

**M12 male 90° A-cod. / MSUD valve plug BI-11mm**

PUR 3x0.75 bk UL/CSA+robot+drag ch. 1.5m

**MSUD**

Form BI (11 mm) – M12, male 90°

24 V AC  $\pm 20\%$  / DC  $\pm 25\%$ 

LED and suppression

Further cable lengths on request.

Plastic housings with good resistance against chemicals and oils.

The resistance to aggressive media should be individually tested for your application. Further details on request.

[Link to Product](#)**Illustration**



Product may differ from Image



|   |               |
|---|---------------|
| Cable length                              | 1,5 m         |
| Side 1                                    |               |
| Tightening torque                         | 0,4 Nm        |
| Family construction form                  | MSUD BI       |
| Thread                                    | M3            |
| No. of poles                              | 3             |
| Degree of protection (EN IEC 60529)       | IP67          |
| Side 2                                    |               |
| Tightening torque                         | 0,6 Nm        |
| Family construction form                  | M12           |
| Thread                                    | M12 x 1       |
| suitable for corrugated tube (internal Ø) | 10 mm         |
| Coding                                    | A             |
| No. of poles                              | 3             |
| Width across flats                        | SW13          |
| Degree of protection (EN IEC 60529)       | IP67          |
| Commercial data                           |               |
| ECLASS-6.0                                | 27279218      |
| ECLASS-6.1                                | 27279218      |
| ECLASS-7.0                                | 27279218      |
| ECLASS-8.0                                | 27279218      |
| ECLASS-9.0                                | 27060312      |
| ECLASS-10.1                               | 27060312      |
| ECLASS-11.1                               | 27060312      |
| ECLASS-12.0                               | 27060312      |
| ETIM-5.0                                  | EC001855      |
| customs tariff number                     | 85444290      |
| GTIN                                      | 4048879493628 |
| Packaging unit                            | 1             |
| Electrical data                           |               |
| Capacity CX                               | 20 ms         |
| Electrical data   Supply                  |               |

|                                    |        |
|------------------------------------|--------|
| Operating voltage AC               | 24 V   |
| Operating voltage AC min.          | 19,2 V |
| Operating voltage AC max.          | 28,8 V |
| Operating voltage DC               | 24 V   |
| Operating voltage DC min.          | 18 V   |
| Operating voltage DC max.          | 30 V   |
| Cut-off peak voltage max.          | 55 V   |
| Current operating per contact max. | 4 A    |
| Current consumption max.           | 12 mA  |

#### Diagnostics

|                       |        |
|-----------------------|--------|
| Status indication LED | yellow |
|-----------------------|--------|

#### Device protection | Electrical

|  |                   |
|--|-------------------|
| Additional condition protection degree | inserted, screwed |
| Pollution Degree                       | 3                 |
| Rated surge voltage                    | 0,8 kV            |

#### Mechanical data | Material data

|                  |         |
|------------------|---------|
| Color housing    | black   |
| Material housing | Plastic |

#### Mechanical data | Mounting data

|                 |                    |
|-----------------|--------------------|
| Mounting method | inserted, screwing |
|-----------------|--------------------|

#### Environmental characteristics | Climatic

|  |                            |
|--|----------------------------|
| Operating temperature min.             | -25 °C                     |
| Operating temperature max.             | 85 °C                      |
| Additional condition temperature range | depending on cable quality |

#### Important installation notes

|                        |   |
|------------------------|---|
| Note on strain relief  | Protect the connectors by suitable measures from mechanical loads, e.g. by the usage of cable ties.   |
| Note on bending radius | <b>Attention:</b> Observe the permissible bending radii when laying cables, as the IP protection class can be endangered by excessive bending forces. |

#### Conformity

|                  |   |
|------------------|---|
| Product standard | DIN EN 61076-2-101 (M12); DIN EN 175301-803 (Ventilstecker) |
|------------------|---|

#### Installation | Cable

|  |  |
|--|--|
| Cable identification                     | 656  |
| Cable Type                               | 5  |
| Jacket Color                             | black  |
| Type of Certificate                      | cURus  |
| Amount stranding                         | 1  |
| Stranding                                | 3 wires twisted  |
| wire arrangement                         | black 1, black 2, green-yellow                                 |
| Traversing distance (C-track)            | 5 m @ 25 °C   horizontal                                       |
| Cable weight                             | 48,4 g/m   |
| Material jacket                          | PUR  |
| Shore hardness jacket                    | 58 ± 3 Shore D   |
| Freedom from ingredients (jacket)        | lead-free, cadmium-free, CFC-free, halogen-free, silicone-free |
| Outer-diameter (jacket)                  | 5,2 mm   |
| Tolerance outer diameter (sheath)        | ± 5 %  |
| Material wire insulation                 | PP   |
| Amount wires                             | 3  |
| Outer diameter insulation                | 1,7 mm   |
| Outer diameter tolerance core insulation | ± 5 %  |
| Shore hardness wire insulation           | 74 ± 3 Shore D   |
| Ingredient freeness wire insulation      | lead-free, cadmium-free, CFC-free, halogen-free, silicone-free |

|   |  |
|---|--|
| Amount strands (wire)                             | 42   |
| Diameter of single wires                          | 0,15 mm  |
| Conductor crosssection (wire)                     | 0,75 mm <sup>2</sup>                                 |
| Material conductor wire                           | Stranded copper wire, bare                           |
| Conductor type (wire)                             | strand class 6                                       |
| Nominal voltage AC max.                           | 300 V  |
| Current load capacity (standard)                  | to DIN VDE 0298-4                                    |
| Current load capacity min. wire                   | 12 A   |
| Electrical resistance line constant wire          | 26 Ω/km @ 20 °C                                      |
| AC withstand voltage (wire - wire)                | 2,5 kV @ 60 s  |
| Power frequency withstand voltage (wire - jacket) | 2,5 kV @ 60 s  |
| Min. operating temperature (static)               | -40 °C   |
| Max. operating temperature (fixed)                | 80 °C / 90 °C @ 10000 h Operation                    |
| Operating temperature min. (dynamic)              | -25 °C   |
| Operating temperature max. (dynamic)              | 80 °C / 90 °C @ 10000 h Operation                    |
| UV resistance                                     | DIN EN ISO 4892-2 A                                  |
| Flame resistance                                  | UL 1581 § 1100 FT2   UL 1581 § 1090   IEC 60332-2-2  |
| chemical resistance                               | Good, application-related testing                    |
| Gasoline resistance                               | Good, application-related testing                    |
| Oil resistance                                    | Good, application-related testing   DIN EN 60811-404 |
| Bending radius (fixed)                            | 5 x Outer diameter                                   |
| Bending radius (dynamic)                          | 10 x Outer diameter                                  |
| Travel speed (C-track)                            | 10 Mio. @ 25 °C                                      |
| No. of torsion cycles                             | 1 Mio.   |
| Torsion stress                                    | ± 360 °/m  |
| Torsion speed                                     | 35 cycles/min  |