Snap fit, 1.5 mm accommodation |
| Terminations: | /63 (6.3mm tab) | /63 (6.3mm tab) |
|  |  | 16A, 250V a.c. |
| Max. Rating: | $16 \mathrm{~A}, 250 \mathrm{~V}$ a.c. <br> (UL \& CSA 20A, 250 V a.c.) | (UL \& CSA 20A, 250 V a.c.) |
| Insulation Resistance: | $>100 \mathrm{M} \Omega(250 \mathrm{~V}, 1 \mathrm{~min}$. | >100M $\Omega$ ( $250 \mathrm{~V}, 1 \mathrm{~min}$.) |
| Dielectric Strength |  |  |
| Between contacts: | 1.5 kV ac | 1.5 kV ac |
| Between contacts \& accessible surfaces: | 3 kV ac | 3 kV ac |
| Operating Temp. Range: | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Max. Pin Temp.: |  |  |
| Withdrawal Force: |  |  |
| Mouldings: | P.B.T., Flammability Rating UL94V-0 | Nylon, Flammability Rating UL94V-0 |
| Contacts: | Brass, Tin Plated | Brass, Tin Plated |
| Approvals: | ${ }_{c} \boldsymbol{N}_{\mathrm{us}} \mathrm{D}_{\mathrm{D}}^{\mathrm{D}}$ | ${ }_{c} \boldsymbol{N}_{\mathrm{us}} \mathrm{O}_{\mathrm{D}}$ |
| Accessories: |  |  |
| RoHS | Compliant | Compliant |

Retaining Clip
Retaining Clip



- PVC Insulation Boots
- Protects Rear of Connector
- Protects Against Accidental Electric Shock

| Specifications | P.No. 11328 | P.No. 11987 | P.No. 12075 | P.No. 14064 |
| :---: | :---: | :---: | :---: | :---: |
|  | Insulation boot for <br> PX0575, <br> PX0579, <br> PX0580 <br> PX0590, <br> PX0595 | Insulation boot for <br> PF range <br> PF0001, <br> PF0002, <br> PF0006, <br> PF0007, <br> PF0011, <br> PF0016 <br> (Except /PC versions) | Insulation boot for <br> PX0675, <br> PX0695, <br> PX0705, <br> PX0725, <br> PX0783, <br> PX0793, <br> PX0793/1 <br> (Except /PC versions) | Insulation boot for <br> PX0596, <br> PX0598 |
| Operating Temp: | $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
| Max. Working Voltage: | 250 V a.c. | 250 V a.c. | 250 V a.c. | 250 V a.c. |
| Flash Tested: | 2kV a.c. | 2kV a.c. | 2 kV a.c. | 2kV a.c. |
| Material: | P.V.C. | P.V.C. | P.V.C. | P.V.C. |
| Flammability Rating: | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 |
| RoHS | Compliant | Compliant | Compliant | Compliant |

Distribution Units have combinations of four, five or six outlets together with neon indicator, fuse and switch options. The three sizes are available in various combinations and, other than the compact version, all have shuttered outlets. The larger enclosed versions are also available with EMI filtering.




Specifications

| Mouldings: | Thermoplastic |
| :--- | :--- |
| Housing: | ABS |
| Connectors: | Nylon |
| Contacts: | Outlets: Brass, Tin Plated <br> Inlets: Brass, Nickel Plated |
| Voltage Rating: | 250 V a.c. $50 / 60 \mathrm{~Hz}$ |
| Current Rating: | 10 A |
| Proof Voltage: | 2 kV |
| Temp. Range: | $-5^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
| Mating Connectors: | PX0686, PX0686/SE |
| RoHS | Compliant |

Filter

| Max. Earth Leakage: |  |
| :--- | :--- |
| Current: | $<0.35 \mathrm{~mA}($ at $250 \mathrm{~V}, 50 \mathrm{~Hz})$ |
| Capacitor | $2 \times 2.2 \mathrm{nF}(\mathrm{Y}), 1 \times 15 \mathrm{nF}(\mathrm{X})$ |
| Inductance: | $2 \times 0.35 \mathrm{mH}$ |
| Fuse: | $5 \times 20 \mathrm{~mm}, 10 \mathrm{~A}$ (ceramic HRC type, IEC 127) |



Specifications

| Mouldings: | Thermoplastic |
| :--- | :--- |
| Housing: | ABS, UL94V-0 |
| Connectors: | BS1363, CEE7, NEMA 5/15 |
| Contacts: | Outlets: Brass, Tin Plated <br> Inlets: Brass, Nickel Plated |
| Voltage Rating: | 250 V a.c. $50 / 60 \mathrm{~Hz}$ |
| Current Rating: | 10 A |
| Proof Voltage: | 2 kV |
| Temp. Range: | $-5^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
| Approvals | c(2.)us Listed (PXD200) |
| Compliant |  |


| Part No. | Inlet | Outlet |
| :--- | :--- | :--- |
| PXD200 | 1 | 4 |
| PXD201 | 2m cable with BS 1363 plug | 4 |
| PXD201/1 | 2m cable with Schuko plug | 4 |
| PXD201/2 | 2m cable with NEMA 5/15 | 4 |

IEC Distribution Units


| Filter |  |
| :--- | :--- |
| Max. Earth Leakage: <br> Current: | $<0.35 \mathrm{~mA}($ at $250 \mathrm{~V}, 50 \mathrm{~Hz})$ |
| Capacitor | $2 \times 2.2 \mathrm{nF}(\mathrm{Y}), 1 \times 15 \mathrm{nF}(\mathrm{X})$ |
| Inductance: | $2 \times 0.35 \mathrm{mH}$ |
| Fuse: | $5 \times 20 \mathrm{~mm}, 10 \mathrm{~A}$ (ceramic <br> HRC type, IEC 127) |



With over 26,000 combinations Bulgin's mains power entry modules offer a very adaptable and flexible solution to panel design.
Power entry modules allow combinations of mains inlets and outlets, filtered inlets, switches, fuseholders, voltage selectors and indicators mounted in either horizontal or vertical format bezels ready for quick snap-fit assembly. The compact design occupies the minimum of panel area and a single rectangular mounting hole, offering easy installation for this mains power entry module.

Our range offers a flange fixing alternative for designers who prefer the security of screw fixing. All types and variations are available through Bulgin's extensive distribution network.

Components used in Power Entry Modules．
Note：Components are Approved Individually（where applicable）．Please see individual component pages for full specifications．

IEC Connectors Fuseholders and Voltage Selectors

| Type | Description | Rating | Approvals |
| :---: | :---: | :---: | :---: |
| Dx028 | Neon Indicator | 110 V or 250 V a．c／d．c．working |  |
| Fxo359 | $5 \times 20 \mathrm{~mm}$ Fisenolder | Max．rating 10A．250V See Page 192 |  |
| Pfoorl | C14 Power Inlet with Integral $5 \times 20 \mathrm{~mm}$ Fuseholde | Max．rating 10A． 250 V a．c See Page 136 |  |
| PFoos3 | C14 Power Inlet with Integral twin $5 \times 20 \mathrm{~mm}$ Fuseholde | Max．rating 10A． 250 V a．c See Page 137 |  |
| PX0575 | C14 Power Inet，Oold condition | Max．rating 10A．250V a．c See Page 132 |  |
| Px0995 | $\mathrm{C}_{16}$ Power Inet，Hot Condition | Max．rating 10A． 250 V a．c See Page 138 |  |
| Px0995 | Sheet FPower Outlet | Max．rating 10A． 250 V a．c See Page 145 |  |
| Px0783 | Sheet FSutured Power Outer | Max．rating 10A． 250 V a．c See Page 146 |  |
| Px0598 | C20 Power milet | Max．rating 16A，250V a．c See Page 148 |  |
| vs000 1 | Voltae Selector marked 120／240V | Max．rating 6．3A．120／240V a．c See Page 11 | 앋（18） |

Switches and Indicators

| No Poles | Illumination | Current Ratings | Circuit | Approvals |
| :---: | :---: | :---: | :---: | :---: |
| Singe Poole | Non－illuminated | Max．rating 16A Resisitive， 4 A Inductive，250Va． |  |  |
|  | High mrush | Max．rating 16A Resistive，4A Inductive，250Vac Inrush current，150A to IEC65 |  | 旎 15 |
|  | Iluminated | Max．rating 16 A Resistive， $4 \mathrm{Al} \mathrm{Inductive}$,250 V a． |  | 尝 ${ }^{15}$ |
| Double Pole | Non－illuminated | Max．rating 16A Resisitive， 4 A loductive， 250 Vac ． |  | 然 ${ }^{10}$ |
|  | High Inush | Max．rating 16A Resistive，4A Inductive，250Vac Inrush current，150A to IEC65． | －1 |  |
|  | Iluminated | Max．rating 16A Resistive，4A Inductive，250Vac 250Vac Neon． | 40 ；－8 | 繁 ${ }^{15}$ |
| For Mini Bezel：Single Pole | Non－illuminated | Max．raing 10A Resisitiv， 4 A I nuuctive，250Va． |  |  |
|  | Iluninated | Max．rating 10A Resistive，4A Inductive，250Vac 250Vac Neon | （4）${ }^{\text {cos }}$ | 尝 ${ }^{15}$ |
| Doull Pole | Norilluminated | Max．raitug 10A Resisitive， 4 A Inducitiv， 250 Vac ． | $10 \cdot 1{ }^{10}$ |  |
|  | High lrush | Max．rating 10A Resistive，4A Inductive，250Vac Inrush current，85A to EN61058－1． |  |  |
|  | Iluminated | Max．rating 10A Resistive，4A Inductive，250Vac 250Vac Neon． | 40 ：－ 0 | 袻 ${ }^{15}$ |
| Indica |  |  | －－6．3 |  |

Overview of Power Entry Modules


| Style | C14 | Inlets |  | C20 | Outlets Sheet F | Inlet/ Outet CC14 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | C14 Fused | C16 |  |  |  |
| Snap to Panel Vertical | With Single Pole switch Page 163 | With Single Pole switch Page 161 | With Single Pole switch Page 163 | With Single Pole switch Page 167 | With Single Pole <br> switch <br> Page 169 | With other components Page 168 |
| $\square$ | With other components Pages 164, 165, 166 | With Double Pole Switch Page 162 | With other components Pages 164, 165, 166 |  |  |  |


| Snap to Panel | Mini Bezel | With Single Pole |
| :--- | :--- | :--- |
| Horizontal | With Single Pole | switch Page 170 |
|  | Switch Page 175 | With Double Pole |
|  |  | Mini Bezel |
| With Double Pole | Switch Page 171 |  |
|  | Switch Page 175 |  |
|  |  |  |


| I | 1 I |
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| I | 1 |
|  | 1 I |
| I | 1 I |
| I | 1 |
| I | 1 I |
| I | 1 I |
| , | 1 - |
| , | - |


| With Single Pole | With Double |
| :--- | :--- |
| switch Page 177 | Pole switch |
|  | Page 173 |
|  | No additional |
|  | components |
|  | Page 174 |
|  |  |

With Single Pole switch Page 176
With Double Pole
switch Page 177


## How to order -

| BZV XX $\quad$ XXXXX |
| :---: | :---: | :---: |

## Type of Inlet / Outlet

Single Fused C14 Power Inlet (cold condition),
6.3 or 2.8 mm tabs:

01 = PF0011/63
$02=$ PF0011/28
Twin Fused C14 Power Inlet (cold condition),
6.3 or 2.8 mm tabs:
$15=$ PF0033/63
16 = PF0033/28

Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx = Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180
E.g. BZV01/A0620/01

Filtered or Non Filtered Inlet

Single Pole Switch:
01 = S.P. Switch
Single Pole Neon Switch:
02 = S.P. Red Neon Switch
$08=$ S.P. Green Neon Switch
Neon Indicator:
03 = Red Neon Indicator
Single Pole High Inrush Switch:
46 = S.P. High Inrush Switch
Single Pole Switch Marked I/O:
69 = S.P. Switch (I/O)
Single Pole Neon Switch Marked (I/O)
71 = S.P. Red Neon Switch (I/O)
74 = S.P. Green Neon Switch (I/O)
Single Pole High Inrush Switch Marked (I/O):
$98=$ S.P. High Inrush Switch (I/O)


## How to order -

| BZV XX | XXXXX |
| :--- | :--- | :--- |

## Type of Inlet / Outlet

Single Fused C14 Power Inlet (cold condition),
6.3 or 2.8 mm tabs:

01 = PF0011/63
$02=\mathrm{PF} 0011 / 28$
Twin Fused C14 Power Inlet (cold condition),
6.3 or 2.8 mm tabs:

15 = PF0033/63
16 = PF0033/28

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx = Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180
E.g. BZV01/A0620/10

Combination of Other Components

Neon Indicator:
D3 = Red Neon Indicator
Double Pole Switch:
10 = D.P. Switch
Double Pole Neon Switch:
11 = D.P. Red Neon Switch
12 = D.P. Green Neon Switch
Double Pole High Inrush Switch:
13 = D.P. High Inrush Switch
Double Pole Switch Marked I/O:
70 = D.P. Switch (I/O)
Double Pole Neon Switch Marked (I/O):
76 = D.P. Red Neon Switch (I/O)
77 = D.P. Green Neon Switch (/O)
Double Pole High Inrush Switch Marked (I/O):

78 = D.P. High Inrush Switch (I/O)
B1 = D.P. High Inrush Green Neon Switch
(I/O)


## How to order -

| Bzv xx | xxxxx |
| :---: | :---: | :---: | :---: |

## Type of Inlet / Outlet

C14 Power Inlet (cold condition), 6.3 or 2.8 mm tabs:
03 = PX0575/63
04 = PX0575/28
C16 Power Inlet (hot condition), 6.3 or 2.8 mm tabs:
05 = PX0595/63
06 = PX0595/28
Please note type 05 and 06 are not available in filtered version

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered

Axxxx = Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see page 178 E.g. BZV03/A0120/02

## Combination of Other Components

Single Pole Switch:
$01=$ S.P. Switch
Single Pole Neon Switch:
$02=$ S.P. Red Neon Switch
$08=$ S.P. Green Neon Switch
Neon Indicator:
03 = Red Neon Indicator
Single Pole High Inrush Switch
$46=$ S.P. High Inrush Switch
Single Pole Switch Marked I/O:
69 = S.P. Switch (I/O)
Single Pole Neon Switch Marked (I/O):
71 = S.P. Red Neon Switch (I/O)
74 = S.P. Green Neon Switch (I/O)
Single Pole High Inrush Switch Marked (I/O):

98 = S.P. High Inrush Switch (I/O)

## Vertical Module Arrangement



- Inlet with 2.8 mm or 6.3 mm tags
- Double Pole Switch/

Fuseholder/Indicator/
Voltage Selectors/
Blanking Plate
( Filtered Inlet Option
O Options of I/O marked switches


Fonel Thickness. 1.0. $1.5,2.0,3.0 \mathrm{~mm}$.
BZVO3, BZVO4/*****/** A $=62.5$ With Filter BZV05, B7VO6/*****/** A $=39.0$ Without Fiter

## How to order -

BZV XX / XXXXX / XX

## Type of Inlet / Outlet

C14 Power Inlet
(cold condition), 6.3 or 2.8 mm tabs:
$03=$ PX0575/63
04 = PX0575/28
C16 Power Inlet (hot condition), 6.3 or 2.8 mm tabs:
$05=P \times 0595 / 63$
$06=$ PX0595/28

Please note type 05
and 06 are not
available in
filtered version

Filtered or Non Filtered Inlet
Z0000 = Non Filtered
Axxxx $=$ Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see page 178 E.g. BZV03/A0120/07

## Combination of Other Components

Twin Fuseholder and Double Pole Switch:
$05=2 \times$ FX0359 + D.P. Switch
Twin Fuseholder and Double Pole Neon Switch:
$06=2 \times$ FX0359 + D.P. Red Neon Switch
$09=2 \times$ FX0359 + D.P. Green Neon
Switch
$19=2 \times$ FX0359 + D.P. Red Neon Switch 125 V

Twin Fuseholder and Neon Indicator:
$07=2 \times$ FX0359 + Red Neon
Indicator
Voltage Selector, Fuseholder and Double
Pole Switch:
$15=1 \times$ VS0001 + $1 \times$ FX0359 +
Double Pole switch
Voltage Selector, Fuseholder and Double Pole Neon Switch:
$16=1 \times$ VS0001 $+1 \times$ FX0359 + D.P.
Red Neon Switch
$18=1 \times$ VS0001 + $1 \times$ FX0359 + D.P.
Green Neon Switch
Voltage Selector, Fuseholder and Neon Indicator:
$17=1 \times$ VS0001 $+1 \times$ FX0359 + Red Neon Indicator

Twin Fuseholder and Double Pole High
Inrush Switch:
$20=2 \times$ FX0359 + D.P. High Inrush Switch

Twin Fuseholder and Double Pole High Inrush Neon Switch:
$21=2 \times$ FX0359 $+1 \times$ D.P. High
Inrush Green Neon Switch
$22=2 \times$ FX0359 $+1 \times$ D.P. High Inrush Red Neon Switch

Voltage Selector, Neon Indicator and
Double Pole Switch
$25=1 \times$ VS0001 + $1 \times$
DX0928/110V/Red + D.P. Switch
$26=1 \times$ VS0001 + $1 \times$
DX0928/110V/Green + D.P. Switch
$27=1 \times$ VS0001 + $1 \times$
DX0928/250V/Red + D.P. Switch
$28=1 \times$ VS0001 + $1 \times$
DX0928/250V/Green + D.P. Switch
Voltage Selector, Neon Indicator and
Double Pole High Inrush Switch:
$29=1 \times$ VS0001 + $1 \times$
DX0928/250V/Red + D.P. High Inrush
Switch
$30=1 \times$ VS0001 + $1 \times$
DX0928/250V/Green + D.P. High Inrush Switch

Fuseholder, Neon Indicator and Double Pole Switch
$31=1 \times$ FX0359 + $1 \times$
DX0928/110V/Red + D.P. Switch
$32=1 \times$ FX0359 + $1 \times$
DX0928/110V/Green + D.P. Switch
$33=1 \times$ FX0359 + $1 \times$
DX0928/250V/Red + D.P. Switch
$34=1 \times$ Fx0359 + $1 \times$
DX0928/250V/Green + D.P. Switch
Fuseholder, Neon Indicator and Double
Pole High Inrush Switch:
$35=1 \times$ FX0359 $+1 \times$
DX0928/250V/Red + D.P. High Inrush
Switch
$36=1 \times$ FX0359 $+1 \times$
DX0928/250V/Green + D.P. High
Inrush Switch
Fuseholder, Blanking Plate and Double Pole High Inrush Neon Switch:
$47=1 \times$ FX0359 $+1 \times$ Blanking Plate (Right) + D.P. High Inrush Green Neon Switch

[^7]

How to order -
BZV XX / XXXXX / XX

## Type of Inlet / Outlet

C14 Power Inlet (cold condition), 6.3 or 2.8 mm tabs:

## 03 = PX0575/63

04 = PX0575/28
C16 Power Inlet (hot condition), 6.3 or 2.8 mm tabs:

## $05=\mathrm{PX} 0595 / 63$

06 = PX0595/28
Please note type 05 and 06 are not available in filtered version

## Filtered or Non Filtered Inlet

Z $0000=$ Non Filtered
Axxxx $=$ Standard
For Filtered inlet use 6th to 9th characters from filter ordering
code see page 178
E.g. BZV03/A0120/07

## Combination of Other Components

Twin Fuseholder and Double Pole Switch Marked (I/O):
$72=2 \times$ FX0359 + D.P. Switch (I/O)
Twin Fuseholder and Double Pole Neon Switch Marked (I/O):
$73=2 \times$ FX0359 + D.P. Red Neon
Switch (I/O)
$75=2 \times$ FX0359 + D.P. Green Neon Switch(//O)
$82=2 \times$ FX0359 + D.P. Red Neon Switch 125 V (//O)

Voltage Selector, Fuseholder and Double Pole Switch Marked (I/O):
$79=1 \times$ VS0001 + $1 \times$ FX0359 +
Double Pole switch (I/O)
Voltage Selector, Fuseholder and Double Pole Neon Switch Marked (I/O): $80=1 \times$ VS0001 + $1 \times$ FX0359 + D.P. Red Neon Switch (I/O) $81=1 \times$ VS0001 + $1 \times$ FX0359 + D.P. Green Neon Switch (I/O)

Twin Fuseholder and Double Pole High Inrush Switch Marked (I/O):
$83=2 \times$ FX0359 + D.P. High Inrush Switch (I/O)

Twin Fuseholder and Double Pole High Inrush Neon Switch Marked (I/O): $84=2 \times$ FX0359 $+1 \times$ D.P. High Inrush Green Neon Switch (I/O) $85=2 \times$ FX0359 $+1 \times$ D.P. High Inrush Red Neon Switch (I/O)

Voltage Selector, Neon Indicator and Double Pole Switch Marked (I/O):
$86=1 \times$ VS0001 + $1 \times$
DX0928/110V/Red + D.P. Switch (//O)
$87=1 \times$ VSOOO1 + $1 \times$
DX0928/110V/Green + D.P. Switch (I/O)
$88=1 \times$ VS0001 $+1 \times$
DX0928/250V/Red + D.P. Switch (I/O)
$89=1 \times$ VS0001 + $1 \times$
DX0928/250V/Green + D.P. Switch (I/O)

Voltage Selector, Neon Indicator and Double Pole High Inrush Switch Marked (I/O):
$90=1 \times \operatorname{VS0001}+1 \mathrm{x}$
DX0928/250V/Red + D.P. High Inrush
Switch(I/O)
$91=1 \times$ VS0001 $+1 \times$
DX0928/250V/Green + D.P. High
Inrush Switch(I/O)
Fuseholder, Neon Indicator and Double
Pole Switch Marked (I/O)
$92=1 \times$ FX0359 + $1 \times$
DX0928/110V/Red + D.P. Switch (I/O)
$93=1 \times$ FX0359 $+1 \times$
DX0928/110V/Green + D.P. Switch
(I/O)
$94=1 \times$ FX0359 $+1 \times$
DX0928/250V/Red + D.P. Switch (I/O)
$95=1 \times$ FX0359 $+1 \times$
DX0928/250V/Green + D.P. Switch
(I/O)
Fuseholder, Neon Indicator and Double Pole High Inrush Switch Marked (I/O):
$96=1 \times$ FX0359 + $1 \times$
DX0928/250V/Red + D.P. High Inrush
Switch (I/O)
$97=1 \times$ FX0359 $+1 \times$
DX0928/250V/Green + D.P. High
Inrush Switch (I/O)
Fuseholder, Blanking Plate and Double Pole High Inrush Neon Switch Marked (I/O):
$99=1 \times$ FX0359 $+1 \times$ Blanking Plate (Right) + D.P. High Inrush Green Neon Switch (I/O)

Fuseholder, Blanking Plate and Double Pole Switch Marked (I/O):
A0 $=1 \times$ FX0359 $+1 \times$ Blanking Plate (Right) + D.P. Switch (I/O)
B2 $=1 \times$ VS0002 $+1 \times$ Blanking Plate B3 $=1 \times$ FX0359 $+1 \times$ Blanking Plate + D.P. High Inrush Switch (I/O)
B5 = $1 \times$ VS0001 $+1 \times$ Blanking Plate + D.P Switch (I/O)


How to order -

| BZV XX | XXXXX |
| :---: | :---: | :---: | :---: |

## Type of Inlet / Outlet

C14 Power Inlet (cold condition), 6.3 or
2.8 mm tabs:
$03=$ PX0575/63
04 = PX0575/28
C16 Power Inlet (hot condition), 6.3 or 2.8 mm tabs:
$05=$ PX0595/63
$06=$ PX0595/28
Please note type 05 and 06 are not available in filtered version

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx = Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see page 178 E.g. BZV03/A0120/04

## 

## Combination of Other Components

## Twin Fuseholder: <br> $04=2 \times$ FX0359

Voltage Selector and Fuseholder:
$14=1 \times$ VS0001 + $1 \times$ FX0359

Voltage selector and Neon:
$37=1 \times$ VS0001 + DX0928/110V/Red
$38=1 \times$ VS0001 + DX0928/110V/Green
$39=1 \times$ VS0001 + DX0928/250V/Red
$40=1 \times$ VS0001 + DX0928/250V/Green
Fuseholder and Neon:
$41=1 \times$ FX0359 + DX0928/110V/Red $42=1 \times$ FX0359 + DX0928/110V/Green
$43=1 \times$ FX0359 + DX0928/250V/Red
$44=1 \times$ FX0359 + DX0928/250V/Green
Fuseholder and Blanking Plate:
$45=1 \times$ FX0359 + Blanking Plate
Voltage Selector and Blanking Plate:
B2 $=1 \times$ VS0001 + Blanking Plate


How to order -



How to order -

| Bzv xx $\quad$ xxxxx | xx |
| :---: | :---: | :---: | :---: | :---: |

## Type of Inlet / Outlet

C14 Power Inlet (cold condition) and Sheet F Non-shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$09=$ PX0575/63 + PX0695/63
10 = PX0575/28 + PX0695/28
C14 Power Inlet (cold condition) and Sheet F Shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$17=P \times 0575 / 63+P X 0783 / 63$
$18=$ PX0575/28 + PX0783/28

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx = Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see page 178 E.g. BZV09/A0120/04

## Combination of Other Components

Twin Fuseholder:
$04=2 \times$ FX0359
Voltage Selector and Fuseholder: 14 = $1 \times$ VS0001 + $1 \times$ FX0359

Voltage selector and Neon:
$37=1 \times$ VS0001 + DX0928/110V/Red $38=1 \times$ VS0001 + DX0928/110V/Green
$39=1 \times$ VS0001 + DX0928/250V/Red
$40=1 \times$ VS0001 + DX0928/250V/Green
Fuseholder and Neon:
$41=1 \times$ FX0359 + DX0928/110V/Red $42=1 \times$ FX0359 + DX0928/110V/Green $43=1 \times$ FX0359 + DX0928/250V/Red $44=1 \times$ FX0359 + DX0928/250V/Green

Fuseholder and Blanking Plate:
$45=1 \times$ FX0359 + Blanking Plate
Voltage Selector and Blanking Plate:
B2 $=1 \times$ VS0001 + Blanking Plate


How to order -


| Horizontal Module Arrangement | Fused Inlet with 2.8 mm or <br> 6.3mm tags |
| :--- | :--- | :--- |
| Single Pole Switch Variations |  |
| Filtered Inlet Option |  |

How to order -

| BZH XX | XXXXX |
| :--- | :--- | :--- | :--- |

## Type of Inlet / Outlet

Single Fused C14 Power Inlet (cold condition), 2.8 or 6.3 mm tabs:

01 = PF0011/63
$02=$ PF0011/28
Twin Fused C14 Power Inlet (cold condition), 2.8 or 6.3 mm tabs:
$15=$ PF0033/63
$16=$ PF0033/28

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx $=$ Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180 E.g. BZH01/A0620/01

Combination of Other Components
Single Pole Switch
01 = S.P. Switch
Single Pole Neon Switch:
02 = S.P. Red Neon Switch
$08=$ S.P. Green Neon Switch
Neon Indicator:
03 = Red Neon Indicator
Single Pole High Inrush Switch:
$46=$ S.P. High Inrush Switch
Single Pole Switch Marked I/O:
$69=$ S.P. Switch (I/O)
Single Pole Neon Switch Marked (I/O):
71 = S.P. Red Neon Switch (I/O)
74 = S.P. Green Neon Switch (I/O)
Single Pole High Inrush Switch Marked (I/O): $98=$ S.P. High Inrush Switch (I/O)

| Horizontal Module Arrangement | Fused Inlet with 2.8 mm or <br> 6.3mm tags <br> Double Pole Switch Variations | Filtered Inlet Option <br> Options of $\mathrm{I} / \mathrm{O}$ marked <br> switches |
| :--- | :--- | :--- |
| BZHO1/ZOOOO/10 |  |  |

How to order -

| BZH XX | XXXXX |
| :---: | :---: | :---: |

## Type of Inlet / Outlet

Single Fused C14 Power Inlet (cold condition), 2.8 or 6.3 mm tabs:
$01=$ PF0011/63
$02=$ PF0011/28
Twin Fused C14 Power Inlet (cold condition), 2.8 or 6.3 mm tabs:
$15=\mathrm{PF} 0033 / 63$
$16=\mathrm{PF} 0033 / 28$

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
AxXXX $=$ Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180 E.g. BZH01/A0620/10

## Combination of Other Components

Neon Indicator:
$03=$ Red Neon Indicator
Double Pole Switch:
10 = D.P. Switch
Double Pole Neon Switch:
11 = D.P. Red Neon Switch
12 = D.P. Green Neon Switch

Double Pole High Inrush Switch:
13 = D.P. High Inrush Switch
Double Pole Switch marked I/O:
70 = D.P. Switch (I/O)
Double Pole Neon Switch Marked (I/O):
76 = D.P. Red Neon Switch (I/O)
$77=$ D.P. Green Neon Switch (I/O)
Double Pole High Inrush Switch Marked ( $1 / \mathrm{O}$ ):
$78=$ D.P. High Inrush Switch (I/O)
B1 = D.P. High Inrush Green Neon Switch (I/O)
Horizontal Module Arrangement

How to order -

| BZH XX | XXXXX |
| :--- | :--- | :--- | :--- |

## Type of Inlet / Outlet

C14 Power Inlet (cold condition) and Sheet F Non-shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$09=P X 0575 / 63+$ PX0695/63
$10=P X 0575 / 28+$ PX0695/28
C14 Power Inlet (cold condition) and Sheet F Shuttered Power Outlet , 2.8 or 6.3 mm tabs:
$17=P X 0575 / 63+$ PX0783/63
$18=\mathrm{PX} 0575 / 28+\mathrm{PX} 0783 / 28$

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
$A x x x x=$ Standard

For Filtered inlet use 6th to 9th characters from filter ordering code see page 178
E.g. BZH09/A0120/01

## Combination of Other Components

Single Pole Switch:
$01=$ S.P. Switch
Single Pole Neon Switch:
$02=$ S.P. Red Neon Switch
08 = S.P. Green Neon Switch
Neon Indicator:
03 = Red Neon Indicator
Single Pole High Inrush Switch:
$46=$ S.P. High Inrush Switch
Single Pole Switch Marked I/O:
69 = S.P. Switch (I/O)
Single Pole Neon Switch Marked (I/O):
71 = S.P. Red Neon Switch (I/O)
$74=$ S.P. Green Neon Switch (I/O)
Single Pole High Inrush Switch Marked (I/O):
98 = S.P. High Inrush Switch (I/O)
Horizontal Module Arrangement

How to order -

| BZH XX | XXXXX |
| :---: | :---: | :---: | :---: |

## Type of Inlet / Outlet

Single Fused C14 Power Inlet (cold condition) and Sheet F Power Outlet, 2.8 or 6.3 mm tabs:
$11=P F 0011 / 63+$ PX0695/63
$12=$ PF0011/28 + PX0695/28

Twin Fused C14 Power Inlet (cold condition) and Sheet F Power Outlet, 2.8 or 6.3 mm tabs:
$13=$ PF0033/63 + PX0695/63
14 = PF0033/28 + PX0695/28
Single Fused C14 Power Inlet (cold condition) and Sheet F Shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$19=\mathrm{PF} 0011 / 63+\mathrm{PX} 0783 / 63$
$20=$ PF0011/28 + PX0783/28
Twin Fused C14 Power Inlet (cold condition) and Sheet F Shuttered Power Outlet , 2.8 or 6.3 mm tabs:
$21=\mathrm{PF} 0033 / 63+\mathrm{PX} 0783 / 63$
$22=$ PF0033/28 + PX0783/28

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
$A x x x x=$ Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180
E.g. BZH11/A0620/10

## Combination of Other Components

Neon Indicator:
D3 = Red Neon Indicator
Double Pole Switch:
10 = D.P. Switch
Double Pole Neon Switch:
11 = D.P. Red Neon Switch
12 = D.P. Green Neon Switch

Double Pole High Inrush Switch:
13 = D.P. High Inrush Switch
Double Pole Switch Marked I/O:
70 = D.P. Switch (I/O)
Double Pole Neon Switch Marked (I/O):
76 = D.P. Red Neon Switch (I/O)
$77=$ D.P. Green Neon Switch (I/O)
Double Pole High Inrush Switch Marked
( $1 / \mathrm{O}$ ):
$78=$ D.P. High Inrush Switch (I/O)
B1 = D.P. High Inrush Green Neon Switch (I/O)


How to order -

| BZH XX | / | xxxxx | / | xx |
| :---: | :---: | :---: | :---: | :---: |

## Type of Inlet / Outlet

Single Fused C14 Power Inlet (cold condition) and Sheet F Non-shuttered Power Outlet, 2.8 or 6.3 mm tabs:

$$
\begin{aligned}
& 11=P F 0011 / 63+\text { PX0695/63 } \\
& 12=\text { PF0011/28 }+ \text { PX0695/28 }
\end{aligned}
$$

Twin Fused C14 Power Inlet (cold condition) and Sheet F Non-shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$13=P F 0033 / 63+P X 0695 / 63$
$14=P F 0033 / 28+P X 0695 / 28$

Single Fused C14 Power Inlet (cold condition) and Sheet F Shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$19=$ PF0011/63 + PX0783/63
$20=$ PF0011/28 + PX0783/28
Twin Fused C14 Power Inlet (cold condition) and Sheet F Shuttered Power Outlet, 2.8 or 6.3 mm tabs:
$21=\mathrm{PF} 0033 / 63+\mathrm{PX} 0783 / 63$
$22=$ PF0033/28 + PX0783/28

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx = Standard

For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180 E.g. BZH11/A0620/00

Combination of Other Components

None
$00=$ None


## How to order -

BZM XX / XXXXX / XX / X

## Type of Inlet / Outlet

C14 Power Inlet (cold condition), 6.3, 4.8 \& 2.8mm tabs:
$27=P X 0575 / 63$
$42=$ PX0575/48
$28=$ PX0575/28

Filtered or Non Filtered Inlet
$Z 0000=$ Non Filtered
$A x x x x=$ Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see page 178 E.g. BZM27/A0120/57B

## Switch Variation

Single Pole Switch, 4.8 mm or solder tab, marked I/O
53 = S.P. Switch, $4.8 \mathrm{~mm} \operatorname{tab}(1 / \mathrm{O})$
54 = S.P. Switch, solder tab (I/O)
Single Pole Illuminated Switch, 4.8 mm or solder tab:
$55=$ S.P. Switch Illum. Red, 4.8 mm tab
61 = S.P. Switch Illum. Green, 4.8 mm tab
$56=$ S.P. Switch lllum. Red, solder tab
$62=$ S.P. Switch Illum. Green, solder tab
Double Pole Switch, 4.8 mm or solder tab, marked I/O:
57 = D.P. Switch, $4.8 \mathrm{~mm} \mathrm{tab}(/ / \mathrm{O})$
58 = D.P. Switch, solder tab (//O)
Double Pole Illuminated Switch, 4.8 mm or solder tab:
59 = D.P. Switch Illum. Red, 4.8 mm tab
$63=$ D.P. Switch Illum. Green, 4.8 mm tab
60 = D.P. Switch Illum. Red, solder tab
64 = D.P. Switch Illum. Green, solder tab
Double Pole High Inrush, 4.8mm tabs:
$65=$ D.P. High Inrush Switch, 4.8 mm tabs (S.P. format)
Double Pole High Inrush, 4.8 mm tabs, marked I/O:
68 = D.P. High Inrush Switch, 4.8 mm tabs, I/O (S.P.
format)
Single Pole Illuminated Switch, 4.8 mm or solder tab, Marked I/O:
A1 $=$ S.P. Switch Illum. Red, 4.8 mm tab (I/O)
A5 $=$ S.P. Switch Illum. Green, 4.8 mm tab (I/O)
A2 = S.P. Switch Illum. Red, solder tab (I/O)
A6 = S.P. Switch Illum. Green, solder tab (I/O)
Double Pole Illuminated Switch, 4.8 mm or solder tab,
Marked I/O:
A3 = D.P. Switch Illum. Red, 4.8 mm tab
A7 $=$ D.P. Switch Illum. Green, 4.8 mm tab
A4 = D.P. Switch Illum. Red, solder tab
A8 = D.P. Switch Illum. Green, solder tab

## Panel Thickness

$1.0 \mathrm{~mm}=A$
$1.5 \mathrm{~mm}=B$
$2.0 \mathrm{~mm}=\mathrm{C}$
$3.0 \mathrm{~mm}=\mathrm{D}$
Vertical Module Arrangement
BVA01/ZOOOO/O2

| Vertical Module Arrangement | Fused Inlet with 2.8 mm or |
| :--- | :--- | :--- |
| BVB01/ZOOOO/O1 |  |

## How to order -




## How to order -

| BV X | XX | XXXXX |
| :---: | :---: | :---: | :---: | :---: |

## Flange Type

A = Top fixing
$B=$ Side fixing

## Type of Inlet / Outlet

Fused C14 Power Inlet (cold condition), 6.3 or 2.8 mm tabs:
$01=$ PF0011/63
$02=$ PF0011/28
Twin Fused C14 Power Inlet (cold condition), 6.3 or 2.8 mm tabs:

15 = PF0033/63
$16=$ PF0033/28

## Filtered or Non Filtered Inlet

Z0000 = Non Filtered
Axxxx = Standard
For Filtered inlet use 6th to 9th characters from filter ordering code see pages 179-180
E.g. BVA01/A0620/10

## Combination of Other Components

Neon Indicator:
D3 = Red Neon Indicator

## Double Pole Switch:

10 = D.P. Switch
Double Pole Neon Switch:
11 = D.P. Red Neon Switch
12 = D.P. Green Neon Switch
Double Pole High Inrush Switch:
13 = D.P. High Inrush Switch
Double Pole Switch Marked I/O:
70 = D.P. Switch (//O)
Double Pole Neon Switch Marked (I/O):
76 = D.P. Red Neon Switch (I/O)
77 = D.P. Green Neon Switch (I/O)
Double Pole High Inrush Switch Marked (I/O):
78 = D.P. High Inrush Switch (I/O)
B1 = D.P. High Inrush Green Neon Switch
(I/O)


How to order -


| Rating | Version | L1 | Cx | Cy |
| :---: | :---: | :---: | :---: | :---: |
| 1 AMP | 1 | $2 \times 2.8 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 2 | $2 \times 10 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 3 | $2 \times 10 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 n F$ |
| 3 AMP | 1 | $2 \times 0.75 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 2 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 3 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 n F$ |
| 6 AMP | 1 | $2 \times 0.3 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 2 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 n F$ |
| " | 3 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 n F$ |
| 10 AMP | 1 | $2 \times 0.17 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 2 | $2 \times 0.35 \mathrm{mH}$ | $1 \times 15 n F$ | $2 \times 2.2 n F$ |
| " | 3 | $2 \times 0.17 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 n F$ |

Part No. Example

## BZV03/A0120/02

BZV style Polysnap module with PX0575 IEC power inlet, filter rated at $1 \mathrm{amp}, \mathrm{L} / \mathrm{C}$ circuit version $2(\mathrm{~L} 1=2 \times 10 \mathrm{mH}, \mathrm{Cx}=1 \times 15 \mathrm{nF}$, $\mathrm{Cy}=2 \times 2.2 \mathrm{nF}) 6.3 \mathrm{~mm}$ tabs and single pole red neon switch.

Filter Specification

Max. Working Voltage: Earth Leakage Current:
Temperature Range:
Max. Ambient Temp.:
(@ Full Load)
Test Voltage:

## Approvals:

Attenuation Curves:

250 V a.c. $50-400 \mathrm{~Hz}$
$<0.35 \mathrm{~mA}(250 \mathrm{~V} .50 \mathrm{~Hz})$
$-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
$40^{\circ} \mathrm{C}$ (derate linearly to $0 \mathrm{~A} @ 85^{\circ} \mathrm{C}$ )
2700 V d.c. 2 secs. Lines to Earth
1100 V d.c. 2 secs. Live to Neutral

## 

See PS01/A filter, page 183


How to order -


| Rating | Version | L1 | Cx | Cy |
| :--- | :--- | :--- | :--- | :--- |
| 1 AMP | 1 |  |  |  |
| " | 2 |  |  |  |
| " | 3 | $2 \times 12 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 3 AMP | 1 |  |  |  |
| " | 2 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 6.5 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 6 AMP | 1 |  |  |  |
| " | 2 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 2 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |


| 10 AMP | 1 |
| :--- | :--- |
| " | 2 |
| " | 3 |

Filter Specification

Max. Working Voltage: Earth Leakage Current Temperature Range: Max. Ambient Temp.:
(@ Full Load)
Test Voltage:

## Approvals:

Attenuation Curves:

250 V a.c. $50-400 \mathrm{~Hz}$
$<0.35 \mathrm{~mA}(250 \mathrm{~V} .50 \mathrm{~Hz})$
$-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
$40^{\circ} \mathrm{C}$ (derate linearly to $0 \mathrm{~A} @ 85^{\circ} \mathrm{C}$ )
2700 V d.c. 2 secs. Lines to Earth
1100 V d.c. 2 secs. Live to Neutral

## 为

See PS21/A filter, page 187

Part No. Example

## BZV01/A0630/0

BZV style Polysnap module with PF0011 single fused ( $5 \times 20 \mathrm{~mm}$ ) IEC power inlet, filter rated at $6 \mathrm{amp}, \mathrm{L} / \mathrm{C}$ circuit version $3(\mathrm{~L} 1=2 \times 2.0 \mathrm{mH}, \mathrm{Cx}$ $=1 \times 47 \mathrm{nF}, \mathrm{Cy}=2 \times 2.2 \mathrm{nF}), 6.3 \mathrm{~mm}$ tabs and single pole switch.


How to order -

| B XXX |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Filter Specification

Max. Working Voltage:
Earth Leakage Current:
Temperature Range:
Max. Ambient Temp.
(@ Full Load)
Test Voltage:

Approvals:
Attenuation Curves:

250 V a.c. $50-400 \mathrm{~Hz}$
$<0.35 \mathrm{~mA}(250 \mathrm{~V} .50 \mathrm{~Hz})$
$-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
$40^{\circ} \mathrm{C}$ (derate linearly to $0 \mathrm{~A} @ 85^{\circ} \mathrm{C}$ )
2700 V d.c. 2 secs. Lines to Earth
1100 V d.c. 2 secs. Live to Neutral

See PS26/A filter, page 189


Designed to reduce conducted mains borne EMI, this extensive range
provides many solutions to EMI problems. To meet individual design
requirements the filters are available with two attenuation options -
standard and medical. Current ratings are from 1 to 10 amps with single
or twin fused types also available.

The choice of mounting options will suit most applications with flange snap to panel or base/bulkhead.

Flange and Snap Fit

| PS00 Series | $132-133$ |
| :--- | :--- |
| PS01 Series | $132-133$ |

Base Mounting and Bulkhead
PS02 Series
184-185
PS03 Series
184-185

Fused Inlets
PS20 Series
PS21 Series
PS25 Series
86-18
186-187
188-189
188-189


Flange PSOO/A


2 Holes 83.4
$\mathrm{C} / \mathrm{sk} \quad 06.2 \times 1.6$ Deep
WHEN 1OA VERSION 2 or SURGE PROTECTION
(ALL RATINGS) REQUIRED $A=60.2 \quad B=47.7$
Snap Fit
Snap Fit PSO1/A

How to order -

| $\begin{aligned} & \text { PS00/A } \\ & \text { or } \\ & \text { PS01/A } \end{aligned}$ | XX | X | 0 | / 63 | XX |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Series | Rating | L/C Circuit | Additional Components | Tag Type and Configuration | Panel Thickness | Circuit Board Diagram |
| PS00/A | $01=1 \mathrm{~A}$ | 1 = Version 1 | $0=$ None | , $63=6.3 \mathrm{~mm}$ tabs | $00=$ Flange |  |
| PS01/A | $03=3 A$ | $2=$ Version 2 |  | , | $10=1.0 \mathrm{~mm}$ | 边 (0) |
|  | $06=6 \mathrm{~A}$ | 3 = Version 3 |  |  | $15=1.5 \mathrm{~mm}$ | - |
|  | $10=10 \mathrm{~A}$ |  |  |  | $20=2.0 \mathrm{~mm}$ |  |
|  |  |  |  |  | $30=3.0 \mathrm{~mm}$ |  |


| Specification | PS00/Axxxx/xx00 | PS01/Axxxx/xxxx | Part No. Example |
| :---: | :---: | :---: | :---: |
| Max. Working Voltage: | 250 V a.c. $50-400 \mathrm{~Hz}$ | 250 V a.c. $50-400 \mathrm{~Hz}$ | PS00/A0120/6300 |
| Earth Leakage Current: | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | PSOO series, flange fitting, standard filtered IEC power inlet, |
| Temperature Range: | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | rated at 1 ampere. L/C circuit version 2, i.e. $\mathrm{L} 1=2 \times 10 \mathrm{mH}$, |
| Max. Ambient Temp: <br> (@ Full Load) | $40^{\circ} \mathrm{C}$ (derate linearly to $0 \mathrm{~A} @ 85^{\circ} \mathrm{C}$ ) | $40^{\circ} \mathrm{C}$ (derate linearly to $0 \mathrm{~A} @ 85^{\circ} \mathrm{C}$ ) | $C x=15 n F, C y=2 \times 2.2 n F$ <br> 6.3 mm tabs. |
|  | 2700 V d.c. 2 secs. Lines to Earth | 2700 V d.c. 2 secs. Lines to Earth |  |
| Test Voltage: | 1100 V d.c. 2 secs. Live to Neutral | 1100 V d.c. 2 secs. Live to Neutral |  |
| Approvals: |  |  |  |
| Mating Connectors: | PX0587, PX0587/SE, PX0588 | PX0587, PX0587/SE, PX0588 |  |
| RoHS | Compliant | Compliant |  |


| Rating | Version | L1 | Cx | Cy |
| :--- | :--- | :--- | :--- | :--- |
| 1 AMP | 1 | $2 \times 2.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 10 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 10 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 3 AMP | 1 | $2 \times 0.75 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 6 AMP | 1 | $2 \times 0.3 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
|  |  |  |  |  |
| 10 AMP | 1 | $2 \times 0.17 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 0.35 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 0.17 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |

## Version 1



## Version 2




## Version 3




## How to order -

| $\begin{aligned} & \text { PSO2/A } \\ & \text { or } \\ & \text { PS03/A } \end{aligned}$ | $\mathbf{X X}$ | $X$ | 0 | 63 | Circuit Board Diagram |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| Series | Rating | L/C Circuit | Components | Configuration |  |
| PS02/A | $01=1 \mathrm{~A}$ | 1 = Version 1 | $0=$ None | $63=6.3 \mathrm{~mm}$ tabs | $\pm \pm$ |
| PS03/A | $03=3 A$ | $2=$ Version 2 |  |  | - $=$ |
|  | $06=6 A$ | 3 = Version 3 |  |  |  |
|  | $10=10 \mathrm{~A}$ |  |  |  |  |


| Specification | PS02/Axxxx/xx | PS03/Axxxx/xx | Part No. Example |
| :---: | :---: | :---: | :---: |
| Max. Working Voltage: | 250 V a.c. $50-400 \mathrm{~Hz}$ | 250 V a.c. $50-400 \mathrm{~Hz}$ | PS02/A0120/63 |
| Earth Leakage Current: | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | PSO2 series, standard base mounting filter, rated at 3 amperes. L/C circuit version 1, i.e. $\mathrm{L} 1=2 \times 0.75 \mathrm{mH}, \mathrm{Cx}=$ $15 \mathrm{nF}, \mathrm{Cy}=2 \times 2.2 \mathrm{nF}$ with 2.8 mm tabs. |
| Temperature Range: | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |  |
| Max. Ambient Temp: <br> (@ Full Load) | $40^{\circ} \mathrm{C}$ (derate linearly to 0A @ $85^{\circ} \mathrm{C}$ ) | $40^{\circ} \mathrm{C}$ (derate linearly to OA @ $85^{\circ} \mathrm{C}$ ) |  |
| Test Voltage: | $2700 V$ d.c. 2 secs. Lines to Earth | $2700 V$ d.c. 2 secs. Lines to Earth |  |
|  | 1100 d d.c. 2 secs. Live to Neutral | 1100 d d.c. 2 secs. Live to Neutral |  |
| Approvals: |  |  |  |
| RoHS | Compliant | Compliant |  |


| Rating | Version | L1 | Cx | Cy |
| :--- | :--- | :--- | :--- | :--- |
| 1 AMP | 1 | $2 \times 2.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 10 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 10 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
|  |  |  |  |  |
| 3 AMP | 1 | $2 \times 0.75 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
|  |  |  |  |  |
| 6 AMP | 1 | $2 \times 0.3 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 2 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 |  |  |  |
|  |  | $2 \times 0.7 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 10 AMP | 1 |  |  |  |
| " | 2 | $2 \times 0.17 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 0.17 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
|  |  |  | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |

## Version 1




## Version 2



## Version 3




How to order -


| Specification | PS20/Axxx0/xx00 | PS21/Axxx0/xxxx | Part No. Example |
| :---: | :---: | :---: | :---: |
| Max. Working Voltage: | 250 V a.c. $50-400 \mathrm{~Hz}$ | 250 V a.c. $50-400 \mathrm{~Hz}$ | PS20/A0620/63 |
| Earth Leakage Current: | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | PS20 series, flange fitting, |
| Temperature Range: | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | single fused, rated at 6 amperes. |
| Max. Ambient Temp: <br> (@ Full Load) | $40^{\circ} \mathrm{C}$ (derate linearly to 0 A @ $85^{\circ} \mathrm{C}$ ) | $40^{\circ} \mathrm{C}$ (derate linearly to 0A @ $85^{\circ} \mathrm{C}$ ) | $\begin{aligned} & \times 0.7 \mathrm{mH}, \mathrm{Cx}=1 \times 15 \mathrm{nF}, \mathrm{Cy}=2 \\ & \times 2.2 \mathrm{nF} .6 .3 \mathrm{~mm} \text { tabs. } \end{aligned}$ |
| Test Voltage: | 2700 V d.c. 2 secs. Lines to Earth 1100 V d.c. 2 secs. Live to Neutral | 2700 V d.c. 2 secs. Lines to Earth 1100 V d.c. 2 secs. Live to Neutral |  |
| Approvals: |  | 发以 |  |
| RoHS | Compliant | Compliant |  |


| Rating | Version | L1 | Cx | Cy |
| :--- | :--- | :--- | :--- | :--- |
| 1 AMP | 1 |  |  |  |
| " | 2 |  |  |  |
| " | 3 | $2 \times 10 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 3 AMP | 1 |  |  |  |
| " | 2 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 6.5 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| 6 AMP | 1 |  |  |  |
| " | 2 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| " | 3 | $2 \times 2 \mathrm{mH}$ | $1 \times 47 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |

## Version 2



## Version 3






How to order -


| Specification | PS25/Axx2x/xx00 | PS26/Axx2x/xxxx | Part No. Example |
| :---: | :---: | :---: | :---: |
| Max. Working Voltage: | 250 V a.c. $50-400 \mathrm{~Hz}$ | 250 V a.c. $50-400 \mathrm{~Hz}$ | PS20/A0620/63 |
| Earth Leakage Current: | 2.5W per fuse | 2.5W per fuse | PS20 series, flange fitting, standard filtered IEC power inlet, |
| Temperature Range: | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | $<0.35 \mathrm{~mA}(250 \mathrm{~V}, 50 \mathrm{~Hz})$ | single fused, rated at 6 amperes. L/C circuit version 2, i.e L1 = 2 |
| Max. Ambient Temp: <br> (@ Full Load) | $40^{\circ} \mathrm{C}$ (derate linearly to $\mathrm{OA} @ 85^{\circ} \mathrm{C}$ ) | $40^{\circ} \mathrm{C}$ (derate linearly to $0 \mathrm{~A} @ 85^{\circ} \mathrm{C}$ ) | $\begin{aligned} & \times 0.7 \mathrm{mH}, \mathrm{Cx}=1 \times 15 \mathrm{nF}, \mathrm{Cy}=2 \\ & \times 2.2 \mathrm{nF} .6 .3 \mathrm{~mm} \text { tabs. } \end{aligned}$ |
| Test Voltage: | 2700 V d.c. 2 secs. Lines to Earth | 2700 V d.c. 2 secs. Lines to Earth |  |
|  | $1100 V$ d.c. 2 secs. Live to Neutral | 1100 d d.c. 2 secs. Live to Neutral |  |
| Approvals: | -11 | -11 |  |
| Mating Connectors | PX0587, PX0587/SE, PX0588 | PX0587, PX0587/SE, PX0588 |  |
| Accessories | P.No. 14340 (see page 151) | P.No. 14340 (see page 151) |  |
| RoHS | Compliant | Compliant |  |


| Rating | Version | L1 | Cx | Cy |
| :--- | :--- | :--- | :--- | :--- |
| 1 AMP | 1 |  |  |  |
| $"$ | 2 | $2 \times 1.8 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| $"$ | 3 |  |  |  |
| 3 AMP | 1 |  |  |  |
| $"$ | 2 | $2 \times 0.7 \mathrm{mH}$ | $1 \times 15 \mathrm{nF}$ | $2 \times 2.2 \mathrm{nF}$ |
| $"$ | 3 |  |  |  |

## Version 2




# Bulgin's extensive range of fuseholders are designed to give the degree of protection demanded in today's sophisticated electronic equipment. Carrying world-wide safety approvals from UL, VDE, CSA and IMQ, all types are manufactured from high grade flame retardant nylon and polyester materials. 

Designed primarily for $5 \times 20 \mathrm{~mm}$ and $6.3 \times 32 \mathrm{~mm}$ size fuses with protection against shock to categories PC1, PC2 and PC3. There's a choice of styles for in-line, PCB mounting and panel mounting (screw or snap fit) with terminal options for solder, $2.8 \mathrm{~mm}, 4.8 \mathrm{~mm}$ or 6.3 mm tabs or PC spills. Dust and waterproof designs provide a front of panel seal to IP68 in both $5 \times 20 \mathrm{~mm}$ and
$6.3 \times 32 \mathrm{~mm}$ size fuses.

Fuse carrier styles include captive drawer, screw cap - with screw driver release, bayonet cap - with screw driver release and screw cap - with finger release.

Panel Mounting
IP68 Panel Mounting
IP66 Panel Mounting
PC Mounting
Base Mounting
In-line
Fuseholders $6.3 \times 32 \mathrm{~mm}\left(11 / 4^{\prime \prime} \times 1 / 4^{\prime \prime}\right)$

297-302
303
304
305-306
305-30
307
308
309


## Category PC1:

No integral protection against electric shock. If required, Designers/
Manufacturers must provide additional protection against electric shock on equipment.

## Category PC2:

With integral protection against electric shock. Fuseholders shall have live parts inaccessible to IEC 60529 Standard Test Finger, when fully assembled, without fuse carrier or fuse in place and when fuse carrier, with fuse is being inserted or withdrawn.

## Category PC3:

With integral protection against electric shock. Fuseholders shall have live parts inaccessible to IEC 60529 1mm dia. rigid test wire when fully assembled, without fuse carrier or fuse in place and when fuse carrier, with fuse, is being inserted or withdrawn.



| Specifications | FX0357, FX0359 | FX0367/Panel, FX0369/Panel |
| :---: | :---: | :---: |
| Fuse Size: | $5 \times 20 \mathrm{~mm}$ | $5 \times 20 \mathrm{~mm}$ |
| Panel Size: |  | /1 (1.0-1.5mm panel, black sleeve) /2 (2.0-3.0mm panel, grey sleeve) |
| Fuse Carrier: | Bayonet cap/Screwdriver release | Bayonet cap/Screwdriver release |
| Terminations: | Solder tags | Solder tags |
| Max. Rating: | 10A, 250 V (16A, 250 V a.c. UL) | 10A, 250 V (16A, 250 V a.c. UL) |
| Max. Power Dissipation: | $2.5 \mathrm{~W}\left(@ 23^{\circ} \mathrm{C}\right.$ ) | 2.5 W (@ 23 ${ }^{\circ} \mathrm{C}$ ) |
| Insulation Resistance: | $>10^{2} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{2} \mathrm{M} \Omega$ @ 500 V d.c. |
| A.C. Breakdown: | 7 kV @ 50Hz | 7kV @ 50Hz |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Operating Temp: | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ |
| Mouldings: |  |  |
| Body: | Polyester UL94V-0 rated | Polyester UL94V-0 rated |
| Cap: | Nylon UL94V-0 rated | Nylon UL94V-0 rated |
| Nut: | Glass Filled Nylon UL94V-0 rated |  |
| Contacts: | Brass, Silver Plated | Brass, Silver Plated |
| Approvals: | - | - (100 |

Accessories: P.No. 11327 (See page 206)
RoHS
Compliant
P.No. 11327 (See page 205)

Compliant


## Panel Mount



- Protection Category PC2
- Fuse Sizes: $6.3 \times 32 \mathrm{~mm}$ (FX0415) $6.3 \times 25 \mathrm{~mm}$ (FX0416)
- Screw Cap/Hand Release
- 13A, 250 V (16A, 250 V UL)


| Specifications | FX0415, FX0416 | FX0415/S, FX0416/S |
| :---: | :---: | :---: |
| Fuse Size: | FX0415-6.3 $\times$ 32mm | FX0415/S - $6.3 \times 32 \mathrm{~mm}$ |
|  | FX0416-6.3 $\times 25 \mathrm{~mm}$ | FX0416/S - $6.3 \times 25 \mathrm{~mm}$ |
| Fuse Carrier: | Screw cap/Hand release | Screw cap/Hand release |
| Terminations: | 4.8 series tabs | 4.8 series tabs |
| Max. Rating: | $\begin{aligned} & 13 \mathrm{~A}, 250 \mathrm{~V} \\ & (16 \mathrm{~A}, 250 \mathrm{~V} \text { UL) } \end{aligned}$ | $\begin{aligned} & 13 \mathrm{~A}, 250 \mathrm{~V} \\ & (16 \mathrm{~A}, 250 \mathrm{~V} \text { UL) } \end{aligned}$ |
| Max. Power Dissipation: | 4W (@ 23 ${ }^{\circ} \mathrm{C}$ ) | 4W (@ 23 ${ }^{\circ} \mathrm{C}$ ) |
| Insulation Resistance: | $>10^{5} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{5} \mathrm{M} \Omega$ @ 500 V d.c. |
| A.C. Breakdown: | 4 kV @ 50 Hz | 4 kV @ 50 Hz |
| Contact Resistance: | $<5 \mathrm{~m} \Omega$ | $<5 \mathrm{~m} \Omega$ |
| Operating Temp: | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ |
| Mouldings: |  |  |
| Body: | Glass Filled Nylon UL94V-0 rated | Glass Filled Nylon UL94V-0 rated |
| Cap: | Nylon UL94V-0 rated | Nylon UL94V-0 rated |
| Nut: | Polyester UL94V-0 rated | Polyester UL94V-0 rated |
| Contacts: | Brass, Silver Plated | Brass, Silver Plated |
| Approvals: | -1 | - |
| Accessories: | P.No. 12932 (See page 205) | P.No. 12932 (See page 205) |
| RoHS | Compliant | Compliant |





| Specifications | FX0419 | FX0462 | FX0463 |
| :---: | :---: | :---: | :---: |
| Fuse Size: | $6.3 \times 32 \mathrm{~mm}$ | $5.0 \times 20 \mathrm{~mm}$ | $5.0 \times 20 \mathrm{~mm}$ |
| Fuse Carrier: | Screw cap/Screwdriver/Hand release | Screw cap/Screwdriver/Hand release | Screw cap/Screwdriver/Hand release |
| Terminations: | 6.3 series tabs | Solder tags | Solder tags |
| Max. Rating: | 16A, 250 V ac | 10A, 250V ac | $10 \mathrm{~A}, 250 \mathrm{~V}$ ac |
| Max. Power Dissipation: | 2.5W (@ 23 ${ }^{\circ} \mathrm{C}$ ) | 2.5W (@ 23 ${ }^{\circ} \mathrm{C}$ ) | 2.5W (@ 23 ${ }^{\circ} \mathrm{C}$ ) |
| Insulation Resistance: | $>10^{6} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{2} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{2} \mathrm{M} \Omega$ @ 500 V d.c. |
| A.C. Breakdown: | >2kV @ 50Hz | $>7 \mathrm{kV}$ @ 50 Hz | $>7 \mathrm{kV}$ @ 50Hz |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Operating Temp: | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ |
| Mouldings: |  |  |  |
| Body: | Polyester UL94V-0 rated | Polyester UL94V-0 rated | Polyester UL94V-0 rated |
| Cap: | Nylon UL94V-0 rated | Nylon UL94V-0 rated | Nylon UL94V-0 rated |
| Nut: | Glass Filled Nylon UL94V-0 rated | Glass Filled Nylon UL94V-0 rated | Glass Filled Nylon UL94V-0 rated |
| Contacts: <br> Tightening Torque: | Brass, Silver Plated | Brass, Silver Plated | Brass, Silver Plated |
| Cap: | 0.5-0.6Nm (4.43-5.31bf.in.) | 0.4-0.6Nm (3.54-5.31bf.in.) | 0.4-0.6Nm (3.54-5.3lbf.in.) |
| Panel Nut: | 0.5 Nm (4.4lbf.in.) | 0.5 Nm (4.4lbf.in.) | 0.5Nm (4.4lbf.in.) |
| Sealing: | IP68 to EN60529:1992+A2:2013 (10m for 2weeks) | IP68 to EN60529:1992+A2:2013 (10m for 2weeks) | IP68 to EN60529:1992+A2:2013 (10m for 2weeks) |
| Accessories: |  | P.nos. 11327 (see page 205) | P.nos. 11327 (see page 205) |
| Approvals: |  | -15 |  |
| RoHS | Compliant | Compliant | Compliant |



Sealed to IP66

- Protection Category PC1
- Fuse Size $5 \times 20 \mathrm{~mm}$
- Screw Cap/Screwdriver Release
- $6.3 \mathrm{~A}, 250 \mathrm{~V}$



| Specifications | FX0345, FX0345/A | FX0365, FX0365/A |
| :---: | :---: | :---: |
| Fuse Size: | $5 \times 20 \mathrm{~mm}$ | $5 \times 20 \mathrm{~mm}$ |
| Fuse Carrier: | Screw cap/Screwdriver release | Screw cap/Screwdriver release |
| Terminations: | Solder tags | Solder tags |
| Max. Rating: | 6.3A, 250V | 6.3A, 250V |
| Max. Power Dissipation: | 4W (@ 23 ${ }^{\circ} \mathrm{C}$ ) | 4W (@ 23 ${ }^{\circ} \mathrm{C}$ ) |
| Insulation Resistance: | $>10^{3} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{3} \mathrm{M} \Omega$ @ 500 V d.c. |
| A.C. Breakdown: | >3.5kV @ 50Hz | >3.5kV @ 50Hz |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Operating Temp: | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp }+ \\ & \text { fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + } \\ & \text { fuse temp rise) } \end{aligned}$ |
| Mouldings: |  |  |
| Body \& Cap: | Glass Filled Nylon UL94V-0 rated | Glass Filled Nylon UL94V-0 rated |
| Spacer: | Glass Filled Nylon UL94HB rated | Glass Filled Nylon UL94HB rated |
| Insulating Sleeve: | Nylon UL94V-0 rated | Nylon UL94V-0 rated |
| Contacts: | Brass, Silver Plated | Brass, Silver Plated |
| Sealing: | Protection Classification IP66 to EN60529:1992+A2:2013 <br> Retains sealing integrity with cap removed since they are both panel and barrier sealed |  |
| Variants: | /A Silicone 'O' ring, Op. Temp. $-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | /A Silicone 'O' ring, <br> Op. Temp. $-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| RoHS | Compliant | Compliant |

(1)


| Specifications | FX0461 | FX0456 FX0457 | FX0330 FX0342 |
| :---: | :---: | :---: | :---: |
| Fuse Size: | $5 \times 20 \mathrm{~mm}$ | $5 \times 20 \mathrm{~mm}$ | $5 \times 20 \mathrm{~mm}$ |
| Fuse Carrier: | Screw cap/Screwdriver release | Bayonet cap/Screwdriver release | Screw cap/Hand release |
| Terminations: | PC Spills | PC Spills | FX0330-3 PC Spills FX0342-2 PC Spills |
| Max. Rating: | 10A, 250 V (16A, 250 V a.c. UL) | 10A, 250V | 6.3A, 250V |
| Max. Power Dissipation: | 1.6W (@ 23 ${ }^{\circ} \mathrm{C}$ ) | 2.5W (@ 23 ${ }^{\circ} \mathrm{C}$ ) | 2.5W (@ 23 ${ }^{\circ} \mathrm{C}$ ) |
| Insulation Resistance: | $>10 \mathrm{M} \Omega$ @ 500V d.c. | $>10^{2} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{4} \mathrm{M} \Omega @ 500 \mathrm{~V}$ d.c. |
| A.C. Breakdown: | >2kV | 4 kV @ 50Hz | 6kV @ 50Hz |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ | $<5 \mathrm{~m} \Omega$ |
| Operating Temp: | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ | $\begin{aligned} & -20^{\circ} \mathrm{C} \text { to }+85^{\circ} \mathrm{C} \\ & \text { (ambient air temp + fuse temp rise) } \end{aligned}$ |
| Mouldings: |  |  |  |
| Body: | Polyester UL94V-0 rated | Polyester UL94V-0 rated | Glass Filled Nylon UL94V-0 rated |
| Cap: | Nylon UL94V-0 rated | Nylon UL94V-0 rated | Nylon UL94V-0 rated |
| End Bung: |  | Polyester UL94V-0 rated |  |
| Contacts: | Brass, Silver Plated | Brass, Silver Plated | Brass, Tin Plated |
| Approvals: | - © (1) | $\text { - }{ }^{-1} \text { (H) }$ |  |
| RoHS | Compliant | Compliant | Compliant |



| Specifications | FX0321 | FX0267 | FX0360 |
| :---: | :---: | :---: | :---: |
| Fuse Size: | $5 \times 20 \mathrm{~mm}$ | $5 \times 20 \mathrm{~mm}$ | $5 \times 20 \mathrm{~mm}$ |
| Terminations: | PC Spills | Solder tags | Solder tags |
| Max. Rating: | 6.3A, 250V | 6.3A, 250V | 6.3A, 250V |
| Insulation Resistance: | $>10^{5} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{5} \mathrm{M} \Omega$ @ 500 V d.c. | $>10^{4} \mathrm{M} \Omega$ @ 500 V d.c. |
| A.C. Breakdown: | 7 kV @ 50Hz (Clip to clip) | $1.5 \mathrm{kV} @ 50 \mathrm{~Hz}$ | 2 kV @ 50 Hz |
| Contact Resistance: | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ | $<10 \mathrm{~m} \Omega$ |
| Operating Temp: (ambient air temp + fuse temp rise) | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Base Material: | Glass Filled Nylon UL94V-0 rated | Glass Filled Nylon UL94V-0 rated | Glass Filled Nylon UL94HB rated |
| Contacts: | Phospher Bronze, Tin Plated | Phospher Bronze, Tin Plated | Phospher Bronze, Tin Plated |
| Accessories: | P.No. 12760 (See page 205) | P.No. 12760 (See page 205) |  |
| RoHS | Compliant | Compliant | Compliant |


| Base Mount | FX0331 | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | ection Category PC1 <br> Sizes: <br> x 32mm (FX0326) <br> x 25mm (FX0331) <br> er Tags $250 \mathrm{~V}$ |  | 03.2 <br> List No. <br> FX0326 <br> FX0331 |  | $\begin{aligned} & \hline 7 \\ & 70 \\ & \text { S } \\ & \text { S } \\ & \text { DM E } \\ & 37.5 \\ & 310 \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Base Mount | FX0327 | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | ection Category PC1 <br> Size $6.3 \times 32 \mathrm{~mm}$ er Tags 250 V |  | 2 Holes Hole | 14.3 <br> , <br> Fixing | $\xrightarrow{2.70}$ <br> CRS. $=$ <br> Detal |
| Specifications | FX0326, FX0331 |  | FX0327 |  |  |  |  |
| Fuse Size: | $\begin{aligned} & \text { FX0326-6.3 } \times 32 \mathrm{~mm} \\ & \text { FX0331- } 6.3 \times 25 \mathrm{~mm} \end{aligned}$ |  | $6.3 \times 32 \mathrm{~mm}$ |  |  |  |  |
| Terminations: | 6.3 series tabs |  | Solder tags |  |  |  |  |
| Max. Rating: | 13A, 250V |  | 5A, 250V |  |  |  |  |
| Insulation Resistance: | $>10^{4} \mathrm{M} \Omega$ @ 500 V d.c. |  | $>10^{5} \mathrm{M} \Omega @ 500 \mathrm{~V}$ d.c. |  |  |  |  |
| A.C. Breakdown: | 5 kV @ 50Hz |  | 5 kV @ 50Hz |  |  |  |  |
| Contact Resistance: | $<5 \mathrm{~m} \Omega$ |  | $<10 \mathrm{~m} \Omega$ |  |  |  |  |
| Operating Temp: (ambient air temp + fuse temp rise) | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |  | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |  |  |  |  |
| Base Material: | Glass Filled Polyester UL94V-0 rated |  | Glass Filled Polyester UL94V-0 rated |  |  |  |  |
| Contacts: | Clips: Phospher Bronze, Tin Plated Tabs: Brass, Tin Plated |  | Phospher Bronze, Tin Plated |  |  |  |  |
| RoHS | Compliant |  | Compliant |  |  |  |  |



## Key Features

. $6.3 \times 32 \mathrm{~mm}$ fuses
S Screwdriver slot knob

- PC2 protection category
4.8, 6.3 and solder terminals
- Low profile beze
- Snap in or threaded bushing mounting options


## Approvals and specifications

(S) 16A 250Vac (max fuse rating*) T-55 to T+70 (ambient) Maximum dissipation wattage: 4W
N. (1.6.3A UL 94V2 UL file E92075 CSA file LR44770

These products comply with safety category PC2. *Users should be aware of the de-rating factors published by specialist manufacturers of fuses.

Fuseholders with in-line termination have combination (4.8/6.3) terminals. It has not been possible to show both views here. Units with right angle terminals have user specified end terminals and combination mid-body terminals.

| T $/ 0347$ | $\mathbf{R A}$ | Panel Hole | Options |
| :---: | :---: | :---: | :---: |




| Accessories | For Use With: |
| :--- | :--- |
| P.No. 9820 (Boot) | FX0296, FX0296/1, FX0296/S |
| P.No. 11327 (Boot) | FX0354, FX0354/S, FX0357, FX0359, FX0454, FX0454/S, FX0455, FX0455/S, FX0460, FX0458, <br>  <br> FX0367, FX0369, FX0462, FX0463 |
| P.No. 12932 (Boot) | FX0415, FX0415/S, FX0416, FX0416/S |
| P.No. 12760 (Cover) | FX0267, FX0321 |
| Max. Working Voltage: | 250V a.c. |
| Flash Tested to: | 2kV a.c. |
| Material: | P.Nos. 9820, 11327, 12932: PVC - UL94V-0 <br> P.No. 12760: Polycarbonate |
| P.No. 12297 FX045 'D' fixing to anti-rotation Key Fixing <br> (Adaptor Washer) Glass Filled Nylon <br> Material: Compliant <br> RoHS  |  |

# This range of panel mounting LED indicators consists of many different bezel styles, types of LED's and colours. The range has developed to meet the different needs of panel design including IP66 and IP67 environmentally sealed versions for use where a front panel seal is needed. 

The vandal resistant LED indicators are designed to complement the vandal resistant switches (see the Switch Section), they have similar profiles with stainless steel bodies, sealing to IP66 \& 68 and are built to withstand harsh environments.

Vandal Resistant LED
LED Bezel
Indicator Lights
Low Voltage Lampholders
LED Lampholders
Indicator Lights IP67

314-318
319-325
326-327
328-329
330-331




DX0507
Flying Lead Termination

- Sealed to IP67
- Red, Green, Yellow or Blue LED Options
- Wide Viewing Angle
- Shock and Vibration Resistant
- Stainless Steel body

- Flying Lead Termination
- Sealed to IP67
- Red, Green, Yellow or Blue LED Options
- Wide Viewing Angle
- Shock and Vibration Resistant
- Stainless Steel body


DX0508

## DX0508/Col/Voltage

| Specifications | DX0507/Col/Voltage | DX0508/Col/Voltage |
| :---: | :---: | :---: |
| Terminations: | Flying Leads | Flying Leads |
| Forward Voltage: | Red 1.85 V , Green 2.2V, Yellow 2.0V, Blue 3.8V | Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V |
| Cont. Forward Current: (max) | Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA | Red 30mA, Green 25 mA , Yellow 30mA, Blue 25 mA |
| Power Dissipation: | Red 100mW, Green 105mW, Yellow 125mW, Blue 120mW | Red 100mW, Green 105 mW , Yellow 125 mW , Blue 120 mW |
| Reverse Current: (@Vr = 5V) | Red 10 1 A max., Green 10 1 A max., Yellow $10 \mu \mathrm{~A}$ max., Blue $50 \mu \mathrm{~A}$ max. | Red 10 1 A max., Green 10 1 A max., Yellow $10 \mu \mathrm{~A}$ max., Blue $50 \mu \mathrm{~A}$ max. |
| LED Luminous Intensity: | Red 2000mcd, Green 100mcd, Yellow 400 mcd , Blue 1600mcd (typ) | Red 2000mcd, Green 100mcd, Yellow 400mcd, Blue 1600mcd (typ) |
| Operating Temp. Range: | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| Storage Temperature: | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Sealing (Front of panel): | Protection Classification IP67 to EN60529:1992+A2:2013 | Protection Classification IP67 to EN60529:1992+A2:2013 |
| Materials |  |  |
| Body: | Stainless Steel | Stainless Steel |
| Lens: | Polycarbonate UL94V-0 | Polycarbonate UL94V-0 |
| O Ring (external): | Nitrile | Nitrile |
| (internal): | Silicone | Silicone |
| Tightening Torque | 0.5Nm - 0.9Nm (4.4lbf.in. - 8.0lbf.in.) | 0.5Nm - 0.9Nm (4.4lbf.in. - 8.0lbf.in.) |
| Thread Size: | $\mathrm{M} 12 \times 1.25-6 \mathrm{~g}$ | $\mathrm{M} 12 \times 1.25-6 \mathrm{~g}$ |
| LED Colours: | /RD (Red), /GN (Green), /YL (Yellow) /BL (Blue), with colour coded insulator | /RD (Red), /GN (Green), /YL (Yellow) /BL (Blue), with colour coded insulator |
| LED Voltage: | /12 (12V d.c.), /24 (24V d.c.) or /00 (no ballast resistor) | /12 (12V d.c.), /24 (24V d.c.) or /00 (no ballast resistor) |
| RoHS | Compliant | Compliant |



Nylon Bezel


- Chrome Plated Brass Bezel
- Prominent or Recessed Style
- Choice of LED Types and Colours

Glass Filled Nylon Bezel

- Prominent or Recessed Style
- Choice of LED Types and Colours


Fixing Detail

DX0999 Prominent


| Specifications | DX0998, DX0999/Colour/Options | DX1120, DX1121/Colour/Options |
| :---: | :---: | :---: |
| Bezel Material: | Brass, Chrome Plated | Glass Filled Nylon |
| Style: | Recessed (DX0998) | Recessed (DX1120) |
|  | Prominent (DX0999) | Prominent (DX1121) |
| Operating Temp. Range: | Dependent on LED used | Dependent on LED used |
| Storage Temperature: | Dependent on LED used | Dependent on LED used |
| LED Colours: |  | /RD (Red), /GN (Green), /YL (Yellow), |
|  | /BL (Blue), /TR (Tri Colour), | /BL (Blue), /TR (Tri Colour), |
|  | /D1 (Dual Colour - Red/Green), | /D1 (Dual Colour - Red/Green), |
|  | /D2 (Dual Colour - Red/Amber), | /D2 (Dual Colour - Red/Amber), |
|  | /D3 (Dual Colour - Green/Amber) | /D3 (Dual Colour - Green/Amber) |
| LED Options: | /02 (Flashing, Green or Red only) | /02 (Flashing, Green or Red only) |
| Thread Size: | $0.312 " \times 32 \mathrm{TPI}$ | $0.312 " \times 32 \mathrm{TPI}$ |
| RoHS | Compliant | Compliant |

See Page 212 for LED options and specifications*


See Page 212 for LED options and specifications


See Page 213 for LED specifications*

5mm LEDs STANDARD

| Specification | Red | Green | Yellow | Blue |
| :--- | :---: | :---: | :---: | :---: |
| Luminous Intensity @20mA: | 25 mcd | 20 mcd | 20 mcd | 21 mcd |
| Forward voltage: | 2.0 V | 2.0 V | 2.1 V | 3.5 V |
| Cont. Forward Current (max): | 30 mA | 25 mA | 30 mA | 30 mA |
| Power Dissipation: | $105 \mathrm{~mW}(\mathrm{max}) @ 20^{\circ} \mathrm{C}$ Ambient | 120 mW |  |  |
| Reverse Current: | $10 \mu \mathrm{~A}$ | $10 \mu \mathrm{~A}$ | $10 \mu \mathrm{~A}$ | $50 \mu \mathrm{~A}$ |
| Reverse Voltage: | $5 \mathrm{~V}(\mathrm{max})$ | $5 \mathrm{~V}(\mathrm{max})$ | $5 \mathrm{~V}(\mathrm{max})$ | $5 \mathrm{~V}(\mathrm{max})$ |
| Operating Temp: |  | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |  | $-20^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| Part No : |  | $/ \mathrm{GN}$ | $/ \mathrm{YL}$ | $/ \mathrm{BL}$ |

5mm LEDs FLASHING

| Specification | Red | Green |
| :--- | :---: | :---: |
| Luminous Intensity @20mA: | 1.2 mcd | 20 mcd |
| Forward voltage: | $2.0-15.0 \mathrm{~V}$ | 2.0 V |
| Cont. Forward Current (max): | $10-30 \mathrm{~mA}$ | 25 mA |
|  |  |  |

Part No:
/RD/02
/GN/02

## 5mm LEDs TRI COLOUR

$\qquad$
Luminous Intensity @20mA:
Forward voltage:

## 2.5 mcd

Forward voltage: 2.4 V
Cont. Forward Current (max):
30mA (max)
Power Dissipation:
150mW (max) @ $20^{\circ} \mathrm{C}$ Ambient
Reverse Current:
$100 \mu \mathrm{~A}$
Reverse Voltage:
5 V (max)
Operating Temp:
$-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Part No:
/TR


## 5mm LEDs DUAL COLOUR

| Specifications | Red/Green | Red/Amber | Green/Amber |  |
| :---: | :---: | :---: | :---: | :---: |
| Luminous Intensity: | 4.5/5mcd | 4.5/4mcd | $4 / 5 \mathrm{mcd}$ | $10 \quad 0$ |
| Forward voltage: | 2.2 V | 2.2 V | 2.2 V | MIN |
| Cont. Forward Current: | $30 \mathrm{~mA} / 30 \mathrm{~mA}$ | $30 \mathrm{~mA} / 20 \mathrm{~mA}$ | $30 \mathrm{~mA} / 20 \mathrm{~mA}$ | $1-\square$ |
| Power Dissipation: | $100 \mathrm{~mW} / 100 \mathrm{~mW}$ | $100 \mathrm{~mW} / 60 \mathrm{~mW}$ | $100 \mathrm{~mW} / 60 \mathrm{~mW}$ | 2- |
| Reverse Current: | 100mA | 100mA | 100mA | 25.0 |
| Reverse Voltage: | 5 V (max) | 5 V (max) | 5 V (max) | MIN |
| Operating Temp: |  | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |  | $\cdots$ - |
| Part No: | /D1 | /D2 | /D3 |  |

4mm LEDs Standard

| Specifications | Red | Green | Yellow | Blue |
| :--- | :--- | :--- | :--- | :--- |
| Luminous Intensity @10mA: | 2.5 mcd | 2.5 mcd | 2.5 mcd | 50 mcd |
| Forward voltage: | 2.0 V | 2.1 V | 2.0 V | 3.8 V |
| Cont. Forward Current (max): | 30 mA | 30 mA | 20 mA | 30 mA |
| Power Dissipation (max) @ $20^{\circ} \mathrm{C}$ Ambient: | 100 mW | 100 mW | 85 mW | 120 mW |
| Reverse Current: | $10 \mu \mathrm{~A}$ | $10 \mu \mathrm{~A}$ | $10 \mu \mathrm{~A}$ | $50 \mu \mathrm{~A}$ |
| Reverse Voltage: | $5 \mathrm{~V}(\max )$ | $5 \mathrm{~V}(\max )$ | $5 \mathrm{~V}(\mathrm{max})$ | $5 \mathrm{~V}(\mathrm{max})$ |
| Part No: | /RD | $/ \mathrm{GN}$ | ML | $/ \mathrm{BL}$ |

Part No Breakdown

| DXXXXX |  | XX | XX |  |
| :---: | :---: | :---: | :---: | :---: |
| Bezel Type | ' | LED Colour | LED Options | ' |
|  | I | RD = Red | Blank = Standard | I |
|  | I | $\mathrm{GN}=$ Green | $02=$ Flashing - 5mm (Red or |  |
|  | , | YL = Yellow | Green only) | , |
|  | ' | $\mathrm{BL}=$ Blue |  | ' |
|  | ! | D1 = Dual Colour - 5mm (Red/ |  |  |
|  | I | Green) |  |  |
|  | I | D2 = Dual Colour - 5mm (Red/ |  | I |
|  | + | Amber) |  |  |
|  | , | D3 = Dual Colour - 5mm (Green/ |  |  |
|  | I | Amber) |  | I |
|  | I | TR = Tri Colour - 5mm (Red/ |  |  |
|  | I | Green/Amber) |  | I |
|  | I |  |  | I |
|  | , |  |  |  |

## Example:

DX1092/RD/02 = Black Aluminum IP66 Prominent Bezel, with Red flashing LED

Key Features

- Neon, LED, mains LED or filament lamp
- Bezel sizes from 6.7 to 16.3 mm diameter
- Red, amber, green, blue and clear lenses

Red, yellow, green, blue and white LEDs

Wide choice of styles

## Colours and voltages:

| NEON | DC LED | AC MAINS LED |  |
| :--- | :--- | :--- | :--- |
|  |  | Red, Yellow, | Red, Yellow, | Available with


| Terminal | Type | Sealed | Illumination | Colour |
| :--- | :--- | :--- | :--- | :--- | Voltage | Options |
| :--- |




## Dimensions

(B) 0566 A

(B) 0566 B

(B) 0566 C

(C) 0145 AA
(L) 104100

(L) 104500

(L) 024500


L 295000

(L) 0195 BB

H) 0568 A(*)


L 295100

(H) 0568 B(*)

$\stackrel{-}{87.6}$

Key Features

- Neon, LED, mains LED or filament lamp

Bezel sizes from 6.7 to 16.3 mm diameter

Red, amber, green, blue and clear lenses

- Red, yellow, green, blue and white LEDs
- Wide choice of styles

Colours and voltages:

| NEON | DC LED | AC MAINS LED |
| :--- | :--- | :--- | :--- |



| Terminal | Type | Illumination | Colour | Voltage | Options |
| :--- | :--- | :--- | :--- | :--- | :--- | Panel |  |
| :--- |

$\begin{array}{lll}\mathrm{L} & \mathrm{E} \\ \mathrm{K} & 2.8 \\ \mathrm{H} & 4.8 \\ \mathrm{C} & 6.0\end{array}$
（C） 027600

（C） 027700
L E－
K 2.8
H 4.8 －o
C $6.3 \rrbracket$

L E
K 2.8
H 4.8
C 6.3 『

L $\mathbb{E}^{-}$
K 2.8
H 4.8
C $6.3 \stackrel{\square}{\square}$

L E
K 2.8
H 4.8
C $6.3 \|$

L E
（C） 058600
K 2.8
H 4.8
C 6.3 ॥o
（C） 282000

（C） 282100


| $\mathbf{N}-Q$ | Neon \＆Filament |
| :---: | :---: |
| $\mathbf{L}$ | $\mathbf{R}$ |
| $\mathbf{M}$ | Red |
| $\mathbf{F}-\otimes$ |  |

A
Amber

## G <br> Green

B
Blue （Special Order）

## C

Clear

| N | Amber |
| :---: | :---: |
| L | G |
| $\begin{gathered} \mathbf{M} \\ \mathbf{F}-\otimes- \end{gathered}$ | Green |
|  | B |
| $\mathbf{N}=$ | $\begin{gathered} \text { Blue } \\ \text { (Special Order) } \end{gathered}$ |
| M－ | C |
| $\mathrm{F}^{-(\otimes)}$ | Clear |

1
LED No Resistor
2
125V Neon

| C |  |
| :---: | :---: |
| Chrome | $\varnothing 10.0$ |
| Bezel Finish | 2.8 max |
|  |  |



## 

자중

压誡结


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## 



9］줎ㅇ
$\qquad$ ㅆㅐㅄㅐㅇ Kixis

## Dimensions

（L） 0569 AW
$\stackrel{9}{88.8}$

（C） 0276 AA

$\frac{9}{8120}$
（C） 027300

（C） 027800
（C） 027500
（C） 027500
（C） 027600

（C） 027700

（C） 0273 LL

（C） 282000

（C） 282100

（C） 058600


Key Features

V Neon, LED, mains LED or filament lamp

- Bezel sizes from 6.7 to 16.3 mm diameter
- Red, amber, green and clear lenses
- Red, yellow, green, blue and white LEDs
- Wide choice of styles

Colours and voltages:

| NEON | DC LED | AC MAINS LED |  |
| :--- | :--- | :--- | :--- |
|  |  | RILAMENT |  |
| Available with | Red, Yellow, | Red, Yellow, | Available with |
| Red, Amber, | Green, Blue, | Green, Blue, | Red, Amber, |
| Green or Clear | White | White | Green, Clear or |
| lenses | $2.0 / 2.2 \mathrm{~V}$ | $110-230 \mathrm{~V}$ ac | Blue lenses |
| $100 / 130 \mathrm{~V}$ | Resistors for <br> other voltages <br> available. |  | $6 \mathrm{~V}, 12 / 14 \mathrm{~V}$, |
| (marked 110 V ), |  | $24 / 28 \mathrm{~V}$. |  |
| $200 / 250 \mathrm{~V}$ |  |  |  |


| Terminal | Type | Illumination | Colour | Voltage | Options |
| :--- | :--- | :--- | :--- | :--- | :--- | Panel |  |
| :--- |




Dimensions
(C) 287000

C) 058900


L 008100

(C) 017700

(C) 006700

(C) 0180AA
(C) 0180 BB

(C) 057900

(C) 1092


Key Features
Neon, LED, mains LED or
filament lamp
Bezel sizes from 6.7 to
16.3mm diameter
Red, amber, green and clear
lenses
Red, yellow, green, blue and
white LEDs
Wide choice of styles

Colours and voltages:



## Dimensions

## H 0581 AY


$\frac{\frac{1}{4}}{\frac{1}{4} \sqrt{10}}=$

## L 023400




Neon tube, resistor and flexible lead assembly, protected by "shrunk on" transparent sleeving.

## Key Features

- Up to 50 V

Red, Amber, Green, Blue and Clear
( Linestra/Philinea lamp holder

## Colours and voltages:

These lampholders are suitable for up to 50 V max.
Bulbs will be supplied (dependent on order quantity)
if a voltage is specified.
Colours - Red, Amber, Green, (Clear \& Blue, check availability).


T0061 00 (LES)
(C) 282000

(C) 027700

(C) 282100






Key Features


C1090FE -- -

O Up to 50V
$\bigcirc$ MES or MBC bulb

- Flat and domed lens
$\bigcirc$ Brass or nylon bodies
- Red, Amber, Green, Blue and Clear lenses


## Approvals and specifications

Bulbs will be supplied (dependant on order quantity) if a voltage is specified. These lampholders are suitable for up to 50 V max.

Colours - Red, Amber, Green
(Clear \& Blue, check availability).
Brass bodies have polished chrome finish

## Dimensions and Options

P1090FL-- -


F0445 MO
P.V.C. Insulating terminal cover.



## LED Lamps and LED Lampholders

## Key Features

- LED lampholders
- Supplied with or without LEDs
- Black or Chrome finish


## Colours and voltages:

Colours: Red, Yellow, Green and Blue LEDs
(High Intensity is standard. Option of extra super bright).
Voltages: LEDs are available for direct connection to
2.0/2.2V or 12 Vdc

For other voltages contact sales


| Key Features | Colours and voltages: |
| :--- | :--- |
| IP67 front bezel sealing | Colours: <br> Red, Yellow Green and Blue LEDs. <br> (High Intensity is standard. Option of extra super <br> bright). |
| LED lampholders | Voltages: <br> Supplied with or without <br> LEDs |
| Black or Chrome finish | LEDs are available for direct connection to <br> 2.O/2.2V or 12Vdc. |
|  | For other voltages contact sales. |



Properties

Sealing
O-ring sealing equivalent to IP67, of both the LED to bezel, and bezel to panel is available where shown.

## Polarity

The nylon base mouldings are polarity marked.
Body Material and Finish
Chromed brass or Black oxide coated brass.

Lampholders only
Items prefixed ' $A$ ' are supplied without LEDs.
LED wires or PVC covered wire leads
125 mm min length wires, 6.3 mm standard strip.
Alternative colours, length and strip available.

Key Features
IP67 Panel Sealing

| Red, amber, green, blue and |
| :---: |
| clear lenses |


| Supplied complete with |
| :--- |
| gaskets/'O' rings |


| Red, yellow, green, blue and |
| :--- |
| white LEDs |


| Neon, LED, mains LED or |
| :--- |
| filament lamp |


| Bezel sizes from 7.6 to |
| :--- |
| 22.9mm diameter |

Colours and voltages:


(L) 1041 OS

(L) 0245 OS

(C) 0275 OS

(C) 0277 OS

(C) 0177 OS

(C) 1092 FFS


## Key Features

| IP67 Panel Sealing | Bezel sizes from 7.6 to <br> 22.9 mm diameter |
| :--- | :---: |
| Supplied complete with <br> gaskets/'O' rings | Red, amber, green, blue and <br> clear lenses |
| Neon, LED, mains LED or |  |
| filament lamp | Red, yellow, green, blue and <br> white LEDs |

## Colours and voltages:

These lampholders are suitable for up to 50 V max.
Bulbs will be supplied (dependent on order quantity)
if a voltage is specified.
Colours - Red, Amber, Green, (Clear \& Blue, check availability).

| Terminal | Type | Sealed | Colour | Bulb Voltage | Options | Panel | Approvals | Dimensions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C 6.3 | C1090 FPS (MES) | $\begin{gathered} \text { S } \\ \text { Sealed } \end{gathered}$ | R <br> Red <br> A Amber | 6 <br> 6 V <br> 12 <br> 12 V | C <br> Chrome Bezel Finish | $\begin{array}{ll} \varnothing & 19.0 \\ 4.0 \max \\ 8 & \text { T85 } \end{array}$ | KEMA |  |
| C 6.3 | C1091 FQS (MBC) |  |  | $\begin{gathered} 24 \\ 24 \mathrm{~V} \end{gathered}$ |  | $\varnothing_{4.1}$ | KEMA |  |
| T | T0062 AOS (Midget flange) Chrome bezel T0063 AOS (LES) Chrome bezel |  | $\mathrm{C}$ Clear |  |  | $\varnothing_{10} 10.0$ | KEMA |  |
| T | T0062 MOS (LES \& Midget flange) <br> T0063 MOS (LES) |  |  |  |  | $\varnothing_{10.0} 11.15 \mathrm{max}$ | KEMAA |  |

## F0445 MO

P.V.C. Insulating terminal cover

For use with C1090 \& C1091

| 12023 | 25 | BZV03/Z0000/07 | 269-270 | FX0380 | 308 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12023/1 | 25 | BZV04/Z0000/04 | 271 | FX0385 | 308 |
| 12023/2 | 25 | BZV09/Z0000/04 | 273 | FX0415 | 300 |
| 12734 | 32 | BZV45/Z0000/02 | 274 | FX0415/S | 300 |
| 12734/1 | 32 | BZV49/Z0000/69 | 272 | FX0416 | 300 |
| 12734/3 | 32 | DX0505 | 312 | FX0416/S | 300 |
| 12734/3/1 | 32 | DX0506 | 312 | FX0419 | 303 |
| 12735 | 32 | DX0507 | 313 | FX0430/63 | 297 |
| 12735/1 | 32 | DX0508 | 313 | FX0430/PC | 297 |
| 12735/3 | 32 | DX0998 | 314 | FX0454 | 299 |
| 12735/3/1 | 32 | DX0999 | 314 | FX0454/S | 299 |
| 13027 | 37, 43 | DX1090 | 315 | FX0455 | 299 |
| 13027/1 | 37,43 | DX1091 | 315-316 | FX0455/S | 299 |
| 13027/2 | 37,43 | DX1092 | 315 | FX0456 | 305 |
| 14025 | 37,43 | DX1093 | 315-316 | FX0458 | 299 |
| 14025/1AMP | 37,43 | DX1116 | 316 | FX0461 | 305 |
| 14025/5AMP | 37, 43 | DX1118 | 316 | FX0462 | 303 |
| 14025/8AMP | 37, 43 | DX1120 | 314 | FX0463 | 303 |
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| 14191 | 112, 117, 135 | EXP-0911/03/P | 11 | KT0012 | 255 |
| 14192 | 112, 117, 135 | EXP-0911/04/P | 11 | MP0012/1/Col | 163 |
| 14193 | 112, 135 | EXP-0911/05/P | 11 | MP0012/Col | 163 |
| 14194 | 112, 135 | EXP-0911/07/P | 11 | MP0013 | 155 |
| 14199 | 105, 140 | EXP-0911/10/P | 11 | MP0013/2 | 155 |
| 14563 | 117 | EXP-0931/02/P | 12 | MP0016 | 163 |
| 14564 | 117 | EXP-0931/03/P | 12 | MP0022/Col | 164 |
| BOX1M1205MA05 | 99 | EXP-0931/04/P | 12 | MP0027 | 144 |
| B0X1M1205MA09 | 99 | EXP-0931/05/P | 12 | MP0027/2 | 153 |
| BOX1M1212MA08 | 99 | EXP-0931/07/P | 12 | MP0027/3 | 151 |
| BVA01/Z0000/02 | 281 | EXP-0931/10/P | 12 | MP0031 | 145 |
| BVA01/Z0000/10 | 282-283 | EXP-0941/02/P | 12 | MP0031/2 | 154 |
| BVB01/Z0000/01 | 281 | EXP-0941/04/P | 12 | MP0031/3 | 152 |
| BVB01/Z0000/11 | 282 | EXP-0941/05/P | 12 | MP0033 | 155 |
| BX0001/1 | 228 | EXP-0941/07/P | 12 | MP0033/2 | 155 |
| BX0002/1 | 228 | EXP-0941/10/P | 12 | MP0037 | 145 |
| BX0003/1 | 228 | EXP-0980 | 12 | MP0037/2 | 154 |
| BX0011/1 | 228 | EXP-0990 | 12 | MP0037/3 | 152 |
| BX0012/1 | 228 | EXP-0991 | 12 | MP0038 | 144 |
| BX0013/1 | 228 | EXP-0992 | 12 | MP0038/2 | 153 |
| BX0023 | 229 | EXP-A911/03/P | 11 | MP0038/3 | 151 |
| BX0026 | 229 | EXP-A911/04/P | 11 | MP0042/1 | 156 |
| BX0027 | 228 | EXP-A911/05/P | 11 | MP0042/2 | 156 |
| BX0033 | 231 | EXP-A980 | 12 | MP0042/3 | 156 |
| BX0034 | 230 | FX0180 | 308 | MP0045/1D | 157 |
| BX0035 | 230 | FX0185 | 308 | MP0045/1D1 | 159 |
| BX0036 | 231 | FX0267 | 306 | MP0045/1D2 | 159 |
| BX0037 | 231 | FX0280 | 308 | MP0045/1E | 158 |
| BX0123 | 230 | FX0285 | 308 | MP0045/1E1 | 160 |
| BXS001/1 | 227 | FX0296 | 302 | MP0045/1E2 | 160 |
| BXS002/1 | 227 | FX0296/1 | 302 | MP0045/3D | 157 |
| BXS003/1 | 227 | FX0296/S | 302 | MP0045/3E | 158 |
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| BXS017 | 227 | FX0331 | 307 | MPB038 | 149 |
| BXS018 | 227 | FX0342 | 305 | MPI001 | 146 |
| BZH01/Z0000/01 | 275 | FX0345 | 304 | MPI001/RP | 148 |
| BZH01/Z0000/10 | 276 | FX0354 | 301 | MPI002 | 147 |
| BZH09/Z0000/01 | 277 | FX0354/S | 301 | MPI002/FL | 148 |
| BZH11/Z0000/00 | 279 | FX0357 | 298 | MPZ016 | 167 |
| BZH11/Z0000/10 | 278 | FX0359 | 298 | MPZ019 | 168 |
| BZM27/Z0000/57B | 280 | FX0360 | 306 | MPZ022 | 169 |
| BZV01/Z0000/01 | 266 | FX0365 | 304 | MPZI019 | 168 |
| BZV01/Z0000/10 | 267 | FX0367 | 298 | MPZI022 | 169 |
| BZV03/Z0000/02 | 268 | FX0369 | 298 | MPZI022/L | 170 |


| PF0001/28 | 239 | PX0414/OM50 | 120 | PX0707/P/04 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PF0001/PC | 239 | PX0414/1M00 | 120 | PX0707/P/06 | 24 |
| PF0002/28 | 239 | PX0414/xMxx | 120 | PX0707/P/09 | 24 |
| PF0006/28 | 244 | PX0415/1 | 120 | PX0707/P/12 | 24 |
| PF0007/28 | 244 | PX0416/1M00 | 120 | PX0707/P/25 | 24 |
| PF0011/10/28 | 240 | PX0416/3M00 | 120 | PX0708/P/03 | 23 |
| PF0011/10/PC | 240 | PX0416/5M00 | 120 | PX0708/P/09 | 23 |
| PF0016/10/28 | 244 | PX0416/xMxx | 120 | PX0708/P/12 | 23 |
| PF0030/28 | 241 | PX0441/2M00 | 115, 130 | PX0708/P/25 | 23 |
| PF0030/PC | 241 | PX0441/3M00 | 115 | PX0709/P/02 | 23 |
| PF0033/10/28 | 241 | PX0441/4M50 | 115 | PX0709/P/03 | 23 |
| PNo. 9820 | 310 | PX0442/2M00 | 115 | PX0709/P/04 | 23 |
| PNo. 11327 | 310 | PX0442/3M00 | 115 | PX0709/P/06 | 23 |
| PNo 11328 | 257 | PX0442/4M50 | 115 | PX0709/P/07 | 23 |
| PNo 11987 | 257 | PX0443 | 116 | PX0711 | 105, 112 |
| PNo 12075 | 257 | PX0444/2M00 | 115 | PX0716/48 | 247 |
| PNo. 12237 | 26 | PX0444/3M00 | 115 | PX0717/x/xx/ST | 248 |
| PNo. 12297 | 310 | PX0444/4M50 | 115 | PX0718/x/xx/ST | 247 |
| PNo. 12760 | 310 | PX0446 | 116, 130 | PX0725/10/28 | 252 |
| PNo. 12855 | 26 | PX0447 | 116 | PX0727/P | 23 |
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| PNo. 13027 | 25 | PX0457 | 117 | PX0729/P | 22 |
| PNo. 13027/1 | 25 | PX0458 | 117 | PX0730/P | 23 |
| PNo. 13027/3 | 25 | PX0459 | 116 | PX0731/P | 22 |
| PNo. 13170 | 25 | PX0460/A | 110 | PX0732/P | 22 |
| PNo. 13826 | 25 | PX0460/B | 110 | PX0733 | 26, 105, 112 |
| PNo. 14025 | 25, 57 | PX0464 | 112 | PX0734 | 26 |
| PNo. 14025 | 49 | PX0480 | 36, 42, 117, | PX0735/P | 23 |
| PNo. 14025/5AMP | 25 |  | 120, 130 | PX0736/P | 22 |
| PNo 14064 | 257 | PX0480/1 | 36 | PX0737/P | 22 |
| PNo 14228 | 256 | PX0481 | 36, 120 | PX0738/P | 23 |
| PNo. 14232 | 25 | PX0482 | 36, 42, 130 | PX0739/P | 22 |
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## X-ON Electronics

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[^0]:    Mates with Flex Cable connector PXP4010

    - Pin or socket
    - 3,8 , or 12 pole
    - For in-line cable connection
    - Contacts supplied separately

[^1]:    *Current rating for CSA standards

[^2]:    M5 Series
    M8 Series
    M12 Series
    M16 Series
    M23 Series
    M-Series Distribution Unit

    64-68
    $69-77$
    $78-89$
    $90-93$
    $94-96$
    $97-100$

[^3]:    Polyurethane (PUR) Jacket

[^4]:    196 Switches

[^5]:    $\stackrel{\bullet}{\bullet-}$
    Cat no
    Cat no.
    R13 244A AAA

[^6]:    In house test:
    0.5 A 250 Vac T85 - Indicative rating only

[^7]:    Fuseholder, Blanking Plate and Double Pole Switch:
    $48=1 \times$ FX0359 $+1 \times$ Blanking Plate (Right) + D.P. Switch

