

# MOREK

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## Electrical components

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*Enabling electrical connections through  
top-quality products and true partnerships.*

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According to IEC

**1000V AC**

**1500V DC**

# 1000V AC

# 1500V DC

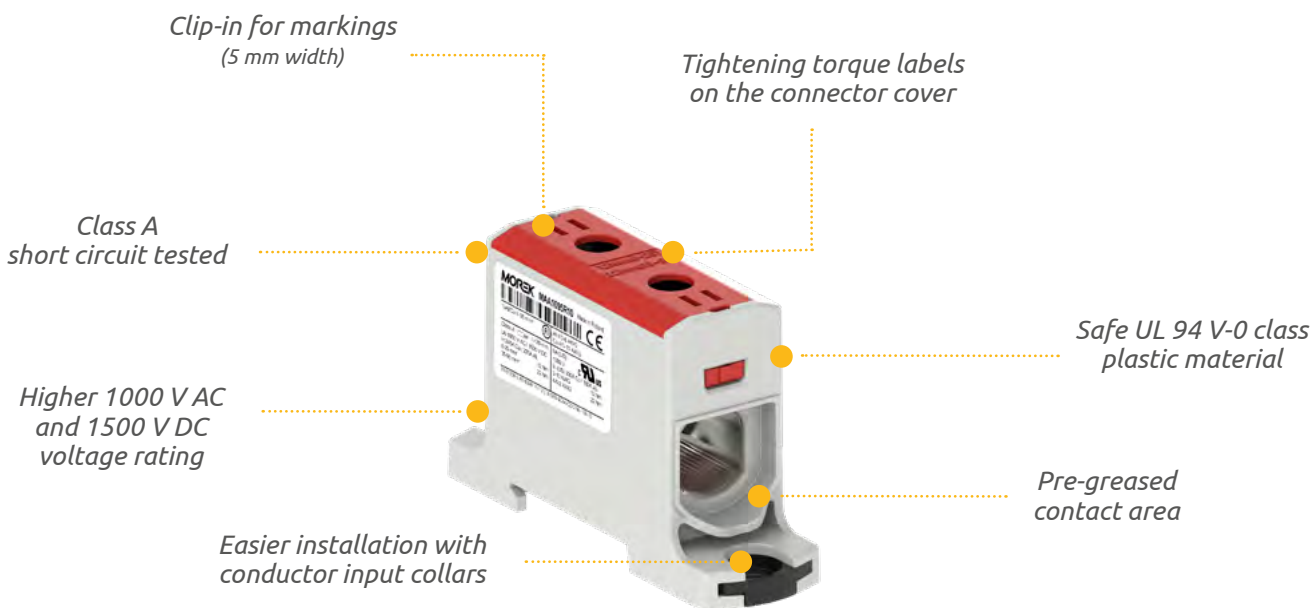
# 1000V AC/DC

(Al/Cu)

# Class A



*Universal terminals OTL are designed for copper and aluminium conductors. The terminals are suitable for all types of copper or aluminium conductors with cross-section up to 300 mm<sup>2</sup>. Multiple copper wires can be placed to the universal terminals OTL blocks according to the respective terminal type (see Table of universal terminals OTL wiring connectivity on page 9). IP protection class for OTL terminals is IP20.*



## Certification and product safety

Universal terminals OTL undergo rigorous testing and certification to ensure compliance with industry standards. They are certified according to **EN 60947-7-1:2009** and **EN 61238-1:2003**, which establish requirements for terminal blocks and connectors for power cables.

EN 61238-1:2003 classifies connectors into two categories

**Class A**, which undergo heat cycle and short-circuit testing for electricity distribution and industrial networks.

**Class B**, which only undergo heat cycle testing and are suitable for networks with rapid overload or short-circuit protection.

**Universal terminals OTL are certified as Class A connectors**, making them suitable for most applications. When choosing a connector, it is essential to ensure it bears the CE marking and Class A certification symbol, such as the FI mark, for reliable and safe electrical connections.

## Material classification according to UL 94 V-0 standard (vertical burning test)

| Criteria Conditions                                                                    | 94 V-0   | 94 V-1    | 94 V-2    |
|----------------------------------------------------------------------------------------|----------|-----------|-----------|
| Total flaming combustion for each specimen                                             | ≤ 10 sec | ≤ 30 sec  | ≤ 30 sec  |
| Total flaming combustion for all 5 specimens of any set                                | ≤ 50 sec | ≤ 250 sec | ≤ 250 sec |
| Flaming and glowing combustion for each specimen after second burner flame application | ≤ 30 sec | ≤ 60 sec  | ≤ 60 sec  |
| Cotton ignited by flaming drips from any specimen                                      | No       | No        | Yes       |

## Universal terminals OTL wiring connectivity

In case of Aluminum wire, only one wire is allowed to connect per connection

| Type      | Conductor cross-section (mm²) / number of copper wires per connection |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | Tightening torque (Nm)                                             | In (A)<br>Al / Cu |
|-----------|-----------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------------------------------------------------------|-------------------|
|           | 1,5                                                                   | 2,5   | 4     | 6     | 10    | 16    | 25    | 35    | 50    | 70    | 95    | 120   | 150   | 185   | 240   | 300   |                                                                    |                   |
| OTL 16    | 3 pcs                                                                 | 3 pcs | 2 pcs | 2 pcs | 1 pcs | 1 pcs |       |       |       |       |       |       |       |       |       |       | 1,5 Nm (1,5 mm²)<br>3,5 Nm (2,6 - 6 mm²)<br>7 Nm (10 - 16 mm²)     | 75 / 82           |
| OTL 35    |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 3 Nm (2,5 - 16 mm²)<br>6 Nm (25 - 35 mm²)                          | 120 / 135         |
| OTL 35-2  |                                                                       | 3 pcs | 3 pcs | 3 pcs | 3 pcs | 2 pcs | 1 pcs | 1 pcs |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 35-3X |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 35-5X |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 50    |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) | 145 / 160         |
| OTL 50-2  | 3 pcs                                                                 | 3 pcs | 3 pcs | 3 pcs | 3 pcs | 3 pcs | 2 pcs | 1 pcs | 1 pcs |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 50-3  |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 95    |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 12 Nm (6 - 25 mm²)<br>22Nm (35 - 95 mm²)                           | 220 / 245         |
| OTL 95-2  |                                                                       |       |       | 3 pcs | 3 pcs | 3 pcs | 3 pcs | 2 pcs | 1 pcs | 1 pcs | 1 pcs |       |       |       |       |       |                                                                    |                   |
| OTL 95-3  |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 150   |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 14 Nm (25 - 50 mm²)<br>30 Nm (70 - 150 mm²)                        | 290 / 320         |
| OTL 150-2 |                                                                       |       |       |       |       |       | 3 pcs | 3 pcs | 3 pcs | 2 pcs | 1 pcs | 1 pcs | 1 pcs |       |       |       |                                                                    |                   |
| OTL 150-3 |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 240   |                                                                       |       |       |       |       |       |       | 3 pcs | 3 pcs | 3 pcs | 2 pcs | 2 pcs | 1 pcs | 1 pcs | 1 pcs |       | 26 Nm (35 - 120 mm²)<br>40 Nm (150 - 240 mm²)                      | 380 / 425         |
| OTL 240-2 |                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                                    |                   |
| OTL 300-1 |                                                                       |       |       |       |       |       |       |       |       |       | 3 pcs | 2 pcs | 2 pcs | 1 pcs | 1 pcs | 1 pcs | 30 Nm (95-150 mm²)<br>60 Nm (185-300 mm²)                          | 440 / 490         |
| OTL 300-3 |                                                                       |       |       |       |       |       |       |       |       |       | 3 pcs | 2 pcs | 2 pcs | 1 pcs | 1 pcs | 1 pcs |                                                                    |                   |

We recommend using cable end sleeves, when using fine-strand wires with following cross-sections (single-wire connections):

**OTL 16:** 1,5 mm²...10 mm²

**OTL 35:** 2,5 mm²...25 mm²

**OTL 50:** 1,5 mm²...35 mm²

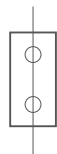
**OTL 95:** 6 mm²...70 mm²

**OTL 150:** 25 mm²...120 mm²

**OTL 240:** 35 mm²...185 mm²

**OTL 300:** 95 mm²...240 mm²





OTL 16

OTL 35

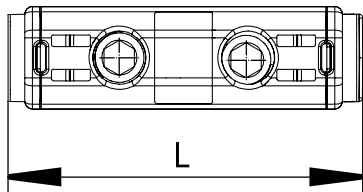
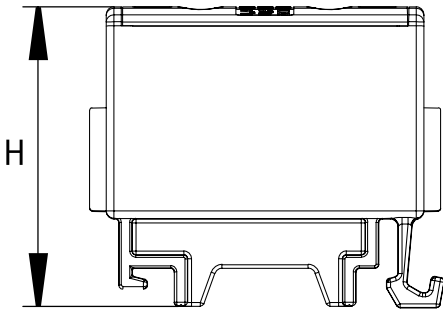
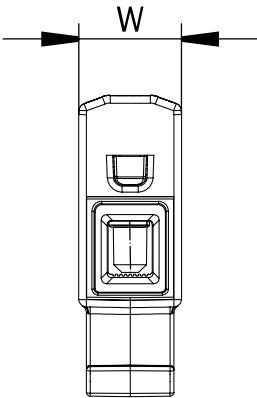
OTL 50

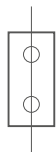
|              |                                                                                   |            |            |            |
|--------------|-----------------------------------------------------------------------------------|------------|------------|------------|
| Grey         |  | MAA1016A10 | MAA1035A10 | MAA1050A10 |
| Blue         |  | MAA1016B10 | MAA1035B10 | MAA1050B10 |
| Yellow-green |  | MAA1016Y10 | MAA1035Y10 | MAA1050Y10 |
| Red          |  | MAA1016R10 | MAA1035R10 | MAA1050R10 |
| Black        |  | MAA1016S10 | MAA1035S10 | MAA1050S10 |

Technical data

|                                      |                                                                                   |                                                              |                                                |                                                                    |
|--------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm²) |                                                                                   | 1,5 - 16                                                     | 2,5 - 35                                       | 1,5 - 50                                                           |
| Nominal voltage AC / DC (V)          |  | 1000 / 1500                                                  | 1000 / 1500                                    | 1000 / 1500                                                        |
| Nominal voltage AC / DC (V)          |  | 1000                                                         | 1000                                           | 1000                                                               |
| Nominal current (A)                  |  | 82 (Cu) / 75 (Al)                                            | 135 (Cu) / 120 (Al)                            | 160 (Cu) / 145 (Al)                                                |
| Nominal current (A)                  |  | 85 (Cu) / 65 (Al)                                            | 115 (Cu) / 90 (Al)                             | 150 (Cu) / 120 (Al)                                                |
| Width / Height / Length (mm)         |                                                                                   | 13,5 / 39,5 / 46,8                                           | 16 / 40 / 47                                   | 18 / 43 / 51,6                                                     |
| Screw, hexagonal key                 |                                                                                   | No. 4                                                        | No. 4                                          | No. 5                                                              |
| Tightening torque (Nm)               |                                                                                   | 1,5 Nm (1,5 mm²)<br>3,5 Nm (2,5 - 6 mm²)<br>7 Nm (10-16 mm²) | 3 Nm (2,5 - 16 mm²)<br>6 Nm (25 - 35 mm²)<br>- | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) |
| Mounting                             |                                                                                   | DIN rail                                                     | DIN rail                                       | DIN rail                                                           |
| Weight (g)                           |                                                                                   | 17                                                           | 27                                             | 30                                                                 |
| Package (pcs)                        |                                                                                   | 66                                                           | 54                                             | 48                                                                 |

Dimensions

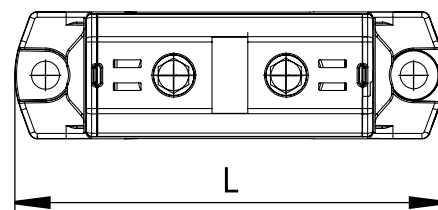
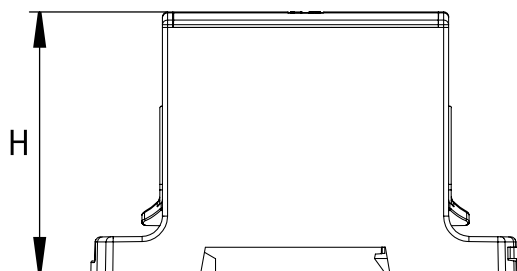
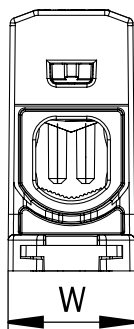


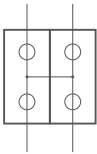

**OTL 95**
**OTL 150**
**OTL 240**
**OTL 300**

|              |  |            |            |            |            |
|--------------|--|------------|------------|------------|------------|
| Grey         |  | MAA1095A10 | MAA1150A10 | MAA1240A10 | MAA1300A10 |
| Blue         |  | MAA1095B10 | MAA1150B10 | MAA1240B10 | MAA1300B10 |
| Yellow-green |  | MAA1095Y10 | MAA1150Y10 | MAA1240Y10 | MAA1300Y10 |
| Red          |  | MAA1095R10 | MAA1150R10 | MAA1240R10 | MAA1300R10 |
| Black        |  | MAA1095S10 | MAA1150S10 | MAA1240S10 | MAA1300S10 |

**Technical data**

|                                                   |  |                                                                          |                                                                       |                                                                         |                                                                         |
|---------------------------------------------------|--|--------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) |  | 6 - 95                                                                   | 25 - 150                                                              | 35 - 240                                                                | 95 - 300                                                                |
| Nominal voltage AC / DC (V)                       |  | 1000 / 1500                                                              | 1000 / 1500                                                           | 1000 / 1500                                                             | 1000 / 1500                                                             |
| Nominal voltage AC / DC (V)                       |  | 1000                                                                     | 1000                                                                  | 1000                                                                    | -                                                                       |
| Nominal current (A)                               |  | 245 (Cu) / 220 (Al)                                                      | 320 (Cu) / 290 (Al)                                                   | 425 (Cu) / 380 (Al)                                                     | 490 (Cu) / 440 (Al)                                                     |
| Nominal current (A)                               |  | 230 (Cu) / 180 (Al)                                                      | 285 (Cu) / 250 (Al)                                                   | 380 (Cu) / 310 (Al)                                                     | -                                                                       |
| Width / Height / Length (mm)                      |  | 25 / 51 / 84                                                             | 31 / 54 / 84                                                          | 37 / 65 / 106                                                           | 44,5 / 71 / 122                                                         |
| Screw, hexagonal key                              |  | No. 6                                                                    | No. 6                                                                 | No. 8                                                                   | No. 8                                                                   |
| Tightening torque (Nm)                            |  | 12 Nm (6 - 25 mm <sup>2</sup> )<br>22 Nm (35 - 95 mm <sup>2</sup> )<br>- | 14 Nm (25 - 50 mm <sup>2</sup> )<br>35 Nm (70 - 150 mm <sup>2</sup> ) | 26 Nm (35 - 120 mm <sup>2</sup> )<br>46 Nm (150 - 240 mm <sup>2</sup> ) | 30 Nm (95 - 150 mm <sup>2</sup> )<br>60 Nm (185 - 300 mm <sup>2</sup> ) |
| Mounting                                          |  | DIN rail, screw                                                          | DIN rail, screw                                                       | DIN rail, screw                                                         | DIN rail, screw                                                         |
| Weight (g)                                        |  | 65                                                                       | 100                                                                   | 195                                                                     | 332                                                                     |
| Package (pcs)                                     |  | 24                                                                       | 24                                                                    | 24                                                                      | 3                                                                       |

**Dimensions**




OTL 35-2



OTL 50-2



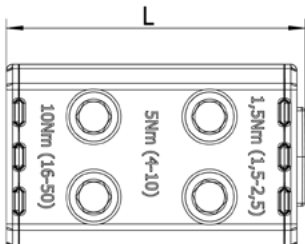
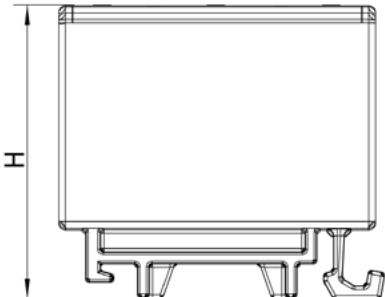
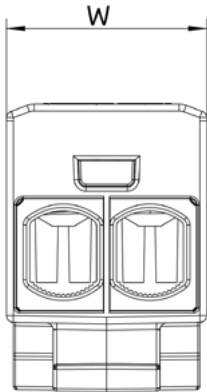
OTL 95-2

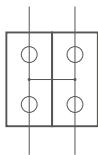
|              |  |            |            |            |
|--------------|--|------------|------------|------------|
| Grey         |  | MAA2035A10 | MAA2050A10 | MAA2095A10 |
| Blue         |  | MAA2035B10 | MAA2050B10 | MAA2095B10 |
| Yellow-green |  | MAA2035Y10 | MAA2050Y10 | MAA2095Y10 |
| Red          |  | MAA2035R10 | MAA2050R10 | MAA2095R10 |
| Black        |  | MAA2035S10 | MAA2050S10 | MAA2095S10 |

Technical data

|                                      |  |                                                |                                                                    |                                                |
|--------------------------------------|--|------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------|
| Conductor cross-section Cu, Al (mm²) |  | 2,5 - 35                                       | 1,5 - 50                                                           | 6 - 95                                         |
| Nominal voltage AC / DC (V)          |  | 1000 / 1500                                    | 1000 / 1500                                                        | 1000 / 1500                                    |
| Nominal voltage AC / DC (V)          |  | 1000                                           | 1000                                                               | 1000                                           |
| Nominal current (A)                  |  | 270 (Cu) / 120 (Al)                            | 320 (Cu) / 290 (Al)                                                | 490 (Cu) / 220 (Al)                            |
| Nominal current (A)                  |  | 115 (Cu) / 90 (Al)                             | 150 (Cu) / 120 (Al)                                                | 230 (Cu) / 180 (Al)                            |
| Width / Height / Length (mm)         |  | 27 / 40 / 47                                   | 30 / 43 / 51,6                                                     | 42 / 51 / 84                                   |
| Screw, hexagonal key                 |  | No. 4                                          | No. 5                                                              | No. 6                                          |
| Tightening torque (Nm)               |  | 3 Nm (2,5 - 16 mm²)<br>6 Nm (25 - 35 mm²)<br>- | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) | 12 Nm (6 - 25 mm²)<br>22 Nm (35 - 95 mm²)<br>- |
| Mounting                             |  | DIN rail                                       | DIN rail                                                           | DIN rail, screw                                |
| Weight (g)                           |  | 44                                             | 90                                                                 | 125                                            |
| Package (pcs)                        |  | 30                                             | 54                                                                 | 24                                             |

Dimensions




**OTL 150-2**

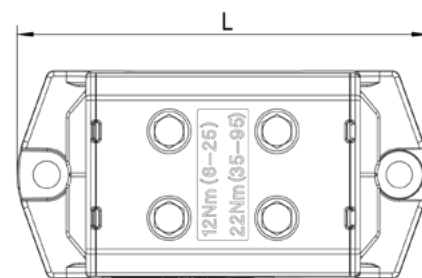
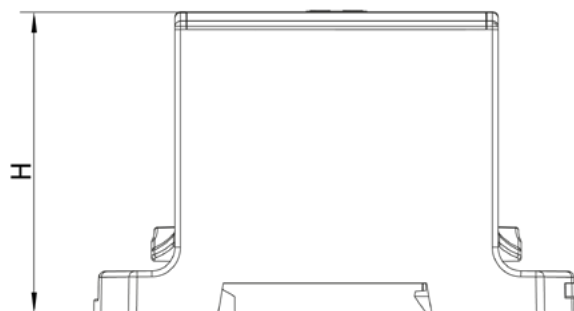
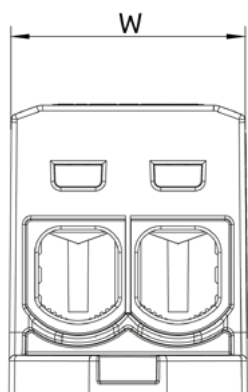
**OTL 240-2**

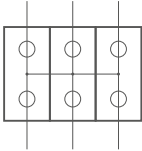
**OTL 300-2**

|              |   |            |            |            |
|--------------|---|------------|------------|------------|
| Grey         | ● | MAA2150A10 | MAA2240A10 | MAA2300A10 |
| Blue         | ● | MAA2150B10 | MAA2240B10 | MAA2300B10 |
| Yellow-green | ● | MAA2150Y10 | MAA2240Y10 | MAA2300Y10 |
| Red          | ● | MAA2150R10 | MAA2240R10 | MAA2300R10 |
| Black        | ● | MAA2150S10 | MAA2240S10 | MAA2300S10 |

**Technical data**

|                                                   |  |                                                                            |                                                                              |                                                                              |
|---------------------------------------------------|--|----------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) |  | 25 - 150                                                                   | 35 - 240                                                                     | 95 - 300                                                                     |
| Nominal voltage AC / DC (V)                       |  | 1000 / 1500                                                                | 1000 / 1500                                                                  | 1000 / 1500                                                                  |
| Nominal voltage AC / DC (V)                       |  | 1000                                                                       | 1000                                                                         | -                                                                            |
| Nominal current (A)                               |  | 640 (Cu) / 290 (Al)                                                        | 850 (Cu) / 380 (Al)                                                          | 980 (Cu) / 630 (Al)                                                          |
| Nominal current (A)                               |  | 285 (Cu) / 250 (Al)                                                        | 380 (Cu) / 310 (Al)                                                          | -                                                                            |
| Width / Height / Length (mm)                      |  | 51 / 54 / 84                                                               | 60 / 65 / 106                                                                | 44,5 / 71 / 122                                                              |
| Screw, hexagonal key                              |  | No. 6                                                                      | No. 8                                                                        | No. 8                                                                        |
| Tightening torque (Nm)                            |  | 14 Nm (25 - 50 mm <sup>2</sup> )<br>30 Nm (70 - 150 mm <sup>2</sup> )<br>- | 26 Nm (35 - 120 mm <sup>2</sup> )<br>40 Nm (150 - 240 mm <sup>2</sup> )<br>- | 30 Nm (95 - 150 mm <sup>2</sup> )<br>60 Nm (185 - 300 mm <sup>2</sup> )<br>- |
| Mounting                                          |  | DIN rail, screw                                                            | DIN rail, screw                                                              | DIN rail, screw                                                              |
| Weight (g)                                        |  | 170                                                                        | 340                                                                          | 632                                                                          |
| Package (pcs)                                     |  | 24                                                                         | 12                                                                           | 3                                                                            |

**Dimensions**




OTL 50-3

OTL 95-3

OTL 150-3

OTL 300-3

|              |  |            |            |            |            |
|--------------|--|------------|------------|------------|------------|
| Grey         |  | MAA3050A10 | MAA3095A10 | MAA3150A10 | MAA3300A10 |
| Blue         |  | MAA3050B10 | MAA3095B10 | MAA3150B10 | MAA3300B10 |
| Yellow-green |  | MAA3050Y10 | MAA3095Y10 | MAA3150Y10 | MAA3300Y10 |
| Red          |  | MAA3050R10 | MAA3095R10 | MAA3150R10 | MAA3300R10 |
| Black        |  | MAA3050S10 | MAA3095S10 | MAA3150S10 | MAA3300S10 |

Technical data

|                                      |  |                                                                    |                                                |                                                  |                                                    |
|--------------------------------------|--|--------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------|----------------------------------------------------|
| Conductor cross-section Cu, Al (mm²) |  | 1.5 - 50                                                           | 6 - 95                                         | 25 - 150                                         | 95 - 300                                           |
| Nominal voltage AC / DC (V)          |  | 1000 / 1500                                                        | 1000 / 1500                                    | 1000 / 1500                                      | 1000 / 1500                                        |
| Nominal voltage AC / DC (V)          |  | 1000                                                               | 1000                                           | 1000                                             | -                                                  |
| Nominal current (A)                  |  | 320 (Cu) / 290 (Al)                                                | 490 (Cu) / 440 (Al)                            | 640 (Cu) / 500 (Al)                              | 850 (Cu) / 630 (Al)                                |
| Nominal current (A)                  |  | 150 (Cu) / 120 (Al)                                                | 230 (Cu) / 180 (Al)                            | 285 (Cu) / 250 (Al)                              | -                                                  |
| Width / Height / Length (mm)         |  | 44,6 / 40,8 / 79,5                                                 | 59 / 51 / 84                                   | 71,3 / 54 / 84                                   | 101 / 78 / 120                                     |
| Screw, hexagonal key                 |  | No. 5                                                              | No. 6                                          | No. 6                                            | No. 8                                              |
| Tightening torque (Nm)               |  | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) | 12 Nm (6 - 25 mm²)<br>22 Nm (35 - 95 mm²)<br>- | 14 Nm (25 - 50 mm²)<br>30 Nm (70 - 150 mm²)<br>- | 35 Nm (95 - 150 mm²)<br>45 Nm (180 - 300 mm²)<br>- |
| Mounting                             |  | DIN rail, screw                                                    | DIN rail, screw                                | DIN rail, screw                                  | DIN rail, screw                                    |
| Weight (g)                           |  | 109                                                                | 178                                            | 246                                              | 730                                                |
| Package (pcs)                        |  | 24                                                                 | 12                                             | 12                                               | 1                                                  |

\* Currents achievable by connecting multiple input cables.

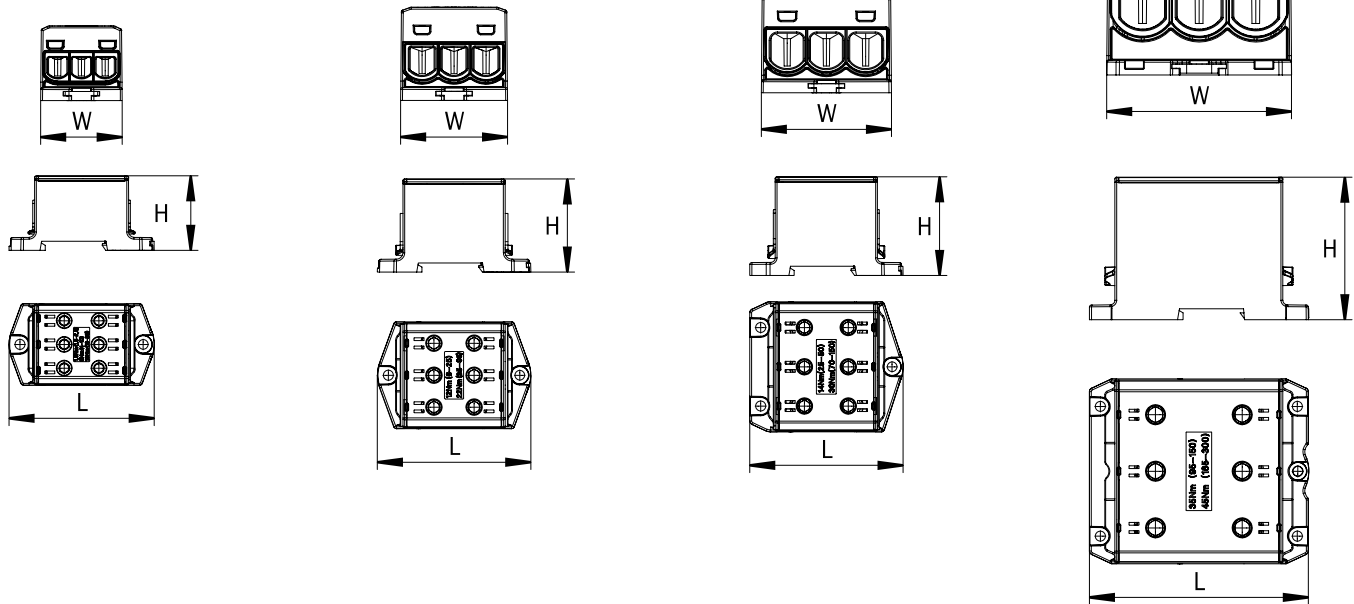
Dimensions

OTL 50-3

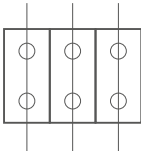
OTL 95-3

OTL 150-3

OTL 300-3







OTL 35-3X



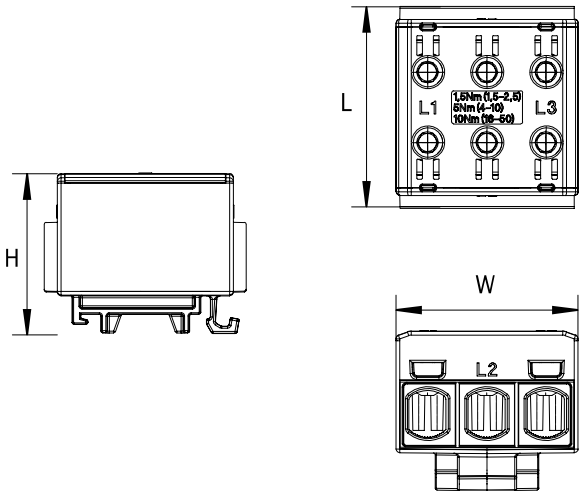
OTL 50-3X

|                          |                                                                                   |            |            |
|--------------------------|-----------------------------------------------------------------------------------|------------|------------|
| Grey                     |  | MAA1335A10 | MAA1350A10 |
| Grey, Blue, Yellow-green |  | -          | -          |
| Yellow-green             |  | -          | -          |

Technical data

|                                      |                                                                                   |                                           |                                                                    |
|--------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm²) |                                                                                   | 2,5 - 35                                  | 1,5 - 50                                                           |
| Nominal voltage AC / DC (V)          |  | 1000 / 1500                               | 1000 / 1500                                                        |
| Nominal voltage AC / DC (V)          |  | 1000                                      | 1000                                                               |
| Nominal current (A)                  |  | 3 x 135 (Cu) / 3 x 120 (Al)               | 3 x 160 (Cu) / 3 x 145 (Al)                                        |
| Nominal current (A)                  |  | 3 x 115 (Cu) / 3 x 90 (Al)                | 3 x 150 (Cu) / 3 x 120 (Al)                                        |
| Width / Height / Length (mm)         |                                                                                   | 46 / 40 / 49                              | 49 / 43 / 54,6                                                     |
| Screw, hexagonal key                 |                                                                                   | No. 4                                     | No. 5                                                              |
| Tightening torque (Nm)               |                                                                                   | 3 Nm (2,5 - 16 mm²)<br>6 Nm (25 - 35 mm²) | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) |
| Mounting                             |                                                                                   | DIN rail                                  | DIN rail                                                           |
| Weight (g)                           |                                                                                   | 70                                        | 81                                                                 |
| Package (pcs)                        |                                                                                   | 18                                        | 30                                                                 |

Dimensions



The OTL-PEN universal series terminals are designed to create a point for dividing TN-C systems into TN-S.

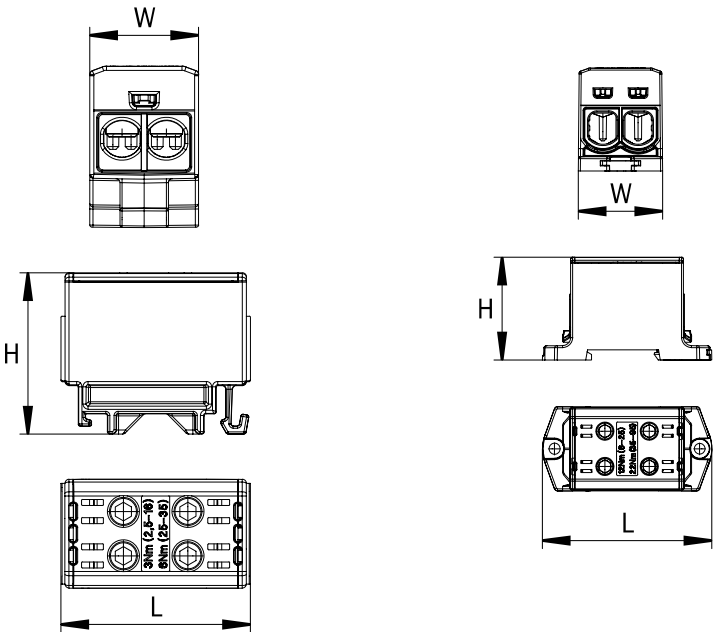


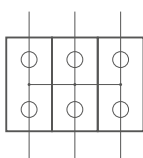
|                   |                                                                                   |            |            |            |            |            |            |
|-------------------|-----------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Yellow-green-blue |  | MAA2035P10 | MAA2050P10 | MAA2095P10 | MAA2150P10 | MAA2240P10 | MAA2300P10 |
|-------------------|-----------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|

Technical data

|                                      |                                                                                                       |                                                                    |                                                |                                                  |                                                    |                                                    |
|--------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Conductor cross-section Cu, Al (mm²) | 2,5-35                                                                                                | 1,5 - 50                                                           | 6 - 95                                         | 25 - 150                                         | 35 - 240                                           | 95 - 300                                           |
| Nominal voltage AC/DC (V)            |  1000 / 1500         | 1000 / 1500                                                        | 1000 / 1500                                    | 1000 / 1500                                      | 1000 / 1500                                        | 1000 / 1500                                        |
| Nominal current (A)                  |  270 (Cu) / 120 (Al) | 320 (Cu) / 290 (Al)                                                | 490 (Cu) / 220 (Al)                            | 640 (Cu) / 290 (Al)                              | 850 (Cu) / 380 (Al)                                | 850 (Cu) / 630 (Al)                                |
| Width / Height / Length (mm)         | 27 / 40 / 47                                                                                          | 30 / 43 / 51,6                                                     | 42 / 51 / 84                                   | 51 / 54 / 84                                     | 60 / 65 / 106                                      | 101 / 78 / 120                                     |
| Screw, hexagonal key                 | No. 4                                                                                                 | No. 5                                                              | No. 6                                          | No. 6                                            | No. 8                                              | No. 8                                              |
| Tightening torque (Nm)               | 3 Nm (2,5 - 16 mm²)<br>6 Nm (25 - 35 mm²)<br>-                                                        | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) | 12 Nm (6 - 25 mm²)<br>22 Nm (35 - 95 mm²)<br>- | 14 Nm (25 - 50 mm²)<br>30 Nm (70 - 150 mm²)<br>- | 26 Nm (35 - 120 mm²)<br>40 Nm (150 - 240 mm²)<br>- | 35 Nm (95 - 150 mm²)<br>45 Nm (180 - 300 mm²)<br>- |
| Mounting                             | DIN rail                                                                                              | DIN rail                                                           | DIN rail, screw                                | DIN rail, screw                                  | DIN rail, screw                                    | DIN rail, screw                                    |
| Weight (g)                           | 44                                                                                                    | 90                                                                 | 125                                            | 170                                              | 340                                                | 623                                                |
| Package (pcs)                        | 30                                                                                                    | 54                                                                 | 24                                             | 24                                               | 12                                                 | 1                                                  |

Dimensions





OTL-PEN 50-3



OTL-PEN 95-3



OTL-PEN 150-3

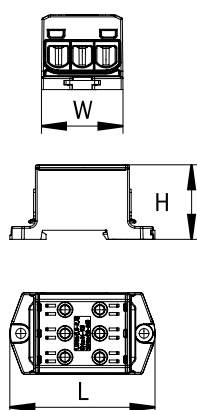
|                   |  |            |            |            |
|-------------------|--|------------|------------|------------|
| Yellow-green-blue |  | MAA3050P10 | MAA3095P10 | MAA3150P10 |
|-------------------|--|------------|------------|------------|

#### Technical data

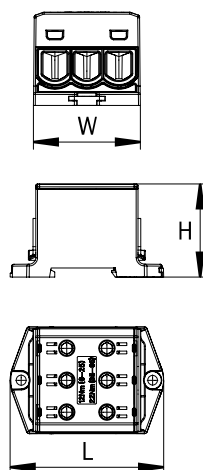
|                                                   |                                                                                                           |                                                                          |                                                                            |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 1.5 - 50                                                                                                  | 6 - 95                                                                   | 25 - 150                                                                   |
| Nominal voltage AC / DC (V)                       | 1000 / 1500                                                                                               | 1000 / 1500                                                              | 1000 / 1500                                                                |
| Nominal current (A)                               | 320 (Cu) / 290 (Al)                                                                                       | 490 (Cu) / 440 (Al)                                                      | 640 (Cu) / 500 (Al)                                                        |
| Width / Height / Length (mm)                      | 44,6 / 40,8 / 79,5                                                                                        | 59 / 51 / 84                                                             | 71,3 / 54 / 84                                                             |
| Screw, hexagonal key                              | No. 5                                                                                                     | No. 6                                                                    | No. 6                                                                      |
| Tightening torque (Nm)                            | 1,5 Nm (1,5 - 2,5 mm <sup>2</sup> )<br>5 Nm (4 - 10 mm <sup>2</sup> )<br>10 Nm (16 - 50 mm <sup>2</sup> ) | 12 Nm (6 - 25 mm <sup>2</sup> )<br>22 Nm (35 - 95 mm <sup>2</sup> )<br>- | 14 Nm (25 - 50 mm <sup>2</sup> )<br>30 Nm (70 - 150 mm <sup>2</sup> )<br>- |
| Mounting                                          | DIN rail, screw                                                                                           | DIN rail, screw                                                          | DIN rail, screw                                                            |
| Weight (g)                                        | 109                                                                                                       | 178                                                                      | 246                                                                        |
| Package (pcs)                                     | 24                                                                                                        | 12                                                                       | 12                                                                         |

## Dimensions

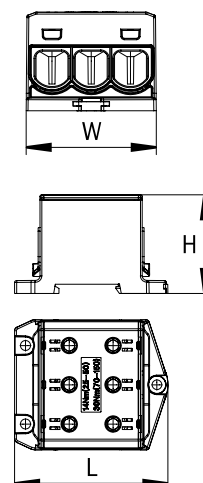
OTL-PEN 50-3

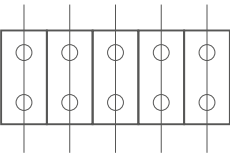


OTL-PEN 95-3



OTL-PEN 150-3





OTL 16-5x



OTL 35-5X



OTL 50-5x



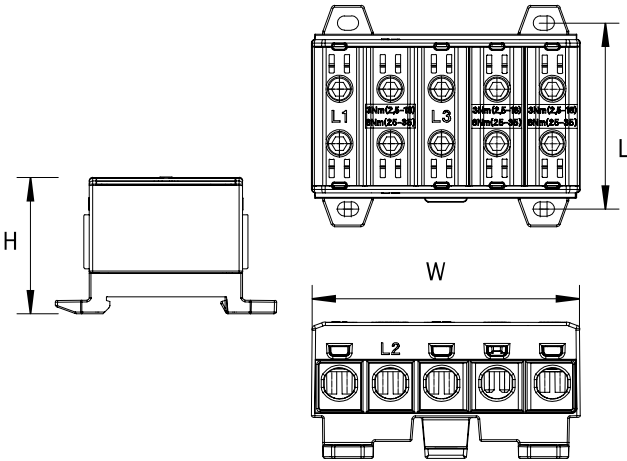
OTL 95-5x

|                          |                                                                                                                                                                                                                                                       |            |            |            |            |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|
| Grey, Blue, Yellow-green |    | MAA5016A11 | MAA5035A10 | MAA5050A10 | MAA5095A10 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|

Technical data

|                                      |                                                                                    |                                                                |                                                |                                                                    |                                                |
|--------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------|
| Conductor cross-section Cu, Al (mm²) |                                                                                    | 1,5 - 16                                                       | 2,5 - 35                                       | 1,5 - 50                                                           | 6 - 95                                         |
| Nominal voltage AC / DC (V)          |   | 1000 / 1500                                                    | 1000 / 1500                                    | 1000 / 1500                                                        | 1000 / 1500                                    |
| Nominal voltage AC / DC (V)          |   | -                                                              | 1000                                           | -                                                                  | -                                              |
| Nominal current (A)                  |   | 5 x 82 (Cu) / 5 x 75 (Al)                                      | 5 x 135 (Cu) / 5 x 120 (Al)                    | 5 x 160 (Cu) / 5 x 145 (Al)                                        | 5 x 245 (Cu) / 5 x 220 (Al)                    |
| Nominal current (A)                  |  | -                                                              | 5 x 115 (Cu) / 5 x 90 (Al)                     | -                                                                  | -                                              |
| Width / Height / Length (mm)         |                                                                                    | 61 / 32 / 65                                                   | 78,5 / 40 / 65                                 | 86,1 / 43 / 67,7                                                   | 117,4 / 50,5 / 82,5                            |
| Screw, hexagonal key                 |                                                                                    | No. 4                                                          | No. 4                                          | No. 5                                                              | No. 6                                          |
| Tightening torque (Nm)               |                                                                                    | 1,5 Nm (1,5 mm²)<br>3,5 Nm (2,5 - 6 mm²)<br>7 Nm (10 - 16 mm²) | 3 Nm (2,5 - 16 mm²)<br>6 Nm (25 - 35 mm²)<br>- | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 10 mm²)<br>10 Nm (16 - 50 mm²) | 12 Nm (6 - 25 mm²)<br>22 Nm (35 - 95 mm²)<br>- |
| Mounting                             |                                                                                    | DIN rail, screw                                                | DIN rail, screw                                | DIN rail, screw                                                    | DIN rail, screw                                |
| Weight (g)                           |                                                                                    | 72                                                             | 120                                            | 196                                                                | 323                                            |
| Package (pcs)                        |                                                                                    | 10                                                             | 16                                             | 8                                                                  | 10                                             |

Dimensions



**Protective plastic covers are accessories for universal terminals OTL used for blanking unused connection space or maintaining IP20 protection class with smaller wire cross-section. They are offered for OTL 50, OTL 95, OTL 150, 240 and OTL 300 series.**



**Finger guard  
OTL 50**



**Finger guard  
OTL 95**



**Finger guard  
OTL 150**



**Finger guard  
OTL 240**



**Finger guard  
OTL 300**

|      |            |            |            |            |            |
|------|------------|------------|------------|------------|------------|
| Grey | MAA0050A10 | MAA0095A10 | MAA0150A10 | MAA0240A10 | MAA0300A10 |
|------|------------|------------|------------|------------|------------|

#### Technical data

|                              |                |                |                |                |                |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Width / Height / Length (mm) | 14 / 31,5 / 10 | 18,3 / 45 / 10 | 22 / 47,5 / 10 | 28 / 57,5 / 10 | 32 / 57,5 / 10 |
| Material                     | PA 66          | PA 66          | PA 66          | PA 66          | PA 66          |
| Weight (g)                   | 0,8            | 1,4            | 1,7            | 2,7            | 3,2            |
| Package (pcs)                | 100            | 100            | 100            | 100            | 100            |

\* Compatible with the new OTL terminals 1500 V DC

## Contact grease SR-1

**Contact grease SR-1 is a lubrication grease and rust inhibitor designed for electrical connectors. It can be used both indoors and outdoors.**

#### Materials

- Lithium thickened grease, containing antioxidants and corrosion inhibitors

**Warning:** prolonged or repeated skin contact may irritate the skin and produce dermatitis.

#### Advantages

- Good protection against both copper and steel corrosion
- Prevention of oxidation of aluminium surfaces
- Reduction of transition resistance while used with wire brush

#### Standards

- DIN 51502 K2K-30
- ISO 6743 ISO-L-XCCHA2

## Contact grease SR-1 250 ml



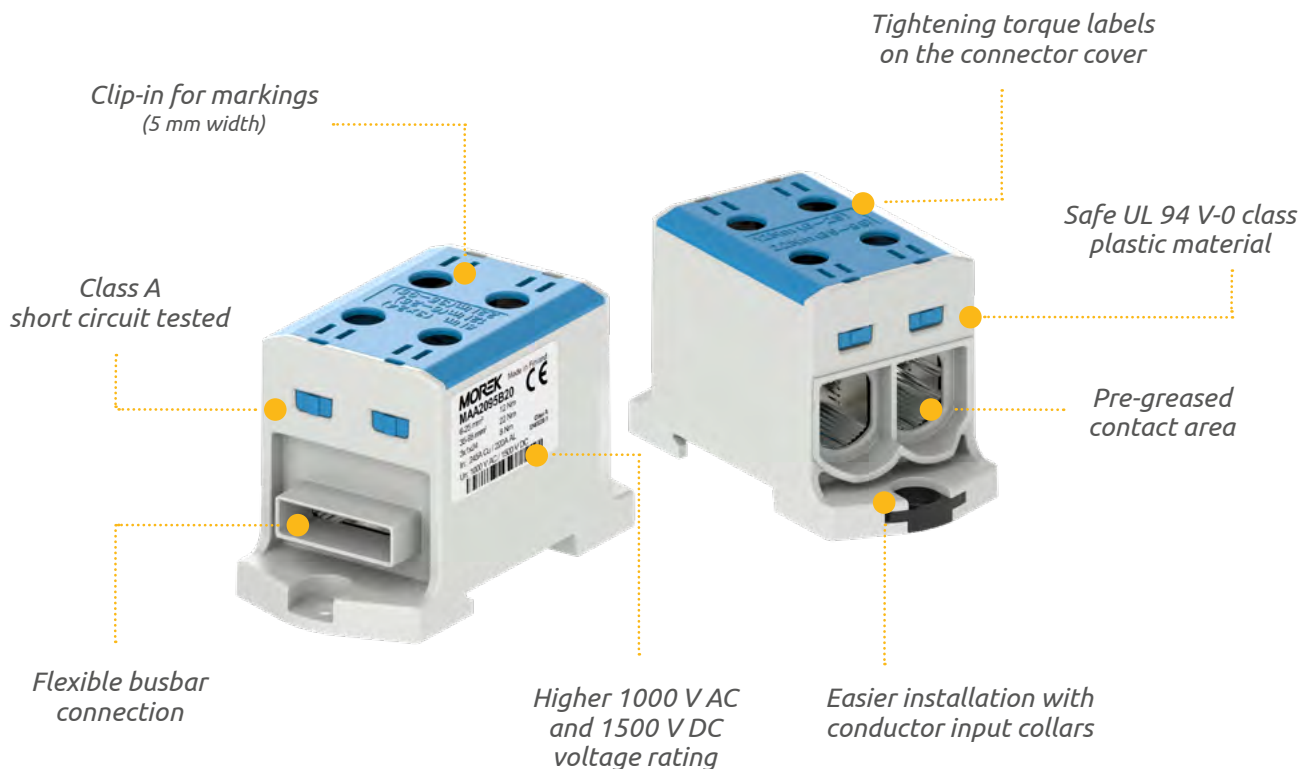
#### SR-1

|                           |            |
|---------------------------|------------|
| Contact grease SR-1 250ml | MYA0001A10 |
|---------------------------|------------|

#### Technical data

|                                              |            |
|----------------------------------------------|------------|
| Base oil viscosity / cSt at 40 °C            | 112        |
| Base oil viscosity / cSt at 100 °C           | 10         |
| Dropping point / °C                          | >180       |
| Temperature range / °C                       | -30 to 110 |
| Thickener                                    | Lithium    |
| SKF Emcor WWO distilled water / ISO 11007mod | 0-0        |
| Copper corrosion 24h / 100 °C / ASTM D4048   | 1b         |
| Water resistance / DIN 51807 / 1             | 0-90       |
| Oil separation 168h / 40 °C / IP121          | 6%         |

**OTL terminals for flexible busbars are designed for connection of copper (bare or tinned) flexible busbars to copper or aluminium cable, with cable cross-sections of up to 300 mm<sup>2</sup> and flexible busbar dimensions of up to 6x1x40 mm. The terminals retain all the benefits of OTL terminals, including 1500V DC rating, UL94 V0 class plastic, Class A certification and many others!**



## Certification and product safety

Universal terminals OTL undergo rigorous testing and certification to ensure compliance with industry standards. They are certified according to **EN 60947-7-1:2009** and **EN 61238-1:2003**, which establish requirements for terminal blocks and connectors for power cables.

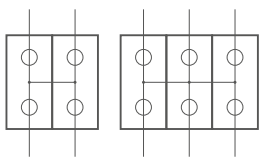
EN 61238-1:2003 classifies connectors into two categories

**Class A**, which undergo heat cycle and short-circuit testing for electricity distribution and industrial networks.

**Class B**, which only undergo heat cycle testing and are suitable for networks with rapid overload or short-circuit protection.

**Universal terminals OTL are certified as Class A connectors**, making them suitable for most applications. When choosing a connector, it is essential to ensure it bears the CE marking and Class A certification symbol, such as the FI mark, for reliable and safe electrical connections.





OTL 95-2B



OTL 300-3B

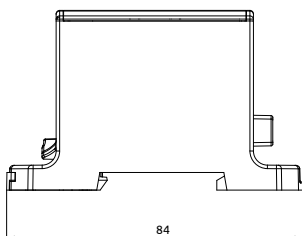
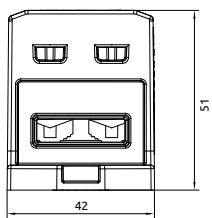
|              |                                                                                   |            |            |
|--------------|-----------------------------------------------------------------------------------|------------|------------|
| Grey         |  | MAA2095A20 | MAA3300A20 |
| Blue         |  | MAA2095B20 | MAA3300B20 |
| Yellow-green |  | MAA2095Y20 | MAA3300Y20 |

Technical data

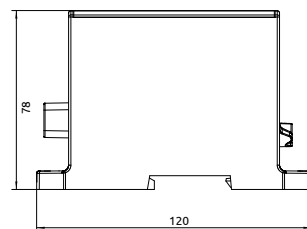
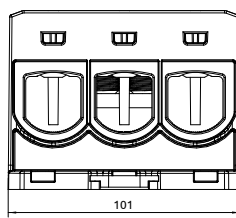
|                                                   |                                                                                               |                                                                                                       |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 6 - 95                                                                                        | 95 - 300                                                                                              |
| Busbar cross-section, Cu (mm <sup>2</sup> )       | 3x1x24                                                                                        | 3x1x32 - 6x1x40                                                                                       |
| Nominal voltage AC / DC (V)                       |  1000 / 1500 | 1000 / 1500                                                                                           |
| Nominal current (A)                               | 245 (Cu) / 220 (Al)                                                                           | 630 (Cu) / 630 (Al)                                                                                   |
| Width / Height / Length (mm)                      | 42 / 51 / 84                                                                                  | 101 / 78 / 120                                                                                        |
| Screw, hexagonal key                              | No. 6                                                                                         | No. 6, No. 8                                                                                          |
| Tightening torque (Nm)                            | 12 Nm (6 - 25 mm <sup>2</sup> )<br>22 Nm (35 - 95 mm <sup>2</sup> )<br>8 Nm (3x1x24 mm)       | 35 Nm (95 - 150 mm <sup>2</sup> )<br>45 Nm (180 - 300 mm <sup>2</sup> )<br>15 Nm (3x1x32 - 6x1x40 mm) |
| Mounting                                          | DIN rail, screw                                                                               | DIN rail, screw                                                                                       |
| Weight (g)                                        | 125                                                                                           | 499                                                                                                   |
| Package (pcs)                                     | 24                                                                                            | 1                                                                                                     |

Dimensions

OTL 95-2B



OTL 300-3B



# Distribution blocks OJL

**1000V AC**  
**1500V DC**

**Bimetal**  
**(Al/Cu)**

Up to  
**600 A**  
**240 mm<sup>2</sup>**

**Class A**

Certified according to  
standards EN 61238-1  
and EN 60947-7-1



**Distribution blocks OJL distribute larger cross-section conductors to smaller ones with various design options, including nominal connecting cross-sections of 6 mm<sup>2</sup> to 240 mm<sup>2</sup>. They can be mounted on DIN rails or solid surfaces, offer a maximum operating temperature of 80 °C, and provide IP20 protection.**



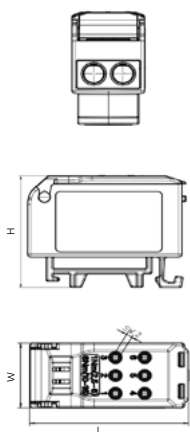
|              | OJL 80A    | OJL 135A   | OJL 200A   | OJL 280A   |
|--------------|------------|------------|------------|------------|
| Black / Grey | MAB1080S10 | MAB1135S10 | MAB1201S10 | MAB1281S10 |
| Blue / Grey  | MAB1080B10 | MAB1135B10 | MAB1201B10 | MAB1281B10 |
| Green / Grey | MAB1080G10 | MAB1135G10 | MAB1201G10 | MAB1281G10 |

#### Technical data

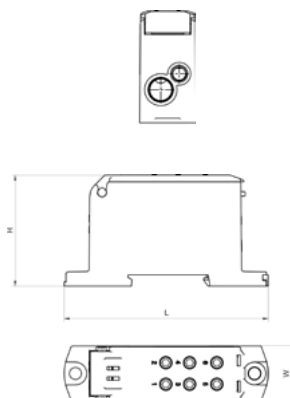
|                                     |                                                                                                |                                                                                                                                                                                                    |                                                                                                              |                                                                                                                                                                                                                                                                                                            |
|-------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conductor cross-section</b>      |                                                                                                |                                                                                                                                                                                                    |                                                                                                              |                                                                                                                                                                                                                                                                                                            |
| Input wire Al/Cu (mm <sup>2</sup> ) | 2 x  2,5 - 16 | 1 x  2,5 - 35<br>1 x  2,5 - 10   | 1 x  10 - 70              | 1 x  35 - 120                                                                                                                                                                                                           |
| Output wire Cu (mm <sup>2</sup> )   | 6 x  2,5 - 6  | 4 x  2,5 - 16<br>2 x  2,5 - 10 | 6 x  2,5 - 16             | 4 x  2,5 - 10<br>5 x  2,5 - 16<br>2 x  6 - 35 |
| Nominal voltage AC / DC (V)         | 1000 / 1500                                                                                    | 1000                                                                                                                                                                                               | 1000                                                                                                         | 1000                                                                                                                                                                                                                                                                                                       |
| Nominal current (A)                 | 80 (Cu) / 75 (Al)                                                                              | 135 (Cu) / 120 (Al)                                                                                                                                                                                | 200 (Cu) / 160 (Al)                                                                                          | 280 (Cu) / 250 (Al)                                                                                                                                                                                                                                                                                        |
| Width / Height / Length (mm)        | 23,6 / 40,6 / 52                                                                               | 24,3 / 49 / 90                                                                                                                                                                                     | 32,4 / 46 / 75,8                                                                                             | 44,4 / 51 / 97                                                                                                                                                                                                                                                                                             |
| Screw, hexagonal key                | No. 2                                                                                          | No. 3 / 4                                                                                                                                                                                          | No. 3 / 5                                                                                                    | No. 3 / 4 / 6                                                                                                                                                                                                                                                                                              |
| Tightening torque (Nm)              | 1 Nm (2,5-6 mm <sup>2</sup> )<br>6 Nm (10-16 mm <sup>2</sup> )                                 | 3 Nm (2,5 - 16 mm <sup>2</sup> )<br>6 Nm (25 - 35 mm <sup>2</sup> )                                                                                                                                | 3 Nm (2,5 - 16 mm <sup>2</sup> )<br>6 Nm (25 - 35 mm <sup>2</sup> )<br>10 Nm (50 - 70 mm <sup>2</sup> )<br>- | 3 Nm (2,5 - 16 mm <sup>2</sup> )<br>6 Nm (25 - 35 mm <sup>2</sup> )<br>10 Nm (50 - 70 mm <sup>2</sup> )<br>19 Nm (95 - 120 mm <sup>2</sup> )                                                                                                                                                               |
| Mounting                            | DIN rail                                                                                       | DIN rail, screw                                                                                                                                                                                    | DIN rail, screw                                                                                              | DIN rail, screw                                                                                                                                                                                                                                                                                            |
| Weight (g)                          | 38                                                                                             | 75                                                                                                                                                                                                 | 84                                                                                                           | 178                                                                                                                                                                                                                                                                                                        |
| Package (pcs)                       | 36                                                                                             | 36                                                                                                                                                                                                 | 30                                                                                                           | 12                                                                                                                                                                                                                                                                                                         |

## Dimensions

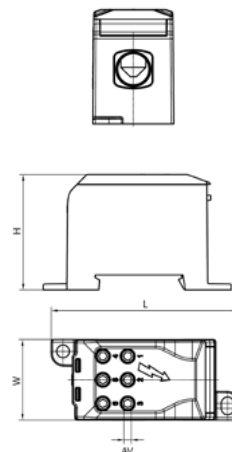
OJL 80A



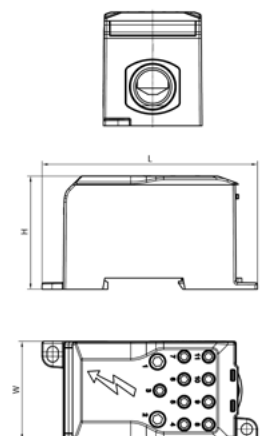
OJL 135A



OJL 200A



OJL 280A





OJL 400A                      OJL 400AS\*                      OJL 400AF                      OJL 400ASF\*

|              |                                                                                   |            |            |            |            |
|--------------|-----------------------------------------------------------------------------------|------------|------------|------------|------------|
| Black / Grey |  | MAB1401S10 | MAB1402S10 | MAB1403S10 | MAB1404S10 |
| Blue / Grey  |  | MAB1401B10 | -          | MAB1403B10 | -          |
| Green / Grey |  | MAB1401G10 | -          | MAB1403G10 | -          |

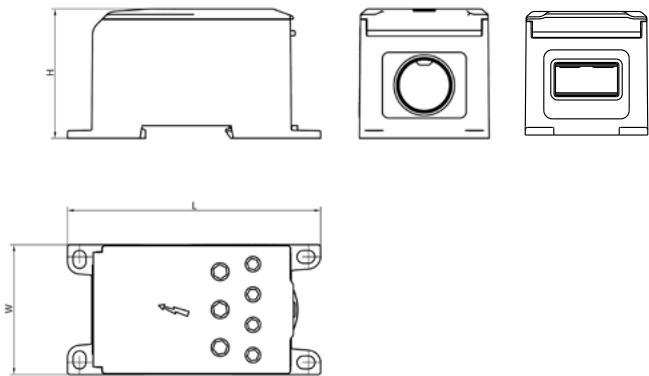
Technical data

|                                |                                                                                                                                                                                                 |                                                                                                                                                                                                 |                                                                                                                                                                                                 |                                                                                                                                                                                                     |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conductor cross-section</b> |                                                                                                                                                                                                 |                                                                                                                                                                                                 |                                                                                                                                                                                                 |                                                                                                                                                                                                     |
| Input wire Al/Cu (mm²)         | 1 x  95 - 240                                                                                                  | 1 x  95 - 240                                                                                                  | 1 x  Flexible busbar 10x Cu (1x24)                                                                             | 1 x  Flexible busbar 10x Cu (1x24)                                                                               |
| Output wire Cu (mm²)           | 4 x  2,5 - 35<br>3 x  6 - 50 | 4 x  2,5 - 35<br>3 x  6 - 50 | 4 x  2,5 - 35<br>3 x  6 - 50 | 4 x  2,5 - 35<br>3 x  6 - 50 |
| Nominal voltage AC / DC (V)    | 1000                                                                                                                                                                                            | 1000                                                                                                                                                                                            | 1000                                                                                                                                                                                            | 1000                                                                                                                                                                                                |
| Nominal current (A)            | 600 (Cu) / 380 (Al)                                                                                                                                                                             | 600 (Cu) / 380 (Al)                                                                                                                                                                             | 600 (Cu) / 380 (Al)                                                                                                                                                                             | 600 (Cu) / 380 (Al)                                                                                                                                                                                 |
| Width / Height / Length (mm)   | 51,4 / 51,2 / 100,3                                                                                                                                                                             | 51,4 / 51,2 / 100,3                                                                                                                                                                             | 51,4 / 51,2 / 100,3                                                                                                                                                                             | 51,4 / 51,2 / 100,3                                                                                                                                                                                 |
| Screw, hexagonal key           | No. 4 / 5 / 8                                                                                                                                                                                   | No. 4 / 5 / 8                                                                                                                                                                                   | No. 4 / 5                                                                                                                                                                                       | No. 4 / 5                                                                                                                                                                                           |
| Tightening torque (Nm)         | 6 Nm (2,5 - 35 mm²)<br>10 Nm (6 - 50 mm²)<br>19 Nm (95 - 240 mm²)                                                                                                                               | 6 Nm (2,5 - 35 mm²)<br>10 Nm (6 - 50 mm²)<br>19 Nm (95 - 240 mm²)                                                                                                                               | 6 Nm (2,5 - 35 mm²)<br>10 Nm (6 - 50 mm²)<br>10 Nm (10x Cu 1x25 mm²)                                                                                                                            | 6 Nm (2,5 - 35 mm²)<br>10 Nm (6 - 50 mm²)<br>10 Nm (10x Cu 1x25 mm²)                                                                                                                                |
| Mounting                       | DIN rail, screw                                                                                                                                                                                 | DIN rail, screw                                                                                                                                                                                 | DIN rail, screw                                                                                                                                                                                 | DIN rail, screw                                                                                                                                                                                     |
| Weight (g)                     | 250                                                                                                                                                                                             | 250                                                                                                                                                                                             | 247                                                                                                                                                                                             | 247                                                                                                                                                                                                 |
| Package (pcs)                  | 8                                                                                                                                                                                               | 8                                                                                                                                                                                               | 8                                                                                                                                                                                               | 8                                                                                                                                                                                                   |

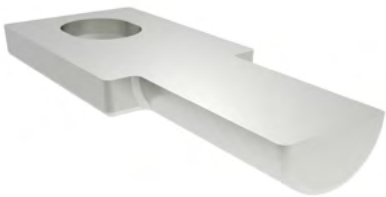
\* Model can be sealed.

Dimensions

OJL 400A



OJL busbar adapters are used for connecting OJL connectors to copper or aluminium busbars.  
Materials: Tin plated copper



BA 200A



BA 280A

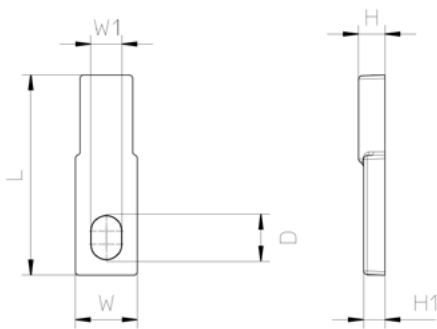


BA 400A

|      |            |            |            |
|------|------------|------------|------------|
| Grey | MAB1201EBA | MAB1281EBA | MAB1401EBA |
|------|------------|------------|------------|

| Technical data |      |      |      |
|----------------|------|------|------|
| D              | 9,8  | 13,8 | 13,8 |
| H              | 5,95 | 7,25 | 9,75 |
| H1             | 4,8  | 5    | 5,2  |
| L              | 45   | 61   | 70   |
| W              | 14   | 23   | 30   |
| W1             | 6,8  | 10,8 | 10,8 |
| Weight (g)     | 22   | 49   | 90   |
| Package (pcs)  | 10   | 10   | 10   |

Dimensions



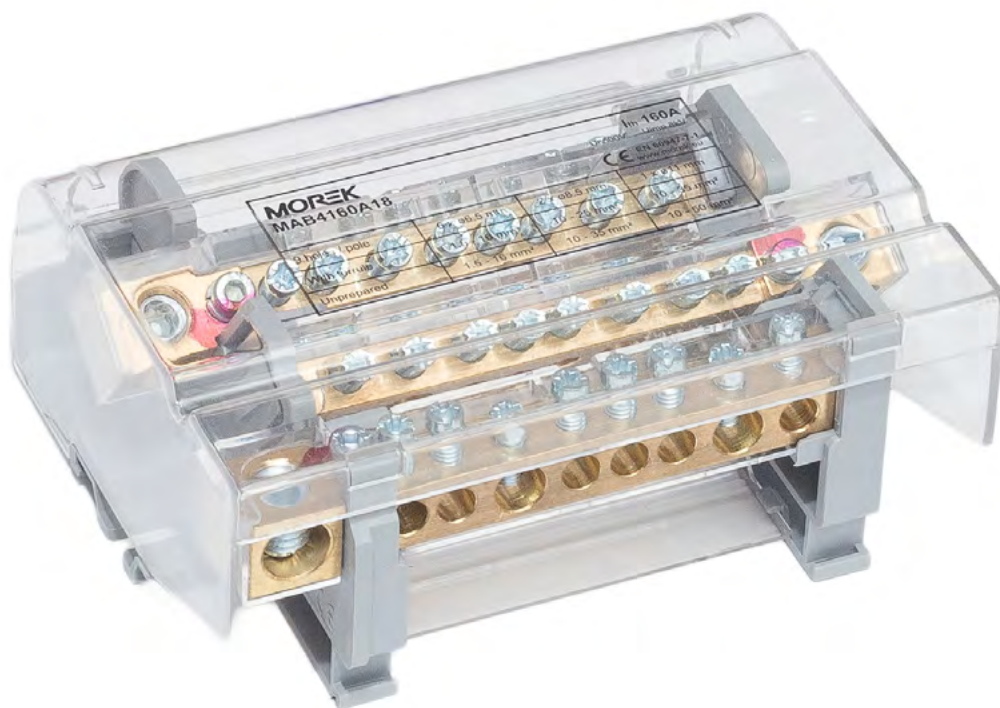
## ***Distribution blocks Moblock***

Up to

**160 A**  
**50 mm<sup>2</sup>**

## Insulation between phases

Certified according  
to standards  
EN 60947-1  
EN 60947-7-1

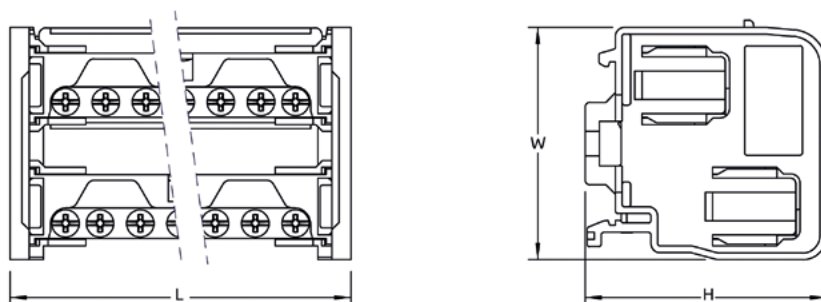


**Moblock distribution blocks are available in two-pole (up to 35 mm<sup>2</sup> and 125A) and four-pole (up to 50 mm<sup>2</sup> and 160A) versions. They feature isolated brackets, a removable transparent cover, and convenient installation on DIN rails or panels. With brass conductive parts, galvanized steel connectors, and insulating barriers, these blocks ensure safe and efficient electrical connections.**



| Order code                                      | Moblock 2P<br>125A-7 | Moblock 2P<br>125A-11     | Moblock 2P<br>125A-15      |
|-------------------------------------------------|----------------------|---------------------------|----------------------------|
|                                                 | MAB2124A18           | MAB2125A18                | MAB2126A18                 |
| <b>Technical data</b>                           |                      |                           |                            |
| <b>Conductor cross section (per pole)</b>       |                      |                           |                            |
| Input wire Cu (mm <sup>2</sup> )                | 2 x 10 - 35          | 2 x 10 - 35               | 2 x 10 - 35                |
| Output wire Cu (mm <sup>2</sup> )               | 5 x 1,5 - 6          | 7 x 1,5 - 6 / 2 x 10 - 25 | 11 x 1,5 - 6 / 2 x 10 - 25 |
| Nominal voltage AC / DC (V)                     | 1000                 | 1000                      | 1000                       |
| Nominal current (A)                             | 125                  | 125                       | 125                        |
| Width / Height / Length (mm)                    | 49 / 52 / 72         | 49 / 52 / 109             | 49 / 52 / 137              |
| Short-circuit current peak I <sub>pk</sub> (kA) | 20                   | 19                        | 19                         |
| Short-time withstand current (kA/1s)            | 6                    | 4,2                       | 4,2                        |
| Rated surge voltage (kV)                        | 8                    | 8                         | 8                          |
| Min. length of insulated wire (mm)              | 13                   | 13                        | 13                         |
| Tightening torque nominal / max. (Nm)           | 2 / 2,5              | 2 / 2,5                   | 2 / 2,5                    |
| Mounting                                        | DIN rail, screw      | DIN rail, screw           | DIN rail, screw            |
| Weight (g)                                      | 107                  | 152                       | 197                        |
| Package (pcs)                                   | 4                    | 2                         | 2                          |

## Dimensions





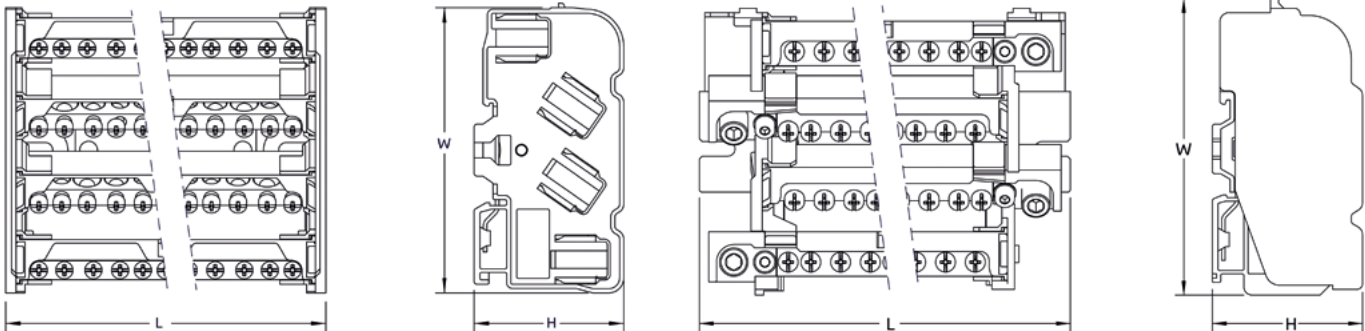


| Order code | Moblock 4P<br>125A-7 | Moblock 4P<br>125A-11 | Moblock 4P<br>125A-15 | Moblock 4P<br>160A-9 | Moblock 4P<br>160A-14 |
|------------|----------------------|-----------------------|-----------------------|----------------------|-----------------------|
|            | MAB4124A18           | MAB4125A18            | MAB4126A18            | MAB4162A18           | MAB4163A18            |

Technical data

|                                       |                 |                           |                            |                               |                            |
|---------------------------------------|-----------------|---------------------------|----------------------------|-------------------------------|----------------------------|
| Conductor cross section (per pole)    |                 |                           |                            |                               |                            |
| Input wire Cu (mm²)                   | 2 x 10 - 35     | 2 x 10 - 35               | 2 x 10 - 35                | 1 x 10 - 50                   | 1 x 10 - 50                |
| Output wire Cu (mm²)                  | 5 x 1,5 - 6     | 7 x 1,5 - 6 / 2 x 10 - 25 | 11 x 1,5 - 6 / 2 x 10 - 25 | 6 x 1,5 - 16 / 2 x 10 - 35    | 9 x 1,5 - 16 / 4 x 10 - 35 |
| Nominal voltage AC / DC (V)           | 500             | 500                       | 500                        | 500                           | 500                        |
| Nominal current (A)                   | 125             | 125                       | 125                        | 160                           | 160                        |
| Width / Height / Length (mm)          | 97 / 52 / 72    | 97 / 52 / 108             | 97 / 52 / 137              | 99 / 54 / 131                 | 99 / 54 / 181              |
| Short-circuit current peak Ipk (kA)   | 20              | 19                        | 19                         | 38                            | 38                         |
| Short-time withstand current (kA/1s)  | 6               | 4,2                       | 4,2                        | 6                             | 6                          |
| Rated surge voltage (kV)              | 8               | 8                         | 8                          | 8                             | 8                          |
| Min. length of insulated wire (mm)    | 13              | 13                        | 13                         | 13                            | 13                         |
| Tightening torque nominal / max. (Nm) | 2 / 2,5         | 2 / 2,5                   | 2 / 2,5                    | 2 / 2,5<br>(input wire 10 Nm) | 2,5<br>(input wire 10 Nm)  |
| Mounting                              | DIN rail, screw | DIN rail, screw           | DIN rail, screw            | DIN rail, screw               | DIN rail, screw            |
| Weight (g)                            | 210             | 300                       | 386                        | 504                           | 696                        |
| Package (pcs)                         | 2               | 1                         | 1                          | 1                             | 1                          |

Dimensions



**Main branch terminals HLAK are designed for copper and aluminium conductors with cross-section up to 25 mm<sup>2</sup>. Insulation part is made from highly creepage current-safe polyamide PA66. Conductive part is made from nickel-plated brass. Protection class is IP20. Modern and compact design saving the space.**



HLAK25 1P

HLAK25 2P

HLAK25 3P

HLAK25 4P

HLAK25 5P

|                                 |  |            |            |            |            |            |
|---------------------------------|--|------------|------------|------------|------------|------------|
| Grey                            |  | MAG1251A00 | MAG2252A00 | MAG3253A00 | MAG4254A00 | MAG5255A00 |
| Blue                            |  | MAG1251B00 | -          | -          | -          | -          |
| Red                             |  | MAG1251R00 | -          | -          | -          | -          |
| Black                           |  | MAG1251S00 | -          | -          | -          | -          |
| Green                           |  | MAG1251G00 | -          | -          | -          | -          |
| Brown                           |  | MAG1251C00 | -          | -          | -          | -          |
| Blue, green                     |  | -          | MAG2251BG0 | -          | -          | -          |
| Grey, blue, green               |  | -          | -          | MAG3251ABG | -          | MAG5253ABG |
| Grey, blue                      |  | -          | -          | -          | MAG4253AB0 | -          |
| Brown, black, grey, blue, green |  | -          | -          | -          | -          | MAG5251CSX |

**Technical data**

|                                                               |                |                |                |                |                |
|---------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Conductors cross section</b><br>Cu / Al (mm <sup>2</sup> ) | 1,5 - 25       | 1,5 - 25       | 1,5 - 25       | 1,5 - 25       | 1,5 - 25       |
| Nominal voltage AC / DC (V)                                   | 1000 / 1500    | 1000 / 1500    | 1000 / 1500    | 1000 / 1500    | 1000 / 1500    |
| Nominal current (A)                                           | 100            | 100            | 100            | 100            | 100            |
| Number of poles                                               | 1              | 2              | 3              | 4              | 5              |
| Stripping length (mm)                                         | 15             | 15             | 15             | 15             | 15             |
| Tightening torque (Nm)                                        | 2,5            | 2,5            | 2,5            | 2,5            | 2,5            |
| Width / Height / Length (mm)                                  | 21 / 39 / 42,5 | 40 / 39 / 42,5 | 60 / 39 / 42,5 | 80 / 39 / 42,5 | 99 / 39 / 42,5 |
| Mounting                                                      | DIN rail       | DIN rail       | DIN rail       | DIN rail       | DIN rail       |
| Weight (g)                                                    | 65             | 130            | 189            | 254            | 314            |
| Package (pcs)                                                 | 10             | 2              | 2              | 1              | 1              |

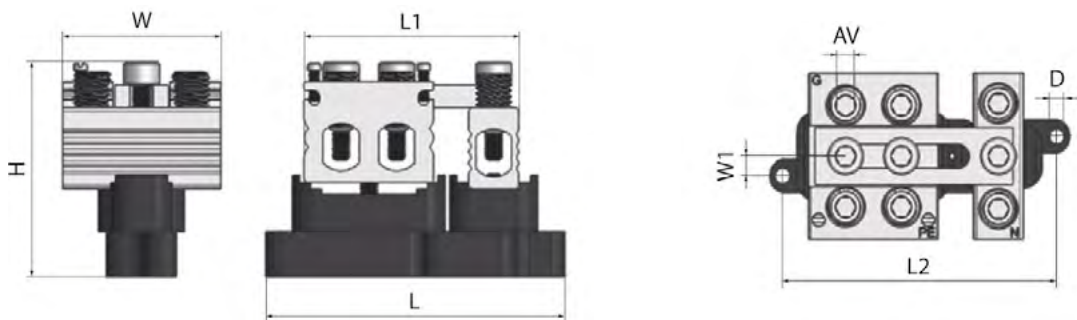
OT-PEN connectors simplify the conversion of TN-C (PEN) systems to TN-S (PE+N) systems by allowing the removal of the connecting bridge between the terminals. Suitable for both copper and aluminium conductors, these connectors feature extra measuring terminals and can be directly screw-mounted to the cabinet's backplate.



|  | OT-PEN 50  | OT-PEN 95  | OT-PEN 120 | OT-PEN 150 | OT-PEN 240 |
|--|------------|------------|------------|------------|------------|
|  | MAB3050S10 | MAB3095S10 | MAB3120S10 | MAB3150S10 | MAB3240S10 |

|                                       |                                                                    |                                          |                                       |                                             |                                               |
|---------------------------------------|--------------------------------------------------------------------|------------------------------------------|---------------------------------------|---------------------------------------------|-----------------------------------------------|
| Technical data                        |                                                                    |                                          |                                       |                                             |                                               |
| Conductor cross-section Cu, Al (mm²)  | 1,5 - 50                                                           | 6 - 95                                   | 16 - 120                              | 25 - 150                                    | 35 - 240                                      |
| Nominal voltage (V)                   | 690                                                                | 690                                      | 690                                   | 690                                         | 690                                           |
| Amperage (A)                          | 160                                                                | 245                                      | 275                                   | 320                                         | 425                                           |
| Width / Height / Length (mm)          | 44 / 57 / 83                                                       | 64 / 80 / 83                             | 64 / 87 / 120                         | 64 / 91 / 120                               | 64 / 101,6 / 134,90                           |
| Dimensions L1 / L2 / W1 / AV / D (mm) | 60 / 76 / 5,25 / 5 / 4                                             | 63,5 / 76 / 5,25 / 6 / 4                 | 81,5 / 104 / 21 / 6 / 6               | 82 / 104 / 21 / 6 / 6                       | 104,5 / 119 / 21 / 8 / 6                      |
| Screw, hexagonal key                  | No. 5                                                              | No. 6                                    | No. 6                                 | No. 6                                       | No. 8                                         |
| Tightening torque (Nm)                | 1,5 Nm (1,5 - 2,5 mm²)<br>5 Nm (4 - 16 mm²)<br>10 Nm (25 - 50 mm²) | 5 Nm (6 - 16 mm²)<br>22 Nm (25 - 95 mm²) | 5 Nm (16 mm²)<br>26 Nm (25 - 120 mm²) | 14 Nm (25 - 50 mm²)<br>30 Nm (70 - 150 mm²) | 26 Nm (35 - 120 mm²)<br>40 Nm (150 - 240 mm²) |
| Mounting                              | Screw                                                              | Screw                                    | Screw                                 | Screw                                       | Screw                                         |
| Weight (g)                            | 174                                                                | 356                                      | 573                                   | 605                                         | 813                                           |
| Package (pcs)                         | 9                                                                  | 9                                        | 5                                     | 5                                           | 5                                             |

Dimensions



**OL-PEN connectors enable the simple conversion of TN-C (PEN) systems to TN-S (PE+N) by removing the connecting bridge between the terminals. These connectors are suitable for use with both copper and aluminium conductors and can be directly screw-mounted to the cabinet's backplate.**



OL-PEN 95

OL-PEN 185

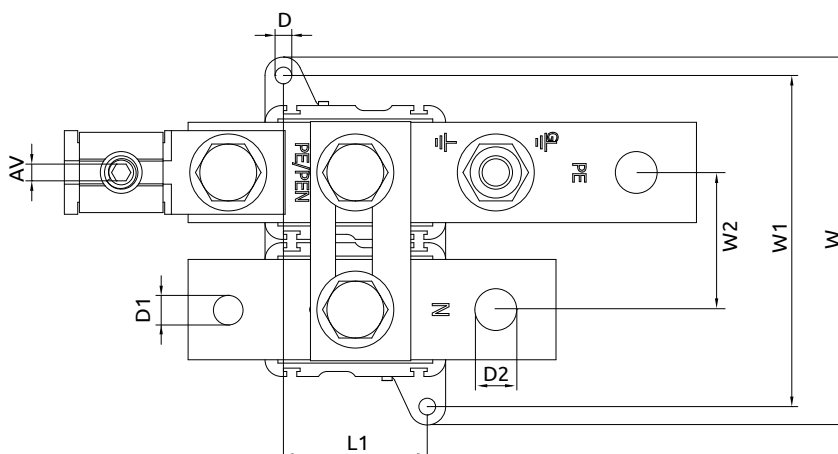
OL-PEN 300

OL-PEN 240-2

|  |            |            |            |            |
|--|------------|------------|------------|------------|
|  | MAJ4095S10 | MAJ4185S10 | MAJ4300S10 | MAJ5240S10 |
|--|------------|------------|------------|------------|

**Technical data**

|                                                   |                              |                               |                                   |                               |
|---------------------------------------------------|------------------------------|-------------------------------|-----------------------------------|-------------------------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 25 - 95                      | 95 - 185                      | 185 - 300                         | 2x 95 - 240                   |
| Nominal voltage (V)                               | 690                          | 690                           | 690                               | 690                           |
| Amperage (A)                                      | 245                          | 361                           | 490                               | 425                           |
| Width / Height / Length (mm)                      | 94 / 55 / 144                | 110 / 70 / 187,5              | 128,5 / 70 / 220                  | 110 / 86 / 193                |
| Dimensions L1 / W1 / W2 / D / D1 / D2 (mm)        | 50 / 84 / 34 / 5 / 8,5 / 8,5 | 43 / 99 / 41 / 5 / 8,5 / 12,5 | 52 / 117,5 / 50,5 / 5 / 10 / 12,5 | 43 / 99 / 41 / 5 / 8,5 / 12,5 |
| Screw, hexagonal key (AV)                         | No. 4                        | No. 5                         | No. 6                             | No. 6                         |
| Tightening torque (Nm)                            | 20                           | 30                            | 70                                | 70                            |
| Mounting                                          | Screw                        | Screw                         | Screw                             | Screw                         |
| Weight (g)                                        | 392                          | 882                           | 1248                              | 1074                          |
| Package (pcs)                                     | 1                            | 1                             | 1                                 | 1                             |

**Dimensions**

***PEN connectors enable the simple conversion of TN-C (PEN) systems to TN-S (PE+N) by removing the connecting bridge between the terminals. These connectors are suitable for use with both copper and aluminium conductors and can be directly screw-mounted to the cabinet's backplate.***



PEN 95

PEN 185

PEN 300

|  |            |            |            |
|--|------------|------------|------------|
|  | MAJ4095S11 | MAJ4185S11 | MAJ4300S11 |
|--|------------|------------|------------|

Technical data

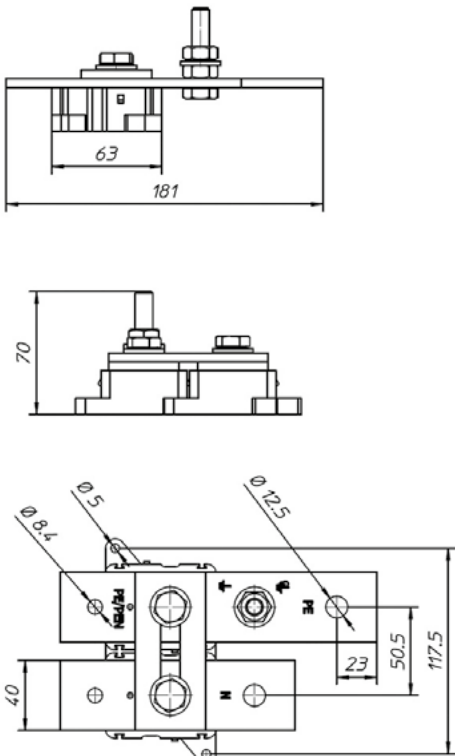
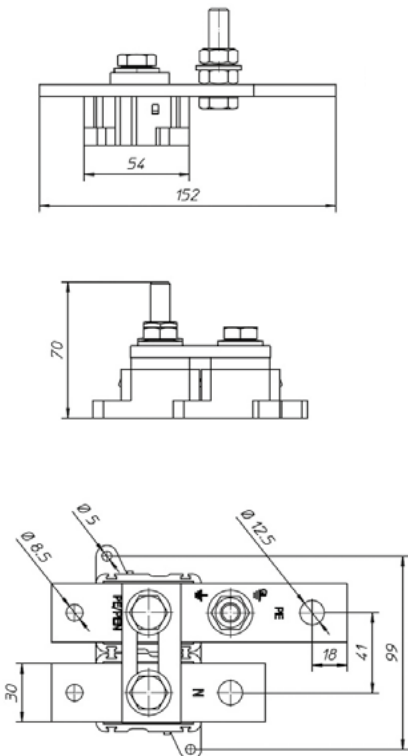
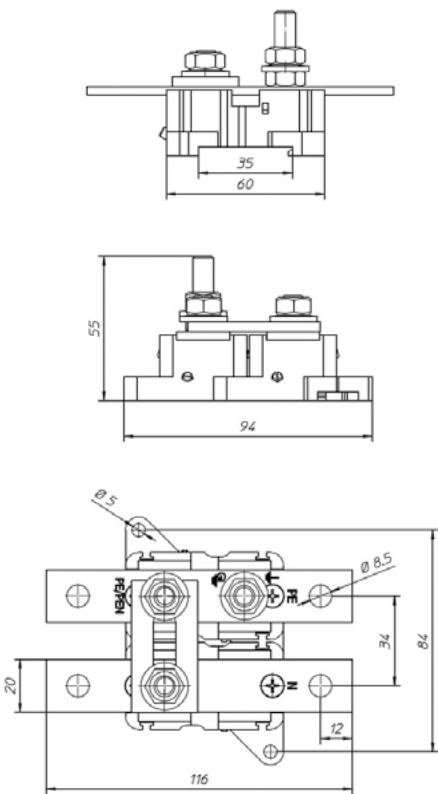
|                              |               |                |                  |
|------------------------------|---------------|----------------|------------------|
| Nominal voltage (V)          | 690           | 690            | 690              |
| Amperage (A)                 | 245           | 361            | 490              |
| Width / Height / Length (mm) | 94 / 55 / 116 | 110 / 70 / 152 | 128,5 / 70 / 181 |
| Mounting                     | Screw         | Screw          | Screw            |
| Weight (g)                   | 316           | 740            | 961              |
| Package (pcs)                | 1             | 1              | 1                |

Dimensions

PEN 95

PEN 185

PEN 300



# Device connectors SR

**Direct  
connection**  
to the device

Bimetal  
**(Al/Cu)**

**Class A**

Certified according to  
standards EN 61238-1  
and EN 60947-7-1











SR 95



SR 95M



SR 95RB

|              | SR 95      | SR 95M     | SR 95SB    | SR 95SBM   | SR 95RB    | SR 95RBM   |
|--------------|------------|------------|------------|------------|------------|------------|
| Left handed  | MAC9506A10 | MAC9508A10 | -          | -          | MAC9510A10 | MAC9513A10 |
| Standard     | MAC9500A10 | MAC9501A10 | MAC9505A10 | MAC9503A10 | MAC9504A10 | MAC9502A10 |
| Right handed | MAC9507A10 | MAC9509A10 | -          | -          | MAC9511A10 | MAC9512A10 |

#### Technical data

|                                                   |                                                                            |                                                                            |                                                                            |                                                                            |                                                                            |                                                                            |
|---------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 16 - 95                                                                    | 16 - 95                                                                    | 16 - 95                                                                    | 16 - 95                                                                    | 16 - 95                                                                    | 16 - 95                                                                    |
| Measurement wire                                  | -                                                                          | 2,5                                                                        | -                                                                          | 2,5                                                                        | -                                                                          | 2,5                                                                        |
| Nominal voltage AC / DC (V)                       | 690                                                                        | 690                                                                        | 690                                                                        | 690                                                                        | 690                                                                        | 690                                                                        |
| Nominal current Cu / Al (A)                       | 230 / 180                                                                  | 230 / 180                                                                  | 230 / 180                                                                  | 230 / 180                                                                  | 230 / 180                                                                  | 230 / 180                                                                  |
| Width / Height / Length (mm)                      | 23,4 / 51 / 67,8                                                           | 23,4 / 51 / 67,8                                                           | 23,4 / 51 / 67,8                                                           | 23,4 / 51 / 67,8                                                           | 23,4 / 51 / 67,8                                                           | 23,4 / 51 / 67,8                                                           |
| Dimensions L1 / H1 / H2 / W1 (mm)                 | 26,6 / 9 / 3,5 / 10                                                        | 26,6 / 9 / 3,5 / 10                                                        | 26,6 / 9 / 3,5 / 16                                                        | 26,6 / 9 / 3,5 / 16                                                        | 16,6 / 9 / 3,5 / 10                                                        | 16,6 / 9 / 3,5 / 10                                                        |
| Screw, hexagonal key                              | No. 6                                                                      | No. 6                                                                      | No. 6                                                                      | No. 6                                                                      | No. 6                                                                      | No. 6                                                                      |
| Tightening torque (Nm)                            | 12 Nm<br>(16 - 50 mm <sup>2</sup> )<br>20 Nm<br>(70 - 95 mm <sup>2</sup> ) | 12 Nm<br>(16 - 50 mm <sup>2</sup> )<br>20 Nm<br>(70 - 95 mm <sup>2</sup> ) | 12 Nm<br>(16 - 50 mm <sup>2</sup> )<br>20 Nm<br>(70 - 95 mm <sup>2</sup> ) | 12 Nm<br>(16 - 50 mm <sup>2</sup> )<br>20 Nm<br>(70 - 95 mm <sup>2</sup> ) | 12 Nm<br>(16 - 50 mm <sup>2</sup> )<br>20 Nm<br>(70 - 95 mm <sup>2</sup> ) | 12 Nm<br>(16 - 50 mm <sup>2</sup> )<br>20 Nm<br>(70 - 95 mm <sup>2</sup> ) |
| Weight (g)                                        | 56                                                                         | 56                                                                         | 58                                                                         | 58                                                                         | 56 / 58                                                                    | 56 / 58                                                                    |
| Package (pcs)                                     | 30                                                                         | 30                                                                         | 30                                                                         | 30                                                                         | 30                                                                         | 30                                                                         |

Model specification (marking) **M** - model has connector for measurement **RB** - rounded busbar

SR 95(M)



Right-handed

Standard

Left-handed

SR 95RB(M)



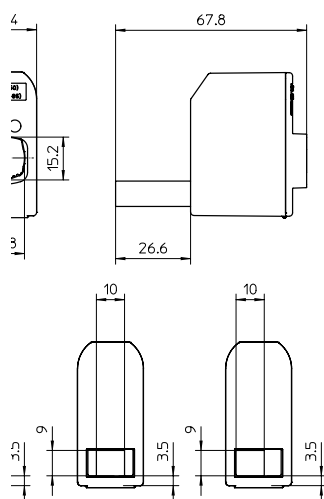
Right-handed

Standard

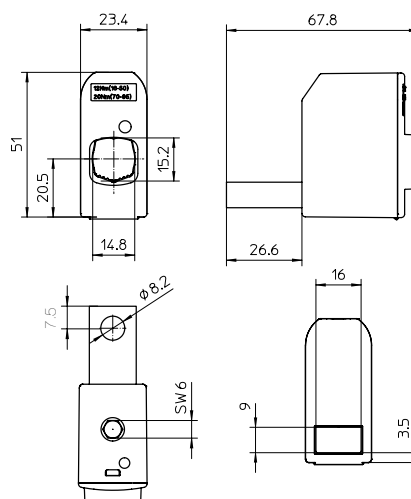
Left-handed

## Dimensions

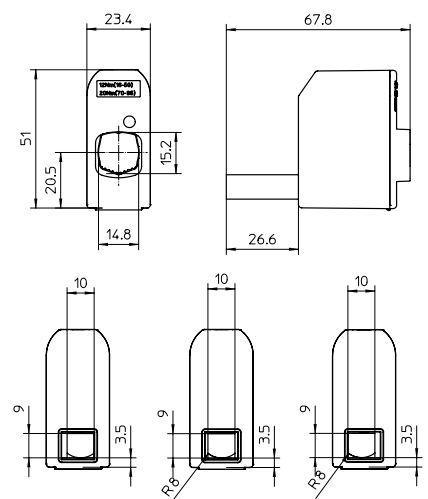
SR 95(M)



SR 95SB(M)



SR 95RB(M)



# Heavy duty connectors OL

Up to

**800 A**

**2x300 mm<sup>2</sup>**

Bimetal

**(Al/Cu)**

Made of

**stainless  
steel**

– suitable for harsh  
environments



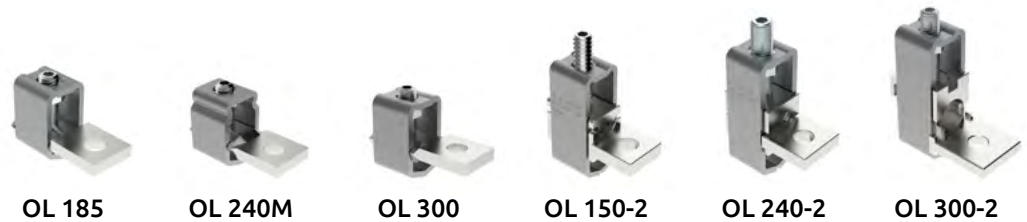
**OL heavy-duty connectors are designed for connecting copper and aluminium conductors ranging from 6 to 2 x 300 mm<sup>2</sup>. With parts made of stainless steel, copper, and steel, these connectors are robust and reliable. They allow for easy clamping of stranded conductors without the need for modifying wire ends, and installation can be done without special tools.**



|  | OL 70      | OL 70M     | OL 70T     | OL 95      | OL 95T     | OL 150     |
|--|------------|------------|------------|------------|------------|------------|
|  | MAJ1070E10 | MAJ1071E10 | MAJ1072E10 | MAJ1095E10 | MAJ1096E10 | MAJ1150E10 |

**Technical data**

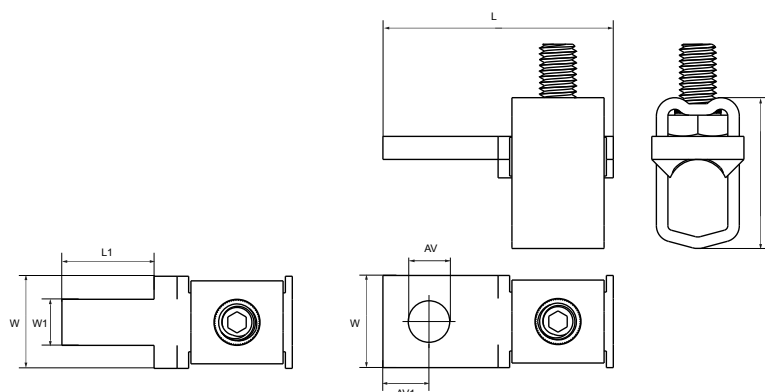
|                                                   |                |                |                           |                           |                         |              |
|---------------------------------------------------|----------------|----------------|---------------------------|---------------------------|-------------------------|--------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 6 - 70         | 6 - 70         | 6 - 70                    | 25 - 95                   | 25 - 95                 | 25 - 150     |
| Nominal voltage (V)                               | 690            | 690            | 690                       | 690                       | 690                     | 690          |
| Nominal current Cu / Al (A)                       | 270 / 270      | 270 / 270      | 270 / 270                 | 320 / 320                 | 320 / 320               | 285 / 230    |
| Width / Height / Length<br>W1 / L1 (mm)           | 16,2 / 30 / 37 | 16,2 / 23 / 37 | 16,2 / 30 / 38<br>10 / 17 | 18 / 33 / 50 /<br>10 / 20 | 18 / 33 / 50<br>10 / 20 | 23 / 38 / 60 |
| Diameter of the hole (mm) AV / AV1                | 7 / 7,5        | 7 / 7,5        | -                         | 9 / 10                    | -                       | 11 / 13,5    |
| Screw, hexagonal key                              | No. 4          | No. 4          | No. 4                     | No. 4                     | No. 4                   | No. 4        |
| Tightening torque (Nm)                            | 5,6            | 5,6            | 5,6                       | 20                        | 20                      | 30           |
| Weight (g)                                        | 44             | 36             | 44                        | 76                        | 69                      | 130          |
| Package (pcs)                                     | 30             | 30             | 30                        | 15                        | 15                      | 15           |



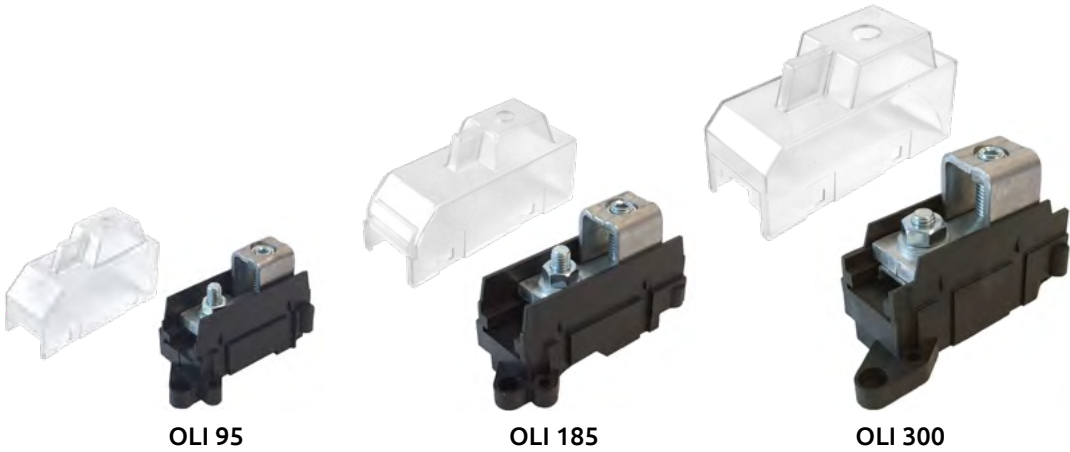
|  | OL 185     | OL 240M    | OL 300     | OL 150-2   | OL 240-2   | OL 300-2   |
|--|------------|------------|------------|------------|------------|------------|
|  | MAJ1185E10 | MAJ1240E10 | MAJ1300E10 | MAJ2150E10 | MAJ2240E10 | MAJ2300E10 |

**Technical data**

|                                                   |              |                |              |              |              |               |
|---------------------------------------------------|--------------|----------------|--------------|--------------|--------------|---------------|
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 95 - 185     | 95 - 240       | 185 - 300    | 2 x 50 - 150 | 2 x 95 - 240 | 2 x 185 - 300 |
| Nominal voltage (V)                               | 690          | 690            | 690          | 690          | 690          | 690           |
| Nominal current Cu / Al (A)                       | 400 / 400    | 400 / 400      | 560 / 560    | 579 / 455    | 806 / 631    | 800 / 800     |
| Width / Height / Length                           | 24 / 40 / 66 | 26,3 / 40 / 61 | 32 / 52 / 76 | 25 / 64 / 59 | 30 / 78 / 60 | 38 / 91 / 85  |
| Diameter of the hole (mm) AV / AV1                | 11 / 12      | 11 / 12        | 13 / 17      | 11 / 12      | 11 / 13      | 13 / 20       |
| Screw, hexagonal key                              | No. 5        | No. 5          | No. 5        | No. 5        | No. 6        | No. 6         |
| Tightening torque (Nm)                            | 40           | 40             | 70           | 40           | 70           | 70            |
| Weight (g)                                        | 142          | 140            | 287          | 240          | 345          | 544           |
| Package (pcs)                                     | 15           | 15             | 3            | 3            | 3            | 3             |

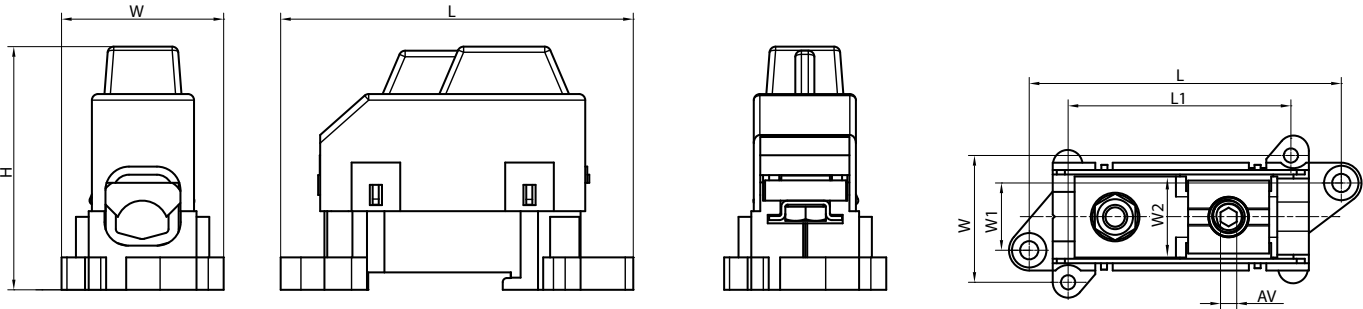
**Dimensions**

Insulated universal connectors OLI are intended for connecting copper and aluminium conductors in nominal cross-section from 25 to 300 mm². Connectors are designed for connecting copper or aluminium cables with flexible busbars or with cables with lug. Individual parts are made of stainless steel (clamp), copper (bridge), steel (screw) and plastic (housing). These connectors are heavy duty. Clamping them with stranded conductors does not require modification of wire ends (clamping surface of terminal, not flat screw spot). IP protection class for OLI terminals is IP20.

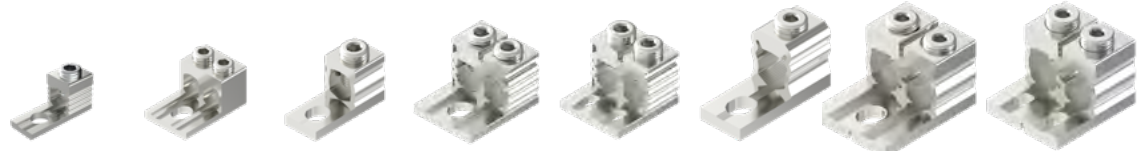


|                                              | MAJ1095S10                     | MAJ1185S10                        | MAJ1300S10                      |
|----------------------------------------------|--------------------------------|-----------------------------------|---------------------------------|
| Technical data                               |                                |                                   |                                 |
| Conductor cross-section Cu / Al (mm²)        | 25 - 95                        | 95 - 185                          | 185 - 300                       |
| Nominal voltage (V)                          | 690                            | 690                               | 690                             |
| Nominal current (A)                          | 320                            | 400                               | 560                             |
| Width / Height / Length (mm)<br>L1 / W1 / W2 | 40 / 60 / 87<br>55 / 16,6 / 20 | 49 / 67 / 113<br>76,9 / 21,4 / 25 | 57 / 88 / 143<br>86,5 / 25 / 32 |
| Screw, hexagonal key (AV)                    | SW 4                           | SW 5                              | SW 6                            |
| Tightening torque (Nm)                       | 20                             | 40                                | 70                              |
| Mounting                                     | Screw                          | Screw                             | Screw                           |
| Weight (g)                                   | 119                            | 237                               | 444                             |
| Package (pcs)                                | 12                             | 10                                | 8                               |

Dimensions



**Morek OT-connectors offer a reliable and efficient solution for connecting aluminium and copper cables. Made from durable aluminium with a corrosion-resistant tin plating, they ensure reliable conductivity. Easy to install without special tools, they're ideal for on-site applications and field work.**



OT 50      OT 50-2      OT 95      OT 95-2      OT 95-22      OT 150      OT 150-2      OT 150-22

|  |            |            |            |            |            |            |            |            |
|--|------------|------------|------------|------------|------------|------------|------------|------------|
|  | MAC1050E10 | MAC2050E11 | MAC1095E11 | MAC2095E11 | MAC2095E12 | MAC1150E11 | MAC2150E11 | MAC2150E12 |
|--|------------|------------|------------|------------|------------|------------|------------|------------|

#### Technical data

|                                       |                                        |                                                     |                                 |                                 |                                 |                                   |                                   |                                   |
|---------------------------------------|----------------------------------------|-----------------------------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Conductor cross-section Cu / Al (mm²) | 1,5 - 50                               | 2x 1,5 - 50                                         | 6 - 95                          | 2x 6 - 95                       | 2x 6 - 95                       | 25 - 150                          | 2x 25 - 150                       | 2x 25 - 150                       |
| Nominal voltage AC / DC (V)           | 1000 / 1500                            | 1000 / 1500                                         | 1000 / 1500                     | 1000 / 1500                     | 1000 / 1500                     | 1000 / 1500                       | 1000 / 1500                       | 1000 / 1500                       |
| Nominal current Cu / Al (A)           | 160 / 145                              | 320 / 290                                           | 245 / 220                       | 490 / 220                       | 490 / 220                       | 320 / 290                         | 640 / 290                         | 640 / 290                         |
| Width / Height / Length (mm)          | 14 / 21,5 / 35                         | 26,6 / 41 / 21,5                                    | 20 / 47 / 26,6                  | 37,5 / 46 / 30                  | 37,5 / 41 / 30                  | 26 / 62 / 36                      | 46,3 / 62 / 37                    | 46,3 / 62 / 37                    |
| Hole diameter (mm) AV/AV1/+/AV2       | 8,5 / 10,5                             | 8,5 / 9,5 / +3                                      | 13 / 10,5 / +2,5                | 10,5 / 10,5 / +3                | 6,5/8,5/+3,5/10,5               | 12,5 / 12,5 / +4                  | 12,5 / 12,5 / +4                  | 8,5/10,5/+3,5/22,5                |
| Screw, hexagonal key                  | No. 5                                  | No. 5                                               | No. 6                           | No. 6                           | No. 6                           | No. 6                             | No. 6                             | No. 6                             |
| Tightening torque (Nm)                | 3,5 (1,5 - 10 mm²)<br>12 (16 - 50 mm²) | 1,5 (1,5-2,5 mm²)<br>5 (4-10 mm²)<br>10 (16-50 mm²) | 12 (6-25 mm²)<br>22 (35-95 mm²) | 12 (6-25 mm²)<br>22 (35-95 mm²) | 12 (6-25 mm²)<br>22 (35-95 mm²) | 14 (25-50 mm²)<br>35 (70-150 mm²) | 14 (25-50 mm²)<br>30 (70-150 mm²) | 14 (25-50 mm²)<br>30 (70-150 mm²) |
| Weight (g)                            | 10                                     | 47                                                  | 29                              | 69                              | 69                              | 57                                | 118                               | 118                               |
| Package (pcs)                         | 30                                     | 30                                                  | 30                              | 30                              | 30                              | 20                                | 20                                | 20                                |



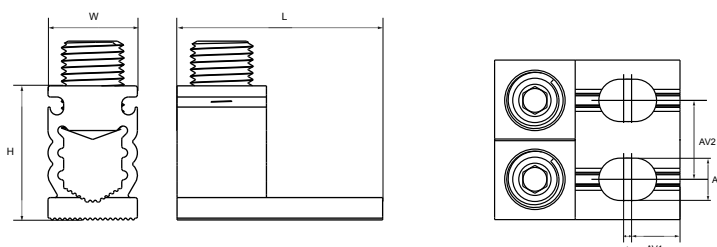
OT 240      OT 240-2      OT 240-22      OT 300      OT 300-22

|  |            |            |            |            |            |
|--|------------|------------|------------|------------|------------|
|  | MAC1240E11 | MAC2240E11 | MAC2240E12 | MAC1300E11 | MAC2300E11 |
|--|------------|------------|------------|------------|------------|

#### Technical data

|                                       |                                     |                                     |                                     |                                     |                                     |
|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Conductor cross-section Cu / Al (mm²) | 35 - 240                            | 2x 35 - 240                         | 2x 35 - 240                         | 95 - 300                            | 2x 95 - 300                         |
| Nominal voltage AC / DC (V)           | 1000 / 1500                         | 1000 / 1500                         | 1000 / 1500                         | 1000 / 1500                         | 1000 / 1500                         |
| Nominal current Cu / Al (A)           | 425 / 380                           | 850 / 380                           | 850 / 380                           | 490 / 440                           | 980 / 630                           |
| Width / Height / Length (mm)          | 32 / 74 / 43                        | 55 / 74 / 41                        | 55 / 70 / 41                        | 38 / 75 / 50                        | 63 / 75 / 55                        |
| Hole diameter (mm) AV/AV1/+/AV2       | 12,5 / 12,5 / +4                    | 12,5 / 12,5 / +4                    | 10,5 / 12,5 / +3,5 / 27             | 12,5 / 12,5 / +4                    | 12,5 / 12,5 / +4 / 31               |
| Screw, hexagonal key                  | No. 8                               | No. 8                               | No. 8                               | No. 8                               | No. 8                               |
| Tightening torque (Nm)                | 26 (35-120 mm²)<br>46 (150-240 mm²) | 26 (35-120 mm²)<br>40 (150-240 mm²) | 26 (35-120 mm²)<br>40 (150-240 mm²) | 30 (95-150 mm²)<br>60 (185-300 mm²) | 30 (95-150 mm²)<br>60 (185-300 mm²) |
| Weight (g)                            | 108                                 | 229                                 | 229                                 | 160                                 | 325                                 |
| Package (pcs)                         | 10                                  | 10                                  | 10                                  | 10                                  | 6                                   |

## Dimensions



# Universal connectors OTH

Bimetal  
(Al/Cu)

Up to  
**3x300 mm<sup>2</sup>**



Screws with a threaded allen hole with a higher tightening torque

Hole for connecting wires of indication voltage

Contact paste on the contact surfaces of the screws

High-quality surface treatment by tining

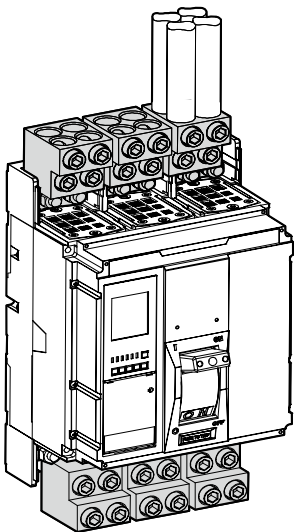
Oval-shaped holes for more flexible connections

Solid aluminum alloy clamp

Profiled slotted holes for firm wire connection



OTH universal connectors directly connect copper and aluminium wires to switchgear devices, allowing for the connection of two, three, or four wires up to 300 mm<sup>2</sup> without cable lugs. Their compact and economical design features easy installation and a small size.

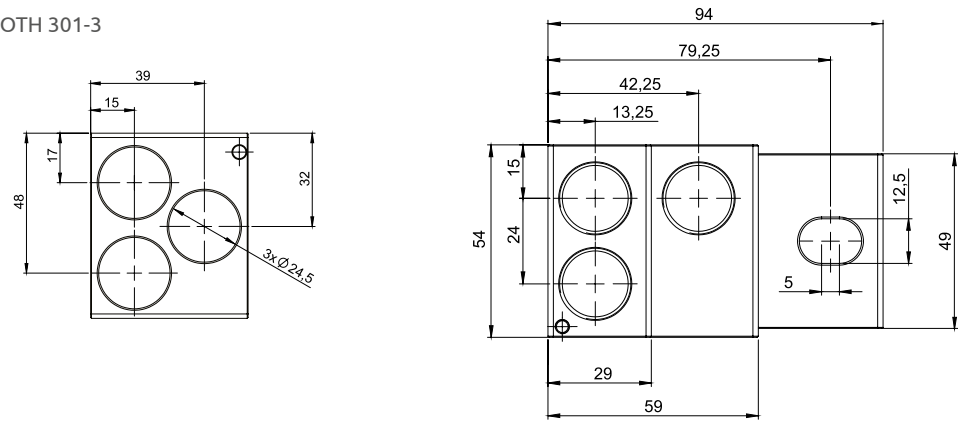


OTH 301-3

|                                                   |                            |
|---------------------------------------------------|----------------------------|
| MAC3301A14                                        |                            |
| Technical data                                    |                            |
| Conductor cross-section Cu, Al (mm <sup>2</sup> ) | 3 x 70 - 300 + 1 x 1,5 - 4 |
| Nominal voltage (V)                               | 1000                       |
| Nominal current (A)                               | 1250                       |
| Width / Height / Length (mm)                      | 54 / 63,5 / 94             |
| Number of mounting holes                          | 1                          |
| Diameter connecting hole (mm)                     | 11,5                       |
| Screw, hexagonal key                              | No. 10                     |
| The length of the uninsulated conductor (mm)      | 27 / 56                    |
| Tightening torque (Nm)                            | 45                         |
| Weight (g)                                        | 410                        |
| Package (pcs)                                     | 2                          |

Dimensions

OTH 301-3







OTH 240-4



OTH 300-2



OTH 300-3

|  |            |            |            |
|--|------------|------------|------------|
|  | MAC4240A15 | MAC2300A14 | MAC3300A14 |
|--|------------|------------|------------|

Technical data

|                                              |                            |                            |                            |
|----------------------------------------------|----------------------------|----------------------------|----------------------------|
| Conductor cross-section Cu, Al (mm²)         | 4 x 50 - 240 + 1 x 1,5 - 4 | 2 x 70 – 300 + 1 x 1,5 – 4 | 3 x 70 – 300 + 1 x 1,5 – 4 |
| Nominal voltage (V)                          | 1000                       | 1000                       | 1000                       |
| Nominal current (A)                          | 1600                       | 800                        | 1250                       |
| Width / Height / Length (mm)                 | 54 / 63,5 / 94             | 30 / 63,5 / 94             | 54 / 63,5 / 94             |
| Number of mounting holes                     | 2                          | 1                          | 2                          |
| Diameter connecting hole (mm)                | 11,5                       | 12,5                       | 11,5                       |
| Screw, hexagonal key                         | No. 10                     | No. 10                     | No. 10                     |
| The length of the uninsulated conductor (mm) | 25 / 55                    | 27 / 56                    | 27 / 56                    |
| Tightening torque (Nm)                       | 45                         | 45                         | 45                         |
| Weight (g)                                   | 410                        | 213                        | 406                        |
| Package (pcs)                                | 2                          | 3                          | 2                          |

Compatibility

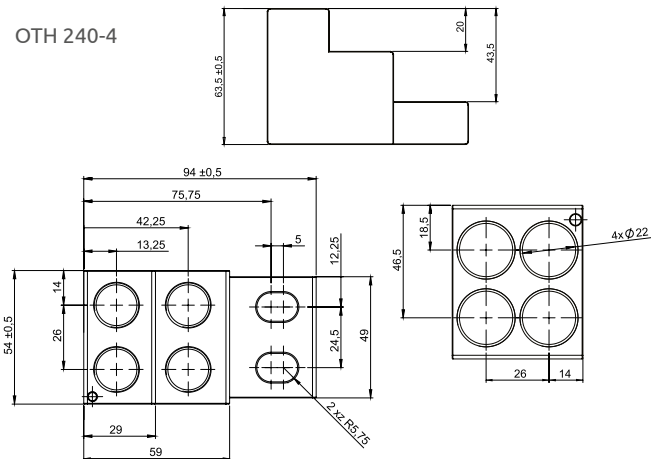
|                                                     |     |     |     |
|-----------------------------------------------------|-----|-----|-----|
| ABB Emax E 1.2 F up to 1600A, Tmax T7 F up to 1600A | Yes | No  | Yes |
| ABB Tmax T6 F up to 1000A, Tmax T5 (XT5) up to 630A | No  | Yes | No  |
| Schneider NS630b up to 1600A                        | Yes | No  | Yes |
| Schneider NSX400-630                                | No  | Yes | No  |
| Eaton NZML4-VE1250, NZM4-XKA up to 1250             | Yes | No  | Yes |
| Eaton NZMS2-4-VE250, NZMH3-4-VE630                  | No  | Yes | No  |
| Siemens 3VA66 1000A, 3VA271 1250-1600A              | Yes | No  | Yes |
| Siemens 3VA5 630A                                   | No  | Yes | No  |
| LS TS630, TS800                                     | No  | Yes | No  |
| Chint NM8N-1600A                                    | Yes | No  | Yes |
| Chint NM8N up to 630A                               | No  | Yes | No  |
| Schrack Technik MX3                                 | No  | Yes | No  |
| Schrack Technik MX4                                 | Yes | No  | Yes |

Contact us if you have further questions about compatibility!

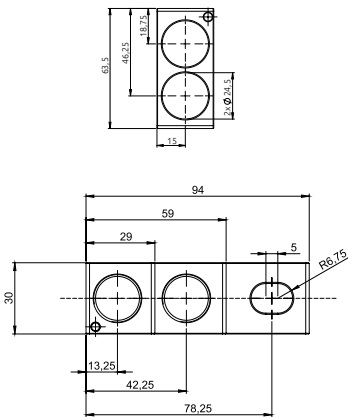
NB! In order to use 300 mm² cables with OTH300 connectors, you need to use shorter screws.  
Please notify us about it during the purchase and we will supply the screws with your order.

Dimensions

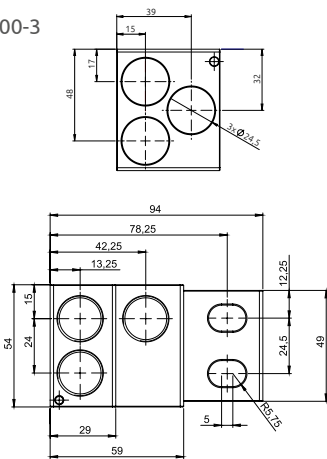
OTH 240-4



OTH 300-2



OTH 300-3



# Terminals BB

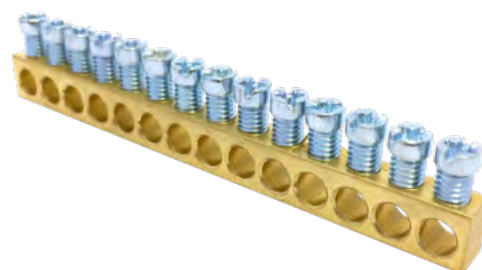
## Customized terminal solutions

Up to  
**35 mm<sup>2</sup>**

Mounting on  
DIN rail



The BB-series terminals offer flexible connections in projects, with adjustable terminal bars that can be cut to size and mounted using special holders. Made with brass conductive parts and Zn galvanized steel connectors, these terminals are available in various sizes, accommodating cross-sections of up to 35 mm<sup>2</sup> for versatile applications.



| Order code | Type     | Number of connections / Screw | Conductor cross section Cu (mm <sup>2</sup> ) | Hole diameter (mm) | Nominal current (A) | Dimensions (mm) W / H / L | Weight (g) | Compatible with | Package (pcs) |
|------------|----------|-------------------------------|-----------------------------------------------|--------------------|---------------------|---------------------------|------------|-----------------|---------------|
| MAD0007E21 | BB7      | 7 / M5                        | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 47              | 22         | BB3             | 100           |
| MAD0009E21 | BB9      | 9 / M5                        | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 61              | 28         | BB3             | 70            |
| MAD0014E21 | BB14     | 14 / M5                       | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 94              | 42         | BB3             | 50            |
| MAD0024E21 | BB24     | 24 / M5                       | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 160             | 72         | BB3             | 30            |
| MAD0032E21 | BB32     | 32 / M5                       | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 213             | 96         | BB3             | 20            |
| MAD0042E21 | BB42     | 42 / M5                       | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 279             | 123        | BB3             | 20            |
| MAD0052E21 | BB52     | 52 / M5                       | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 345             | 152        | BB3             | 20            |
| MAD0147E21 | BB147    | 147 / M5                      | 1,5 - 16                                      | 5,3                | 63                  | 6,5 / 9 / 972             | 436        | BB3             | 30            |
| MAD0142E21 | BB142-10 | 142 / M5                      | 1,5 - 16                                      | 5,5                | 63                  | 8 / 10 / 1000             | 553        | BB3             | 25            |
| MAD0111E21 | BB111    | 111 / M5                      | 1,5 - 25                                      | 6,5                | 100                 | 10 / 10 / 998             | 625        | BB3             | 25            |
| MAD0083E21 | BB83     | 83 / M8                       | 1,5 - 35                                      | 9                  | 160                 | 10 / 15 / 995             | 1088       | BB4             | 15            |

## Terminal BB holders

Plastic holders BB3 and BB4 are designed for mounting two electrical parts (BB terminals or 3x10 mm busbars) on a DIN rail and offers flexibility in creating a wide range of dimensions. The holders are made of black polyamide.



BB3



BB4

| Order code | Type | Color   | Dimensions W/H/L (mm) | Weight (g) | Compatible with terminal | Package (pcs) |
|------------|------|---------|-----------------------|------------|--------------------------|---------------|
| MAD2003A21 | BB3  | Black ● | 12 / 41,5 / 56        | 8          | BB147, BB142-10 a BB111  | 50            |
| MAD2004B21 | BB4  | Black ● | 15 / 41,5 / 60        | 10         | BB83                     | 50            |

**MPIN terminals: space-saving solution for adding connection points to RCD's neutral output without a separate neutral bar. Models for 3x16 mm<sup>2</sup> or 6x16 mm<sup>2</sup> conductors. Adapters for larger wires with compatible terminal blocks BB111, BB147 (MAD1235E21), and BB142-10 (MAD2235E21).**



**MPIN 3**



**MPIN 6**



**35 mm<sup>2</sup>**

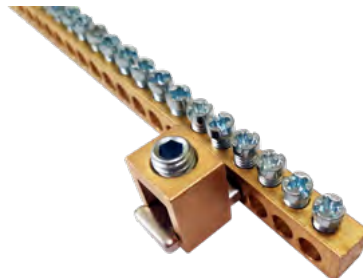


**35 mm<sup>2</sup> HEX**

|  | MAD3016E21 | MAD6016E21 | MAD1235E21 | MAD2235E21 |
|--|------------|------------|------------|------------|
|--|------------|------------|------------|------------|

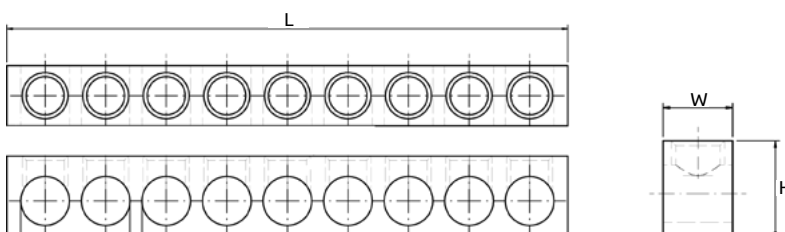
**Technical data**

|                                               |                      |                      |              |              |
|-----------------------------------------------|----------------------|----------------------|--------------|--------------|
| Conductor cross section Cu (mm <sup>2</sup> ) | 1,5 – 16             | 1,5 – 16             | 1,5 - 35     | 1,5 - 35     |
| Nominal voltage (V)                           | 690                  | 690                  | 690          | 690          |
| Nominal current (A)                           | 63                   | 63                   | 63           | 63           |
| The number of connection points               | 3x16 mm <sup>2</sup> | 6x16 mm <sup>2</sup> | 2x 1,5 - 35  | 1x 1,5 - 35  |
| Width / Height / Length (mm)                  | 8 / 16 / 35          | 16 / 16 / 33         | 13 / 12 / 27 | 14 / 21 / 26 |
| Tightening torque (Nm)                        | 2,5                  | 2,5                  | 2,5          | 4            |
| Weight (g)                                    | 10                   | 18                   | 11           | 23           |
| Package (pcs)                                 | 50                   | 50                   | 100          | 100          |

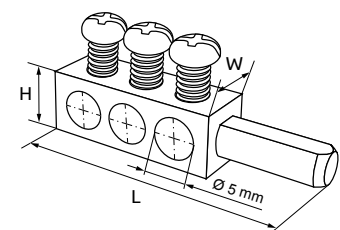


**Dimensions**

Terminals BB



Terminals MPIN



**DIN rail mountable bridges made of fire-retardant material. IP00 rated for installation under cover. Available in two color variations.**



**N7, PE7**

**N12, PE12**

**N15, PE15**

|       |   |            |            |            |
|-------|---|------------|------------|------------|
| Blue  | ● | MAD0007N33 | MAD0012N33 | MAD0015N33 |
| Green | ● | MAD0007G33 | MAD0012G33 | MAD0015G33 |

**Technical data**

|                                  |              |                |                 |
|----------------------------------|--------------|----------------|-----------------|
| Conductor cross section Cu (mm²) | 1,5 - 16     | 1,5 - 16       | 1,5 - 16        |
| Nominal voltage (V)              | 690          | 690            | 690             |
| Nominal current (A)              | 63           | 63             | 63              |
| The number of connection points  | 7            | 12             | 15              |
| Tightening torque (Nm)           | 2,5          | 2,5            | 2,5             |
| Width / Height / Length (mm)     | 23 / 30 / 52 | 23 / 30 / 85,5 | 23 / 30 / 104,5 |
| Mounting                         | DIN rail     | DIN rail       | DIN rail        |
| Weight (g)                       | 26           | 41             | 50              |
| Package (pcs)                    | 10           | 10             | 10              |

**Terminals MSET**

**Ready-to-use solution for time-saving. Brass conductive part, steel connecting parts with Zn galvanization.**

| Order code | Type    | Number of connections | Dimensions (mm)<br>W / H / L | Weight (g) | Package (pcs) |
|------------|---------|-----------------------|------------------------------|------------|---------------|
| MAD2007B21 | MSET 7  | 7x2                   | 40 / 40 / 50                 | 54         | 10            |
| MAD2009B21 | MSET 9  | 9x2                   | 40 / 40 / 64                 | 68         | 10            |
| MAD2014B21 | MSET 14 | 14x2                  | 40 / 40 / 97                 | 96         | 10            |
| MAD2024B21 | MSET 24 | 24x2                  | 40 / 40 / 163                | 156        | 10            |
| MAD2032B21 | MSET 32 | 32x2                  | 40 / 40 / 216                | 202        | 10            |
| MAD2042B21 | MSET 42 | 42x2                  | 40 / 40 / 282                | 258        | 10            |
| MAD2052B21 | MSET 52 | 52x2                  | 40 / 40 / 348                | 316        | 10            |



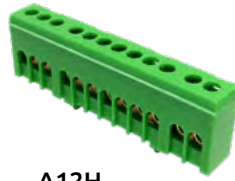
**Technical data**

|                                  |          |
|----------------------------------|----------|
| Conductor cross section Cu (mm²) | 1,5 - 16 |
| Nominal voltage (V)              | 690      |
| Nominal current (A)              | 63       |
| Tightening torque (Nm)           | 2,5      |
| Mounting                         | DIN rail |

**Mountable crosswise on DIN rail. Fire-retardant bridges, IP20 protection class.  
Available in three colors.**



**A7H,  
N7H, PE7H**



**A12H,  
N12H, PE12H**



**A15H,  
N15H, PE15H**



**A6H-2,  
N6H-2, PE6H-2**

|       |                                                                                   |            |            |            |            |
|-------|-----------------------------------------------------------------------------------|------------|------------|------------|------------|
| Grey  |  | MAD1007A15 | MAD1012A15 | MAD1015A15 | MAD2006A15 |
| Blue  |  | MAD1007N15 | MAD1012N15 | MAD1015N15 | MAD2006N15 |
| Green |  | MAD1007G15 | MAD1012G15 | MAD1015G15 | MAD2006G15 |

#### Technical data

|                                               |              |              |               |                            |
|-----------------------------------------------|--------------|--------------|---------------|----------------------------|
| Conductor cross section Cu (mm <sup>2</sup> ) | 1,5 - 16     | 1,5 - 16     | 1,5 - 16      | 8 x 2,5 - 16<br>4 x 4 - 25 |
| Nominal voltage (V)                           | 690          | 690          | 690           | 500                        |
| Nominal current (A)                           | 63           | 63           | 63            | 63                         |
| The number of connection points               | 7            | 12           | 15            | 2 x 6                      |
| Tightening torque (Nm)                        | 2            | 2            | 2             | 2                          |
| Width / Height / Length (mm)                  | 13 / 27 / 53 | 13 / 27 / 87 | 13 / 27 / 106 | 30 / 27 / 53               |
| Mounting                                      | DIN rail     | DIN rail     | DIN rail      | DIN rail                   |
| Weight (g)                                    | 28           | 45           | 57            | 88                         |
| Package (pcs)                                 | 10           | 10           | 10            | 6                          |

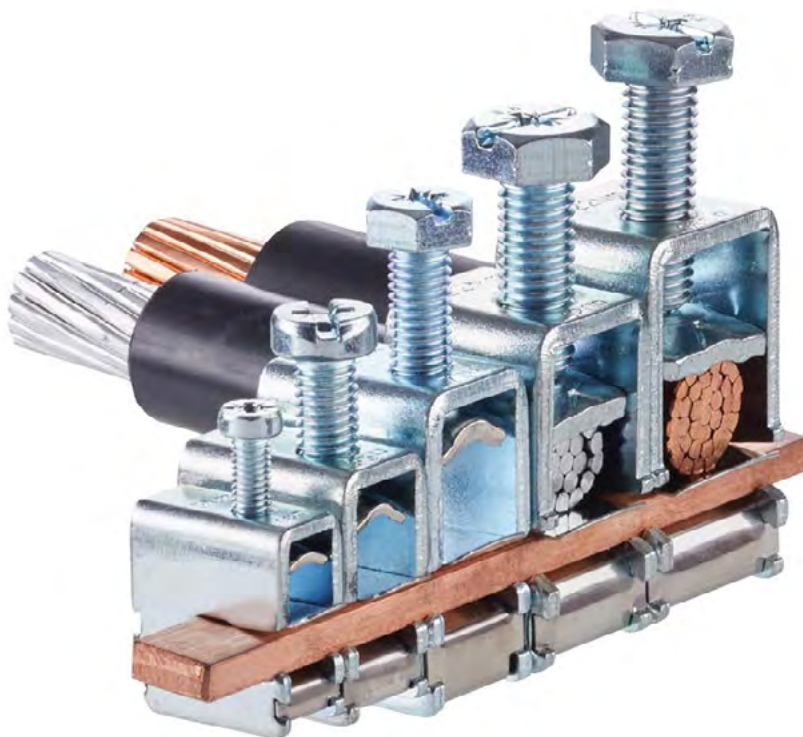
# Bow terminals

## Simple installation

Suitable for

**cables** and  
**flexible busbars**

Bimetallic versions available





**Bow terminals MAE-E: Mount on 5 or 10 mm copper busbars. Secure wires up to 185 mm<sup>2</sup> or 10x20 mm Moflex flexible busbars. Steel body and screw, galvanized with Zn. Stainless steel pressure spring. Hexagonal head for easy screw tightening.**

- Easy installation
- Ideal for modifications
- Excellent electrical contact
- Visible tightening torque indication
- Connect aluminum to copper busbar without TIN plating
- Connect Moflex copper flexible busbar to aluminum without TIN plating of flexible busbars

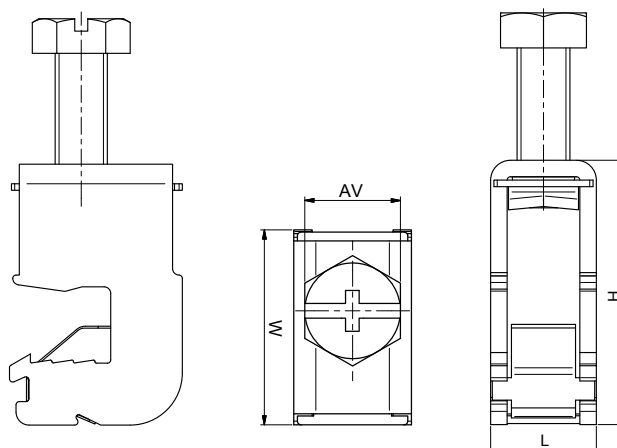


| Mounting  | MAE 16E    | MAE 35E    | MAE 50E    | MAE 70E    | MAE 120E   | MAE 185E   |
|-----------|------------|------------|------------|------------|------------|------------|
| 5 mm bar  | MAE016SE15 | MAE035SE15 | MAE050SE15 | MAE070SE15 | MAE120SE15 | MAE185SE15 |
| 10 mm bar | MAE016IE15 | MAE035IE15 | MAE050IE15 | MAE070IE15 | MAE120IE15 | MAE185IE15 |

#### Technical data

|                                                                         |                                    |                                          |                                      |                                  |                                  |                              |
|-------------------------------------------------------------------------|------------------------------------|------------------------------------------|--------------------------------------|----------------------------------|----------------------------------|------------------------------|
| Cross-section Cu (mm <sup>2</sup> )                                     | 1,5 - 16                           | 4 - 35                                   | 10 - 50                              | 16 - 70                          | 16 - 120                         | 50 - 185                     |
| Flexible busbar max. width (mm)                                         | -                                  | 9                                        | 9                                    | 9                                | 15,5                             | 20                           |
| Flexible busbar max. layers                                             | -                                  | 6                                        | 6                                    | 6                                | 10                               | 10                           |
| Nominal voltage AC/DC (V)                                               | 1000                               | 1000                                     | 1000                                 | 1000                             | 1000                             | 1000                         |
| Nominal current (A)                                                     | 180                                | 270                                      | 315                                  | 400                              | 440                              | 500                          |
| Width / Height / Length (mm)<br>Cu bar (th. 5 mm)<br>Cu bar (th. 10 mm) | 25,5 / 26,5 / 12<br>25,5 / 29 / 12 | 26,5 / 31,3 / 16,5<br>26,5 / 36,5 / 16,5 | 26,5 / 35 / 16,5<br>26,5 / 40 / 16,5 | 28 / 39 / 20,5<br>28 / 46 / 20,5 | 29 / 46 / 23,5<br>29 / 52 / 23,5 | 29 / 55 / 35<br>29 / 55 / 35 |
| Screw / hexagonal key (AV)                                              | Pz2 / SW 8                         | Pz3 / SW13                               | Pz3 / SW13                           | Pz3 / SW13                       | Pz3 / SW17                       | Pz3 / SW17                   |
| Tightening torque (Nm)                                                  | 3                                  | 10                                       | 10                                   | 12                               | 22                               | 22                           |
| Weight (g)<br>Cu bar (th. 5 mm)<br>Cu bar (th. 10 mm)                   | 22<br>21                           | 44<br>45                                 | 48<br>48                             | 62<br>68                         | 88<br>90                         | 102<br>96                    |
| Package (pcs)                                                           | 40                                 | 25                                       | 25 / 20                              | 15                               | 10                               | 10                           |

## Dimensions



**Bimetal bow terminals MAE-H connect copper/ aluminum wires up to 185 mm² or 10x20mm Moflex flexible busbars. They mount on 5/10mm copper/ aluminum busbars, feature bimetal plates, and use steel screws with Zn galvanization. Spring: stainless steel; separating plate: phosphorus bronze. Hexagonal head for easy tightening (except MAE 35H).**

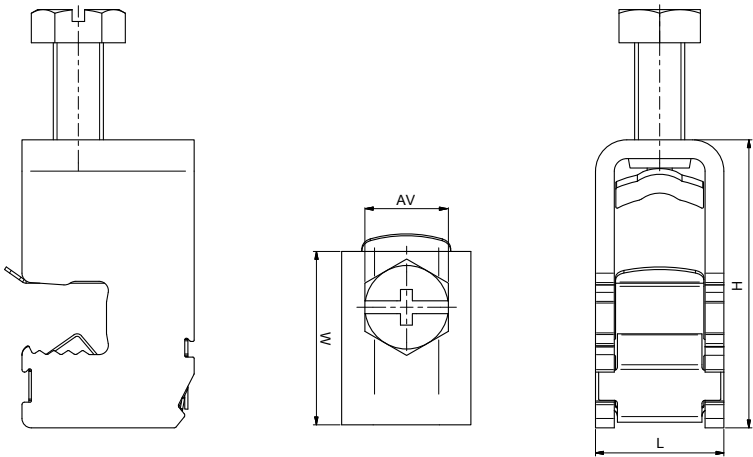
- Quick and easy installation
- Ideal for on-site modifications
- Provides excellent electrical contact
- Visible indication of tightening torque
- Suitable for connecting aluminum cables to copper busbars or copper cables to aluminum busbars without additional TIN plating
- Suitable for connecting Moflex copper flexible busbars to aluminum busbars without additional TIN plating of flexible busbars



| Mounting  | MAE 16H    | MAE 35H    | MAE 70H    | MAE 120H   | MAE 185H   |
|-----------|------------|------------|------------|------------|------------|
| 5 mm bar  | MAE0165H15 | MAE0355H15 | MAE0705H15 | MAE1205H15 | MAE1855H15 |
| 10 mm bar | MAE0161H15 | MAE0351H15 | MAE0701H15 | MAE1201H15 | MAE1851H15 |

| Technical data                  |            |                  |                  |              |              |
|---------------------------------|------------|------------------|------------------|--------------|--------------|
| Cross-section Cu, Al (mm²)      | 1,5 - 16   | 4 - 35           | 16 - 70          | 16 - 120     | 50 - 185     |
| Flexible busbar max. width (mm) | -          | 9                | 9                | 15,5         | 20           |
| Flexible busbar max. layers     | -          | 6                | 6                | 10           | 10           |
| Nominal voltage AC/DC (V)       | 1000       | 1000             | 1000             | 1000         | 1000         |
| Nominal current (A)             | 180        | 270              | 400              | 440          | 500          |
| Width / Height / Length (mm)    |            |                  |                  |              |              |
| 5 mm bar                        | -          | 26,5 / 32 / 16,5 | 27,5 / 41 / 21   | 29 / 46 / 24 | 29 / 52 / 30 |
| 10 mm bar                       | -          | 25,5 / 29 / 12   | 26,5 / 37 / 16,5 | 29 / 51 / 24 | 29 / 56 / 30 |
| Screw / hexagonal key (AV)      | Pz2 / SW 8 | Pz3              | Pz3 / SW13       | Pz3 / SW17   | Pz3 / SW17   |
| Tightening torque (Nm)          | 3          | 6                | 12               | 22           | 22           |
| Weight (g)                      |            |                  |                  |              |              |
| 5 mm bar                        | -          | -                | -                | 88           | 102          |
| 10 mm bar                       | 21         | 45               | 68               | 90           | 102          |
| Package (pcs)                   | 40         | 25 / 20          | 15 / 10          | 10           | 10           |

Dimensions



# Distribution blocks SLT

| 1000 V AC/DC

| Bimetal  
(Al/Cu)

| Class A

Certified according to  
standards EN 61238-1  
and EN 60947-7-1



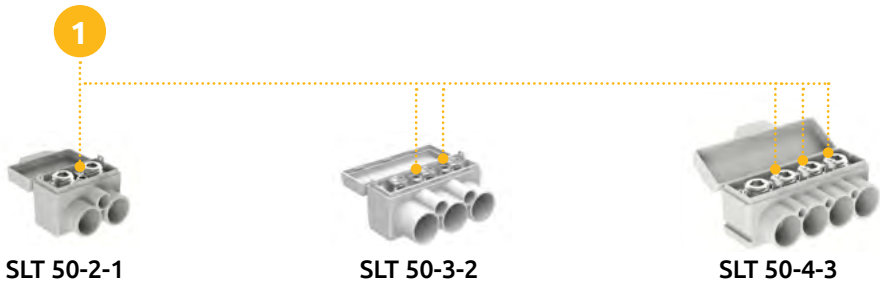
Distribution blocks are designed for copper and aluminium conductors. The blocks are suitable for all types of copper or aluminium conductors with cross-section up to 50 mm² (Al) / 35 mm² (Cu). Multiple copper wires can be placed to the blocks according to the respective terminal type. IP protection class for blocks is IP23.

SLT distribution blocks come in 2-, 4- and 6-terminal sizes, with some models providing additional connection (1) points for connecting small conductors (e.g. LED lights).

**Distribution blocks are tested and certified class A connectors.** Distribution blocks are tested and certified by following standards:  
**\* EN 60947-7-1:2009, \* EN 61238-1:2003**

Distribution blocks are used inside metal poles or in separate boxes. The items are soon available with DIN rails!

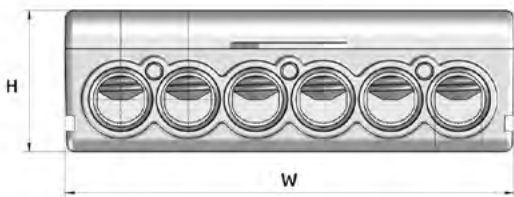
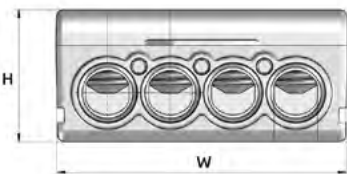
*\* Look more about standards on page 8.*



|              |                                                                                   |            |            |            |
|--------------|-----------------------------------------------------------------------------------|------------|------------|------------|
| Grey         |  | MAS2051A10 | MAS3051A10 | MAS4051A10 |
| Blue         |  | MAS2051B10 | MAS3051B10 | MAS4051B10 |
| Yellow-green |  | MAS2051Y10 | MAS3051Y10 | MAS4051Y10 |

| Technical data                   |                              |                                |                          |
|----------------------------------|------------------------------|--------------------------------|--------------------------|
| Conductor cross-section Cu (mm²) | 2 x (2,5 - 35) + 1 x 1,5 - 6 | 3 x (2,5 - 35) + 2 x (1,5 - 6) | 4 x (2,5 - 35) + 3 x 2,5 |
| Conductor cross-section Al (mm²) | 2 x (16 - 50)                | 3 x (16 - 50)                  | 4 x (10 - 50)            |
| Nominal voltage (V)              | 1000                         | 1000                           | 1000                     |
| Nominal current Cu / Al (A)      | 135 / 145                    | 135 / 145                      | 135 / 145                |
| Width / Height / Length (mm)     | 36 / 27 / 29                 | 55 / 30 / 32                   | 60 / 27 / 29             |
| Screw / hexagonal key (AV)       | 5 / 3                        | 5 / 3                          | 5                        |
| Tightening torque (Nm)           | 3 Nm (2,5 - 16 mm²)          | 3 Nm (2,5 - 16 mm²)            | 3 Nm (2,5 - 16 mm²)      |
|                                  | 8 Nm (25 - 50 mm²)           | 8 Nm (25 - 50 mm²)             | 8 Nm (25 - 50 mm²)       |
|                                  | 2 Nm (1,5 - 6 mm²)           | 2 Nm (1,5 - 6 mm²)             | 1 Nm (1,5 - 2,5 mm²)     |
| Weight (g)                       | 33                           | 49                             | 46                       |
| Package (pcs)                    | 18                           | 18                             | 18                       |

Dimensions





SLT 50-6-3



SLT 50-4



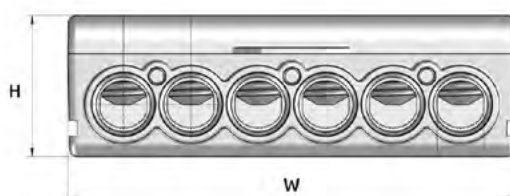
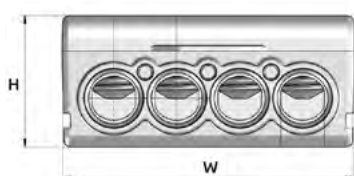
SLT 50-6

|              |  |            |            |            |
|--------------|--|------------|------------|------------|
| Grey         |  | MAS6051A10 | MAS4050A10 | MAS6050A10 |
| Blue         |  | MAS6051B10 | MAS4050B10 | MAS6050B10 |
| Yellow-green |  | MAS6051Y10 | MAS4050Y10 | MAS6050Y10 |

**Technical data**

|                                               |                                                                                                          |                                                                     |                                                                     |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| Conductor cross-section Cu (mm <sup>2</sup> ) | 6 x (2,5 - 35) + 3 x 2,5                                                                                 | 4 x (2,5 - 35)                                                      | 6 x (2,5 - 35)                                                      |
| Conductor cross-section Al (mm <sup>2</sup> ) | 6 x (10 - 50)                                                                                            | 4 x (10 - 50)                                                       | 6 x (10 - 50)                                                       |
| Nominal voltage (V)                           | 1000                                                                                                     | 1000                                                                | 1000                                                                |
| Nominal current Cu / Al (A)                   | 135 / 145                                                                                                | 135 / 145                                                           | 135 / 145                                                           |
| Width / Height / Length (mm)                  | 86 / 27 / 29                                                                                             | 60 / 27 / 29                                                        | 86 / 27 / 29                                                        |
| Screw / hexagonal key (AV)                    | 5                                                                                                        | 5                                                                   | 5                                                                   |
| Tightening torque (Nm)                        | 3 Nm (2,5 - 16 mm <sup>2</sup> )<br>8 Nm (25 - 50 mm <sup>2</sup> )<br>1 Nm (1,5 - 2,5 mm <sup>2</sup> ) | 3 Nm (2,5 - 16 mm <sup>2</sup> )<br>8 Nm (25 - 50 mm <sup>2</sup> ) | 3 Nm (2,5 - 16 mm <sup>2</sup> )<br>8 Nm (25 - 50 mm <sup>2</sup> ) |
| Weight (g)                                    | 70                                                                                                       | 41,8                                                                | 61,1                                                                |
| Package (pcs)                                 | 6                                                                                                        | 18                                                                  | 6                                                                   |

## Dimensions



## Branching connector sealing kit

**Branching connector sealing kit**

|               |            |
|---------------|------------|
| Order code    | MAS0002A10 |
| Weight (g)    | 5          |
| Package (pcs) | 3          |



# Grounding ball studs

**Safety  
grounding**

**Tested and  
certified**

in accordance with the standard

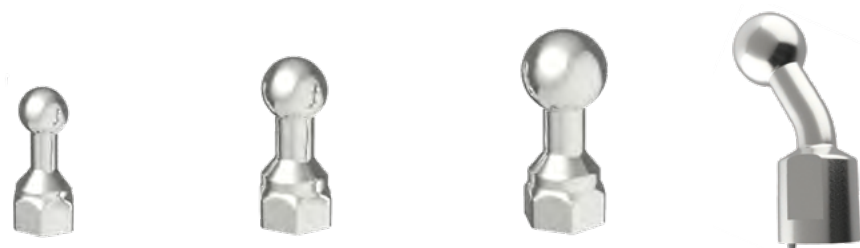
**IEC/EN 61230 (5, 7)**

**29,6 kA/1s**

**Tin plated copper**



**Grounding ball studs short-circuit and ground electrical equipment. Made of copper, they are electrolytically galvanized by Sn. Tested and certified to IEC/EN 61230 (5, 7) standards.**



20 mm / M12

25 mm / M12

30 mm / M12

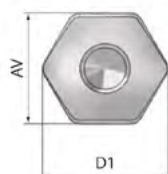
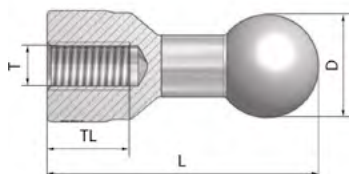
30 mm / M16\*

|                                                | MGA2012M10     | MGA2512M10     | MGA3012M10     | MGA3016M10     |
|------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>Technical data</b>                          |                |                |                |                |
| The diameter of the spherical portion (D) (mm) | 20             | 25             | 30             | 30             |
| Length (L) (mm)                                | 58,6           | 65,6           | 71,1           | 91             |
| Dimensions TL / AV / D1 (mm)                   | 16 / 24 / 27   | 20 / 27 / 30   | 20 / 27 / 30   | 24 / 27 / 30   |
| Thread (T)                                     | M12 (internal) | M12 (internal) | M12 (internal) | M16 (internal) |
| Max. short-circuit current                     | 23,7 kA/1s     | 29,6 kA/1s     | 29,6 kA/1s     | 25 kA/1s       |
| Weight (g)                                     | 178            | 208            | 262            | 344            |
| Package (pcs)                                  | 20             | 20             | 20             | 10             |

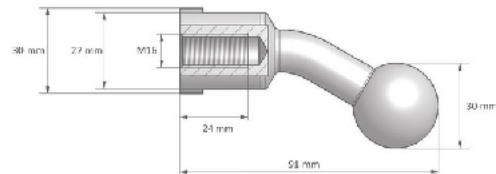
\* Grounding ball stud with 30° bent

## Dimensions

20 mm / M12  
25 mm / M12  
30 mm / M12



30 mm / M16



## Adapter M 12

Adapter M12 is compatible three types of grounding ball studs at above. The adapter is made of steel and plated with zinc.



### Adapter M12

|                       | MGA0012M10     |
|-----------------------|----------------|
| <b>Technical data</b> |                |
| Length (mm)           | 75             |
| Thread (T)            | M12 (external) |
| Weight (g)            | 53             |
| Package (pcs)         | 20             |



**ZSMB 16 and ZSMB-I 16 earthing terminals connect protective conductors for various applications. ZSMB 16 is made of galvanized steel, while ZSMB-I 16 is made of stainless steel AISI 304. Copper or stainless steel tape (0.3x15 mm) is recommended for installation.**

Example of application ZSMB earthing terminal



**ZSMB 16**



**ZSMB-I 16**

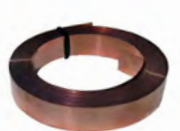
|                                            |                             |                          |
|--------------------------------------------|-----------------------------|--------------------------|
|                                            | MAE0160Z33                  | MAE0160S33               |
| <b>Technical data</b>                      |                             |                          |
| Material                                   | Steel class 11 (galvanized) | Stainless steel AISI 304 |
| Conductor cross-section (mm <sup>2</sup> ) | 2,5 ÷ 16                    | 2,5 ÷ 16                 |
| Width (mm)                                 | 17,8                        | 17,8                     |
| Height (mm)                                | 40,5                        | 40,5                     |
| Length (mm)                                | 28,5                        | 28,5                     |
| Tightening torque (Nm)                     | 3                           | 3                        |
| Weight (g)                                 | 39,8                        | 40                       |
| Package (pcs)                              | 200                         | 200                      |



**MME005CU01**



**MME005SS01**



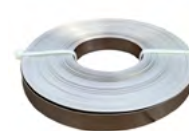
**MME010CU01**



**MME010SS01**



**MME050CU01**



**MME050SS01**

**Earthing strip 0,5 m**

**Earthing strip 10 m**

**Earthing strip 50 m**

|                        |            |            |            |
|------------------------|------------|------------|------------|
| <b>Copper</b>          | MME005CU01 | MME010CU01 | MME050CU01 |
| <b>Stainless steel</b> | MME005SS01 | MME010SS01 | MME050SS01 |

|                           |          |           |             |
|---------------------------|----------|-----------|-------------|
| <b>Technical data</b>     |          |           |             |
| Dimensions (mm)           | 0,3 x 15 | 0,3 x 15  | 0,3 x 15    |
| Length (mm)               | 500      | 10 000    | 50 000      |
| Weight Cu / stainless (g) | 21 / 18  | 403 / 362 | 2018 / 1800 |
| Package (pcs)             | 300      | 15        | 5           |

# Insulators

## Low voltage insulators

Wide range of  
**polyester**  
and  
**polyamide**  
insulators

High resistance to electrical  
and mechanical stress



*Protective ring against pulling out or twisting of the threaded steel part even under high stress*



**Polyester resin with 20% fiberglass**  
**Zinc-plated steel - threaded inserts.**

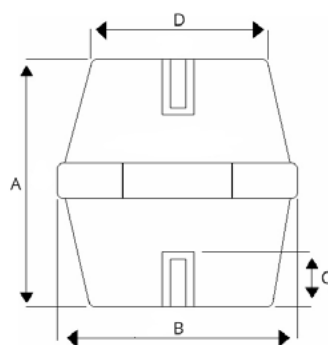
**Advantages**

- Excellent insulation properties
- Easy fixing thanks to hexagonal perimeter
- Application flexibility with models of different size (height and width)
- High resistance to corrosion, high temperatures and electrical / mechanical stress

**Technical specifications**

- Color red (RAL 3002)
- Operating temperature - 40 °C / + 130 °C
- Self-extinguishing grade UL94 - V0
- Arc resistance > 180 sec. (according to ASTM D-495)

*Products displayed here contain only selection of the range offered. Ask for availability of other dimensions and brass inserts from us!*



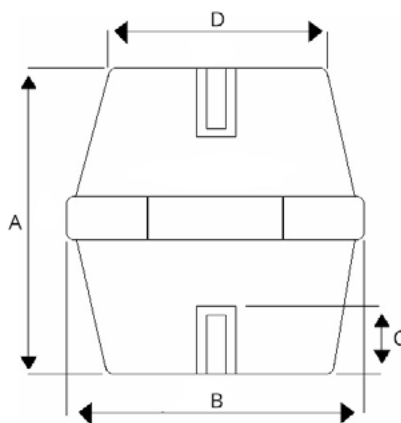
| Order code | Dimensions (mm) |        |    |    | Mechanical characteristics |               |               |               | Electrical characteristics   |                                              |                                 | Package                           |       |
|------------|-----------------|--------|----|----|----------------------------|---------------|---------------|---------------|------------------------------|----------------------------------------------|---------------------------------|-----------------------------------|-------|
|            | A               | B      | C  | D  | Thread                     | T.S.<br>(daN) | C.S.<br>(daN) | B.S.<br>(daN) | Tightening<br>torque<br>(Nm) | Rated voltage at<br>50Hz for 60 sec.<br>(kV) | Flashover<br>voltage<br>(kV AC) | Operating<br>Voltage<br>DC/AC (V) | (pcs) |
| MID2505H19 | 25              | HEX 19 | 8  | 15 | M5                         | 400           | 2300          | 220           | 6                            | 8                                            | 25                              | 600                               | 50    |
| MID2506H19 | 25              | HEX 19 | 8  | 15 | M6                         | 400           | 2300          | 220           | 10,3                         | 8                                            | 25                              | 600                               | 50    |
| MID3006H30 | 30              | HEX 30 | 9  | 26 | M6                         | 900           | 4900          | 450           | 10,3                         | 10                                           | 30                              | 750                               | 50    |
| MID3008H30 | 30              | HEX 30 | 9  | 26 | M8                         | 900           | 4900          | 450           | 25,5                         | 10                                           | 30                              | 750                               | 50    |
| MID3506H32 | 35              | HEX 32 | 11 | 28 | M6                         | 1100          | 7000          | 500           | 10,3                         | 10                                           | 40                              | 750                               | 50    |
| MID3508H32 | 35              | HEX 32 | 11 | 28 | M8                         | 1100          | 7000          | 500           | 25,5                         | 10                                           | 40                              | 750                               | 50    |
| MID3510H32 | 35              | HEX 32 | 11 | 28 | M10                        | 1100          | 7000          | 500           | 50                           | 10                                           | 40                              | 750                               | 50    |
| MID3606H41 | 36              | HEX 41 | 11 | 33 | M6                         | 1400          | 8300          | 650           | 10,3                         | 12                                           | 40                              | 1000                              | 50    |
| MID3608H41 | 36              | HEX 41 | 11 | 33 | M8                         | 1400          | 8300          | 650           | 25,5                         | 12                                           | 40                              | 1000                              | 25    |
| MID3610H41 | 36              | HEX 41 | 11 | 33 | M10                        | 1400          | 8300          | 650           | 50                           | 12                                           | 40                              | 1000                              | 25    |
| MID4006H32 | 40              | HEX 32 | 11 | 28 | M6                         | 1100          | 7000          | 500           | 10,3                         | 12                                           | 40                              | 1000                              | 50    |
| MID4008H32 | 40              | HEX 32 | 11 | 28 | M8                         | 1100          | 7000          | 500           | 25,5                         | 12                                           | 40                              | 1000                              | 50    |
| MID4010H32 | 40              | HEX 32 | 11 | 28 | M10                        | 1100          | 7000          | 500           | 50                           | 12                                           | 40                              | 1000                              | 50    |
| MID4012H32 | 40              | HEX 32 | 11 | 28 | M12                        | 1100          | 7000          | 500           | 87,2                         | 12                                           | 40                              | 1000                              | 50    |
| MID4006H46 | 40              | HEX 46 | 15 | 40 | M6                         | 1300          | 8300          | 700           | 10,3                         | 12                                           | 40                              | 1000                              | 20    |
| MID4008H46 | 40              | HEX 46 | 15 | 40 | M8                         | 1300          | 8300          | 700           | 25,5                         | 12                                           | 40                              | 1000                              | 20    |
| MID4010H46 | 40              | HEX 46 | 15 | 40 | M10                        | 1300          | 8300          | 700           | 50                           | 12                                           | 40                              | 1000                              | 20    |
| MID4506H36 | 45              | HEX 36 | 15 | 29 | M6                         | 1300          | 8500          | 740           | 10,3                         | 15                                           | 40                              | 1000                              | 25    |
| MID4508H36 | 45              | HEX 36 | 15 | 29 | M8                         | 1300          | 8500          | 740           | 25,5                         | 15                                           | 40                              | 1000                              | 25    |
| MID4510H36 | 45              | HEX 36 | 15 | 29 | M10                        | 1300          | 8500          | 740           | 50                           | 15                                           | 40                              | 1000                              | 25    |
| MID4512H36 | 45              | HEX 36 | 15 | 29 | M12                        | 1300          | 8500          | 740           | 87,2                         | 15                                           | 40                              | 1000                              | 25    |
| MID4506O41 | 45              | OCT 41 | 15 | 33 | M6                         | 1400          | 8500          | 740           | 10,3                         | 15                                           | 40                              | 1000                              | 25    |
| MID4508O41 | 45              | OCT 41 | 15 | 33 | M8                         | 1400          | 8500          | 740           | 25,5                         | 15                                           | 40                              | 1000                              | 25    |
| MID4510O41 | 45              | OCT 41 | 15 | 33 | M10                        | 1400          | 8500          | 740           | 50                           | 15                                           | 40                              | 1000                              | 25    |
| MID4512O41 | 45              | OCT 41 | 15 | 33 | M12                        | 1400          | 8500          | 740           | 87,2                         | 15                                           | 40                              | 1000                              | 25    |
| MID4506H46 | 45              | HEX 46 | 15 | 40 | M6                         | 1500          | 9000          | 750           | 10,3                         | 15                                           | 40                              | 1000                              | 20    |
| MID4508H46 | 45              | HEX 46 | 15 | 40 | M8                         | 1500          | 9000          | 750           | 25,5                         | 15                                           | 40                              | 1000                              | 20    |

T.S. - Tensile strength | C.S. - Compression strength | B.S. - Bending strength

| Order code  | Dimensions (mm) |        |    |    |        | Mechanical characteristics |               |               |                              | Electrical characteristics                   |                                 |                                   | Package |
|-------------|-----------------|--------|----|----|--------|----------------------------|---------------|---------------|------------------------------|----------------------------------------------|---------------------------------|-----------------------------------|---------|
|             | A               | B      | C  | D  | Thread | T.S.<br>(daN)              | C.S.<br>(daN) | B.S.<br>(daN) | Tightening<br>torque<br>(Nm) | Rated voltage at<br>50Hz for 60 sec.<br>(kV) | Flashover<br>voltage<br>(kV AC) | Operating<br>Voltage<br>DC/AC (V) | (pcs)   |
| MID4510H46  | 45              | HEX 46 | 15 | 40 | M10    | 1500                       | 9000          | 750           | 50                           | 15                                           | 40                              | 1000                              | 20      |
| MID5006H36  | 50              | HEX 36 | 15 | 29 | M6     | 1300                       | 8000          | 650           | 10,3                         | 20                                           | 50                              | 1500                              | 25      |
| MID5008H36  | 50              | HEX 36 | 15 | 29 | M8     | 1300                       | 8000          | 650           | 25,5                         | 20                                           | 50                              | 1500                              | 25      |
| MID5010H36  | 50              | HEX 36 | 15 | 29 | M10    | 1300                       | 8000          | 650           | 50                           | 20                                           | 50                              | 1500                              | 25      |
| MID5012H36  | 50              | HEX 36 | 15 | 29 | M12    | 1300                       | 8000          | 650           | 87,2                         | 20                                           | 50                              | 1500                              | 25      |
| MID5012H50  | 50              | HEX 50 | 15 | 42 | M12    | 1500                       | 9500          | 750           | 87,2                         | 20                                           | 50                              | 1500                              | 20      |
| MID6008O55  | 60              | OCT 55 | 15 | 43 | M8     | 9000                       | 12500         | 800           | 25,5                         | 20                                           | 50                              | 1500                              | 10      |
| MID6010O55  | 60              | OCT 55 | 15 | 43 | M10    | 12000                      | 12500         | 800           | 50                           | 20                                           | 50                              | 1500                              | 10      |
| MID6308H41  | 63              | HEX 41 | 15 | 33 | M8     | 1600                       | 9000          | 700           | 25,5                         | 20                                           | 50                              | 1500                              | 20      |
| MID6310H41  | 63              | HEX 41 | 15 | 33 | M10    | 1600                       | 9000          | 700           | 30                           | 20                                           | 50                              | 1500                              | 20      |
| MID6312H41  | 63              | HEX 41 | 15 | 33 | M12    | 1600                       | 9000          | 700           | 87,2                         | 20                                           | 50                              | 1500                              | 20      |
| MID7010H65  | 70              | HEX 65 | 25 | 49 | M10    | 3000                       | 15000         | 1200          | 50                           | 25                                           | 50                              | 2000                              | 5       |
| MID7012H65  | 70              | HEX 65 | 25 | 49 | M12    | 3000                       | 15000         | 1200          | 87,2                         | 25                                           | 50                              | 2000                              | 5       |
| MID7016H65  | 70              | HEX 65 | 25 | 49 | M16    | 3000                       | 15000         | 1200          | 210,8                        | 25                                           | 50                              | 2000                              | 5       |
| MID7512O65  | 75              | OCT 65 | 26 | 51 | M12    | 3000                       | 15000         | 1200          | 87,2                         | 25                                           | 50                              | 2000                              | 5       |
| MID7508H50  | 75              | HEX 50 | 25 | 42 | M8     | 1800                       | 9500          | 730           | 25,5                         | 25                                           | 50                              | 1500                              | 10      |
| MID7510H50  | 75              | HEX 50 | 25 | 42 | M10    | 1800                       | 9500          | 730           | 50                           | 25                                           | 50                              | 1500                              | 10      |
| MID7512H50  | 75              | HEX 50 | 25 | 42 | M12    | 1800                       | 9500          | 730           | 87,2                         | 25                                           | 50                              | 1500                              | 10      |
| MID8012H65  | 80              | HEX 65 | 25 | 49 | M12    | 3000                       | 15000         | 1200          | 87,2                         | 25                                           | 50                              | 2000                              | 5       |
| MID10020O65 | 100             | OCT 65 | 25 | 51 | M12    | 4000                       | 16500         | 1300          | 87,2                         | 30                                           | 50                              | 3600                              | 5       |
| MID10060O65 | 100             | OCT 65 | 25 | 51 | M16    | 4000                       | 16500         | 1300          | 210,8                        | 30                                           | 50                              | 3600                              | 5       |

T.S. - Tensile strength | C.S. - Compression strength | B.S. - Bending strength

## Dimensions



**Polyamide resin with 30% fiberglass**  
**Zinc-plated steel - threaded inserts.**

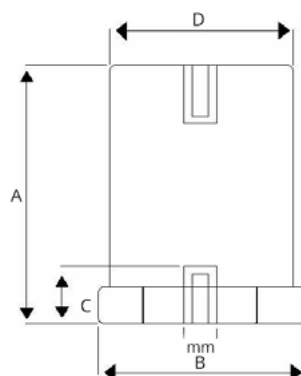
**Advantages**

- Excellent insulation properties
- Easy fixing thanks to hexagonal perimeter
- Application flexibility with models of different size (height and width)
- High resistance to corrosion, high temperatures and electrical / mechanical stress

**Technical specifications**

- Color red (RAL 3011)
- Operating temperature - 40 °C / + 120 °C
- Self-extinguishing grade UL94 - V0
- Arc resistance > 180 sec. (according to ASTM D-495)

*Products displayed here contain only selection of the range offered. Ask for availability of other dimensions and brass inserts from us!*



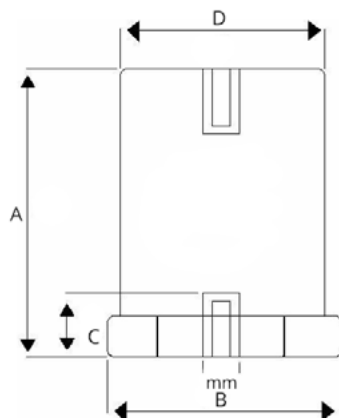
| Order code                            | Dimensions (mm) |        |     |        | Mechanical characteristics |               |               |                              | Electrical characteristics                   |                                 |                                   | Package |
|---------------------------------------|-----------------|--------|-----|--------|----------------------------|---------------|---------------|------------------------------|----------------------------------------------|---------------------------------|-----------------------------------|---------|
|                                       | A               | B      | C   | Thread | T.S.<br>(daN)              | C.S.<br>(daN) | B.S.<br>(daN) | Tightening<br>torque<br>(Nm) | Rated voltage at<br>50Hz for 60 sec.<br>(kV) | Flashover<br>voltage<br>(kV AC) | Operating<br>Voltage<br>DC/AC (V) | (pcs)   |
| <b>Polyamide stud insulators D=20</b> |                 |        |     |        |                            |               |               |                              |                                              |                                 |                                   |         |
| MIB1604D20                            | 16              | HEX 20 | 4,5 | M4     | 300                        | 2500          | 200           | 3                            | 3                                            | 10                              | 400                               | 50      |
| MIB1605D20                            | 16              | HEX 20 | 4,5 | M5     | 300                        | 2500          | 200           | 3,5                          | 3                                            | 10                              | 400                               | 50      |
| MIB1606D20                            | 16              | HEX 20 | 4,5 | M6     | 300                        | 2500          | 200           | 4                            | 3                                            | 10                              | 400                               | 50      |
| MIB2005D20                            | 20              | HEX 20 | 5   | M5     | 300                        | 2500          | 180           | 3,5                          | 3,5                                          | 12                              | 600                               | 50      |
| MIB2006D20                            | 20              | HEX 20 | 5   | M6     | 300                        | 2500          | 180           | 4                            | 3,5                                          | 12                              | 600                               | 100     |
| MIB2505D20                            | 25              | HEX 20 | 8   | M5     | 300                        | 2500          | 180           | 6                            | 5                                            | 15                              | 600                               | 50      |
| MIB2506D20                            | 25              | HEX 20 | 8   | M6     | 300                        | 2500          | 180           | 10,3                         | 5                                            | 15                              | 600                               | 100     |
| MIB2508D20                            | 25              | HEX 20 | 8   | M8     | 300                        | 2500          | 180           | 25,5                         | 5                                            | 15                              | 600                               | 100     |
| MIB3005D20                            | 30              | HEX 20 | 9   | M5     | 350                        | 2500          | 150           | 6                            | 10                                           | 20                              | 600                               | 50      |
| MIB3006D20                            | 30              | HEX 20 | 9   | M6     | 350                        | 2500          | 150           | 10,3                         | 10                                           | 20                              | 600                               | 100     |
| MIB3008D20                            | 30              | HEX 20 | 9   | M8     | 350                        | 2500          | 150           | 25,5                         | 10                                           | 20                              | 600                               | 100     |
| MIB3505D20                            | 35              | HEX 20 | 9   | M5     | 350                        | 2500          | 150           | 6                            | 10                                           | 20                              | 600                               | 100     |
| MIB3506D20                            | 35              | HEX 20 | 9   | M6     | 350                        | 2500          | 150           | 10,3                         | 10                                           | 20                              | 600                               | 100     |
| MIB3508D20                            | 35              | HEX 20 | 9   | M8     | 350                        | 2500          | 150           | 25,5                         | 10                                           | 20                              | 600                               | 100     |
| MIB4005D20                            | 40              | HEX 20 | 9   | M5     | 350                        | 2500          | 150           | 6                            | 10                                           | 20                              | 600                               | 50      |
| MIB4006D20                            | 40              | HEX 20 | 9   | M6     | 350                        | 2500          | 150           | 10,3                         | 10                                           | 20                              | 600                               | 100     |
| MIB4008D20                            | 40              | HEX 20 | 9   | M8     | 350                        | 2500          | 150           | 25,5                         | 10                                           | 20                              | 600                               | 100     |
| MIB4505D20                            | 45              | HEX 20 | 9   | M5     | 350                        | 2500          | 150           | 6                            | 10                                           | 20                              | 600                               | 50      |
| MIB4506D20                            | 45              | HEX 20 | 9   | M6     | 350                        | 2500          | 150           | 10,3                         | 10                                           | 20                              | 600                               | 100     |
| MIB4508D20                            | 45              | HEX 20 | 9   | M8     | 350                        | 2500          | 150           | 25,5                         | 10                                           | 20                              | 600                               | 50      |
| MIB5005D20                            | 50              | HEX 20 | 9   | M5     | 350                        | 2500          | 100           | 6                            | 10                                           | 30                              | 750                               | 50      |
| MIB5006D20                            | 50              | HEX 20 | 9   | M6     | 350                        | 2500          | 100           | 10,3                         | 10                                           | 30                              | 750                               | 50      |

T.S. - Tensile strength | C.S. - Compression strength | B.S. - Bending strength

| Order code                            | Dimentions (mm) |        |    |        | Mechanical characteristics |               |               |                              | Electrical characteristics                   |                               |                                   | Package |
|---------------------------------------|-----------------|--------|----|--------|----------------------------|---------------|---------------|------------------------------|----------------------------------------------|-------------------------------|-----------------------------------|---------|
|                                       | A               | B      | C  | Thread | T.S.<br>(daN)              | C.S.<br>(daN) | B.S.<br>(daN) | Tightening<br>torque<br>(Nm) | Rated voltage at<br>50Hz for 60 sec.<br>(kV) | Flashover<br>voltage<br>kV AC | Operating<br>Voltage<br>DC/AC (V) | (pcs)   |
| <b>Polyamide stud insulators D=30</b> |                 |        |    |        |                            |               |               |                              |                                              |                               |                                   |         |
| MIB3006D30                            | 30              | HEX 30 | 9  | M6     | 900                        | 4500          | 450           | 10,3                         | 8                                            | 25                            | 750                               | 50      |
| MIB3008D30                            | 30              | HEX 30 | 9  | M8     | 900                        | 4500          | 450           | 25,5                         | 8                                            | 25                            | 750                               | 50      |
| MIB3506D30                            | 35              | HEX 30 | 11 | M6     | 900                        | 4500          | 450           | 10,3                         | 8                                            | 25                            | 750                               | 50      |
| MIB3508D30                            | 35              | HEX 30 | 11 | M8     | 900                        | 4500          | 450           | 25,5                         | 8                                            | 25                            | 750                               | 50      |
| MIB4006D30                            | 40              | HEX 30 | 11 | M6     | 900                        | 4500          | 450           | 10,3                         | 10                                           | 30                            | 1000                              | 50      |
| MIB4008D30                            | 40              | HEX 30 | 11 | M8     | 900                        | 4500          | 450           | 25,5                         | 10                                           | 30                            | 1000                              | 50      |
| MIB4506D30                            | 45              | HEX 30 | 15 | M6     | 900                        | 4500          | 300           | 10,3                         | 10                                           | 30                            | 1000                              | 50      |
| MIB4508D30                            | 45              | HEX 30 | 15 | M8     | 900                        | 4500          | 300           | 25,5                         | 10                                           | 30                            | 1000                              | 25      |
| MIB5506D30                            | 55              | HEX 30 | 15 | M6     | 900                        | 4500          | 200           | 10,3                         | 15                                           | 50                            | 1500                              | 25      |
| MIB5508D30                            | 55              | HEX 30 | 15 | M8     | 900                        | 4500          | 200           | 25,5                         | 15                                           | 50                            | 1500                              | 25      |
| MIB6506D30                            | 65              | HEX 30 | 15 | M6     | 900                        | 4500          | 150           | 10,3                         | 15                                           | 50                            | 1500                              | 25      |
| MIB6508D30                            | 65              | HEX 30 | 15 | M8     | 900                        | 4500          | 150           | 25,5                         | 15                                           | 50                            | 1500                              | 25      |
| MIB7006D30                            | 70              | HEX 30 | 15 | M6     | 900                        | 4500          | 150           | 10,3                         | 15                                           | 50                            | 1500                              | 25      |
| MIB7008D30                            | 70              | HEX 30 | 15 | M8     | 900                        | 4500          | 150           | 25,5                         | 15                                           | 50                            | 1500                              | 25      |
| <b>Polyamide stud insulators D=40</b> |                 |        |    |        |                            |               |               |                              |                                              |                               |                                   |         |
| MIB3008D40                            | 30              | HEX 41 | 9  | M8     | 1200                       | 6500          | 700           | 25,5                         | 8                                            | 25                            | 750                               | 50      |
| MIB3508D40                            | 35              | HEX 41 | 11 | M8     | 1200                       | 6500          | 700           | 25,5                         | 8                                            | 25                            | 750                               | 50      |
| MIB4008D40                            | 40              | HEX 41 | 11 | M8     | 1200                       | 6500          | 600           | 25,5                         | 10                                           | 30                            | 1000                              | 25      |
| MIB4010D40                            | 40              | HEX 41 | 11 | M10    | 1200                       | 6500          | 600           | 50                           | 10                                           | 30                            | 1000                              | 25      |
| MIB4508D40                            | 45              | HEX 41 | 15 | M8     | 1200                       | 6500          | 600           | 25,5                         | 10                                           | 30                            | 1000                              | 50      |
| MIB4510D40                            | 45              | HEX 41 | 15 | M10    | 1200                       | 6500          | 600           | 50                           | 10                                           | 30                            | 1000                              | 50      |
| MIB5008D40                            | 50              | HEX 41 | 15 | M8     | 1200                       | 6500          | 500           | 25,5                         | 15                                           | 40                            | 1500                              | 25      |
| MIB5010D40                            | 50              | HEX 41 | 15 | M10    | 1200                       | 6500          | 500           | 50                           | 15                                           | 40                            | 1500                              | 25      |
| MIB5510D40                            | 55              | HEX 41 | 15 | M10    | 1200                       | 6500          | 500           | 50                           | 15                                           | 40                            | 1500                              | 20      |
| MIB6010D40                            | 60              | HEX 41 | 15 | M10    | 1200                       | 6500          | 500           | 50                           | 15                                           | 40                            | 1500                              | 20      |
| MIB6510D40                            | 65              | HEX 41 | 15 | M10    | 1200                       | 6500          | 300           | 50                           | 15                                           | 40                            | 1500                              | 10      |
| MIB7010D40                            | 70              | HEX 41 | 15 | M10    | 1200                       | 6500          | 300           | 50                           | 15                                           | 40                            | 1500                              | 10      |

**T.S.** - Tensile strength | **C.S.** - Compression strength | **B.S.** - Bending strength

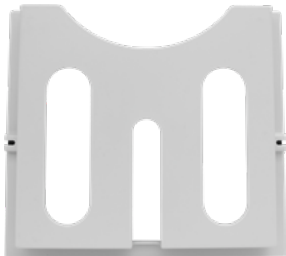
## Dimensions



Document holders store A4 or A6 documents in metal or plastic cabinets. They can be attached using double-sided adhesive tape or self-tapping screws (not included). The holders are made of shock-proof plastic and available in grey (RAL 7035).



Holder A6

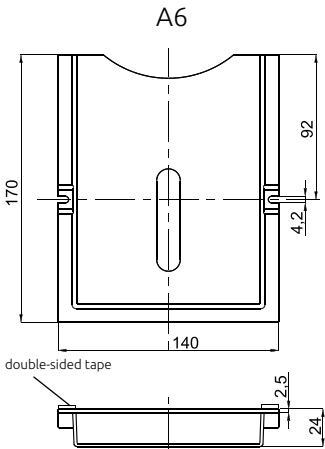


Holder A4

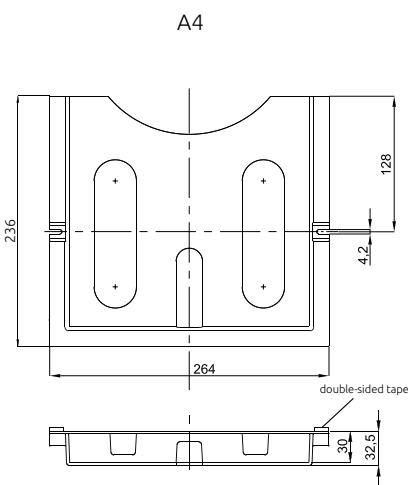
|                              |                                                                                   |                |            |
|------------------------------|-----------------------------------------------------------------------------------|----------------|------------|
| Grey (RAL 7035)              |  | MLE0006A26     | MLE0004A26 |
| <b>Technical data</b>        |                                                                                   |                |            |
| Width / Height / Length (mm) | 140 / 170 / 24                                                                    | 264 / 236 / 33 |            |
| Weight (g)                   | 83                                                                                | 132            |            |
| Package (pcs)                | 80                                                                                | 25             |            |
| Material                     | PS                                                                                | PS             |            |

Dimensions

A6

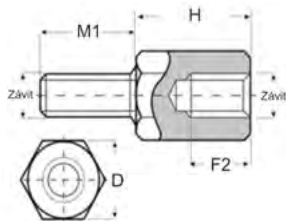


A4





**Hexagonal profile metal spacers (threaded standoffs) are versatile and heat-resistant, designed for various applications. Sizes suitable for M3, M4, M5, M6, and M8 thread holes.**



Dimensions (mm)

| Order code | H   | D | Thread | M1 | F2  | Tightening torque (Nm) | Weight (g) | Package (pcs) |
|------------|-----|---|--------|----|-----|------------------------|------------|---------------|
| MMF0053D07 | 5   | 7 | M3     | 6  | 2,5 | 1,12                   | 1,8        | 100           |
| MMF0083D07 | 8   | 7 | M3     | 6  | 3,5 | 1,12                   | 2,7        | 100           |
| MMF0103D07 | 10  | 7 | M3     | 6  | 5   | 1,12                   | 3,5        | 100           |
| MMF0123D07 | 12  | 7 | M3     | 6  | 6   | 1,12                   | 4,2        | 100           |
| MMF0153D07 | 15  | 7 | M3     | 6  | 6   | 1,12                   | 5,2        | 100           |
| MMF0203D07 | 20  | 7 | M3     | 6  | 6   | 1,12                   | 6,9        | 100           |
| MMF0253D07 | 25  | 7 | M3     | 6  | 6   | 1,12                   | 8,6        | 100           |
| MMF0303D07 | 30  | 7 | M3     | 6  | 6   | 1,12                   | 10         | 100           |
| MMF1203D07 | 120 | 7 | M3     | 6  | 6   | 1,12                   | 40,7       | 100           |
| MMF0104D07 | 10  | 7 | M4     | 8  | 5   | 2,55                   | 3,6        | 100           |
| MMF0154D07 | 15  | 7 | M4     | 8  | 10  | 2,55                   | 4,9        | 100           |
| MMF0204D07 | 20  | 7 | M4     | 8  | 10  | 2,55                   | 6,5        | 100           |
| MMF0254D07 | 25  | 7 | M4     | 8  | 10  | 2,55                   | 8,1        | 100           |
| MMF0304D07 | 30  | 7 | M4     | 8  | 10  | 2,55                   | 9,6        | 100           |
| MMF0354D07 | 35  | 7 | M4     | 8  | 10  | 2,55                   | 11,3       | 100           |
| MMF0404D07 | 40  | 7 | M4     | 8  | 10  | 2,55                   | 12,9       | 100           |
| MMF0454D07 | 45  | 7 | M4     | 8  | 10  | 2,55                   | 14,5       | 100           |
| MMF0504D07 | 50  | 7 | M4     | 8  | 10  | 2,55                   | 16,3       | 100           |
| MMF0604D07 | 60  | 7 | M4     | 8  | 10  | 2,55                   | 19,8       | 50            |
| MMF0704D07 | 70  | 7 | M4     | 8  | 10  | 2,55                   | 23         | 50            |
| MMF0804D07 | 80  | 7 | M4     | 8  | 10  | 2,55                   | 26,4       | 50            |
| MMF0904D07 | 90  | 7 | M4     | 8  | 10  | 2,55                   | 29,6       | 50            |
| MMF1004D07 | 100 | 7 | M4     | 8  | 10  | 2,55                   | 32,8       | 50            |
| MMF1104D07 | 110 | 7 | M4     | 8  | 10  | 2,55                   | 36         | 50            |
| MMF1204D07 | 120 | 7 | M4     | 8  | 10  | 2,55                   | 42,5       | 50            |
| MMF0105D08 | 10  | 8 | M5     | 8  | 7   | 5,05                   | 45         | 100           |
| MMF0155D08 | 15  | 8 | M5     | 8  | 10  | 5,05                   | 6          | 100           |
| MMF0205D08 | 20  | 8 | M5     | 8  | 10  | 5,05                   | 8,1        | 100           |
| MMF0255D08 | 25  | 8 | M5     | 8  | 10  | 5,05                   | 10,1       | 100           |
| MMF0305D08 | 30  | 8 | M5     | 8  | 10  | 5,05                   | 12,1       | 100           |
| MMF0355D08 | 35  | 8 | M5     | 8  | 10  | 5,05                   | 14         | 100           |
| MMF0405D08 | 40  | 8 | M5     | 8  | 10  | 5,05                   | 16,6       | 100           |
| MMF0455D08 | 45  | 8 | M5     | 8  | 10  | 5,05                   | 18,5       | 100           |
| MMF0505D08 | 50  | 8 | M5     | 8  | 10  | 5,05                   | 21,4       | 50            |
| MMF0605D08 | 60  | 8 | M5     | 8  | 10  | 5,05                   | 25,4       | 50            |
| MMF0705D08 | 70  | 8 | M5     | 8  | 10  | 5,05                   | 29,6       | 50            |
| MMF0805D08 | 80  | 8 | M5     | 8  | 10  | 5,05                   | 34         | 25            |
| MMF0905D08 | 90  | 8 | M5     | 8  | 10  | 5,05                   | 38,4       | 50            |
| MMF1005D08 | 100 | 8 | M5     | 8  | 10  | 5,05                   | 42,6       | 50            |

Dimensions (mm)

| Order code | H   | D  | Thread | M1 | F2 | Tightening torque (Nm) | Weight (g) | Package (pcs) |
|------------|-----|----|--------|----|----|------------------------|------------|---------------|
| MMF1105D08 | 110 | 8  | M5     | 8  | 10 | 5,05                   | 47         | 50            |
| MMF1205D08 | 120 | 8  | M5     | 8  | 10 | 5,05                   | 52         | 50            |
| MMF0106D10 | 10  | 10 | M6     | 10 | 8  | 8,72                   | 6,5        | 100           |
| MMF0156D10 | 15  | 10 | M6     | 10 | 10 | 8,72                   | 9,7        | 100           |
| MMF0206D10 | 20  | 10 | M6     | 10 | 10 | 8,72                   | 12,9       | 100           |
| MMF0256D10 | 25  | 10 | M6     | 10 | 10 | 8,72                   | 16,2       | 100           |
| MMF0306D10 | 30  | 10 | M6     | 10 | 10 | 8,72                   | 19,4       | 100           |
| MMF0356D10 | 35  | 10 | M6     | 10 | 10 | 8,72                   | 22,2       | 50            |
| MMF0406D10 | 40  | 10 | M6     | 10 | 10 | 8,72                   | 26,6       | 50            |
| MMF0456D10 | 45  | 10 | M6     | 10 | 10 | 8,72                   | 29,8       | 50            |
| MMF0506D10 | 50  | 10 | M6     | 10 | 10 | 8,72                   | 33,2       | 50            |
| MMF0606D10 | 60  | 10 | M6     | 10 | 10 | 8,72                   | 40         | 50            |
| MMF0706D10 | 70  | 10 | M6     | 10 | 10 | 8,72                   | 53,6       | 50            |
| MMF0806D10 | 80  | 10 | M6     | 10 | 10 | 8,72                   | 55,2       | 50            |
| MMF0906D10 | 90  | 10 | M6     | 10 | 10 | 8,72                   | 68         | 25            |
| MMF1006D10 | 100 | 10 | M6     | 10 | 10 | 8,72                   | 69,6       | 25            |
| MMF1106D10 | 110 | 10 | M6     | 10 | 10 | 8,72                   | 72         | 25            |
| MMF1206D10 | 120 | 10 | M6     | 10 | 10 | 8,72                   | 77         | 25            |
| MMF0108D12 | 10  | 12 | M8     | 14 | 6  | 21,53                  | 8,8        | 100           |
| MMF0158D12 | 15  | 12 | M8     | 14 | 10 | 21,53                  | 13,2       | 100           |
| MMF0208D12 | 20  | 12 | M8     | 14 | 14 | 21,53                  | 17,7       | 100           |
| MMF0258D12 | 25  | 12 | M8     | 14 | 14 | 21,53                  | 23,4       | 50            |
| MMF0308D12 | 30  | 12 | M8     | 14 | 14 | 21,53                  | 27,8       | 50            |
| MMF0358D12 | 35  | 12 | M8     | 14 | 14 | 21,53                  | 32,4       | 50            |
| MMF0408D12 | 40  | 12 | M8     | 14 | 14 | 21,53                  | 37         | 50            |
| MMF0458D12 | 45  | 12 | M8     | 14 | 14 | 21,53                  | 42,8       | 25            |
| MMF0508D12 | 50  | 12 | M8     | 14 | 14 | 21,53                  | 47,6       | 25            |
| MMF0608D12 | 60  | 12 | M8     | 14 | 14 | 21,53                  | 57,6       | 25            |
| MMF0708D12 | 70  | 12 | M8     | 14 | 14 | 21,53                  | 67,2       | 25            |
| MMF0808D12 | 80  | 12 | M8     | 14 | 14 | 21,53                  | 78,8       | 25            |
| MMF0908D12 | 90  | 12 | M8     | 14 | 14 | 21,53                  | 88,4       | 25            |
| MMF1008D12 | 100 | 12 | M8     | 14 | 14 | 21,53                  | 95,6       | 25            |
| MMF1108D12 | 110 | 12 | M8     | 14 | 14 | 21,53                  | 103        | 25            |
| MMF1208D12 | 120 | 12 | M8     | 14 | 14 | 21,53                  | 113        | 25            |
| MMF0108D13 | 10  | 13 | M8     | 14 | 6  | 21,53                  | 11         | 50            |
| MMF0158D13 | 15  | 13 | M8     | 14 | 10 | 21,53                  | 17         | 50            |
| MMF0208D13 | 20  | 13 | M8     | 14 | 14 | 21,53                  | 21,4       | 50            |
| MMF0258D13 | 25  | 13 | M8     | 14 | 14 | 21,53                  | 26,6       | 50            |
| MMF0308D13 | 30  | 13 | M8     | 14 | 14 | 21,53                  | 34         | 50            |
| MMF0358D13 | 35  | 13 | M8     | 14 | 14 | 21,53                  | 39         | 25            |
| MMF0408D13 | 40  | 13 | M8     | 14 | 14 | 21,53                  | 44,8       | 25            |
| MMF0458D13 | 45  | 13 | M8     | 14 | 14 | 21,53                  | 50         | 25            |
| MMF0508D13 | 50  | 13 | M8     | 14 | 14 | 21,53                  | 56,4       | 25            |
| MMF0608D13 | 60  | 13 | M8     | 14 | 14 | 21,53                  | 67         | 25            |
| MMF0708D13 | 70  | 13 | M8     | 14 | 14 | 21,53                  | 78,8       | 25            |
| MMF0808D13 | 80  | 13 | M8     | 14 | 14 | 21,53                  | 90         | 25            |
| MMF0908D13 | 90  | 13 | M8     | 14 | 14 | 21,53                  | 101        | 25            |
| MMF1008D13 | 100 | 13 | M8     | 14 | 14 | 21,53                  | 112        | 25            |
| MMF1108D13 | 110 | 13 | M8     | 14 | 14 | 21,53                  | 123        | 25            |
| MMF1208D13 | 120 | 13 | M8     | 14 | 14 | 21,53                  | 134        | 25            |

Quarter-turn locks securely fasten hatches, cabinets, lockers, and machine doors. They are durable, easy to use, and widely applicable in construction projects. Our standard quarter-turn locks include a 10mm triangle insert, keys, wing knobs, dust covers, and finger pulls. Locknuts are included, and additional locks and accessories can be provided upon request.

| Lock           |                  |
|----------------|------------------|
|                | NL02C104C1F1835  |
| Technical data |                  |
| Insert         | Triangle 10 / M5 |
| Latch (mm)     | 35               |
| Depth (mm)     | 18               |
| Diameter (mm)  | 28               |
| Package (pcs)  | 250              |

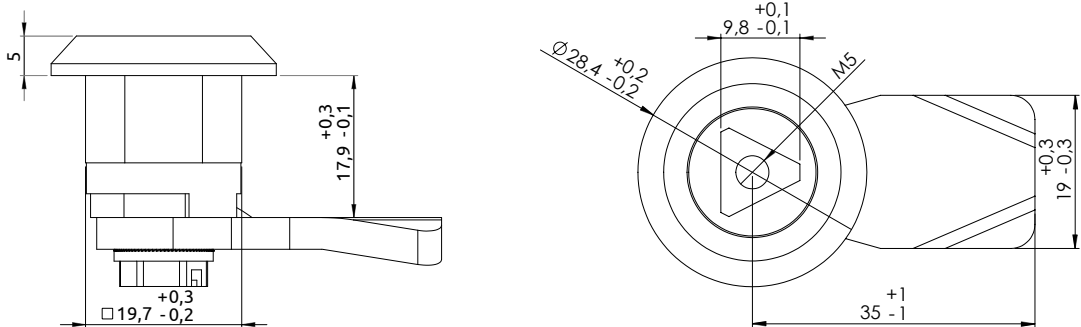


Key, wing knob, dust cover, finger pull

|  |  |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Key                                                                                 | Wing knob                                                                           | Dust cover                                                                           | Finger pull                                                                           |
| NCL101ZZ003                                                                         | NCL114PP004                                                                         | NCL134PP001                                                                          | NCL124PP001                                                                           |
| Technical data                                                                      |                                                                                     |                                                                                      |                                                                                       |
| For insert                                                                          | Triangle 10                                                                         | Triangle 10                                                                          | -                                                                                     |
| Package (pcs)                                                                       | 50                                                                                  | 500                                                                                  | 200                                                                                   |

Dimensions

Lock



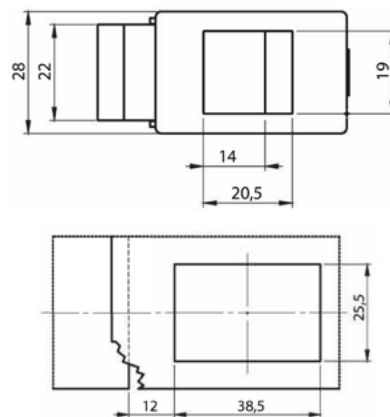
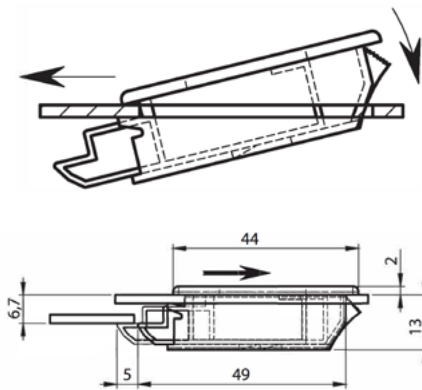
**Snap-in sliding latch offers an easy and toolless solution for cabinet doors and lids without requiring a lock. Its simple design allows for quick and effortless installation.**

#### Sliding latch

|                       |             |
|-----------------------|-------------|
|                       | NFN004PP001 |
| <b>Technical data</b> |             |
| Door thickness (mm)   | 0,8–2,0     |
| Package (pcs)         | 500         |



#### Dimensions



#### Flush handle

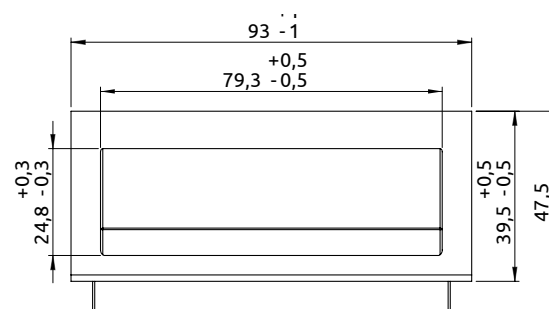
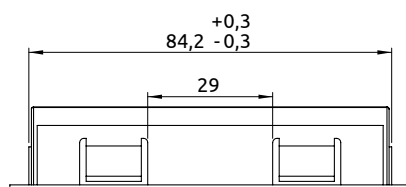
**Quick and easy snap-in installation with fiberglass-reinforced polyamide material. Other sizes available upon request.**

#### Flush handle

|                       |            |
|-----------------------|------------|
|                       | NHP0816B01 |
| <b>Technical data</b> |            |
| Door thickness (mm)   | 0,8–1,6    |
| Package (pcs)         | 250        |



#### Dimensions



We are offering a selection of fiberglass-reinforced polyamide and steel tube door handles, suitable for electrical cabinet and machinery doors and hatches. Steel tube door handles consist of middle supports (1), tubes of varying lengths (2) and end-pieces (3). Using middle support is required with tube lengths of 1000 mm and larger.

|                    | Door handle | Door handle |
|--------------------|-------------|-------------|
|                    | NHP0122B01  | NHP0150B01  |
| Technical data     |             |             |
| Length L/L1 (mm)   | 142/122     | 170/150     |
| Dimensions H/T1/T2 | 45/7/12     | 54/9/14     |
| Package (pcs)      | 200         | 150         |



Tube door handle

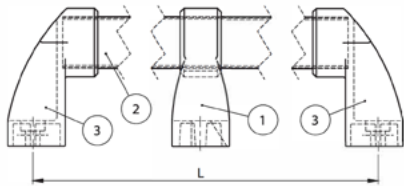
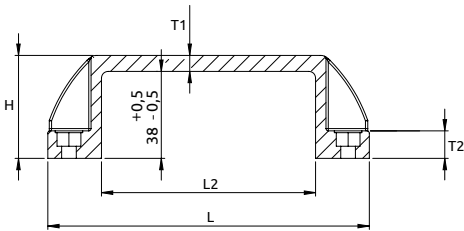
| Order code | Type           | Package (pcs) |
|------------|----------------|---------------|
| NHP0021B01 | End piece      | 250           |
| NHP0022B01 | Center support | 250           |
| NHP0200B01 | Tube 200 mm    | 70            |
| NHP0300B01 | Tube 300 mm    | 45            |
| NHP0500B01 | Tube 500 mm    | 25            |

Other lengths are available on request.

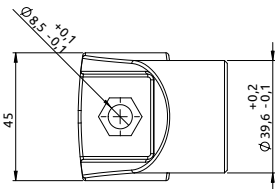
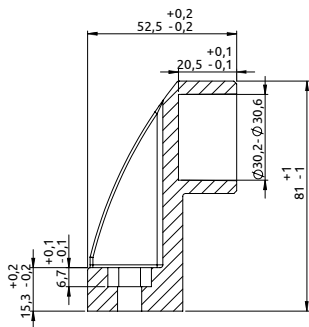


Dimensions

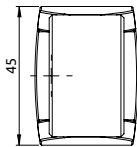
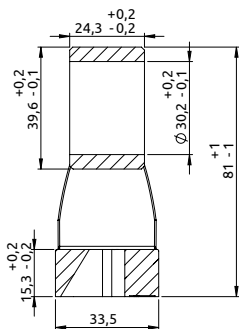
Door handles



End piece



Center support



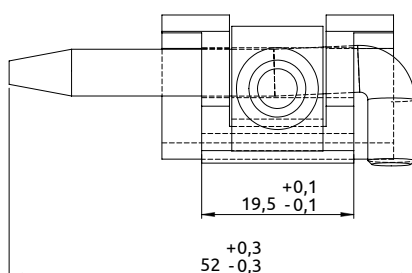
*180° hinges are a simple and effective way for mounting cabinet doors. Hinges are made of die cast zinc with black coating, the pin is made of zinc-plated steel. Other colors are available on request.*

180° hinge



|                       |              |
|-----------------------|--------------|
|                       | NE3418Z40001 |
| <b>Technical data</b> |              |
| Door thickness (mm)   | 1,5–2,0      |
| Package (pcs)         | 200          |

## Dimensions



## Wind stop

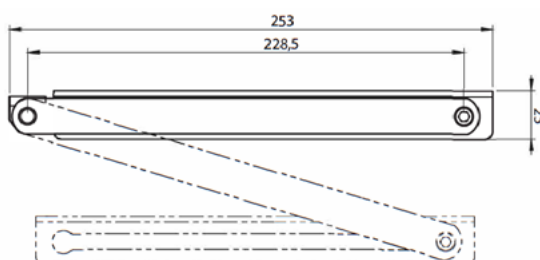
*Cabinet door wind stops are essential accessories for outdoor cabinets, preventing accidental door closure. They are made of zinc-plated steel, with a stainless steel version available upon request.*

Wind stop



|                       |             |
|-----------------------|-------------|
|                       | NCM141ZZ001 |
| <b>Technical data</b> |             |
| Package (pcs)         | 50          |

## Dimensions



# Insulated copper flexible busbars Moflex

Insulated copper flexible busbars Moflex are manufactured out of highly flexible copper strips either in bare or tinned version. They are insulated with high quality mechanical, electrical and self-extinguishing PVC.

Halogen free available

**Flexible**  
at low temperatures

**5 year**  
warranty

Certified according to  
standards EN 61439-1:2011.  
Low Voltage Directive  
No. 2014/35/EU

## Technical details

Electrolytic copper Cu-ETP 99,90%  
Available in plain or tin-plated copper

## Insulation

Self-extinguishing UL 94 V-0 black PVC insulation  
Elongation: > 200 %  
Tensile strength: > 15 N/mm<sup>2</sup>

## Electrical characteristics

Nominal voltage 1000 V AC – 1500 V DC  
Dielectric strength of the insulation: > 20 KV/mm  
Operating temperature: -40 °C\* up to 105 °C\*  
\* not during dynamic pressure



Due to skin effect,  
on average

**45 %**

smaller cross-section  
compared to regular  
copper cable

**Copper cable**  
150 mm<sup>2</sup>

**1 x Moflex**  
24 x 1 x 2  
48 mm<sup>2</sup>



**320 A**  
**68 %**  
smaller

**Copper cables**  
2 x 150 mm<sup>2</sup>  
300 mm<sup>2</sup>

**1 x Moflex**  
32 x 1 x 5  
160 mm<sup>2</sup>



**630 A**  
**47 %**  
smaller

**Copper cables**  
3 x 240 mm<sup>2</sup>  
720 mm<sup>2</sup>

**1 x Moflex**  
80 x 1 x 6  
480 mm<sup>2</sup>



**1250 A**  
**33 %**  
smaller

In all examples above, intensities of Moflex and regular cable  
are calculated using the temperature rise value of 50° C.



## Remarks about the tables

Description of the order code

E.g., MMC0801001

MM – Moflex

C – red copper

(T – in case of tinned copper)

080 – width

10 – number of sheets

\* Products with the length of 3 meters can be ordered separately

\*\* Reduction factor for the use of flexible busbars in parallel (see table on page 67)

When you use the Moflex flexible busbars parallel for the same phase, you need to use the reduction factors shown in the following example.

MMC0500401 Moflex 50x1x4, 200 mm<sup>2</sup>, 732A at  $\Delta T=50$

2 flexible busbars in parallel: 732 x1,72 = 1259A

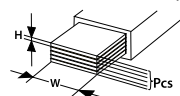
3 flexible busbars in parallel: 732 x2,25 = 1647A

The table on the page 67 indicates the temperature rise produced by chosen current in the given cross section. This calculation does not take into account the heat dissipation from the switchboard.

\* If you would like to place an order for **tin plated** copper flexible busbars, please ensure that you modify the third letter in the ordering code to "T".

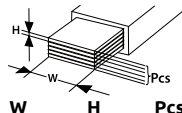
To the total dimensions of the flexible busbar, 2 mm of PVC insulation thickness must be added.

## Technical specification (based on width)



| W (mm) | Red copper Order code | Halogen free* Order code | W x H x Pcs     | Length* | Package (pcs) | Copper weight per meter (kg) |
|--------|-----------------------|--------------------------|-----------------|---------|---------------|------------------------------|
| 9      | MMC0090201            | MMC00902H1               | 9 x 0,8 x 2     | 2 m     | 10            | 0,128                        |
|        | MMC0090301            | MMC00903H1               | 9 x 0,8 x 3     | 2 m     | 10            | 0,193                        |
|        | MMC0090401            | MMC00904H1               | 9 x 0,8 x 4     | 2 m     | 10            | 0,256                        |
|        | MMC0090501            | MMC00905H1               | 9 x 0,8 x 5     | 2 m     | 10            | 0,321                        |
|        | MMC0090601            | MMC00906H1               | 9 x 0,8 x 6     | 2 m     | 10            | 0,385                        |
| 15,5   | MMC0160201            | MMC01602H1               | 15,5 x 0,8 x 2  | 2 m     | 10            | 0,214                        |
|        | MMC0160401            | MMC01604H1               | 15,5 x 0,8 x 4  | 2 m     | 10            | 0,428                        |
|        | MMC0160601            | MMC01606H1               | 15,5 x 0,8 x 6  | 2 m     | 10            | 0,642                        |
|        | MMC0161001            | MMC01610H1               | 15,5 x 0,8 x 10 | 2 m     | 10            | 1,071                        |
| 20     | MMC0200201            | MMC02002H1               | 20 x 1 x 2      | 2 m     | 5             | 0,357                        |
|        | MMC0200301            | MMC02003H1               | 20 x 1 x 3      | 2 m     | 5             | 0,535                        |
|        | MMC0200401            | MMC02004H1               | 20 x 1 x 4      | 2 m     | 5             | 0,714                        |
|        | MMC0200501            | MMC02005H1               | 20 x 1 x 5      | 2 m     | 5             | 0,892                        |
|        | MMC0200601            | MMC02006H1               | 20 x 1 x 6      | 2 m     | 5             | 1,071                        |
|        | MMC0201001            | MMC02010H1               | 20 x 1 x 10     | 2 m     | 5             | 1,784                        |
| 24     | MMC0240201            | MMC02402H1               | 24 x 1 x 2      | 2 m     | 5             | 0,428                        |
|        | MMC0240301            | MMC02403H1               | 24 x 1 x 3      | 2 m     | 5             | 0,642                        |
|        | MMC0240401            | MMC02404H1               | 24 x 1 x 4      | 2 m     | 5             | 0,857                        |
|        | MMC0240501            | MMC02405H1               | 24 x 1 x 5      | 2 m     | 5             | 1,071                        |
|        | MMC0240601            | MMC02406H1               | 24 x 1 x 6      | 2 m     | 5             | 1,285                        |
|        | MMC0240801            | MMC02408H1               | 24 x 1 x 8      | 2 m     | 5             | 1,713                        |
|        | MMC0241001            | MMC02410H1               | 24 x 1 x 10     | 2 m     | 5             | 2,142                        |
| 32     | MMC0320201            | MMC03202H1               | 32 x 1 x 2      | 2 m     | 5             | 0,571                        |
|        | MMC0320301            | MMC03203H1               | 32 x 1 x 3      | 2 m     | 5             | 0,857                        |
|        | MMC0320401            | MMC03204H1               | 32 x 1 x 4      | 2 m     | 5             | 1,142                        |
|        | MMC0320501            | MMC03205H1               | 32 x 1 x 5      | 2 m     | 5             | 1,428                        |
|        | MMC0320601            | MMC03206H1               | 32 x 1 x 6      | 2 m     | 5             | 1,713                        |
|        | MMC0320801            | MMC03208H1               | 32 x 1 x 8      | 2 m     | 5             | 2,284                        |
|        | MMC0321001            | MMC03210H1               | 32 x 1 x 10     | 2 m     | 5             | 2,851                        |
| 40     | MMC0400201            | MMC04002H1               | 40 x 1 x 2      | 2 m     | 5             | 0,714                        |
|        | MMC0400301            | MMC04003H1               | 40 x 1 x 3      | 2 m     | 5             | 1,071                        |
|        | MMC0400401            | MMC04004H1               | 40 x 1 x 4      | 2 m     | 5             | 1,428                        |
|        | MMC0400501            | MMC04005H1               | 40 x 1 x 5      | 2 m     | 5             | 1,784                        |
|        | MMC0400601            | MMC04006H1               | 40 x 1 x 6      | 2 m     | 5             | 2,141                        |
|        | MMC0400801            | MMC04008H1               | 40 x 1 x 8      | 2 m     | 5             | 2,855                        |
|        | MMC0401001            | MMC04010H1               | 40 x 1 x 10     | 2 m     | 5             | 3,569                        |
| 50     | MMC0500301            | MMC05003H1               | 50 x 1 x 3      | 2 m     | 2             | 1,338                        |
|        | MMC0500401            | MMC05004H1               | 50 x 1 x 4      | 2 m     | 2             | 1,784                        |
|        | MMC0500501            | MMC05005H1               | 50 x 1 x 5      | 2 m     | 2             | 2,231                        |
|        | MMC0500601            | MMC05006H1               | 50 x 1 x 6      | 2 m     | 2             | 2,677                        |
|        | MMC0500801            | MMC05008H1               | 50 x 1 x 8      | 2 m     | 2             | 3,569                        |
|        | MMC0501001            | MMC05010H1               | 50 x 1 x 10     | 2 m     | 2             | 4,461                        |
| 63     | MMC0630301            | MMC06303H1               | 63 x 1 x 3      | 2 m     | 2             | 1,686                        |
|        | MMC0630401            | MMC06304H1               | 63 x 1 x 4      | 2 m     | 2             | 2,248                        |
|        | MMC0630501            | MMC06305H1               | 63 x 1 x 5      | 2 m     | 2             | 2,811                        |
|        | MMC0630601            | MMC06306H1               | 63 x 1 x 6      | 2 m     | 2             | 3,373                        |
|        | MMC0630801            | MMC06308H1               | 63 x 1 x 8      | 2 m     | 2             | 4,497                        |
|        | MMC0631001            | MMC06310H1               | 63 x 1 x 10     | 2 m     | 2             | 5,621                        |
| 80     | MMC0800301            | MMC08003H1               | 80 x 1 x 3      | 2 m     | 2             | 2,141                        |
|        | MMC0800401            | MMC08004H1               | 80 x 1 x 4      | 2 m     | 2             | 2,851                        |
|        | MMC0800501            | MMC08005H1               | 80 x 1 x 5      | 2 m     | 2             | 3,569                        |
|        | MMC0800601            | MMC08006H1               | 80 x 1 x 6      | 2 m     | 2             | 4,283                        |
|        | MMC0800801            | MMC08008H1               | 80 x 1 x 8      | 2 m     | 2             | 5,710                        |
|        | MMC0801001            | MMC08010H1               | 80 x 1 x 10     | 2 m     | 2             | 7,138                        |
| 100    | MMC1000401            | MMC10004H1               | 100 x 1 x 4     | 2 m     | 2             | 3,569                        |
|        | MMC1000501            | MMC10005H1               | 100 x 1 x 5     | 2 m     | 2             | 4,461                        |
|        | MMC1000601            | MMC10006H1               | 100 x 1 x 6     | 2 m     | 2             | 5,353                        |
|        | MMC1000801            | MMC10008H1               | 100 x 1 x 8     | 2 m     | 2             | 7,138                        |
|        | MMC1001001            | MMC10010H1               | 100 x 1 x 10    | 2 m     | 2             | 8,922                        |

## Technical specification (based on amperage)

| Amperage<br>(A) | Red copper<br>Order code | Halogen free*<br>Order code |  |       |       | Copper weight<br>per meter<br>(kg) | Cu cross<br>section<br>(mm²) | Ampacity at rise of temperature from 35° C to: |       |       |       |       | Reduction<br>factor**                                                               |                                                                                     |      |      |
|-----------------|--------------------------|-----------------------------|-----------------------------------------------------------------------------------|-------|-------|------------------------------------|------------------------------|------------------------------------------------|-------|-------|-------|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|
|                 |                          |                             | 105 °C                                                                            | 95 °C | 85 °C |                                    |                              | 75 °C                                          | 65 °C |       |       |       |                                                                                     |                                                                                     |      |      |
|                 |                          |                             | W                                                                                 | H     | Pcs   |                                    |                              | ΔT=70                                          | ΔT=60 | ΔT=50 | ΔT=40 | ΔT=30 |  |  |      |      |
| > 80            | MMC0090201               | MMC00902H1                  | 9                                                                                 | x     | 0,8   | x                                  | 2                            | 0,128                                          | 14    | 113   | 105   | 96    | 86                                                                                  | 74                                                                                  | 1,72 | 2,25 |
| > 125           | MMC0090301               | MMC00903H1                  | 9                                                                                 | x     | 0,8   | x                                  | 3                            | 0,193                                          | 21,6  | 160   | 149   | 136   | 121                                                                                 | 104                                                                                 | 1,72 | 2,25 |
| > 160           | MMC0090401               | MMC00904H1                  | 9                                                                                 | x     | 0,8   | x                                  | 4                            | 0,256                                          | 29    | 204   | 189   | 173   | 155                                                                                 | 133                                                                                 | 1,72 | 2,25 |
|                 | MMC0090501               | MMC00905H1                  | 9                                                                                 | x     | 0,8   | x                                  | 5                            | 0,321                                          | 36    | 272   | 253   | 231   | 206                                                                                 | 177                                                                                 | 1,72 | 2,25 |
|                 | MMC0160201               | MMC01602H1                  | 15,5                                                                              | x     | 0,8   | x                                  | 2                            | 0,214                                          | 24,8  | 197   | 183   | 167   | 149                                                                                 | 128                                                                                 | 1,72 | 2,25 |
| > 250           | MMC0090601               | MMC00906H1                  | 9                                                                                 | x     | 0,8   | x                                  | 6                            | 0,385                                          | 43,2  | 340   | 316   | 289   | 258                                                                                 | 221                                                                                 | 1,72 | 2,25 |
|                 | MMC0200201               | MMC02002H1                  | 20                                                                                | x     | 1     | x                                  | 2                            | 0,357                                          | 40    | 329   | 306   | 280   | 250                                                                                 | 215                                                                                 | 1,72 | 2,25 |
| > 320           | MMC0160401               | MMC01604H1                  | 15,5                                                                              | x     | 0,8   | x                                  | 4                            | 0,428                                          | 49,6  | 379   | 353   | 322   | 288                                                                                 | 247                                                                                 | 1,72 | 2,25 |
|                 | MMC0200301               | MMC02003H1                  | 20                                                                                | x     | 1     | x                                  | 3                            | 0,535                                          | 60    | 427   | 397   | 363   | 324                                                                                 | 278                                                                                 | 1,72 | 2,25 |
|                 | MMC0240201               | MMC02402H1                  | 24                                                                                | x     | 1     | x                                  | 2                            | 0,428                                          | 48    | 451   | 419   | 384   | 342                                                                                 | 294                                                                                 | 1,72 | 2,25 |
| > 400           | MMC0160601               | MMC01606H1                  | 15,5                                                                              | x     | 0,8   | x                                  | 6                            | 0,642                                          | 74,4  | 489   | 455   | 416   | 371                                                                                 | 319                                                                                 | 1,72 | 2,25 |
|                 | MMC0161001               | MMC01610H1                  | 15,5                                                                              | x     | 0,8   | x                                  | 10                           | 1,071                                          | 124   | 539   | 501   | 458   | 409                                                                                 | 351                                                                                 | 1,72 | 2,25 |
|                 | MMC0200401               | MMC02004H1                  | 20                                                                                | x     | 1     | x                                  | 4                            | 0,714                                          | 80    | 478   | 444   | 406   | 363                                                                                 | 311                                                                                 | 1,72 | 2,25 |
|                 | MMC0200501               | MMC02005H1                  | 20                                                                                | x     | 1     | x                                  | 5                            | 0,892                                          | 100   | 497   | 463   | 423   | 378                                                                                 | 324                                                                                 | 1,72 | 2,25 |
|                 | MMC0200601               | MMC02006H1                  | 20                                                                                | x     | 1     | x                                  | 6                            | 1,071                                          | 120   | 547   | 509   | 465   | 415                                                                                 | 356                                                                                 | 1,72 | 2,25 |
|                 | MMC0240301               | MMC02403H1                  | 24                                                                                | x     | 1     | x                                  | 3                            | 0,642                                          | 72    | 491   | 457   | 418   | 373                                                                                 | 320                                                                                 | 1,72 | 2,25 |
|                 | MMC0240401               | MMC02404H1                  | 24                                                                                | x     | 1     | x                                  | 4                            | 0,857                                          | 96    | 553   | 514   | 470   | 420                                                                                 | 360                                                                                 | 1,72 | 2,25 |
|                 | MMC0320201               | MMC03202H1                  | 32                                                                                | x     | 1     | x                                  | 2                            | 0,571                                          | 64    | 483   | 450   | 411   | 367                                                                                 | 315                                                                                 | 1,72 | 2,25 |
|                 | MMC0320301               | MMC03203H1                  | 32                                                                                | x     | 1     | x                                  | 3                            | 0,857                                          | 96    | 569   | 529   | 484   | 432                                                                                 | 371                                                                                 | 1,72 | 2,25 |
|                 | MMC0400201               | MMC04002H1                  | 40                                                                                | x     | 1     | x                                  | 2                            | 0,714                                          | 80    | 535   | 498   | 455   | 406                                                                                 | 349                                                                                 | 1,72 | 2,25 |
| > 500           | MMC0240501               | MMC02405H1                  | 24                                                                                | x     | 1     | x                                  | 5                            | 1,071                                          | 120   | 610   | 568   | 519   | 463                                                                                 | 398                                                                                 | 1,72 | 2,25 |
|                 | MMC0240601               | MMC02406H1                  | 24                                                                                | x     | 1     | x                                  | 6                            | 1,285                                          | 144   | 674   | 626   | 573   | 511                                                                                 | 439                                                                                 | 1,72 | 2,25 |
|                 | MMC0320401               | MMC03204H1                  | 32                                                                                | x     | 1     | x                                  | 4                            | 1,142                                          | 128   | 652   | 606   | 554   | 495                                                                                 | 425                                                                                 | 1,72 | 2,25 |
|                 | MMC0400301               | MMC04003H1                  | 40                                                                                | x     | 1     | x                                  | 3                            | 1,071                                          | 120   | 618   | 575   | 525   | 469                                                                                 | 403                                                                                 | 1,72 | 2,25 |
|                 | MMC0400401               | MMC04004H1                  | 40                                                                                | x     | 1     | x                                  | 4                            | 1,428                                          | 160   | 727   | 676   | 618   | 552                                                                                 | 474                                                                                 | 1,72 | 2,25 |
|                 | MMC0500301               | MMC05003H1                  | 50                                                                                | x     | 1     | x                                  | 3                            | 1,338                                          | 150   | 701   | 652   | 597   | 532                                                                                 | 457                                                                                 | 1,72 | 2,25 |
| > 630           | MMC0201001               | MMC02010H1                  | 20                                                                                | x     | 1     | x                                  | 10                           | 1,784                                          | 200   | 763   | 709   | 649   | 579                                                                                 | 497                                                                                 | 1,72 | 2,25 |
|                 | MMC0240801               | MMC02408H1                  | 24                                                                                | x     | 1     | x                                  | 8                            | 1,713                                          | 192   | 800   | 744   | 681   | 607                                                                                 | 522                                                                                 | 1,72 | 2,25 |
|                 | MMC0241001               | MMC02410H1                  | 24                                                                                | x     | 1     | x                                  | 10                           | 2,142                                          | 240   | 875   | 814   | 744   | 664                                                                                 | 570                                                                                 | 1,72 | 2,25 |
|                 | MMC0320501               | MMC03205H1                  | 32                                                                                | x     | 1     | x                                  | 5                            | 1,428                                          | 160   | 762   | 708   | 648   | 578                                                                                 | 496                                                                                 | 1,72 | 2,25 |
|                 | MMC0320601               | MMC03206H1                  | 32                                                                                | x     | 1     | x                                  | 6                            | 1,713                                          | 192   | 850   | 790   | 723   | 645                                                                                 | 554                                                                                 | 1,72 | 2,25 |
|                 | MMC0400501               | MMC04005H1                  | 40                                                                                | x     | 1     | x                                  | 5                            | 1,784                                          | 200   | 903   | 840   | 768   | 686                                                                                 | 589                                                                                 | 1,72 | 2,25 |
|                 | MMC0500401               | MMC05004H1                  | 50                                                                                | x     | 1     | x                                  | 4                            | 1,784                                          | 200   | 861   | 801   | 732   | 654                                                                                 | 561                                                                                 | 1,72 | 2,25 |
|                 | MMC0630301               | MMC06303H1                  | 63                                                                                | x     | 1     | x                                  | 3                            | 1,686                                          | 189   | 802   | 746   | 683   | 609                                                                                 | 523                                                                                 | 1,65 | 2,12 |
| > 800           | MMC0320801               | MMC03208H1                  | 32                                                                                | x     | 1     | x                                  | 8                            | 2,284                                          | 256   | 1023  | 951   | 870   | 777                                                                                 | 667                                                                                 | 1,72 | 2,25 |
|                 | MMC0400601               | MMC04006H1                  | 40                                                                                | x     | 1     | x                                  | 6                            | 2,141                                          | 240   | 1018  | 947   | 866   | 773                                                                                 | 663                                                                                 | 1,72 | 2,25 |
|                 | MMC0500501               | MMC05005H1                  | 50                                                                                | x     | 1     | x                                  | 5                            | 2,231                                          | 250   | 1098  | 1021  | 934   | 834                                                                                 | 716                                                                                 | 1,72 | 2,25 |
|                 | MMC0630401               | MMC06304H1                  | 63                                                                                | x     | 1     | x                                  | 4                            | 2,248                                          | 252   | 1013  | 942   | 861   | 769                                                                                 | 660                                                                                 | 1,65 | 2,12 |
|                 | MMC0800301               | MMC08003H1                  | 80                                                                                | x     | 1     | x                                  | 3                            | 2,141                                          | 240   | 977   | 909   | 831   | 742                                                                                 | 637                                                                                 | 1,65 | 2,12 |
| > 1000          | MMC0321001               | MMC03210H1                  | 32                                                                                | x     | 1     | x                                  | 10                           | 2,851                                          | 320   | 1233  | 1147  | 1049  | 936                                                                                 | 804                                                                                 | 1,72 | 2,25 |
|                 | MMC0400801               | MMC04008H1                  | 40                                                                                | x     | 1     | x                                  | 8                            | 2,855                                          | 320   | 1233  | 1146  | 1048  | 936                                                                                 | 803                                                                                 | 1,72 | 2,25 |
|                 | MMC0401001               | MMC04010H1                  | 40                                                                                | x     | 1     | x                                  | 10                           | 3,569                                          | 400   | 1397  | 1300  | 1189  | 1061                                                                                | 911                                                                                 | 1,65 | 2,12 |
|                 | MMC0500601               | MMC05006H1                  | 50                                                                                | x     | 1     | x                                  | 6                            | 2,677                                          | 300   | 1226  | 1140  | 1043  | 931                                                                                 | 799                                                                                 | 1,65 | 2,12 |
|                 | MMC0500801               | MMC05008H1                  | 50                                                                                | x     | 1     | x                                  | 8                            | 3,569                                          | 400   | 1392  | 1295  | 1184  | 1057                                                                                | 907                                                                                 | 1,65 | 2,12 |
|                 | MMC0630501               | MMC06305H1                  | 63                                                                                | x     | 1     | x                                  | 5                            | 2,811                                          | 315   | 1223  | 1137  | 1040  | 928                                                                                 | 797                                                                                 | 1,65 | 2,12 |
|                 | MMC0630601               | MMC06306H1                  | 63                                                                                | x     | 1     | x                                  | 6                            | 3,373                                          | 378   | 1442  | 1341  | 1226  | 1095                                                                                | 940                                                                                 | 1,65 | 2,12 |
|                 | MMC0800401               | MMC08004H1                  | 80                                                                                | x     | 1     | x                                  | 4                            | 2,851                                          | 320   | 1202  | 1118  | 1022  | 912                                                                                 | 783                                                                                 | 1,65 | 2,12 |
|                 | MMC0800501               | MMC08005H1                  | 80                                                                                | x     | 1     | x                                  | 5                            | 3,569                                          | 400   | 1395  | 1298  | 1187  | 1059                                                                                | 909                                                                                 | 1,65 | 2,12 |
|                 | MMC1000401               | MMC10004H1                  | 100                                                                               | x     | 1     | x                                  | 4                            | 3,569                                          | 400   | 1449  | 1348  | 1233  | 1100                                                                                | 945                                                                                 | 1,6  | 2,02 |
| > 1250          | MMC0501001               | MMC05010H1                  | 50                                                                                | x     | 1     | x                                  | 10                           | 4,461                                          | 500   | 1651  | 1535  | 1404  | 1253                                                                                | 1076                                                                                | 1,65 | 2,12 |
|                 | MMC0630801               | MMC06308H1                  | 63                                                                                | x     | 1     | x                                  | 8                            | 4,497                                          | 504   | 1656  | 1540  | 1409  | 1257                                                                                | 1079                                                                                | 1,65 | 2,12 |
|                 | MMC0800601               | MMC08006H1                  | 80                                                                                | x     | 1     | x                                  | 6                            | 4,283                                          | 480   | 1630  | 1516  | 1387  | 1238                                                                                | 1063                                                                                | 1,65 | 2,12 |
|                 | MMC1000501               | MMC10005H1                  | 100                                                                               | x     | 1     | x                                  | 5                            | 4,461                                          | 500   | 1638  | 1523  | 1393  | 1243                                                                                | 1067                                                                                | 1,6  | 2,02 |
|                 | MMC1000601               | MMC10006H1                  | 100                                                                               | x     | 1     | x                                  | 6                            | 5,353                                          | 600   | 1845  | 1715  | 1569  | 1400                                                                                | 1202                                                                                | 1,6  | 2,02 |
| > 1600          | MMC0631001               | MMC06310H1                  | 63                                                                                | x     | 1     | x                                  | 10                           | 5,621                                          | 630   | 1901  | 1768  | 1617  | 1443                                                                                | 1239                                                                                | 1,65 | 2,12 |
|                 | MMC0800801               | MMC08008H1                  | 80                                                                                | x     | 1     | x                                  | 8                            | 5,71                                           | 640   | 1902  | 1769  | 1618  | 1444                                                                                | 1240                                                                                | 1,65 | 2,12 |
|                 | MMC0801001               | MMC08010H1                  | 80                                                                                | x     | 1     | x                                  | 10                           | 7,138                                          | 800   | 2106  | 1958  | 1791  | 1599                                                                                | 1372                                                                                | 1,65 | 2,12 |
|                 | MMC1000801               | MMC10008H1                  | 100                                                                               | x     | 1     | x                                  | 8                            | 7,138                                          | 800   | 2152  | 2001  | 1830  | 1634                                                                                | 1402                                                                                | 1,6  | 2,02 |
| > 2000          | MMC1001001               | MMC10010H1                  | 100                                                                               | x     | 1     | x                                  | 10                           | 8,922                                          | 1000  | 2353  | 2188  | 2001  | 1786                                                                                | 1533                                                                                | 1,6  | 2,02 |

## Selection of Moflex

$\Delta T$  = temperature rise of the Moflex conductor ( $^{\circ}\text{C}$ )

$T_1$  = internal temperature of the switchboard ( $^{\circ}\text{C}$ )

$T_2$  = temperature of the Moflex conductor ( $^{\circ}\text{C}$ )

For example,  $I_n = 1000\text{A}$  connection

Step 1:  $T_1 = 35^{\circ}\text{C}$  and  $T_2 = 85^{\circ}\text{C}$

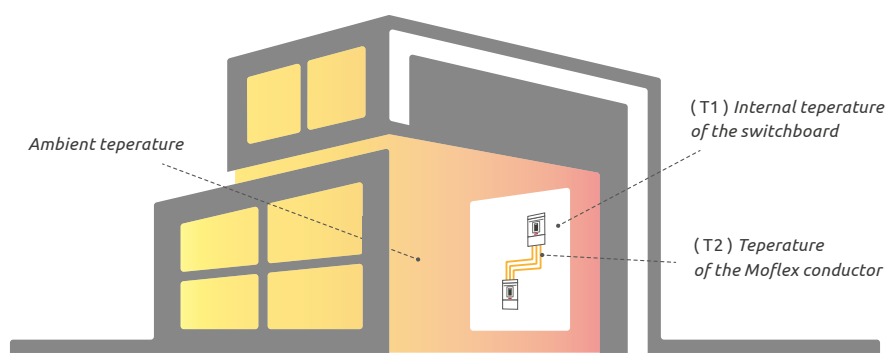
$\Delta T = T_2 - T_1$

$\Delta T = 85^{\circ}\text{C} - 35^{\circ}\text{C}$

$\Delta T = 50^{\circ}\text{C}$

Step 2: Please find from the page 67 table on the column  $\Delta T = 50$  the closest value of the 1000A.  
MMC0321001 Moflex 32x1x10, 320 mm<sup>2</sup>, 1049A  
or  
MMC0630501 Moflex 63x1x5, 315 mm<sup>2</sup>, 1040A.

Step 3: Select the Moflex flexible busbar according to the equipment terminal width.



Moflex saves you time and money



**Does not require additional connection parts and saves the time of installation**

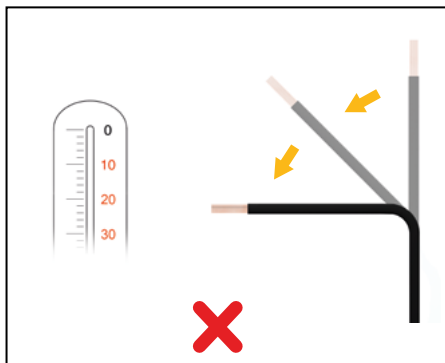


**Makes direct connection without additional connectors, enables you to save space in the panel**



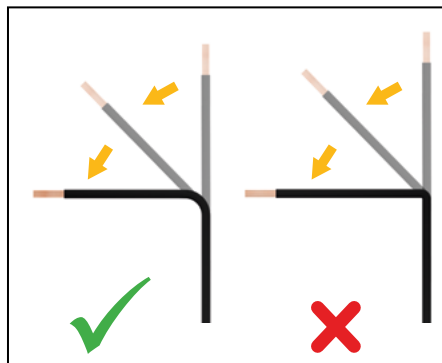
**Gives additional flexibility comparing to standard rigid bar and it is easily adapted to unexpected project change**

## Assembly instructions



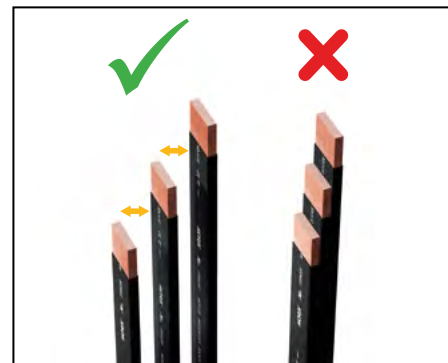
### No bending at low temperatures (< 0°C or < 30°F)

Elongation of the coating before breakage is reduced at low temperatures. Recommended is bending at room temperature.



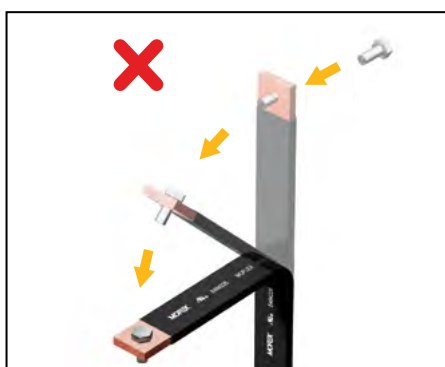
### No sharp-edged bending

Recommended inner radius for bending:  
busbar thickness 1 - 5 mm: radius 5 mm  
busbar thickness 6 - 10 mm: radius = thickness



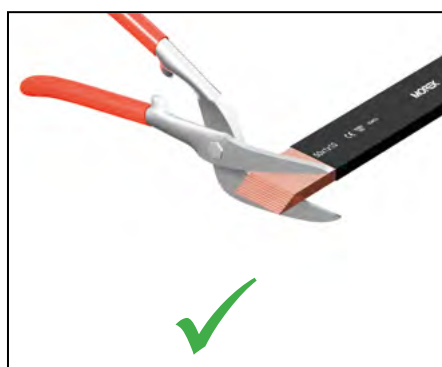
### Parallel assembly has influence to heat radiation

Recommended distance between bars = min. 1 x bar width. Please pay attention to correction factors for parallel assembly!

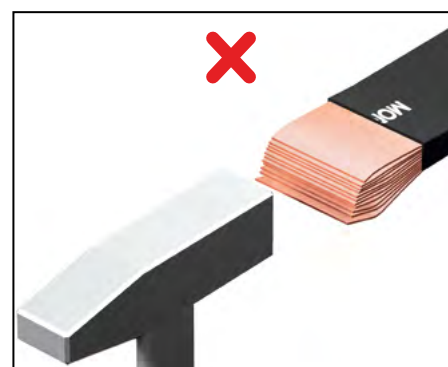


### Copper files slide when bending to compensate the different length of inner and outer file

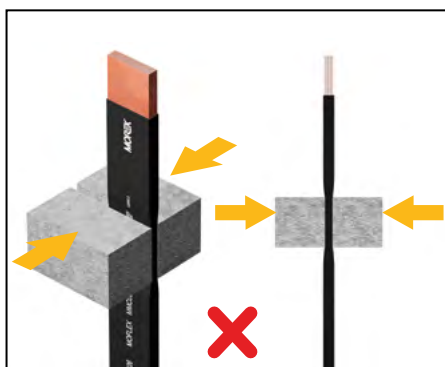
No fixation before bending! It hinders the slide and may lead to burst of PVC-coating.



### Bars must be cut if copper slides emerge after bending

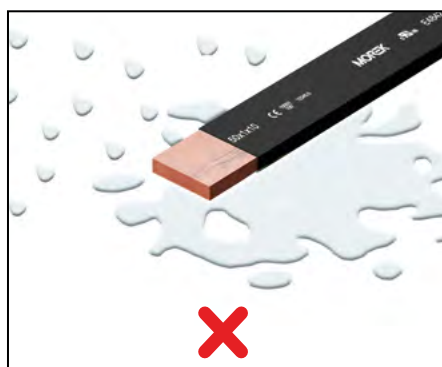


### Heavy push back of copper files may cause deformation with resulting damage of PVC-coating



### Please avoid crushing of the PVC coating

Damage of coating or reduced wall thickness endangers function of isolation.



### Do not expose to dirt, water and humidity

Humidity may invade by the open ends of the busbars. This causes copper oxidation and endangers operating safety.

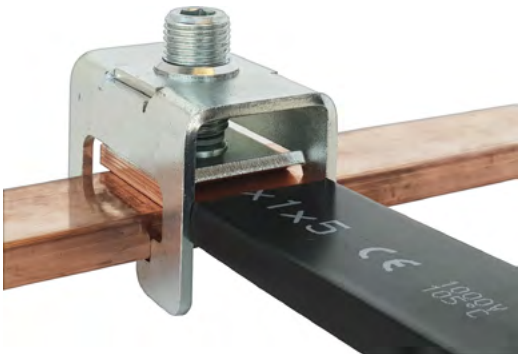


### Do not drill holes exceeding half of the width of the bar

Moflex clamp is designed for connecting Moflex flexible busbars to copper busbar, enabling fastening up to 50 x 10 mm Moflex flexible busbars to 50 x 10 mm copper busbars.

Advantages

- Quick and easy installation
- Ideal for on site modifications
- Allows for excellent electrical contact
- Terminal has visible indication of tightening torque



MFC30-32



MFC40-32



MFC40-50



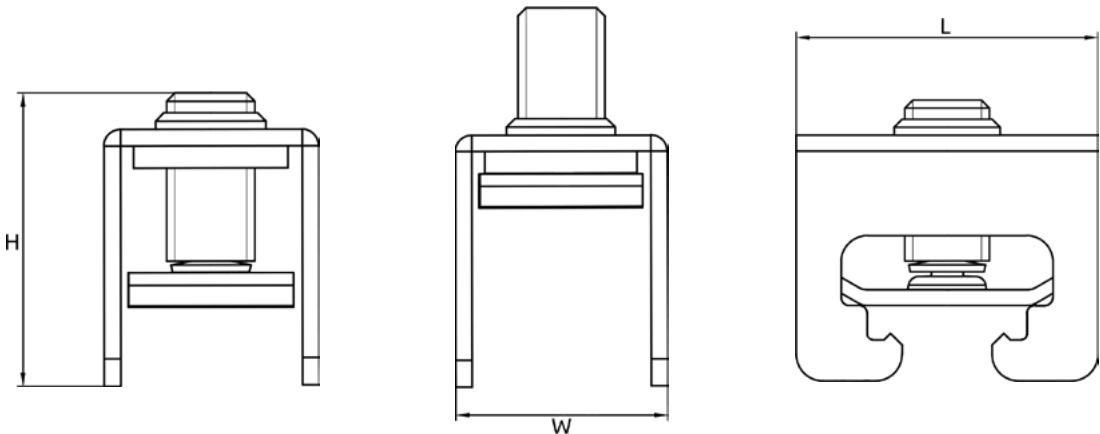
MFC50-50

|                         | MFC3010E32 | MFC4010E32 | MFC4010E50 | MFC5010E50 |
|-------------------------|------------|------------|------------|------------|
| Mounting Cu busbar (mm) | 30x5-10    | 40x5-10    | 40x5-10    | 50x5-10    |
| For Moflex width (mm)   | 9-32       | 9-32       | 9-50       | 9-50       |
| Moflex max. layers      | 10         | 10         | 10         | 10         |

Technical data

|                              |              |              |              |              |
|------------------------------|--------------|--------------|--------------|--------------|
| Nominal voltage AC / DC (V)  | 1000         | 1000         | 1000         | 1000         |
| Width / Height / Length (mm) | 40 / 49 / 57 | 40 / 49 / 67 | 58 / 49 / 67 | 58 / 49 / 77 |
| Screw, hexagonal key (AV)    | No. 8        | No. 8        | No. 8        | No. 8        |
| Tightening torque (Nm)       | 30           | 30           | 35           | 35           |
| Weight (g)                   | 200          | 225          | 275          | 310          |
| Package (pcs)                | 3            | 3            | 3            | 3            |

Dimensions



# Sealing and edge protection profiles

Wide range of sealing and edge protection profiles

## Custom made profiles available for special applications:

- Low-friction coating
- Fire- / flame-proof profiles
- Hygiene profiles

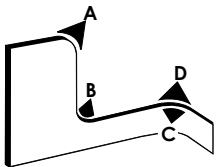
Profiles in pre-cut lengths of your choice







Edge protection profiles protect transition edges (e.g., cable tray or cabinet racks). They feature a PVC body and come in grey or black. The metal skeleton allows tool-free installation. Two standard versions are available for sheet thicknesses of 1-2mm or 1-4mm, with an operating temperature range of -25°C to +65°C.



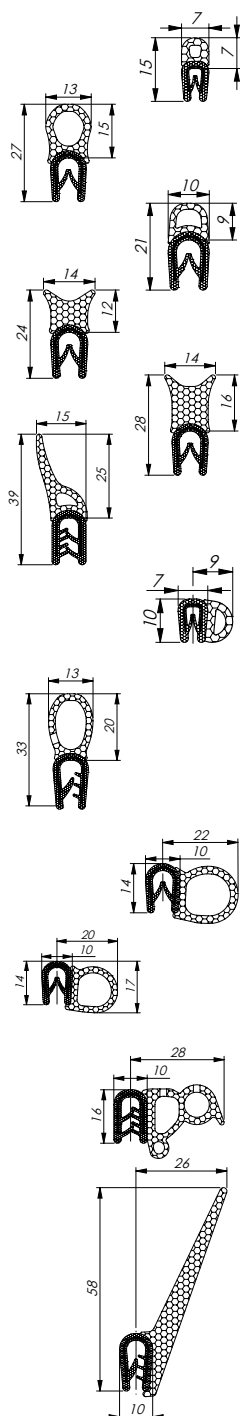
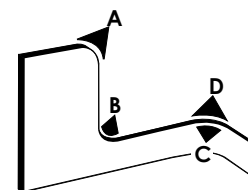
| Order code | Color | Clamping range (mm) | The minimum bending radius     | Weight (kg) | Package (m) |
|------------|-------|---------------------|--------------------------------|-------------|-------------|
| MCA003AG12 | grey  | 1 - 2               | A = 15, B = 15, C = 10, D = 10 | 7           | 100         |
| MCA003BG12 |       |                     |                                | 0,7         | 10          |
| MCA002AB12 | black | 1 - 2               | A = 15, B = 15, C = 10, D = 10 | 7           | 100         |
| MCA002BB12 |       |                     |                                | 0,7         | 10          |
| MCA015AG12 | grey  | 1 - 4               | A = 30, B = 20, C = 20, D = 20 | 16          | 100         |
| MCA015BG12 |       |                     |                                | 1,6         | 10          |
| MCA001AB12 | black | 1 - 4               | A = 30, B = 20, C = 20, D = 20 | 16          | 100         |
| MCA001BB12 |       |                     |                                | 1,6         | 10          |

Example of application of sealing and edge protection profiles



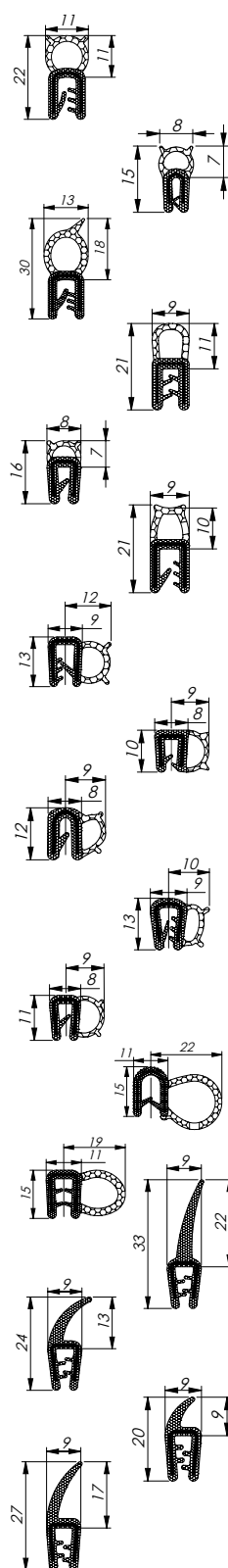
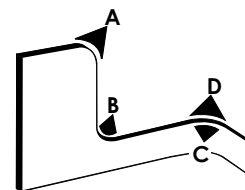


**Self-gripping sealing profile made with a black PVC carrier with sealing lip or sealing tube from EPDM. Integrated steel strip core.**  
**Other colors are available on request.**



| Order code | Color | Clamping range (mm) | The minimum bending radius       | Weight (kg/m) | Package (m) |
|------------|-------|---------------------|----------------------------------|---------------|-------------|
| MCC001AB12 | black | 1 - 2               | A = 20, B = 40, C = 10, D = 10   | 0,08          | 100         |
| MCC002AB12 | black | 1 - 4               | A = 60, B = 80, C = 20, D = 20   | 0,265         | 50          |
| MCC007AB12 | black | 1 - 4               | A = 70, B = 80, C = 15, D = 15   | 0,17          | 50          |
| MCC011AB12 | black | 1 - 4               | A = 50, B = 150, C = 50, D = 50  | 0,218         | 50          |
| MCC012AB12 | black | 1 - 4               | A = 50, B = 150, C = 50, D = 50  | 0,085         | 50          |
| MCC013AB12 | black | 1,5 - 3,5           | A = 80, B = 150, C = 30, D = 30  | 0,257         | 50          |
| MCB005AB12 | black | 1 - 2               | A = 20, B = 15, C = 30, D = 30   | 0,085         | 100         |
| MCC008AB12 | black | 1 - 2,5             | A = 80, B = 100, C = 20, D = 20  | 0,2306        | 50          |
| MCC009AB12 |       | 2 - 4               |                                  | 0,24          |             |
| MCC010AB12 |       | 4 - 6               |                                  | 0,224         |             |
| MCB004AB12 | black | 1 - 4               | A = 50, B = 30, C = 100, D = 120 | 0,2           | 50          |
| MCB002AB12 | black | 1 - 4               | A = 60, B = 50, C = 120, D = 120 | 0,265         | 50          |
| MCB011AB12 | black | 1 - 2,5             | A = 80, B = 80, C = 140, D = 140 | 0,22          | 50          |
| MCB012AB12 |       | 2,5 - 4             |                                  | 0,28          |             |
| MCB013AB12 |       | 4 - 6               |                                  | 0,31          |             |
| MCB038AB12 | black | 1 - 2,5             | A = 80, B = -, C = 120, D = 120  | 0,412         | 25          |
| MCC004AB12 |       | 2,5 - 4             |                                  | 0,352         |             |
| MCC005AB12 |       | 4 - 6               |                                  | 0,352         |             |

**Self-gripping sealing profile with a black EPDM rubber carrier and a sealing lip and / or sealing tube from sponge-rubber. Integrated steel strip core or steel wire core.**



| Order code | Color | Clamping range (mm) | The minimum bending radius        | Weight (kg/m) | Package (m) |
|------------|-------|---------------------|-----------------------------------|---------------|-------------|
| MCC014AB12 | black | 1 - 3               | A = 50, B = 180, C = 30, D = 30   | 0,145         | 100         |
| MCC017AB12 | black | 0,5 - 1,5           | A = 50, B = 80, C = 25, D = 25    | 0,089         | 100         |
| MCC019AB12 | black | 1 - 2,5             | A = 100, B = 180, C = 25, D = 25  | 0,17          | 100         |
| MCC020AB12 |       | 2,5 - 4             |                                   | 0,2           | 100         |
| MCC021AB12 | black | 1 - 2,5             | A = 60, B = 120, C = 25, D = 25   | 0,19          | 100         |
| MCC023AB12 | black | 1 - 2               | A = 50, B = 60, C = 20, D = 20    | 0,14          | 100         |
| MCC024AB12 | black | 1 - 3               | A = 50, B = 200, C = 25, D = 25   | 0,14          | 50          |
| MCB019AB12 | black | 2                   | A = 50, B = 20, C = 120, D = 40   | 0,1293        | 100         |
| MCB022AB12 | black | 1 - 2,5             | A = 20, B = 50, C = 20, D = 60    | 0,1           | 100         |
| MCB025AB12 | black | 0,8 - 2,5           | A = 40, B = 40, C = 100, D = 60   | 0,13          | 100         |
| MCB026AB12 | black | 2                   | A = 30, B = 40, C = 30, D = 60    | 0,13          | 100         |
| MCB032AB12 | black | 1 - 2               | A = 100, B = 200, C = 100, D = 60 | 0,113         | 100         |
| MCB021AB12 | black | 1 - 3,5             | A = 200, B = 80, C = 200, D = 200 | 0,265         | 50          |
| MCB030AB12 | black | 1,5 - 3             | A = 80, B = 60, C = 200, D = 80   | 0,182         | 4 x 25      |
| MCC016AB12 | black | 1 - 2,5             | A = 150, B = 250, C = 20, D = 20  | 0,176         | 50          |
| MCC018AB12 | black | 1 - 2,5             | A = 60, B = 250, C = 25, D = 70   | 0,18          | 3 x 50      |
| MCC022AB12 | black | 1 - 2               | A = 60, B = 200, C = 20, D = 20   | 0,184         | 100         |
| MCC025AB12 | black | 1 - 3               | A = 80, B = 250, C = 25, D = 60   | 0,184         | 100         |

# Plastic cable glands

| IP68

| Polyamide

| Vibration- and UV-resistant

| Halogen-free

| Easy to assemble



Technical specifications

Material

- Cap nut and gland body: polyamide PA6 V2
- Sealing ring: TPV

Properties

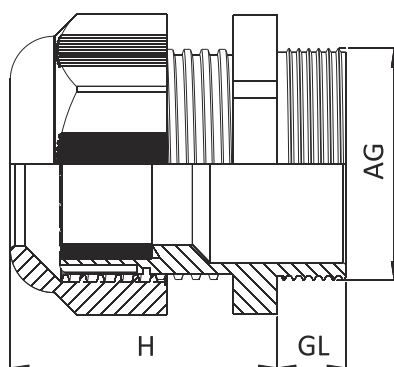
- Connection thread: metric (EN 60423) / PG (DIN 40430)
- Protection class: IP68 at up to 5 bar
- Temperature range: -20 °C +100 °C; -30 °C +150 °C (short term)
- Vibration resistance
- UV resistance
- Easy to assemble
- Halogen free



| Order code | Thread (AG) | Color | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-------|----------|-----------------|----|----------|---------------------|------------|---------------|
|            |             |       |          | H               | GL |          |                     |            |               |
| MBP2ST12L0 | M 12 x 1,5  | Grey  | RAL 7035 | 24              | 8  | 15       | 3-6,5               | 3,5        | 100           |
| MBP2ST12G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST12B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST16L0 | M 16 x 1,5  | Grey  | RAL 7035 | 28              | 8  | 19       | 4-8                 | 5,85       | 100           |
| MBP2ST16G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST16B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST16L1 | M 16 x 1,5  | Grey  | RAL 7035 | 29              | 10 | 22       | 5-10                | 8,15       | 100           |
| MBP2ST16G1 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST16B1 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST20L0 | M 20 x 1,5  | Grey  | RAL 7035 | 29              | 10 | 24       | 6-12                | 10,35      | 100           |
| MBP2ST20G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST20B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST20L1 | M 20 x 1,5  | Grey  | RAL 7035 | 29              | 10 | 24       | 4-10                | 10,55      | 100           |
| MBP2ST20G1 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST20B1 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST20L2 | M 20 x 1,5  | Grey  | RAL 7035 | 33              | 10 | 27       | 10-14               | 13,11      | 100           |
| MBP2ST20G2 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST20B2 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST25L0 | M 25 x 1,5  | Grey  | RAL 7035 | 38              | 10 | 33       | 13-18               | 21         | 50            |
| MBP2ST25G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST25B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST32L0 | M 32 x 1,5  | Grey  | RAL 7035 | 41              | 10 | 42       | 18-25               | 36,4       | 25            |
| MBP2ST32G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST32B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST40L0 | M 40 x 1,5  | Grey  | RAL 7035 | 51              | 10 | 53       | 22-32               | 66,45      | 10            |
| MBP2ST40G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST40B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST50L0 | M 50 x 1,5  | Grey  | RAL 7035 | 53              | 18 | 60       | 30-38               | 88,11      | 5             |
| MBP2ST50G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST50B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |
| MBP2ST63L0 | M 63 x 1,5  | Grey  | RAL 7035 | 55              | 18 | 70       | 34-44               | 98         | 5             |
| MBP2ST63G0 |             | Grey  | RAL 7001 |                 |    |          |                     |            |               |
| MBP2ST63B0 |             | Black | RAL 9005 |                 |    |          |                     |            |               |

| Order code | Thread (AG) | Color                                                                                     | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-------------------------------------------------------------------------------------------|----------|-----------------|----|----------|---------------------|------------|---------------|
|            |             |                                                                                           |          | H               | GL |          |                     |            |               |
| MBP1ST07L0 | PG 7        | Grey     | RAL 7035 | 24              | 8  | 15       | 3-6,5               | 3,6        | 100           |
| MBP1ST07G0 |             | Grey     | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST07B0 |             | Black    | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST09L0 | PG 9        | Grey     | RAL 7035 | 28              | 8  | 19       | 4-8                 | 5,8        | 100           |
| MBP1ST09G0 |             | Grey     | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST09B0 |             | Black    | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST11L0 | PG 11       | Grey     | RAL 7035 | 29              | 8  | 22       | 5-10                | 7,8        | 100           |
| MBP1ST11G0 |             | Grey     | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST11B0 |             | Black    | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST13L0 | PG 13,5     | Grey     | RAL 7035 | 29              | 9  | 24       | 6-12                | 9,1        | 100           |
| MBP1ST13G0 |             | Grey     | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST13B0 |             | Black    | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST13L1 | PG 13,5     | Grey     | RAL 7035 | 29              | 9  | 24       | 4-10                | 9,3        | 100           |
| MBP1ST13G1 |             | Grey     | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST13B1 |             | Black    | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST16L0 | PG 16       | Grey     | RAL 7035 | 33              | 9  | 27       | 10-14               | 12         | 100           |
| MBP1ST16G0 |             | Grey     | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST16B0 |             | Black   | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST21L0 | PG 21       | Grey   | RAL 7035 | 38              | 11 | 33       | 13-18               | 19,6       | 50            |
| MBP1ST21G0 |             | Grey   | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST21B0 |             | Black  | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST29L0 | PG 29       | Grey   | RAL 7035 | 41              | 11 | 42       | 18-25               | 32,7       | 25            |
| MBP1ST29G0 |             | Grey   | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST29B0 |             | Black  | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST36L0 | PG 36       | Grey   | RAL 7035 | 51              | 13 | 53       | 22-32               | 65,5       | 10            |
| MBP1ST36G0 |             | Grey   | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST36B0 |             | Black  | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST42L0 | PG 42       | Grey   | RAL 7035 | 53              | 13 | 60       | 30-38               | 78,3       | 5             |
| MBP1ST42G0 |             | Grey   | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST42B0 |             | Black  | RAL 9005 |                 |    |          |                     |            |               |
| MBP1ST48L0 | PG 48       | Grey   | RAL 7035 | 55              | 14 | 65       | 34-44               | 89,1       | 5             |
| MBP1ST48G0 |             | Grey   | RAL 7001 |                 |    |          |                     |            |               |
| MBP1ST48B0 |             | Black  | RAL 9005 |                 |    |          |                     |            |               |

## Dimensions



Technical specifications

Material

- Cap nut and gland body: polyamide PA6 V2
- Sealing ring: TPV

Properties

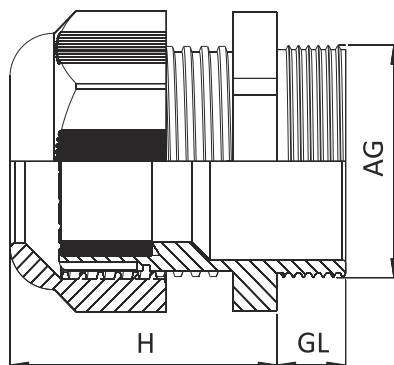
- Connection thread: metric (EN 60423) / PG (DIN 40430)
- Protection class: IP68 at up to 5 bar
- Temperature range: -20 °C +100 °C; -30 °C +150 °C (short term)
- Vibration resistance
- UV resistance
- Easy to assemble
- Halogen free



| Order code | Thread<br>(AG) | Color                                                                                     | Shade    | Dimensions (mm) |    | Hex<br>(mm) | Cable diameter<br>(mm) |
|------------|----------------|-------------------------------------------------------------------------------------------|----------|-----------------|----|-------------|------------------------|
|            |                |                                                                                           |          | H               | GL |             |                        |
| MBP2LT12L0 | M 12 x 1,5     | Grey     | RAL 7035 | 24              | 15 | 15          | 3-6,5                  |
| MBP2LT12G0 |                | Grey     | RAL 7001 |                 |    |             |                        |
| MBP2LT12B0 |                | Black    | RAL 9005 |                 |    |             |                        |
| MBP2LT16L0 | M 16 x 1,5     | Grey     | RAL 7035 | 29              | 15 | 22          | 4-8                    |
| MBP2LT16G0 |                | Grey     | RAL 7001 |                 |    |             |                        |
| MBP2LT16B0 |                | Black   | RAL 9005 |                 |    |             |                        |
| MBP2LT16L1 | M 16 x 1,5     | Grey   | RAL 7035 | 28              | 15 | 19          | 5-10                   |
| MBP2LT16G1 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT16B1 |                | Black  | RAL 9005 |                 |    |             |                        |
| MBP2LT20L0 | M 20 x 1,5     | Grey   | RAL 7035 | 29              | 15 | 24          | 6-12                   |
| MBP2LT20G0 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT20B0 |                | Black  | RAL 9005 |                 |    |             |                        |
| MBP2LT20L1 | M 20 x 1,5     | Grey   | RAL 7035 | 29              | 15 | 24          | 4-10                   |
| MBP2LT20G1 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT20B1 |                | Black  | RAL 9005 |                 |    |             |                        |
| MBP2LT20L2 | M 20 x 1,5     | Grey   | RAL 7035 | 33              | 15 | 27          | 10-14                  |
| MBP2LT20G2 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT20B2 |                | Black  | RAL 9005 |                 |    |             |                        |
| MBP2LT25L0 | M 25 x 1,5     | Grey   | RAL 7035 | 38              | 15 | 33          | 13-18                  |
| MBP2LT25G0 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT25B0 |                | Black  | RAL 9005 |                 |    |             |                        |
| MBP2LT32L0 | M 32 x 1,5     | Grey   | RAL 7035 | 41              | 18 | 42          | 18-25                  |
| MBP2LT32G0 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT32B0 |                | Black  | RAL 9005 |                 |    |             |                        |
| MBP2LT40L0 | M 40 x 1,5     | Grey   | RAL 7035 | 51              | 18 | 53          | 22-32                  |
| MBP2LT40G0 |                | Grey   | RAL 7001 |                 |    |             |                        |
| MBP2LT40B0 |                | Black  | RAL 9005 |                 |    |             |                        |

| Order code | Thread (AG) | Color                                                                                     | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) |
|------------|-------------|-------------------------------------------------------------------------------------------|----------|-----------------|----|----------|---------------------|
|            |             |                                                                                           |          | H               | GL |          |                     |
| MBP1LT07L0 | PG 7        | Grey     | RAL 7035 | 24              | 15 | 15       | 3-6,5               |
| MBP1LT07G0 |             | Grey     | RAL 7001 |                 |    |          |                     |
| MBP1LT07B0 |             | Black    | RAL 9005 |                 |    |          |                     |
| MBP1LT09L0 | PG 9        | Grey     | RAL 7035 | 28              | 15 | 19       | 4-8                 |
| MBP1LT09G0 |             | Grey     | RAL 7001 |                 |    |          |                     |
| MBP1LT09B0 |             | Black    | RAL 9005 |                 |    |          |                     |
| MBP1LT11L0 | PG 11       | Grey     | RAL 7035 | 29              | 15 | 22       | 5-10                |
| MBP1LT11G0 |             | Grey     | RAL 7001 |                 |    |          |                     |
| MBP1LT11B0 |             | Black    | RAL 9005 |                 |    |          |                     |
| MBP1LT11L1 | PG 11       | Grey     | RAL 7035 | 29              | 10 | 22       | 5-10                |
| MBP1LT11G1 |             | Grey     | RAL 7001 |                 |    |          |                     |
| MBP1LT11B1 |             | Black    | RAL 9005 |                 |    |          |                     |
| MBP1LT13L0 | PG 13,5     | Grey     | RAL 7035 | 29              | 15 | 24       | 6-12                |
| MBP1LT13G0 |             | Grey     | RAL 7001 |                 |    |          |                     |
| MBP1LT13B0 |             | Black    | RAL 9005 |                 |    |          |                     |
| MBP1LT13L1 | PG 13,5     | Grey     | RAL 7035 | 29              | 15 | 24       | 4-10                |
| MBP1LT13G1 |             | Grey    | RAL 7001 |                 |    |          |                     |
| MBP1LT13B1 |             | Black  | RAL 9005 |                 |    |          |                     |
| MBP1LT16L0 | PG 16       | Grey   | RAL 7035 | 33              | 15 | 27       | 10-14               |
| MBP1LT16G0 |             | Grey   | RAL 7001 |                 |    |          |                     |
| MBP1LT16B0 |             | Black  | RAL 9005 |                 |    |          |                     |
| MBP1LT21L0 | PG 21       | Grey   | RAL 7035 | 38              | 15 | 33       | 13-18               |
| MBP1LT21G0 |             | Grey   | RAL 7001 |                 |    |          |                     |
| MBP1LT21B0 |             | Black  | RAL 9005 |                 |    |          |                     |

## Dimensions





Technical specifications

Material

- Cap nut and gland body: polyamide PA6 V2
- Hexagonal lock nut: polyamide PA6 V2 + 30% GF
- Sealing ring: TPV
- O-ring: NBR

Properties

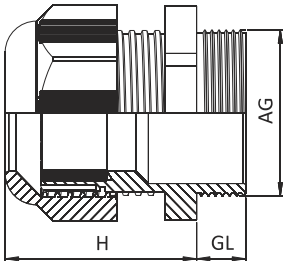
- Connection thread: metric (EN 60423) / PG (DIN 40430)
- Protection class: IP68 at up to 5 bar
- Temperature range: -20 °C +100 °C; -30 °C +150 °C (short term)
- Vibration resistance
- UV resistance
- Easy to assemble
- Halogen free



| Order code | Thread (AG) | Color | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-------|----------|-----------------|----|----------|---------------------|------------|---------------|
|            |             |       |          | H               | GL |          |                     |            |               |
| MBP2SS12L0 | M 12 x 1,5  | Grey  | RAL 7035 | 24              | 8  | 15       | 3-6,5               | 5          | 100           |
| MBP2SS16L0 | M 16 x 1,5  | Grey  | RAL 7035 | 28              | 8  | 19       | 4-8                 | 7          | 100           |
| MBP2SS16L1 | M 16 x 1,5  | Grey  | RAL 7035 | 29              | 10 | 22       | 5-10                | 10         | 100           |
| MBP2SS20L0 | M 20 x 1,5  | Grey  | RAL 7035 | 29              | 10 | 24       | 6-12                | 13         | 100           |
| MBP2SS20L1 | M 20 x 1,5  | Grey  | RAL 7035 | 29              | 10 | 24       | 4-10                | 13         | 100           |
| MBP2SS20L2 | M 20 x 1,5  | Grey  | RAL 7035 | 33              | 10 | 27       | 10-14               | 15         | 100           |
| MBP2SS25L0 | M 25 x 1,5  | Grey  | RAL 7035 | 38              | 10 | 33       | 13-18               | 24         | 50            |
| MBP2SS32L0 | M 32 x 1,5  | Grey  | RAL 7035 | 41              | 10 | 42       | 18-25               | 43         | 25            |
| MBP2SS40L0 | M 40 x 1,5  | Grey  | RAL 7035 | 51              | 10 | 53       | 22-32               | 78         | 10            |
| MBP2SS50L0 | M 50 x 1,5  | Grey  | RAL 7035 | 53              | 18 | 60       | 30-38               | 101        | 5             |
| MBP2SS63L0 | M 63 x 1,5  | Grey  | RAL 7035 | 55              | 18 | 70       | 34-44               | 116        | 5             |

| Order code | Thread (AG) | Color | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-------|----------|-----------------|----|----------|---------------------|------------|---------------|
|            |             |       |          | H               | GL |          |                     |            |               |
| MBP1SS07L0 | PG 7        | Grey  | RAL 7035 | 24              | 8  | 15       | 3-6,5               | 5          | 100           |
| MBP1SS09L0 | PG 9        | Grey  | RAL 7035 | 28              | 8  | 19       | 4-8                 | 7          | 100           |
| MBP1SS11L0 | PG 11       | Grey  | RAL 7035 | 29              | 8  | 22       | 5-10                | 10         | 100           |
| MBP1SS13L0 | PG 13,5     | Grey  | RAL 7035 | 29              | 9  | 24       | 6-12                | 12         | 100           |
| MBP1SS13L1 | PG 13,5     | Grey  | RAL 7035 | 29              | 9  | 24       | 4-10                | 12         | 100           |
| MBP1SS16L0 | PG 16       | Grey  | RAL 7035 | 33              | 9  | 27       | 10-14               | 15         | 100           |
| MBP1SS21L0 | PG 21       | Grey  | RAL 7035 | 38              | 11 | 33       | 13-18               | 24         | 50            |
| MBP1SS29L0 | PG 29       | Grey  | RAL 7035 | 41              | 11 | 42       | 18-25               | 39         | 25            |
| MBP1SS36L0 | PG 36       | Grey  | RAL 7035 | 51              | 13 | 53       | 22-32               | 80         | 10            |
| MBP1SS42L0 | PG 42       | Grey  | RAL 7035 | 53              | 13 | 60       | 30-38               | 94         | 5             |
| MBP1SS48L0 | PG 48       | Grey  | RAL 7035 | 55              | 14 | 65       | 34-44               | 107        | 5             |

Dimensions



**Technical specifications****Material**

- Cap nut and gland body: polyamide PA6 V2
- Sealing ring: TPV special seal for bend resistance

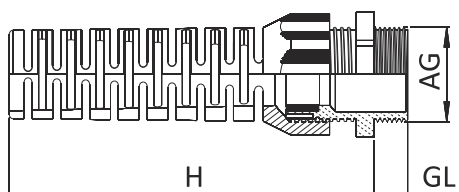
**Properties**

- Connection thread: metric (EN 60423) / PG (DIN 40430)
- Protection class: IP68 at up to 5 bar
- Temperature range: -20 °C +100 °C; -30 °C +150 °C (short term)
- With spiral top for bend protection
- For highly movable flexible cables
- Vibration resistance
- UV resistance
- Easy to assemble
- Halogen free



| Order code | Thread (AG) | Color | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-------|----------|-----------------|----|----------|---------------------|------------|---------------|
|            |             |       |          | H               | GL |          |                     |            |               |
| MBP2BR12L0 | M 12 x 1,5  | Grey  | RAL 7035 | 57              | 8  | 15       | 3-6,5               | 4,4        | 100           |
| MBP2BR16L0 | M 16 x 1,5  | Grey  | RAL 7035 | 70              | 8  | 19       | 4-8                 | 7,8        | 100           |
| MBP2BR16L1 | M 16 x 1,5  | Grey  | RAL 7035 | 81              | 10 | 22       | 5-10                | 11,3       | 50            |
| MBP2BR20L0 | M 20 x 1,5  | Grey  | RAL 7035 | 89              | 10 | 24       | 6-12                | 14,9       | 50            |
| MBP2BR20L1 | M 20 x 1,5  | Grey  | RAL 7035 | 107             | 10 | 27       | 10-14               | 20,1       | 50            |
| MBP2BR25L0 | M 25 x 1,5  | Grey  | RAL 7035 | 124             | 10 | 33       | 13-18               | 34,8       | 25            |

| Order code | Thread (AG) | Color | Shade    | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-------|----------|-----------------|----|----------|---------------------|------------|---------------|
|            |             |       |          | H               | GL |          |                     |            |               |
| MBP1BR07L0 | PG 7        | Grey  | RAL 7035 | 57              | 8  | 15       | 3-6,5               | 4,2        | 100           |
| MBP1BR09L0 | PG 9        | Grey  | RAL 7035 | 70              | 8  | 19       | 4-8                 | 7,4        | 100           |
| MBP1BR11L0 | PG 11       | Grey  | RAL 7035 | 81              | 8  | 22       | 5-10                | 10,8       | 50            |
| MBP1BR13L0 | PG 13,5     | Grey  | RAL 7035 | 89              | 9  | 24       | 6-12                | 14         | 50            |
| MBP1BR16L0 | PG 16       | Grey  | RAL 7035 | 107             | 9  | 27       | 10-14               | 20,5       | 50            |
| MBP1BR21L0 | PG 21       | Grey  | RAL 7035 | 124             | 11 | 33       | 13-18               | 33,7       | 25            |

**Dimensions**

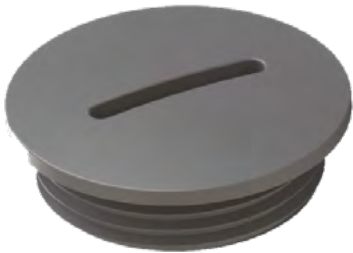
Technical specifications

Material

- Blind stop: polyamide PA6 V2
- Sealing ring: NBR (on request)

Properties

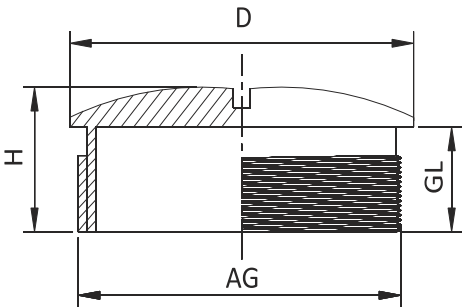
- For unused threaded holes
- Connection thread: metric (EN 60423) / PG (DIN 40430)
- Protection class: IP54 / IP68 (with o-ring)
- Temperature range: -20 °C +100 °C; -30 °C +150 °C (short term)
- UV resistance
- Halogen free



| Order code | Thread (AG) | Color                                                                                  | Shade    | Dimensions (mm) |    |    | Weight (g) | Package (pcs) |
|------------|-------------|----------------------------------------------------------------------------------------|----------|-----------------|----|----|------------|---------------|
|            |             |                                                                                        |          | H               | GL | D  |            |               |
| MBP2BS12L0 | M 12 x 1,5  | Grey  | RAL 7035 | 8,5             | 6  | 15 | 0,66       | 1000          |
| MBP2BS16L0 | M 16 x 1,5  | Grey  | RAL 7035 | 10              | 7  | 20 | 1,27       | 1000          |
| MBP2BS20L0 | M 20 x 1,5  | Grey  | RAL 7035 | 10              | 7  | 24 | 1,75       | 500           |
| MBP2BS25L0 | M 25 x 1,5  | Grey  | RAL 7035 | 14              | 10 | 30 | 3,55       | 300           |
| MBP2BS32L0 | M 32 x 1,5  | Grey  | RAL 7035 | 14              | 10 | 37 | 4,85       | 200           |
| MBP2BS40L0 | M 40 x 1,5  | Grey  | RAL 7035 | 15              | 10 | 48 | 9,11       | 100           |

| Order code | Thread (AG) | Color                                                                                    | Shade    | Dimensions (mm) |    |    | Weight (g) | Package (pcs) |
|------------|-------------|------------------------------------------------------------------------------------------|----------|-----------------|----|----|------------|---------------|
|            |             |                                                                                          |          | H               | GL | D  |            |               |
| MBP1BS07L0 | PG 7        | Grey  | RAL 7035 | 8               | 6  | 15 | 0,66       | 1000          |
| MBP1BS09L0 | PG 9        | Grey  | RAL 7035 | 8,2             | 6  | 19 | 0,9        | 1000          |
| MBP1BS11L0 | PG 11       | Grey  | RAL 7035 | 8,5             | 6  | 22 | 1,27       | 500           |
| MBP1BS13L0 | PG 13,5     | Grey  | RAL 7035 | 8,5             | 6  | 25 | 1,44       | 500           |
| MBP1BS16L0 | PG 16       | Grey  | RAL 7035 | 8,5             | 6  | 27 | 1,75       | 500           |
| MBP1BS21L0 | PG 21       | Grey  | RAL 7035 | 12              | 8  | 33 | 3,55       | 300           |
| MBP1BS29L0 | PG 29       | Grey  | RAL 7035 | 11,3            | 8  | 44 | 4,85       | 200           |
| MBP1BS36L0 | PG 36       | Grey  | RAL 7035 | 14,3            | 10 | 55 | 9,11       | 100           |

Dimensions



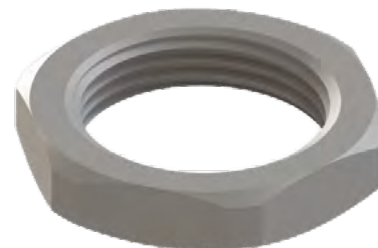
## Technical specifications

## Material

- Hexagonal lock nut: polyamide PA6 V2 + 30% GF
- Connection thread: metric (EN 60423) / PG (DIN 40430)

## Properties

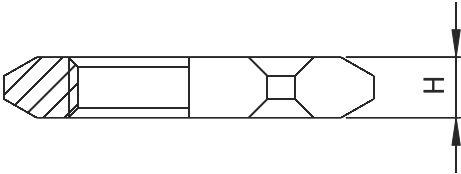
- For tightening of cable glands
- Temperature range: -20 °C +100 °C; -30 °C +150 °C (short term)
- UV resistance
- Halogen free



| Order code | Thread<br>(AG) | Color | Shade    | Dimensions (mm) |    | Hex<br>(mm) | Weight<br>(g) | Package<br>(pcs) |
|------------|----------------|-------|----------|-----------------|----|-------------|---------------|------------------|
|            |                |       |          | H               |    |             |               |                  |
| MBP2LS12L0 | M 12 x 1,5     | Grey  | RAL 7035 | 5               | 18 | 1,05        | 1000          |                  |
| MBP2LS12G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS12B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS16L0 | M 16 x 1,5     | Grey  | RAL 7035 | 5               | 22 | 1,3         | 1000          |                  |
| MBP2LS16G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS16B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS20L0 | M 20 x 1,5     | Grey  | RAL 7035 | 6               | 26 | 2           | 500           |                  |
| MBP2LS20G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS20B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS25L0 | M 25 x 1,5     | Grey  | RAL 7035 | 6               | 32 | 3           | 500           |                  |
| MBP2LS25G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS25B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS32L0 | M 32 x 1,5     | Grey  | RAL 7035 | 7               | 41 | 5,86        | 200           |                  |
| MBP2LS32G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS32B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS40L0 | M 40 x 1,5     | Grey  | RAL 7035 | 7               | 50 | 11          | 100           |                  |
| MBP2LS40G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS40B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS50L0 | M 50 x 1,5     | Grey  | RAL 7035 | 8               | 60 | 13          | 75            |                  |
| MBP2LS50G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS50B0 |                | Black | RAL 9005 |                 |    |             |               |                  |
| MBP2LS63L0 | M 63 x 1,5     | Grey  | RAL 7035 | 8               | 75 | 17,5        | 50            |                  |
| MBP2LS63G0 |                | Grey  | RAL 7001 |                 |    |             |               |                  |
| MBP2LS63B0 |                | Black | RAL 9005 |                 |    |             |               |                  |

| Order code | Thread<br>(AG) | Color                                                                                     | Shade    | Dimensions (mm) |  | Hex<br>(mm) | Weight<br>(g) | Package<br>(pcs) |
|------------|----------------|-------------------------------------------------------------------------------------------|----------|-----------------|--|-------------|---------------|------------------|
|            |                |                                                                                           |          | H               |  |             |               |                  |
| MBP1LS07L0 | PG 7           | Grey     | RAL 7035 | 5               |  | 19          | 1,2           | 1000             |
| MBP1LS07G0 |                | Grey     | RAL 7001 |                 |  |             |               |                  |
| MBP1LS07B0 |                | Black    | RAL 9005 |                 |  |             |               |                  |
| MBP1LS09L0 | PG 9           | Grey     | RAL 7035 | 5               |  | 22          | 1,2           | 1000             |
| MBP1LS09G0 |                | Grey     | RAL 7001 |                 |  |             |               |                  |
| MBP1LS09B0 |                | Black    | RAL 9005 |                 |  |             |               |                  |
| MBP1LS09L1 | PG 9           | Grey     | RAL 7035 | 5               |  | 19          | 1,2           | 1000             |
| MBP1LS09G1 |                | Grey     | RAL 7001 |                 |  |             |               |                  |
| MBP1LS09B1 |                | Black    | RAL 9005 |                 |  |             |               |                  |
| MBP1LS11L0 | PG 11          | Grey     | RAL 7035 | 5               |  | 24          | 1,5           | 1000             |
| MBP1LS11G0 |                | Grey     | RAL 7001 |                 |  |             |               |                  |
| MBP1LS11B0 |                | Black    | RAL 9005 |                 |  |             |               |                  |
| MBP1LS13L0 | PG 13,5        | Grey     | RAL 7035 | 6               |  | 27          | 2,37          | 500              |
| MBP1LS13G0 |                | Grey     | RAL 7001 |                 |  |             |               |                  |
| MBP1LS13B0 |                | Black    | RAL 9005 |                 |  |             |               |                  |
| MBP1LS16L0 | PG 16          | Grey     | RAL 7035 | 6               |  | 30          | 3             | 500              |
| MBP1LS16G0 |                | Grey     | RAL 7001 |                 |  |             |               |                  |
| MBP1LS16B0 |                | Black    | RAL 9005 |                 |  |             |               |                  |
| MBP1LS21L0 | PG 21          | Grey    | RAL 7035 | 7               |  | 36          | 4,5           | 250              |
| MBP1LS21G0 |                | Grey   | RAL 7001 |                 |  |             |               |                  |
| MBP1LS21B0 |                | Black  | RAL 9005 |                 |  |             |               |                  |
| MBP1LS29L0 | PG 29          | Grey   | RAL 7035 | 7               |  | 46          | 6,21          | 200              |
| MBP1LS29G0 |                | Grey   | RAL 7001 |                 |  |             |               |                  |
| MBP1LS29B0 |                | Black  | RAL 9005 |                 |  |             |               |                  |
| MBP1LS36L0 | PG 36          | Grey   | RAL 7035 | 8               |  | 60          | 14            | 100              |
| MBP1LS36G0 |                | Grey   | RAL 7001 |                 |  |             |               |                  |
| MBP1LS36B0 |                | Black  | RAL 9005 |                 |  |             |               |                  |
| MBP1LS42L0 | PG 42          | Grey   | RAL 7035 | 8               |  | 65          | 15            | 50               |
| MBP1LS42G0 |                | Grey   | RAL 7001 |                 |  |             |               |                  |
| MBP1LS42B0 |                | Black  | RAL 9005 |                 |  |             |               |                  |
| MBP1LS48L0 | PG 48          | Grey   | RAL 7035 | 8               |  | 70          | 18            | 50               |
| MBP1LS48G0 |                | Grey   | RAL 7001 |                 |  |             |               |                  |
| MBP1LS48B0 |                | Black  | RAL 9005 |                 |  |             |               |                  |

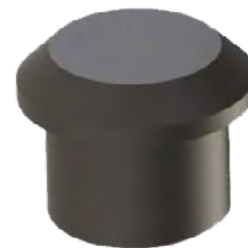
Dimensions



## Technical specifications

## Material

- Polyamide PA6
- Temperature range: -20 °C +100 °C
- For blinding and sealing already installed cable glands



| Order code | PG Thread | M Thread   | Color   | Shade    | Weight (g) | Package (pcs) |
|------------|-----------|------------|---------|----------|------------|---------------|
| MBP0PT07B0 | PG 7      | M 12 x 1,5 | Black ● | RAL 9005 | 0,2        | 1000          |
| MBP0PT09B0 | PG 9      | M 16 x 1,5 | Black ● | RAL 9005 | 0,6        | 1000          |
| MBP0PT11B0 | PG 11     | M 16 x 1,5 | Black ● | RAL 9005 | 0,8        | 1000          |
| MBP0PT13B0 | PG 13,5   | M 20 x 1,5 | Black ● | RAL 9005 | 1,4        | 500           |
| MBP0PT16B0 | PG 16     | M 20 x 1,5 | Black ● | RAL 9005 | 1,8        | 500           |
| MBP0PT21B0 | PG 21     | M 25 x 1,5 | Black ● | RAL 9005 | 2,6        | 250           |
| MBP0PT29B0 | PG 29     | M 32 x 1,5 | Black ● | RAL 9005 | 4,8        | 200           |
| MBP0PT36B0 | PG 36     | M 40 x 1,5 | Black ● | RAL 9005 | 8,6        | 100           |
| MBP0PT42B0 | PG 42     | M 50 x 1,5 | Black ● | RAL 9005 | 10,6       | 50            |
| MBP0PT48B0 | PG 48     | M 63 x 1,5 | Black ● | RAL 9005 | 13,8       | 50            |

NB! The gland sizes are given for plastic cable glands. In case of using metal cable glands, the protection tap has to be **one size smaller** than indicated above!

## O-rings for cable glands

## Technical specifications

## Material

- NBR (70 sh)
- Temperature range: -30 °C +100 °C



| Order code | Thread         | Inner diameter (mm) | Height (mm) | Weight (g) | Package (pcs) |
|------------|----------------|---------------------|-------------|------------|---------------|
| MBP1OR07B0 | PG 7 / M 12    | 9                   | 1,5         | 5          | 1000          |
| MBP1OR09B0 | PG 9 / M 16    | 11                  | 1,5         | 9          | 1000          |
| MBP1OR11B0 | PG 11          | 13                  | 1,5         | 10         | 1000          |
| MBP1OR16B0 | PG 16          | 18                  | 1,5         | 13         | 1000          |
| MBP1OR21B0 | PG 21 / M 32   | 22                  | 2           | 29         | 1000          |
| MBP1OR36B0 | PG 36 / M50    | 40                  | 2           | 50         | 300           |
| MBP1OR42B0 | PG 42          | 48                  | 2           | 62         | 100           |
| MBP2OR20B0 | M 20 / PG 13,5 | 16                  | 15          | 12         | 1000          |
| MBP2OR25B0 | M 25           | 19                  | 2           | 30         | 1000          |
| MBP2OR40B0 | M 40 / PG 29   | 23                  | 2           | 37         | 300           |
| MBP2OR63B0 | M 63 / PG 48   | 53                  | 2           | 72         | 100           |

# Metal cable glands

| IP68

| Brass, stainless steel, EMC

| Vibration- and UV-resistant

| Heavy duty

| Easy to assemble





## Technical specifications

### Material

- Cap nut and gland body: nickel-plated brass
- Clamping insert: polyamide PA6 V2
- Sealing ring: TPV
- O-ring: NBR

### Properties

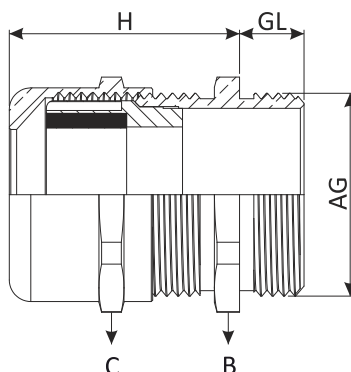
- Connection thread: metric (EN 60423) / PG (DIN 40430)
- Protection class: IP68 at up to 5 bar
- Temperature range: -20 °C +100 °C; -40 °C +150 °C (short term)
- Easy to assemble
- Long thread versions available
- High strain relief



| Order code | Thread (AG) | Dimensions (mm) |    | Hex B (mm) | Hex C (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----|------------|------------|---------------------|------------|---------------|
|            |             | H               | GL |            |            |                     |            |               |
| MBM2ST12E0 | M 12 x 1,5  | 22              | 6  | 14         | 14         | 3-6,5               | 12         | 100           |
| MBM2ST16E0 | M 16 x 1,5  | 23              | 7  | 18         | 17         | 4-8                 | 18,4       | 50            |
| MBM2ST20E0 | M 20 x 1,5  | 26,5            | 8  | 22         | 22         | 6-12                | 29,2       | 50            |
| MBM2ST20E1 | M 20 x 1,5  | 26,5            | 8  | 22         | 22         | 4-10                | 30,05      | 50            |
| MBM2ST25E0 | M 25 x 1,5  | 28              | 8  | 27         | 24         | 10-14               | 36         | 25            |
| MBM2ST32E0 | M 32 x 1,5  | 31,5            | 9  | 34         | 30         | 13-18               | 67         | 20            |
| MBM2ST40E0 | M 40 x 1,5  | 38              | 9  | 43         | 40         | 18-25               | 138,6      | 10            |
| MBM2ST50E0 | M 50 x 1,5  | 43              | 9  | 55         | 50         | 22-32               | 231,4      | 5             |
| MBM2ST63E0 | M 63 x 1,5  | 48              | 14 | 68         | 64         | 33-44               | 414,4      | 5             |

| Order code | Thread (AG) | Dimensions (mm) |     | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|-----|----------|---------------------|------------|---------------|
|            |             | H               | GL  |          |                     |            |               |
| MBM1ST07E0 | PG 7        | 22              | 6   | 14       | 3-6,5               | 11,8       | 100           |
| MBM1ST09E0 | PG 9        | 23              | 6   | 17       | 4-8                 | 16,6       | 50            |
| MBM1ST11E0 | PG 11       | 24,5            | 6   | 20       | 5-10                | 23,2       | 50            |
| MBM1ST13E0 | PG 13,5     | 26,5            | 6,5 | 22       | 6-12                | 29,6       | 50            |
| MBM1ST13E1 | PG 13,5     | 26,5            | 6,5 | 22       | 4-10                | 29,8       | 50            |
| MBM1ST16E0 | PG 16       | 28              | 6,5 | 24       | 10-14               | 31,6       | 50            |
| MBM1ST21E0 | PG 21       | 31,5            | 7   | 30       | 13-18               | 55         | 25            |
| MBM1ST29E0 | PG 29       | 38              | 8   | 40       | 18-25               | 115,6      | 20            |
| MBM1ST36E0 | PG 36       | 43              | 10  | 50       | 22-32               | 198,4      | 10            |
| MBM1ST42E0 | PG 42       | 47              | 12  | 57       | 30-38               | 231,8      | 5             |
| MBM1ST48E0 | PG 48       | 48              | 14  | 64       | 33-44               | 344,8      | 5             |

## Dimensions



Technical specifications

Material

- Cap nut and gland body: stainless steel (1.4305 / AISI303-1.4404 / AISI316L)
- Clamping insert: polyamide PA6 V2
- Sealing ring: TPV
- O-ring: NBR

Properties

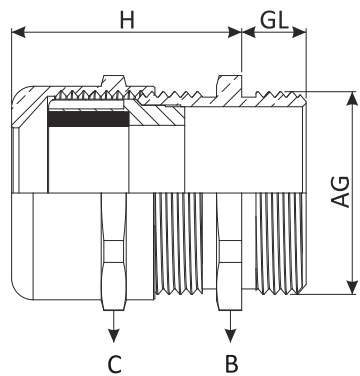
- Connection thread: metric (EN60423) / PG (DIN 40430)
- Protection class: IP68 - 5 bar
- Temperature range: -20 °C +100 °C; -40 °C +150 °C (short term)
- High corrosion resistance
- Smooth surfaces
- Easy to assemble
- Food, pharmaceutical industry and on-/offshore applications



| Order code | Thread (AG) | Dimensions (mm) |    | Hex B (mm) | Hex C (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----|------------|------------|---------------------|------------|---------------|
|            |             | H               | GL |            |            |                     |            |               |
| MBS2ST12E0 | M 12 x 1,5  | 22              | 6  | 14         | 14         | 3-6,5               | 12,5       | 100           |
| MBS2ST16E0 | M 16 x 1,5  | 23              | 7  | 18         | 17         | 4-8                 | 18,5       | 50            |
| MBS2ST20E0 | M 20 x 1,5  | 26,5            | 8  | 22         | 22         | 6-12                | 26         | 50            |
| MBS2ST20E1 | M 20 x 1,5  | 26,5            | 8  | 22         | 22         | 4-10                | 26,2       | 50            |
| MBS2ST25E0 | M 25 x 1,5  | 28              | 8  | 27         | 24         | 10-14               | 41         | 25            |
| MBS2ST32E0 | M 32 x 1,5  | 31,5            | 9  | 36         | 30         | 13-18               | 70         | 20            |
| MBS2ST40E0 | M 40 x 1,5  | 38              | 9  | 46         | 41         | 18-25               | 144,5      | 10            |
| MBS2ST50E0 | M 50 x 1,5  | 43              | 9  | 55         | 50         | 22-32               | 255        | 5             |
| MBS2ST63E0 | M 63 x 1,5  | 48              | 14 | 70         | 65         | 33-44               | 395,6      | 5             |

| Order code | Thread (AG) | Dimensions (mm) |     | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|-----|----------|---------------------|------------|---------------|
|            |             | H               | GL  |          |                     |            |               |
| MBS1ST07E0 | PG 7        | 22              | 6   | 14       | 3-6,5               | 12,5       | 100           |
| MBS1ST09E0 | PG 9        | 23              | 6   | 17       | 4-8                 | 16,6       | 50            |
| MBS1ST11E0 | PG 11       | 24,5            | 6   | 22       | 5-10                | 23,2       | 50            |
| MBS1ST13E0 | PG 13,5     | 26,5            | 6,5 | 22       | 6-12                | 29,6       | 50            |
| MBS1ST13E1 | PG 13,5     | 26,5            | 6,5 | 22       | 4-10                | 29,8       | 50            |
| MBS1ST16E0 | PG 16       | 28              | 6,5 | 24       | 10-14               | 31,6       | 50            |
| MBS1ST21E0 | PG 21       | 31,5            | 7   | 30       | 13-18               | 55         | 25            |
| MBS1ST29E0 | PG 29       | 38              | 8   | 41       | 18-25               | 115,6      | 20            |
| MBS1ST36E0 | PG 36       | 43              | 10  | 50       | 22-32               | 145        | 10            |
| MBS1ST42E0 | PG 42       | 47              | 12  | 60       | 30-38               | 255        | 5             |
| MBS1ST48E0 | PG 48       | 48              | 14  | 65       | 33-34               | 345        | 5             |

Dimensions



Technical specifications

Material

- Cap nut and gland body: nickel-plated brass
- Sealing ring: TPV / silicone / EPDM
- O-ring: NBR / TPV / silicone / EPDM

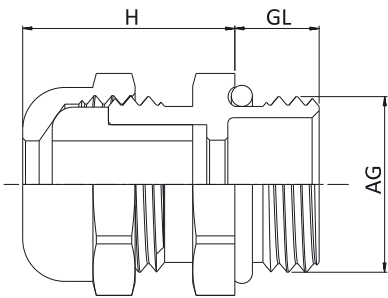
Properties

- Connection thread: metric (EN60423) / PG (DIN 40430)
- Protection class: IP68 at up to 3 bar
- Temperature range: -20 °C +100 °C; -40 °C +150 °C
- Easy to assemble
- Long thread versions available
- Lighting industry



| Order code | Thread (AG) | Dimensions (mm) |    | Hex (mm) | Cable diameter (mm) | Package (pcs) |
|------------|-------------|-----------------|----|----------|---------------------|---------------|
|            |             | H               | GL |          |                     |               |
| MBM2MI06E0 | M 6 x 1,0   | 10,5            | 6  | 8        | 2-3                 | 100           |
| MBM2MI08E0 | M 8 x 1,25  | 15              | 6  | 14       | 2-4                 | 100           |
| MBM2MI08E1 | M 8 x 1,25  | 15              | 6  | 11       | 3-5                 | 100           |
| MBM2MI10E0 | M 10 x 1,5  | 15              | 6  | 14       | 2-4                 | 100           |
| MBM2MI10E1 | M 10 x 1,5  | 15              | 6  | 14       | 3-6                 | 100           |
| MBM2MI10E2 | M 10 x 1,5  | 14,5            | 6  | 12       | 4-6                 | 100           |
| MBM2MI12E0 | M 12 x 1,5  | 15              | 6  | 14       | 2-4                 | 100           |
| MBM2MI12E1 | M 12 x 1,5  | 15              | 6  | 14       | 3-6                 | 100           |
| MBM1MI07E0 | PG 7        | 15              | 6  | 14       | 2-4                 | 100           |
| MBM1MI07E1 | PG 7        | 15              | 6  | 14       | 3-6                 | 100           |
| MBM1MI09E0 | PG 9        | 16,5            | 6  | 17       | 4-6                 | 100           |
| MBM1MI09E1 | PG 9        | 16,5            | 6  | 17       | 6-8                 | 100           |

Dimensions



Technical specifications

Material

- Cap nut and gland body: nickel-plated brass
- Clamping insert: polyamide PA6 V2
- Sealing ring: TPV
- EMC spring: AISI301
- O-ring: NBR

Properties

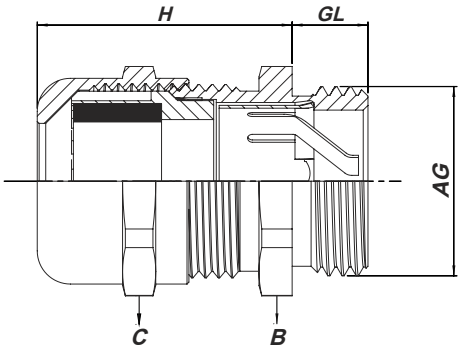
- Connection thread: metric (EN60423) / PG (DIN 40430)
- Protection class: IP68 - 5 bar
- Temperature range: -20 °C +100 °C; -40 °C +150 °C
- Easy to assemble
- For cables with shielding
- Suitable for cables with and without inner sheath
- Highly conductive



| Order code | Thread (AG) | Dimensions (mm) |    | Hex B (mm) | Hex C (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----|------------|------------|---------------------|------------|---------------|
|            |             | H               | GL |            |            |                     |            |               |
| MBM2EC12E0 | M 12 x 1,5  | 22              | 6  | 14         | 14         | 3-6,5               | 12,5       | 100           |
| MBM2EC16E0 | M 16 x 1,5  | 23              | 7  | 18         | 17         | 4-8                 | 18,5       | 50            |
| MBM2EC20E0 | M 20 x 1,5  | 26,5            | 8  | 22         | 22         | 6-12                | 26,5       | 50            |
| MBM2EC25E0 | M 25 x 1,5  | 28              | 8  | 27         | 24         | 10-14               | 42         | 25            |
| MBM2EC32E0 | M 32 x 1,5  | 32,5            | 9  | 34         | 30         | 13-18               | 72,5       | 20            |
| MBM2EC40E0 | M 40 x 1,5  | 38              | 9  | 43         | 40         | 18-25               | 144,5      | 10            |
| MBM2EC50E0 | M 50 x 1,5  | 48              | 9  | 55         | 50         | 22-32               | 255        | 5             |
| MBM2EC63E0 | M 63 x 1,5  | 53              | 14 | 68         | 64         | 34-44               | 395,5      | 5             |

| Order code | Thread (AG) | Dimensions (mm) |     | Hex (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|-----|----------|---------------------|------------|---------------|
|            |             | H               | GL  |          |                     |            |               |
| MBM1EC07E0 | PG 7        | 22              | 6   | 14       | 3-6,5               | 16,5       | 100           |
| MBM1EC09E0 | PG 9        | 23              | 6   | 17       | 4-8                 | 18,5       | 50            |
| MBM1EC11E0 | PG 11       | 26              | 6   | 20       | 5-10                | 25         | 50            |
| MBM1EC13E0 | PG 13,5     | 26,5            | 6,5 | 22       | 6-12                | 30         | 50            |
| MBM1EC16E0 | PG 16       | 28              | 6,5 | 24       | 10-14               | 37         | 50            |
| MBM1EC21E0 | PG 21       | 32,5            | 7   | 30       | 13-18               | 62,5       | 25            |
| MBM1EC29E0 | PG 29       | 38              | 8   | 40       | 18-25               | 128        | 20            |
| MBM1EC36E0 | PG 36       | 48              | 9   | 50       | 22-32               | 232,5      | 10            |
| MBM1EC42E0 | PG 42       | 48              | 12  | 58       | 30-38               | 252,5      | 5             |
| MBM1EC48E0 | PG 48       | 52              | 14  | 64       | 34-44               | 355        | 5             |

Dimensions



## Technical specifications

### Material

- Cap nut and gland body: nickel-plated brass
- Sealing ring: EPDM
- O-ring: NBR - TPV

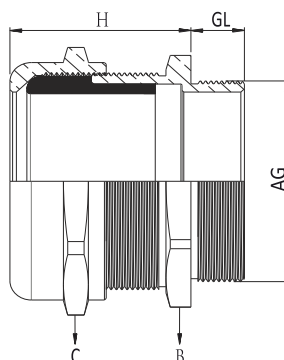
### Properties

- Connection thread: metric (EN60423)
- Protection class: IP68
- Temperature range: -20 °C +100 °C; -40 °C +150 °C
- High impact and temperature resistance
- Easy to assemble
- Wide cable range
- XL cables



| Order code | Thread (AG) | Dimensions (mm) |    | Hex B (mm) | Hex C (mm) | Cable diameter (mm) | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----|------------|------------|---------------------|------------|---------------|
|            |             | H               | GL |            |            |                     |            |               |
| MBM2XL63E0 | M 63 x 1,5  | 48              | 15 | 70         | 75         | 45-55               | 515        | 5             |
| MBM2XL75E0 | M 75 x 1,5  | 48              | 20 | 85         | 75         | 45-55               | 700        | 2             |
| MBM2XL75E1 | M 75 x 1,5  | 58              | 20 | 90         | 90         | 50-63               | 700        | 2             |
| MBM2XL80E0 | M 80 x 2,0  | 58              | 20 | 90         | 90         | 50-63               | 870        | 2             |
| MBM2XL90E0 | M 90 x 2,0  | 61              | 20 | 100        | 100        | 60-70               | 1109       | 2             |
| MBM3XL21E0 | 2 1/2"      | 48              | 20 | 85         | 75         | 45-55               | 590,2      | 2             |
| MBM3XL21E1 | 2 1/2"      | 58              | 20 | 90         | 90         | 50-63               | 950        | 2             |
| MBM3XL30E0 | 3"          | 61              | 20 | 100        | 100        | 60-70               | 1093,4     | 2             |

## Dimensions



Technical specifications

Material

- Screw plug: nickel-plated brass
- Sealing ring: NBR

Properties

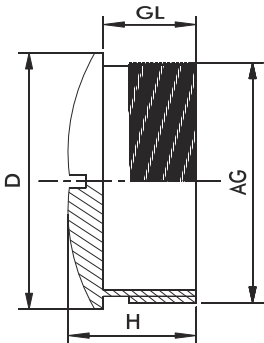
- Connection thread: metric (EN60423) / PG (DIN 40430)
- Protection class: IP68
- Temperature range: -40 °C +100 °C
- For unused threaded holes
- Assembly with a screwdriver
- Machine and equipment manufacturing
- Electric motor manufacturing



| Order code | Thread (AG) | Dimensions (mm) |     |    | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|-----|----|------------|---------------|
|            |             | H               | GL  | D  |            |               |
| MBM2BS12E0 | M 12 x 1,5  | 7,5             | 5   | 14 | 4,5        | 100           |
| MBM2BS16E0 | M 16 x 1,5  | 8               | 5   | 18 | 5,3        | 50            |
| MBM2BS20E0 | M 20 x 1,5  | 9,5             | 6,5 | 22 | 14,5       | 50            |
| MBM2BS25E0 | M 25 x 1,5  | 11              | 7   | 28 | 17         | 25            |
| MBM2BS32E0 | M 32 x 1,5  | 12              | 8   | 35 | 24,6       | 20            |
| MBM2BS40E0 | M 40 x 1,5  | 13              | 8,5 | 44 | 40,4       | 10            |
| MBM2BS50E0 | M 50 x 1,5  | 15              | 9   | 54 | 56,2       | 10            |
| MBM2BS63E0 | M 63 x 1,5  | 16              | 10  | 67 | 102,6      | 5             |

| Order code | Thread (AG) | Dimensions (mm) |     |    | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|-----|----|------------|---------------|
|            |             | H               | GL  | D  |            |               |
| MBM1BS07E0 | PG 7        | 8               | 5   | 14 | 3,7        | 100           |
| MBM1BS09E0 | PG 9        | 9               | 6   | 17 | 5,4        | 50            |
| MBM1BS11E0 | PG 11       | 9               | 6   | 20 | 7,9        | 50            |
| MBM1BS13E0 | PG 13,5     | 9,5             | 6,5 | 22 | 9,8        | 50            |
| MBM1BS16E0 | PG 16       | 9,5             | 6,5 | 24 | 15         | 50            |
| MBM1BS21E0 | PG 21       | 11              | 7   | 30 | 18,9       | 25            |
| MBM1BS29E0 | PG 29       | 12              | 8   | 39 | 69,4       | 20            |
| MBM1BS36E0 | PG 36       | 15              | 9   | 50 | 62,5       | 10            |
| MBM1BS42E0 | PG 42       | 16              | 10  | 57 | 86,1       | 5             |
| MBM1BS48E0 | PG 48       | 16              | 10  | 64 | 96,6       | 5             |

Dimensions



## Technical specifications

## Material

- Hexagonal locknut: nickel-plated brass
- Connection thread: metric (EN60423) / PG (DIN 40430)
- Temperature range: -60 °C +200 °C

## Properties

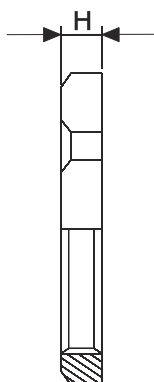
- For tightening of cable glands



| Order code | Thread (AG) | Dimensions (mm) |          | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----------|------------|---------------|
|            |             | H               | Hex (mm) |            |               |
| MBM2LS12E0 | M 12 x 1,5  | 2,8             | 15       | 1,6        | 100           |
| MBM2LS16E0 | M 16 x 1,5  | 3               | 19       | 3          | 50            |
| MBM2LS20E0 | M 20 x 1,5  | 3,5             | 24       | 5,4        | 50            |
| MBM2LS25E0 | M 25 x 1,5  | 3,5             | 30       | 8,2        | 25            |
| MBM2LS32E0 | M 32 x 1,5  | 4               | 36       | 10,6       | 20            |
| MBM2LS40E0 | M 40 x 1,5  | 4               | 45       | 16,4       | 10            |
| MBM2LS50E0 | M 50 x 1,5  | 5               | 55       | 26,8       | 5             |
| MBM2LS63E0 | M 63 x 1,5  | 5               | 68       | 37         | 5             |
| MBM2LS75E0 | M 75 x 1,5  | 7               | 90       | 150,4      | 10            |
| MBM2LS80E0 | M 80 x 2,0  | 7               | 90       | 165        | 10            |
| MBM2LS90E0 | M 90 x 2,0  | 10              | 100      | 202        | 10            |
| MBM3LS21E0 | 2 ½"        | 10              | 80       | 122,2      | 5             |
| MBM3LS30E0 | 3"          | 10              | 100      | 223,4      | 5             |

| Order code | Thread (AG) | Dimensions (mm) |          | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----------|------------|---------------|
|            |             | H               | Hex (mm) |            |               |
| MBM1LS07E0 | PG 7        | 2,8             | 15       | 1,8        | 100           |
| MBM1LS09E0 | PG 9        | 2,8             | 18       | 2,2        | 50            |
| MBM1LS11E0 | PG 11       | 3               | 21       | 2,8        | 50            |
| MBM1LS13E0 | PG 13,5     | 3               | 23       | 3,4        | 50            |
| MBM1LS16E0 | PG 16       | 3               | 26       | 4,4        | 50            |
| MBM1LS21E0 | PG 21       | 3,5             | 32       | 7,4        | 25            |
| MBM1LS29E0 | PG 29       | 4               | 40       | 10,2       | 20            |
| MBM1LS36E0 | PG 36       | 5               | 50       | 17,2       | 10            |
| MBM1LS42E0 | PG 42       | 5               | 60       | 32,6       | 5             |
| MBM1LS48E0 | PG 48       | 5,5             | 64       | 35,8       | 5             |

## Dimensions





## Technical specifications

### Material

- Hexagonal locknut: stainless steel AISI303 / AISI316L
- Connection thread: metric (EN60423) / PG (DIN 40430)
- Temperature range: -60 °C +200 °C

### Properties

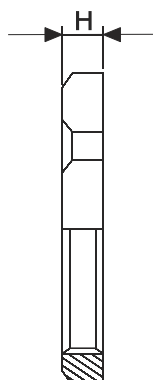
- For tightening of stainless steel cable glands



| Order code | Thread (AG) | Dimensions (mm) |          | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----------|------------|---------------|
|            |             | H               | Hex (mm) |            |               |
| MBS2LS12E0 | M 12 x 1,5  | 2,8             | 15       | 2          | 100           |
| MBS2LS16E0 | M 16 x 1,5  | 3               | 19       | 4          | 50            |
| MBS2LS20E0 | M 20 x 1,5  | 3,5             | 24       | 5          | 50            |
| MBS2LS25E0 | M 25 x 1,5  | 3,5             | 30       | 8,5        | 25            |
| MBS2LS32E0 | M 32 x 1,5  | 4               | 36       | 12         | 20            |
| MBS2LS40E0 | M 40 x 1,5  | 4               | 46       | 17         | 10            |
| MBS2LS50E0 | M 50 x 1,5  | 5               | 55       | 28         | 5             |
| MBS2LS63E0 | M 63 x 1,5  | 5               | 70       | 37         | 5             |

| Order code | Thread (AG) | Dimensions (mm) |          | Weight (g) | Package (pcs) |
|------------|-------------|-----------------|----------|------------|---------------|
|            |             | H               | Hex (mm) |            |               |
| MBS1LS07E0 | PG 7        | 2,8             | 15       | 2          | 100           |
| MBS1LS09E0 | PG 9        | 2,8             | 18       | 3          | 50            |
| MBS1LS11E0 | PG 11       | 3               | 22       | 4          | 50            |
| MBS1LS13E0 | PG 13,5     | 3               | 24       | 5          | 50            |
| MBS1LS16E0 | PG 16       | 3               | 27       | 7          | 50            |
| MBS1LS21E0 | PG 21       | 3,5             | 32       | 8,5        | 25            |
| MBS1LS29E0 | PG 29       | 4               | 41       | 10,2       | 20            |
| MBS1LS36E0 | PG 36       | 5               | 50       | 10         | 17            |
| MBS1LS42E0 | PG 42       | 5               | 60       | 28         | 5             |
| MBS1LS48E0 | PG 48       | 5,5             | 65       | 35         | 5             |

## Dimensions



**Technical specifications****Material**

- Hexagonal locknut: nickel-plated brass
- Connection thread: metric (EN60423) / PG (DIN 40430)
- Temperature range: -60 °C +200 °C

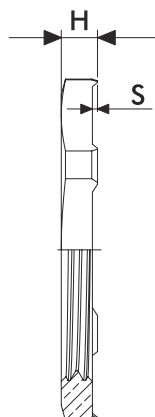
**Properties**

- For tightening of EMC cable glands



| Order code<br>Brass | Thread (AG) | Dimensions (mm) |     | Hex (mm) | Weight (g) | Package (pcs) |
|---------------------|-------------|-----------------|-----|----------|------------|---------------|
|                     |             | H               | S   |          |            |               |
| MBM2LS12E1          | M 12 x 1,5  | 3,3             | 0,5 | 15       | 3          | 100           |
| MBM2LS16E1          | M 16 x 1,5  | 3,5             | 0,5 | 19       | 4          | 50            |
| MBM2LS20E1          | M 20 x 1,5  | 3,5             | 0,5 | 24       | 5          | 50            |
| MBM2LS25E1          | M 25 x 1,5  | 3,5             | 0,5 | 30       | 8,5        | 25            |
| MBM2LS32E1          | M 32 x 1,5  | 4,0             | 0,5 | 36       | 11         | 20            |
| MBM2LS40E1          | M 40 x 1,5  | 4,6             | 0,6 | 45       | 17         | 10            |
| MBM2LS50E1          | M 50 x 1,5  | 5,6             | 0,6 | 55       | 28         | 5             |
| MBM2LS63E1          | M 63 x 1,5  | 6,7             | 0,7 | 70       | 37         | 5             |
| MBM2LS75E1          | M 75 x 1,5  | 8,0             | 1,0 | 85       | 109        | 5             |

| Order code<br>Brass | Thread (AG) | Dimensions (mm) |     | Hex (mm) | Weight (g) | Package (pcs) |
|---------------------|-------------|-----------------|-----|----------|------------|---------------|
|                     |             | H               | S   |          |            |               |
| MBS1LS07E1          | PG 7        | 3,3             | 0,5 | 15       | 3          | 100           |
| MBS1LS09E1          | PG 9        | 3,3             | 0,5 | 18       | 4          | 50            |
| MBS1LS11E1          | PG 11       | 3,5             | 0,5 | 21       | 5          | 50            |
| MBS1LS13E1          | PG 13,5     | 3,5             | 0,5 | 23       | 8          | 50            |
| MBS1LS16E1          | PG 16       | 3,5             | 0,5 | 26       | 11         | 50            |
| MBS1LS21E1          | PG 21       | 4,0             | 0,5 | 32       | 15         | 25            |
| MBS1LS29E1          | PG 29       | 4,6             | 0,6 | 40       | 19         | 20            |
| MBS1LS36E1          | PG 36       | 5,6             | 0,6 | 50       | 28         | 10            |
| MBS1LS42E1          | PG 42       | 5,6             | 0,6 | 60       | 37         | 5             |
| MBS1LS48E1          | PG 48       | 6,1             | 0,6 | 65       | 45         | 5             |

**Dimensions**

*Single grommets are cable grommets with various design for leading through both low and medium power current cables as well as various types of tubing. These are suitable for in- and outdoor applications and available for both PG- and mm-openings.*

*Single grommets are available in many different polymers with different characteristics, such as weather, UV- and ozone resistance, oil resistance and RoHS compliance.*

*Models T-VET and T-GET are new design which can be used as sealing plug. Both these designs give absolute protection against dust and strong jets of water and also against effects of immersion between 15 cm and 1 m (IP67).*

*Single grommets T-VET and T-GET are available as standard of TPE material and are inspected and certified by SGS Fimko, the Finnish authority in charge of electrical equipment safety standards.*



## Installation



Make a hole of appropriate size to blind plate or knock-out plate. Avoid rough and sharp edges.



Place the grommet on the hole and pull it firmly to its place.



Make a small hole into the membrane using a screwdriver or cut the top of the cone using side cutters.



Push the cable or tube through the guide hole.



(Back side) Pull the cable or tube back for some 20 mm to lock it.

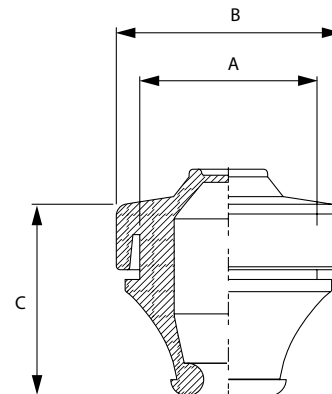


(Front side) Pull the cable or tube back for some 20 mm to lock it.

**Single grommets T-VET route cables and tubing for low and medium power currents. They are suitable for indoor and outdoor use and fit PG openings. The T-VET model features a double seal design, allowing it to be used as a plug.**

#### Technical specifications

- IP67 total protection against ingress of dust and protection against the effects of immersion between 15,0 cm and 1,0 m
- Made of TPE material
- Flame resistant UL 94 V-0 (look at product table)
- Plate wall thickness between 1 - 4 mm.
- Available for cables with 3 to 35 mm diameter
- Operating temperature from -40 °C to +100 °C



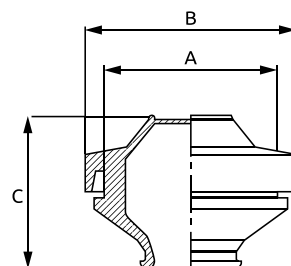
| Order code | Type | Cable diameter (mm) | Color | Shade    | Classification           | Dimensions (mm) |      |    | Weight (g) | Package (pcs) |
|------------|------|---------------------|-------|----------|--------------------------|-----------------|------|----|------------|---------------|
|            |      |                     |       |          |                          | A               | B    | C  |            |               |
| MBB0105G11 | PG7  | 3 - 5               | Grey  | RAL 7042 | UL 94 V-0                | 13              | 20   | 17 | 2,7        | 50            |
| MBB0105X11 | PG7  |                     | Grey  | RAL 7035 |                          |                 |      |    | 3,4        |               |
| MBB0105B11 | PG7  |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |
| MBB0107G11 | PG9  | 5 - 7               | Grey  | RAL 7042 | UL 94 V-0                | 16              | 20   | 19 | 3,1        | 50            |
| MBB0107X11 | PG9  |                     | Grey  | RAL 7035 |                          |                 |      |    | 3,5        |               |
| MBB0107B11 | PG9  |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |
| MBB0110G11 | PG11 | 7 - 10              | Grey  | RAL 7042 | UL 94 V-0                | 19              | 24   | 21 | 4,3        | 50            |
| MBB0110X11 | PG11 |                     | Grey  | RAL 7035 |                          |                 |      |    | 5          |               |
| MBB0110B11 | PG11 |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |
| MBB0114G11 | PG16 | 10 - 14             | Grey  | RAL 7042 | UL 94 V-0                | 23              | 29   | 23 | 6,7        | 50            |
| MBB0114X11 | PG16 |                     | Grey  | RAL 7035 |                          |                 |      |    | 7,8        |               |
| MBB0114B11 | PG16 |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |
| MBB0120G11 | PG21 | 14 - 20             | Grey  | RAL 7042 | UL 94 V-0                | 29              | 34   | 26 | 8          | 25            |
| MBB0120X11 | PG21 |                     | Grey  | RAL 7035 |                          |                 |      |    | 9,2        |               |
| MBB0120B11 | PG21 |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |
| MBB0126G11 | PG29 | 20 - 26             | Grey  | RAL 7042 | UL 94 V-0                | 38              | 46   | 30 | 15         | 25            |
| MBB0126X11 | PG29 |                     | Grey  | RAL 7035 |                          |                 |      |    | 17,4       |               |
| MBB0126B11 | PG29 |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |
| MBB0135G11 | PG36 | 26 - 35             | Grey  | RAL 7042 | UL 94 V-0                | 48              | 57,5 | 33 | 25         | 10            |
| MBB0135X11 | PG36 |                     | Grey  | RAL 7035 |                          |                 |      |    | 28         |               |
| MBB0135B11 | PG36 |                     | Black |          | UL 94 V-0, oil resistant |                 |      |    |            |               |

Look more about materials at Comparison of materials on page 161.

**Single grommets T-GET route cables and tubing for low and medium power currents. They are suitable for indoor and outdoor use and fit mm openings. The T-GET model features a double seal design, allowing it to be used as a plug.**

#### Technical specifications

- IP67 total protection against ingress of dust and protection against the effects of immersion between 15,0 cm and 1,0 m
- Made of TPE material
- Flame resistant UL 94 V-0 (look at product table)
- Plate wall thickness between 1 - 5 mm and 1,2 - 5,2 mm.
- Available for cables with 3 to 60 mm diameter
- Operating temperature from -40 °C to +100 °C



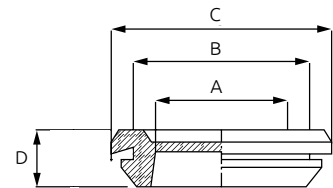
| Order code | Type | Cable diameter (mm) | Color | Shade    | Classification           | Dimensions (mm) |    |      | Plate thickness (mm) | Weight (g) | Package (pcs) |
|------------|------|---------------------|-------|----------|--------------------------|-----------------|----|------|----------------------|------------|---------------|
|            |      |                     |       |          |                          | A               | B  | C    |                      |            |               |
| MBB0305G11 | M12  | 3 - 5               | Grey  | RAL 7042 |                          | 12              | 19 | 20,9 | 1 - 5                | 2,8        | 50            |
| MBB0305X11 | M12  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0305B11 | M12  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0307G11 | M16  | 5 - 7               | Grey  | RAL 7042 |                          | 16              | 23 | 21,6 | 1 - 5                | 3,2        | 50            |
| MBB0307X11 | M16  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0307B11 | M16  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0310G11 | M20  | 7 - 10              | Grey  | RAL 7042 |                          | 20              | 27 | 24,3 | 1 - 5                | 4,3        | 50            |
| MBB0310X11 | M20  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0310B11 | M20  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0314G11 | M25  | 10 - 14             | Grey  | RAL 7042 |                          | 25              | 32 | 24,8 | 1 - 5                | 8          | 50            |
| MBB0314X11 | M25  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0314B11 | M25  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0320G11 | M32  | 14 - 20             | Grey  | RAL 7042 |                          | 32              | 39 | 28,1 | 1 - 5                | 12         | 25            |
| MBB0320X11 | M32  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0320B11 | M32  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0326G11 | M40  | 20 - 26             | Grey  | RAL 7042 |                          | 40              | 46 | 31,8 | 1 - 5                | 16,4       | 25            |
| MBB0326X11 | M40  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0326B11 | M40  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0335G11 | M50  | 26 - 35             | Grey  | RAL 7042 |                          | 50              | 57 | 39,7 | 1 - 5                | 24         | 10            |
| MBB0335X11 | M50  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0335B11 | M50  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0345G11 | M60  | 30 - 45             | Grey  | RAL 7042 |                          | 60              | 69 | 59,6 | 1 - 5                | 54         | 5             |
| MBB0345X11 | M60  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0345B11 | M60  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |
| MBB0360G11 | M80  | 40 - 60             | Grey  | RAL 7042 |                          | 80              | 89 | 78,2 | 1,2 - 5,2            | 110        | 5             |
| MBB0360X11 | M80  |                     | Grey  | RAL 7035 | UL 94 V-0                |                 |    |      |                      |            |               |
| MBB0360B11 | M80  |                     | Black |          | UL 94 V-0, oil resistant |                 |    |      |                      |            |               |

Look more about materials at Comparison of materials on page 161.

**Single grommets T-GD and T-GDM route cables and tubing for low and medium power currents. They are suitable for indoor and outdoor use. T-GD grommets fit PG openings, while T-GDM grommets fit metric openings (mm).**

#### Technical specifications

- IP54 protection against dust and water splashed from all directions.
- Made of TPE material
- Flame resistant UL 94 V-0
- Plate wall thickness between 1 - 2 mm and 1,5 - 3 mm.
- Available for cables with 9 to 69 mm diameter
- Operating temperature from -40 °C to +100 °C



### T-GD

| Order code | Type   | Cable diameter (mm) | Color | Dimensions (mm) |      |    |    | Plate thickness (mm) | Weight (g) | Package (pcs) |
|------------|--------|---------------------|-------|-----------------|------|----|----|----------------------|------------|---------------|
|            |        |                     |       | A               | B    | C  | D  |                      |            |               |
| MBB0509B11 | PG9    | 9                   | Black | 9               | 15,5 | 20 | 7  | 1 - 2                | 2          | 100           |
| MBB0511B11 | PG11   | 11                  | Black | 11              | 18,5 | 23 | 7  | 1 - 2                | 3          | 100           |
| MBB0513B11 | PG13,5 | 13,5                | Black | 13,5            | 20,5 | 25 | 7  | 1 - 2                | 4          | 100           |
| MBB0516B11 | PG16   | 16                  | Black | 16              | 22,5 | 28 | 7  | 1 - 2                | 4          | 100           |
| MBB0521B11 | PG21   | 21                  | Black | 21              | 28   | 35 | 9  | 1 - 2                | 12         | 100           |
| MBB0529B11 | PG29   | 29                  | Black | 29              | 37   | 44 | 10 | 1 - 2                | 16         | 100           |
| MBB0536B11 | PG36   | 36                  | Black | 36              | 47   | 54 | 12 | 1,5 - 3              | 17         | 100           |
| MBB0548B11 | PG48   | 48                  | Black | 48              | 60   | 68 | 12 | 1,5 - 3              | 54         | 50            |
| MBB0553B11 | PG53   | 53                  | Black | 53              | 64   | 75 | 12 | 1,5 - 3              | 110        | 50            |
| MBB0569B11 | PG69   | 69                  | Black | 69              | 79   | 90 | 12 | 1,5 - 3              | 110        | 30            |

Look more about materials at Comparison of materials on page 161.

### T-GDM

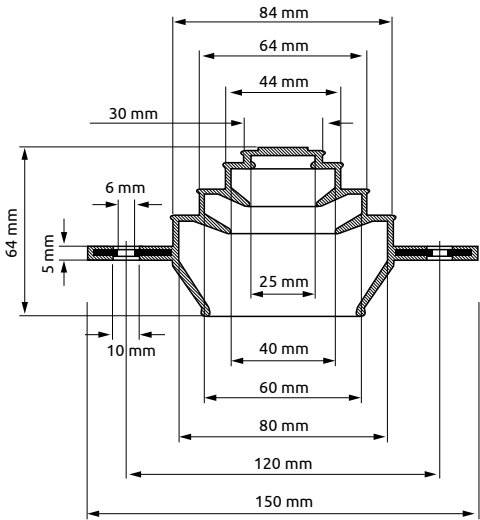
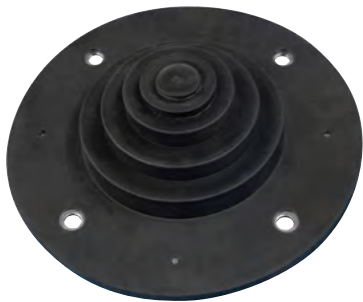
| Order code | Type | Cable diameter (mm) | Color | Dimensions (mm) |      |    |    | Plate thickness (mm) | Weight (g) | Package (pcs) |
|------------|------|---------------------|-------|-----------------|------|----|----|----------------------|------------|---------------|
|            |      |                     |       | A               | B    | C  | D  |                      |            |               |
| MBB0609B11 | M12  | 9                   | Black | 9               | 12,2 | 17 | 7  | 1 - 2                | 2          | 100           |
| MBB0611B11 | M16  | 11                  | Black | 11              | 16,2 | 21 | 7  | 1 - 2                | 3          | 100           |
| MBB0613B11 | M20  | 13,5                | Black | 13,5            | 20,5 | 25 | 7  | 1 - 2                | 4          | 100           |
| MBB0616B11 | M25  | 16                  | Black | 16              | 25,2 | 31 | 7  | 1 - 2                | 4          | 100           |
| MBB0621B11 | M32  | 21                  | Black | 21              | 32,2 | 40 | 9  | 1 - 2                | 12         | 100           |
| MBB0629B11 | M40  | 29                  | Black | 29              | 40,2 | 48 | 10 | 1 - 2                | 16         | 100           |
| MBB0636B11 | M50  | 36                  | Black | 36              | 50,2 | 58 | 12 | 1,5 - 3              | 17         | 100           |
| MBB0648B11 | M60  | 48                  | Black | 48              | 60,2 | 68 | 12 | 1,5 - 3              | 54         | 50            |
| MBB0653B11 | M70  | 53                  | Black | 53              | 70,2 | 81 | 12 | 1,5 - 3              | 110        | 50            |
| MBB0669B11 | M80  | 69                  | Black | 69              | 80,2 | 91 | 12 | 1,5 - 3              | 110        | 30            |

Look more about materials at Comparison of materials on page 161.

Single grommets M 20-80 route low and medium power cables and tubing, specifically designed for cables with larger diameters up to 80 mm. They are suitable for both indoor and outdoor applications.

Technical specifications

- Made of TPE material
- Flame resistant UL 94 V-0
- Plate wall thickness 1,5 - 3 mm.
- Available for cables with 20 to 80 mm diameter
- Service temperature for unstressed material -40 °C to +100 °C



| Order code | Color                 | Classification           | Weight (g) | Package (pcs) |
|------------|-----------------------|--------------------------|------------|---------------|
| MBA6N80G11 | Grey (RAL 7042)       |                          | 260        | 50            |
| MBA6N80X11 | Light Grey (RAL 7035) | UL 94 V-0                | 260        | 50            |
| MBA6N80B11 | Black                 | UL 94 V-0, Oil resistant | 260        | 50            |

Look more about materials at Comparison of materials on page 161.



# ***M-GD Series Round Cable Entry Plates***

**Fast and easy**  
assembly

**UL94 V-0, halogen-free**  
thermoplastic elastomer and  
fiberglass reinforced plastic

**-40°C...+90°C**  
material service temperature (unstressed)



**The cable entries of the new M-GD serie match the cut-out dimensions from M20 to M50 with a various combinations of cable solutions.**

**These high cable density entries enable fast routing of cables into control cabinets, panels or machines and thanks to the flexible outer lip design, can be installed into cabinet walls with thickness variable from 1 to 4mm.**

#### Technical specifications

- Thermoplastic elastomer and fiberglass reinforced plastic
- UL94 V-0, halogen-free
- Light grey
- Unstressed service temperature: -40°C...+90°C

#### Advantages

- Fast and easy assembly
- High cable density
- High IP protection (P65)
- Hygienic design with a flat surface structure
- Designed for cabinet walls of 1 to 4mm thickness in one
- Suitable for both indoor and outdoor use

### Cross-table of connectivity MGD plates

| Cable diameter | MGD 20-4 | MGD 20-4.1 | MGD 20-5 | MGD 20-9 | MGD 25-4 | MGD 25-6 | MGD 25-7 | MGD 32-7 | MGD 32-10 | MGD 32-10.2 | MGD 32-11 | MGD 32-13 | MGD 40-9 | MGD 40-16 | MGD 40-17 | MGD 50-9 | MGD 50-11 | MGD 50-12 | MGD 50-16 | MGD 50-18 | MGD 50-20 | MGD 50-35 |
|----------------|----------|------------|----------|----------|----------|----------|----------|----------|-----------|-------------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1-3,6 mm       |          |            | 2        | 4        |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           |           |           |           |
| 1-4 mm         |          |            |          |          |          |          |          |          |           |             |           |           |          |           | 1         |          |           |           |           | 2         |           |           |
| 1-4,5 mm       |          | 2          |          |          |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           |           |           |           |
| 1-4,6 mm       |          |            | 2        | 5        |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           |           |           |           |
| 1-5,2 mm       | 4        |            |          |          |          | 4        | 7        |          | 6         |             | 9         | 13        |          |           |           |          |           |           |           |           |           | 35        |
| 1-5,3 mm       |          |            |          |          |          |          |          |          |           |             |           |           |          | 2         |           |          |           |           | 4         |           |           |           |
| 1-6 mm         |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           | 2         |           |           |
| 1-6,3 mm       |          |            |          |          |          |          |          |          |           |             |           |           |          | 10        |           |          |           |           | 5         |           | 16        |           |
| 1-6,4 mm       |          |            |          |          |          |          |          |          | 2         | 10          |           |           |          |           |           |          |           |           |           |           |           |           |
| 1-7 mm         |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           | 5        |           |           |           |           |           |           |
| 1-7,2 mm       |          |            |          |          |          |          |          |          |           |             |           |           |          |           | 16        |          | 7         |           |           | 4         |           |           |
| 1-8 mm         |          | 2          |          |          | 4        |          |          | 7        |           |             | 2         |           |          |           |           |          |           |           |           |           |           |           |
| 1-9,2 mm       |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           |          | 10        |           |           |           |           |           |
| 1-9,3 mm       |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           |           | 4         |           |
| 1-9,4 mm       |          |            |          |          |          | 2        |          |          | 2         |             |           |           |          |           |           |          |           |           |           | 5         |           |           |
| 1-9,5 mm       |          |            |          |          |          |          |          |          |           |             |           |           | 8        | 2         |           |          |           |           | 3         |           |           |           |
| 1-10,6 mm      |          |            | 1        |          |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           |           |           |           |
| 1-11,2 mm      |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           |          | 3         | 2         |           |           |           |           |
| 1-11,3 mm      |          |            |          |          |          |          |          |          |           |             |           |           | 1        | 2         |           |          |           |           | 4         |           |           |           |
| 1-12 mm        |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           |          |           |           |           | 5         |           |           |
| 1-18 mm        |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           | 4        |           |           |           |           |           |           |
| 1-22,5 mm      |          |            |          |          |          |          |          |          |           |             |           |           |          |           |           |          | 1         |           |           |           |           |           |

Look more about materials at Comparison of materials on page 161.

| Order code | Type        | Dimensions (mm) | Cable diameter (mm) | Total number of cables | Cut-out | Cut-out Ø (mm) | Plate thickness (mm) | Weight (g) | Package (pcs) |    |
|------------|-------------|-----------------|---------------------|------------------------|---------|----------------|----------------------|------------|---------------|----|
| MBB0721L11 | MGD 20-4    | 32,2 x 13       | 4 x 1 -5,2          | 4                      | M20     | Ø 20,5         | 1-4                  | 6          | 500           |    |
| MBB0722L11 | MGD 20-4.1  |                 | 2 x 1-8             | 4                      |         |                |                      |            |               |    |
| MBB0725L11 | MGD 20-5    |                 | 1 x 1 - 10,6        | 5                      |         |                |                      |            |               |    |
|            |             |                 | 2 x 1 - 4,6         |                        |         |                |                      |            |               |    |
| MBB0729L11 | MGD 20-9    |                 | 2 x 1 - 3,6         | 9                      |         |                |                      |            |               |    |
|            |             |                 | 5 x 1 - 4,6         |                        |         |                |                      |            |               |    |
| MBB0724L11 | MGD 25-4    | 4 x 1 - 8       | 4                   | M25                    | Ø 25,5  | 8              |                      |            |               |    |
|            |             | 4 x 1 - 5,2     | 6                   |                        |         |                |                      |            |               |    |
|            |             | 2 x 1 - 9,4     | 7                   |                        |         |                |                      |            |               |    |
| MBB0727L11 | MGD 25-7    | 7 x 1 - 5,5     | 7                   | M32                    | Ø 32,5  | 12             |                      |            |               |    |
| MBB0737L11 | MGD 32-7    | 7 x 1 - 8       | 7                   |                        |         |                |                      |            |               |    |
| MBB0730L11 | MGD 32-10   | 6 x 1 - 5,2     | 10                  |                        |         |                |                      |            |               |    |
|            |             | 2 x 1 - 6,4     |                     |                        |         |                |                      |            |               |    |
| MBB0732L11 | MGD 32-10.2 | 2 x 1 - 9,4     | 10                  |                        |         |                | M40                  | Ø 40,5     |               | 14 |
| MBB0731L11 | MGD 32-11   | 10 x 1 - 6,4    | 10                  |                        |         |                |                      |            |               |    |
| MBB0733L11 | MGD 32-13   | 2 x 1 - 8       | 11                  |                        |         |                |                      |            |               |    |
|            |             | 9 x 1 - 5,2     | 13                  |                        |         |                |                      |            |               |    |
| MBB0749L11 | MGD 40-9    | 13 x 1 - 5,2    | 13                  | M40                    | Ø 40,5  | 23             |                      |            |               |    |
| MBB0746L11 | MGD 40-16   | 8 x 1 - 9,5     | 16                  |                        |         |                |                      |            |               |    |
|            |             | 1 x 1 - 11,3    |                     |                        |         |                |                      |            |               |    |
|            |             | 2 x 1 - 5,3     |                     |                        |         |                | 17                   |            |               |    |
|            |             | 10 x 1 - 6,3    |                     |                        |         |                |                      |            |               |    |
| MBB0747L11 | MGD 40-17   | 2 x 1 - 9,5     | 16                  |                        |         |                |                      |            |               |    |
|            |             | 2 x 1 - 11,3    |                     |                        |         |                |                      |            |               |    |
| MBB0759L11 | MGD 50-9    | 1 x 1 - 4       | 17                  | M50                    | Ø 50,5  | 23             |                      |            |               |    |
|            |             | 5 x 1 - 7       | 9                   |                        |         |                |                      |            |               |    |
| MBB0751L11 | MGD 50-11   | 4 x 1 - 18      | 11                  |                        |         |                |                      |            |               |    |
|            |             | 7 x 1 - 7,2     |                     |                        |         |                |                      |            |               |    |
| MBB0752L11 | MGD 50-12   | 3 x 1 - 11,2    | 12                  |                        |         |                |                      |            |               |    |
|            |             | 1 x 1 - 22,5    |                     |                        |         |                |                      |            |               |    |
| MBB0756L11 | MGD 50-16   | 10 x 1 - 9,2    | 16                  |                        |         |                |                      |            |               |    |
|            |             | 2 x 1 - 11,2    |                     |                        |         |                |                      |            |               |    |
|            |             | 4 x 1 - 5,3     |                     |                        |         |                | 18                   |            |               |    |
|            |             | 5 x 1 - 6,3     |                     |                        |         |                |                      |            |               |    |
| MBB0758L11 | MGD 50-18   | 3 x 1 - 9,5     | 20                  |                        |         |                |                      |            |               |    |
|            |             | 4 x 1 - 11,3    |                     |                        |         |                |                      |            |               |    |
|            |             | 2 x 1 - 4,6     |                     | 35                     |         |                |                      |            |               |    |
|            |             | 2 x 1 - 6,4     |                     |                        |         |                |                      |            |               |    |
| MBB0750L11 | MGD 50-20   | 4 x 1 - 7,2     | 20                  |                        |         |                |                      |            |               |    |
|            |             | 5 x 1 - 9,4     |                     |                        |         |                |                      |            |               |    |
|            |             | 5 x 1 - 12      |                     |                        |         |                |                      |            |               |    |
| MBB0755L11 | MGD 50-35   | 16 x 1 - 6,5    | 35                  |                        |         |                |                      |            |               |    |
|            |             | 4 x 1 - 9,5     |                     |                        |         |                |                      |            |               |    |
|            |             | 35 x 1 - 5,2    |                     |                        |         |                |                      |            |               |    |

Look more about materials at [Comparison of materials on page 161](#).

# Cable entry plates

**Fast and easy**  
assembly

**Dual sealing**  
according to IP65/66

UL94 V0 self-extinguishing  
options available



**MC (IP66/67) cable entry plates are designed to route and seal cables without connectors. They offer quick and easy assembly by creating a small hole in the thin membrane and pushing the cables through. These plates are suitable for standard cut-outs for FL21 and can be securely screwed in place.**

#### Advantages

- Fast and easy assembly
- High cable density
- Dual cable sealing with IP66/IP67
- Excellent IP protection when cables are bent
- Screw mounting
- Suitable for both indoor and outdoor use

#### Technical specifications

- IP rating: IP66 and IP67
- Material: Thermoplastic elastomer
- Material base frame: Metal reinforcement electroplated steel
- Color: Black or Grey (RAL7035)
- Flame class: UL94-V0, self-extinguishing option available
- Temperature: -40 °C...+100 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 9,5 mm



| Description                                    | Package (pcs) | MC 3/7 (IP66/67) | MC 25/27 (IP66/67) | MC 35/37 (IP66/67) |
|------------------------------------------------|---------------|------------------|--------------------|--------------------|
| Light Grey RAL 7035<br>4 plastic pins included | 40            | MBA1C07G11       | MBA1C27G11         | MBA1C37G11         |
| Light Grey RAL 7035<br>UL 94 V-0 approved      | 60            | MBA1N07X11       | MBA1N27X11         | MBA1N37X11         |
| Black<br>UL 94 V-0 approved                    | 60            | MBA1N07B11       | MBA1N27B11         | MBA1N37B11         |

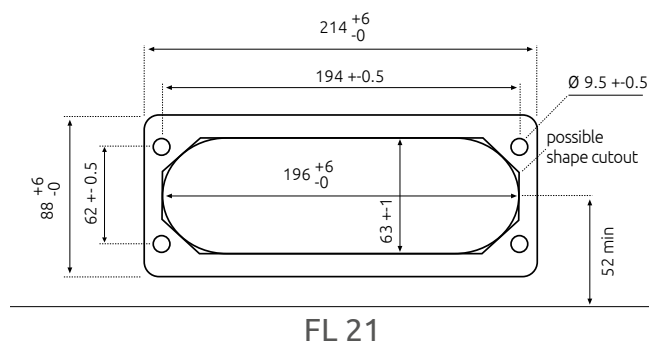
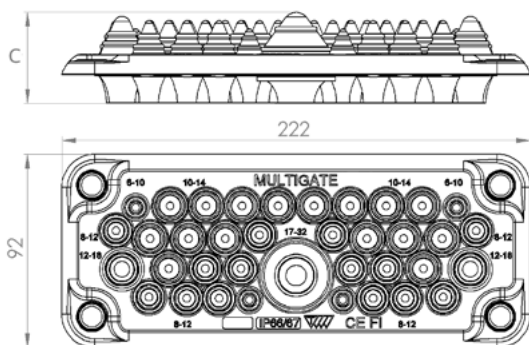
#### Technical data

|                                              |                                                     |                                                                       |                                                                         |
|----------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------|
| Service temperature                          | -40 to + 100 °C                                     | -40 to + 100 °C                                                       | -40 to + 100 °C                                                         |
| Dimensions height C (mm)                     | 76                                                  | 43                                                                    | 43                                                                      |
| Number of cables (pcs) x cable diameter (mm) | 4 x 10 - 14<br>2 x 24 - 54<br>1 x 30 - 60<br>-<br>- | 4 x 5 - 7<br>4 x 8 - 12<br>13 x 10 - 14<br>4 x 14 - 20<br>2 x 20 - 26 | 4 x 6 - 10<br>14 x 8 - 12<br>16 x 10 - 14<br>2 x 12 - 18<br>1 x 17 - 32 |
| Total number of cables                       | 7                                                   | 27                                                                    | 37                                                                      |
| Mounting hole size                           | C - FL 21                                           | C - FL 21                                                             | C - FL 21                                                               |
| Weight (g)                                   | 206                                                 | 229                                                                   | 233                                                                     |

Mounting pins are available on request.

Look more about materials at [Comparison of materials on page 161](#).

## Dimensions of cable entry plates and mounting hole



MC (IP65) cable entry plates are designed to route and seal cables without connectors. Assembly is quick and easy by creating a small hole in the thin membrane and pushing the cables through. They are suitable for standard FL21 cut-outs and can be securely screwed in place.

Advantages

- Fast and easy assembly
- High cable density
- Dual cable sealing with IP65
- Hygienic design - free of dirt-collecting recesses
- Screw mounting
- Suitable for both indoor and outdoor use

Technical specifications

- IP rating: IP65
- Material: Thermoplastic elastomer
- Material base frame: Metal reinforcement electroplated steel
- Color: Black or Grey (RAL7035)
- Flame class: UL94-V0, self-extinguishing option available
- Oil-resistant option available
- Temperature: -40 °C...+100 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 9,5 mm



MC 3 (IP65)



MC 25 (IP65)



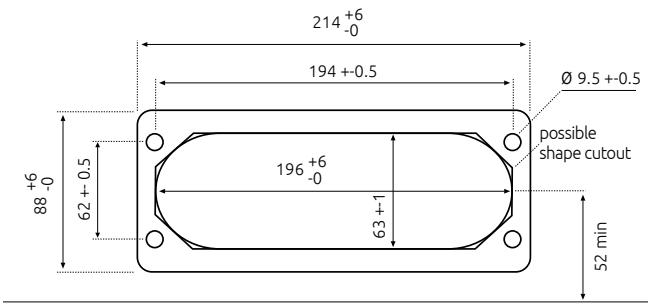
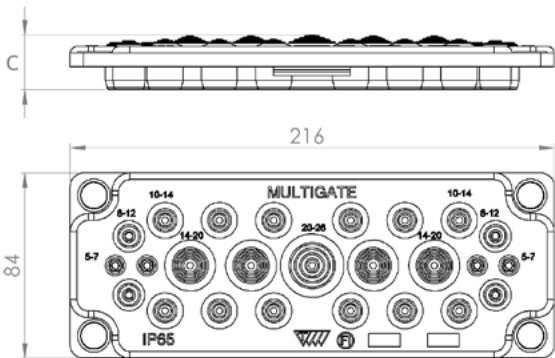
MC 35 (IP65)

|                                                |   |            |            |            |
|------------------------------------------------|---|------------|------------|------------|
| Light Grey RAL 7035<br>4 plastic pins included | ● | MBA1C03L11 | MBA1C25L11 | MBA1C35L11 |
| Black                                          | ● | MBA1N03A11 | MBA1N25A11 | MBA1N35A11 |
| Black, UL94 V0, oil-resistant                  | ● | MBA1N03B11 | MBA1N25B11 | MBA1N35B11 |

| Technical data                               |  |                                                                         |                                                                       |                                                                         |
|----------------------------------------------|--|-------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------|
| Service temperature                          |  | -40 to + 100° C                                                         | -40 to + 100° C                                                       | -40 to + 100° C                                                         |
| Dimensions (mm)                              |  | 214 x 82                                                                | 216 x 84                                                              | 216 x 84                                                                |
| Number of cables (pcs) x cable diameter (mm) |  | 4 x 8 - 12 (IP54)<br>2 x 24 - 54 (IP65)<br>1 x 30 - 60 (IP65)<br>-<br>- | 4 x 5 - 7<br>4 x 8 - 12<br>12 x 10 - 14<br>4 x 14 - 20<br>1 x 20 - 26 | 2 x 6 - 10<br>14 x 7 - 12<br>16 x 10 - 14<br>2 x 12 - 18<br>1 x 17 - 32 |
| Total number of cables                       |  | 7                                                                       | 25                                                                    | 35                                                                      |
| Mounting hole size                           |  | C - FL 21                                                               | C - FL 21                                                             | C - FL 21                                                               |
| Weight (g)                                   |  | 199                                                                     | 230                                                                   | 220                                                                     |
| Package (pcs)                                |  | 100                                                                     | 100                                                                   | 100                                                                     |

Mounting pins are available on request.  
Look more about materials at Comparison of materials on page 161.

Dimensions of cable entry plates and mounting hole



FL 21

## MC 4 (IP65)

- MC 4 (IP65) cable entry plates are designed for route and seal cables without connectors
- The assembly of the MC 4 (IP65) with cables or pneumatic hoses can be done quick and easy. Simply make a small hole in the thin membrane and push the cables through

## Advantages

- Fast and easy assembly
- High cable density
- Dual cable sealing with IP65
- Hygienic design - free of dirt-collecting recesses
- Screw mounting
- Suitable for both indoor and outdoor use

## Technical specifications

- IP rating: IP65
- Material: Thermoplastic elastomer
- Material base frame: Metal reinforcement stainless steel
- Color: Black
- Flame class: UL94-V0, self-extinguishing option available

**Stainless steel reinforcement frame eliminates the inductive eddy currents that can be generated by the cables**



- Oil-resistant option available
- Temperature: -40 °C...+100 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 9,5 mm



**MC 4 (IP65)**

Black, UL 94 V-0 approved



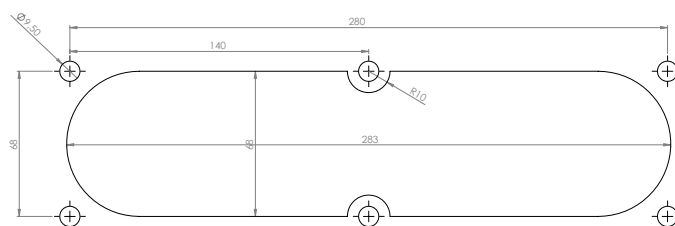
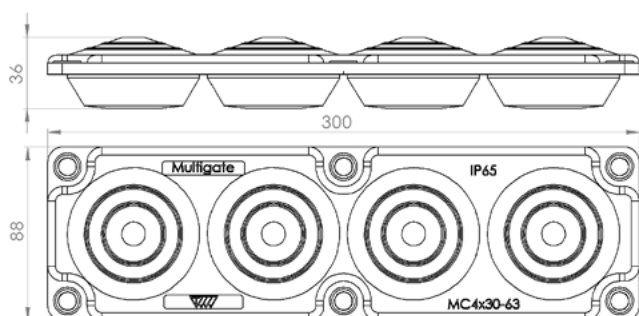
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## Technical data

|                                              |                 |
|----------------------------------------------|-----------------|
| Service temperature                          | -40 to + 100° C |
| Number of cables (pcs) x cable diameter (mm) | 4 x 30 - 63 mm  |
| Total number of cables                       | 4               |
| Mounting hole size                           | 283 x 68 mm     |
| Weight (g)                                   | 258             |
| Package (pcs)                                | 50              |

*Look more about materials at Comparison of materials on page 161.*

## Dimensions of cable entry plates and mounting hole





- MC 10 (IP55) cable entry plates are designed for route and seal cables without connectors
- The assembly of the MC 10 (IP55) with cables or pneumatic hoses can be done quick and easy. Simply make a small hole in the thin membrane and push the cables through
- Suitable for standard cut-outs for FL21. For screwing in place

Advantages

- Fast and easy assembly
- High cable density
- Excellent IP protection when cables are bent
- Screw mounting
- Suitable for both indoor and outdoor use

Technical specifications

- IP rating: IP55
- Material: Thermoplastic elastomer (TPE)
- Material base frame: glass fibre reinforced polypropylene (PP-GF)
- Color: Grey (RAL7035)
- Temperature: -40 °C...+100 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 9,5 mm

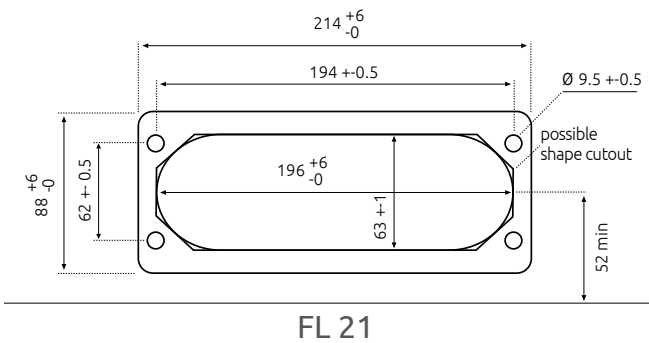
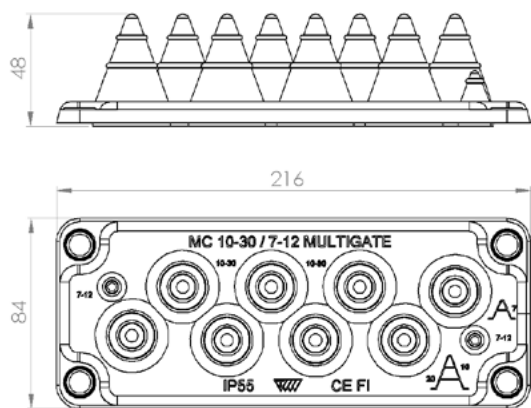


MC 10 (IP55)

|                                              |                           |
|----------------------------------------------|---------------------------|
| Light Grey, RAL 7035<br>UL 94 V-0 approved   | MBA1N10X11                |
| Technical data                               |                           |
| Service temperature                          | -40 to + 100 °C           |
| Number of cables (pcs) x cable diameter (mm) | 2 x 7 - 12<br>8 x 10 - 30 |
| Total number of cables                       | 10                        |
| Mounting hole size                           | C - FL 21                 |
| Weight (g)                                   | 200                       |
| Package (pcs)                                | 100                       |

Mounting pins are available on request.  
Look more about materials at Comparison of materials on page 161.

Dimensions of cable entry plates and mounting hole



- LMC (IP44, 54) cable entry plates are designed for route and seal cables without connectors
- The assembly of the LMC (IP44, 54) with cables or pneumatic hoses can be done quick and easy. Simply make a small hole in the thin membrane and push the cables through
- Suitable for standard cut-outs for FL21. For screwing in place

## Advantages

- Fast and easy assembly
- High cable density
- Excellent IP protection when cables are bent
- Screw mounting
- Suitable for both indoor and outdoor use

## Technical specifications

- IP rating: IP44, IP54
- Material: Thermoplastic elastomer
- Material base frame: Metal reinforcement electroplated steel
- Color: Grey (RAL7035)
- Flame class: UL94-V0, self-extinguishing option available
- Temperature: -40 °C...+90 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 9,5 mm



|                                                 |   | LMC 14 (IP54) | LMC 25 (IP54) | LMC 51 (IP55) | LMC 35 (IP44) |
|-------------------------------------------------|---|---------------|---------------|---------------|---------------|
| Light Grey RAL 7035<br>Bulk packaging with pins | ● | MBA3F14L11    | MBA3F25L11    | MBA3F51L11    | MBA3F35L11    |
| Light Grey RAL 7035<br>UL 94 V-0 approved       | ● | MBA3N14X11    | MBA3N25X11    | MBA3N51X11    | –             |

## Technical data

|                                                 |                                                               |                                                                           |                                           |                                                                         |
|-------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------|
| Service temperature                             | -40 to + 100 °C                                               | -40 to + 100 °C                                                           | -40 to + 100 °C                           | -40 to + 100 °C                                                         |
| Number of cables (pcs) x<br>cable diameter (mm) | 5 x 10 - 14<br>4 x 14 - 18<br>3 x 14 - 22<br>2 x 24 - 54<br>- | 2 x 3.5 - 11<br>5 x 10 - 14<br>12 x 14 - 18<br>5 x 14 - 22<br>1 x 14 - 35 | 50 x 7 - 13<br>1 x 15 - 25<br>-<br>-<br>- | 1 x 15 - 32<br>2 x 12 - 18<br>16 x 10 - 14<br>14 x 7 - 12<br>2 x 6 - 10 |
| Total number of cables                          | 14                                                            | 25                                                                        | 51                                        | 35                                                                      |
| Mounting hole size                              | C - FL 21                                                     | C - FL 21                                                                 | C - FL 21                                 | C - FL 21                                                               |
| Weight (g)                                      | 199                                                           | 201                                                                       | 205                                       | 220                                                                     |
| Package (pcs)                                   | 100                                                           | 100                                                                       | 100                                       | 100                                                                     |
| Length (A) / Width (B) /<br>Height (C) (mm)     | 222 / 92 / 30                                                 | 222 / 92 / 30                                                             | 222 / 92 / 30                             | 214 / 84 / 9,5                                                          |

Mounting pins are available on request. Look more about materials at Comparison of materials on page 161.

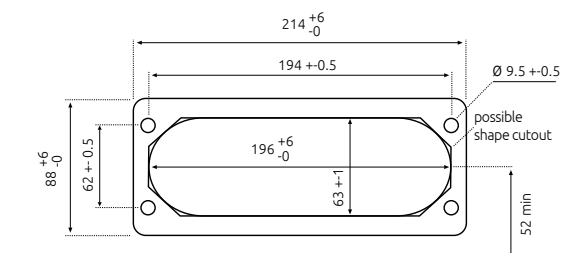
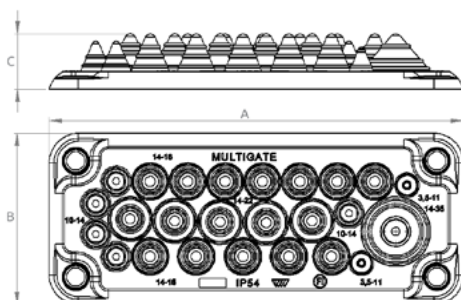
## Pin (4 pcs)

## Product code

MBA7300G11



## Dimensions of cable entry plates and mounting hole



- MC 16 (IP54) cable entry plates are designed for route and seal cables without connectors
- The assembly of the MC 16 (IP54) with cables or pneumatic hoses can be done quick and easy. Simply make a small hole in the thin membrane and push the cables through
- MC 16 can be used by two different ways. When the cable entry plate is used “facade” up, it works as a regular IP54 enclosure cable gland plate. When the cable entry plate is used reversed it functions as a piping grommet in dry space switchboards. Pipes lock securely to the seal in the gland plate by the friction of the elastic material
- Suitable for standard cut-outs for FL21. For screwing in place

Advantages

- Fast and easy assembly
- High cable density
- Excellent IP protection when cables are bent
- Screw mounting
- Suitable for both indoor and outdoor use

Technical specifications

- Material: Thermoplastic elastomer (TPE)
- Material base frame: glass fibre reinforced polypropylene (PP-GF)
- Color: Grey (RAL7035)
- Temperature: -40°C...+100°C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 9,5 mm

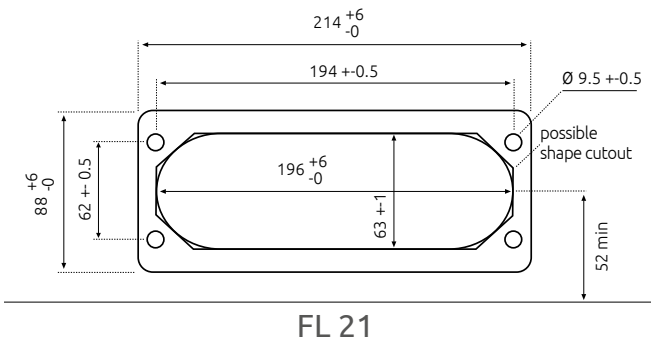
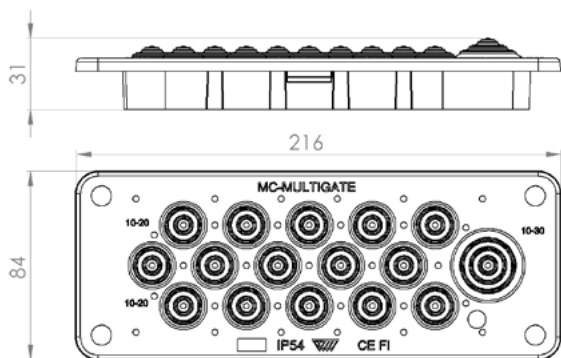


MC 16 (IP54)

|                                                 |                             |
|-------------------------------------------------|-----------------------------|
| Light Grey, RAL 7035<br>4 plastic pins included | MBA1C16L11                  |
| Technical data                                  |                             |
| Service temperature                             | -40 to + 100 °C             |
| Number of cables (pcs) x cable diameter (mm)    | 15 x 10 - 20<br>1 x 10 - 30 |
| Total number of cables                          | 16                          |
| Mounting hole size                              | C - FL 21                   |
| Weight (g)                                      | 120                         |
| Package (pcs)                                   | 80                          |

Mounting pins are available on request.  
Look more about materials at Comparison of materials on page 161.

Dimensions of cable entry plates and mounting hole



- MB (IP55, 66/67) cable entry plates are designed for route and seal cables without connectors
- The assembly of the MB (IP55, 66/67) with cables or pneumatic hoses can be done quick and easy. Simply make a small hole in the thin membrane and push the cables through
- Suitable for standard cut-outs for FL13. For screwing in place

**Advantages**

- Fast and easy assembly
- High cable density
- Dual cable sealing with IP66/IP67
- Excellent IP protection when cables are bent
- Screw mounting
- Suitable for both indoor and outdoor use

**Technical specifications**

- IP rating: IP55, IP66 and IP67
- Material: Thermoplastic elastomer
- Material base frame: Metal reinforcement electroplated steel
- Color: White or Grey (RAL7035)
- Flame class: UL94-V0, self-extinguishing option available
- Temperature: -40°C...+100 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 7 mm

**MB 4/10 (IP55)\*****MB 5/11 (IP66/67)\***

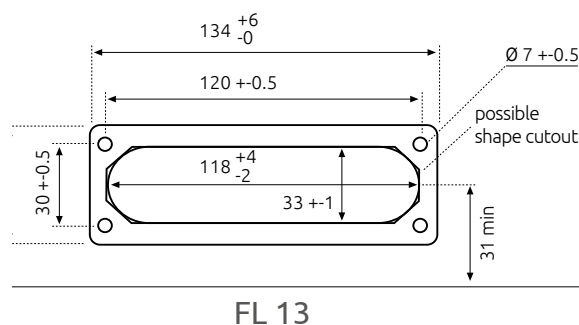
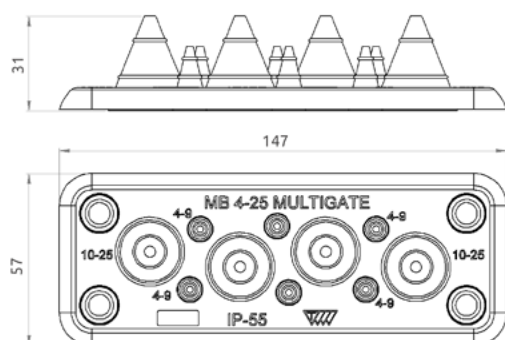
|                                           |   |            |            |
|-------------------------------------------|---|------------|------------|
| Light Grey RAL 7035                       | ● | -          | MBA2N11L11 |
| Light Grey RAL 7035<br>UL 94 V-0 approved | ● | MBA2N10W11 | MBA2N11X11 |
| White<br>UL 94 V-0 approved               | ○ | MBA2N12W11 | -          |

**Technical data**

|                                              |                                    |                                                       |
|----------------------------------------------|------------------------------------|-------------------------------------------------------|
| Service temperature                          | -40 to + 100 °C                    | -40 to + 100 °C                                       |
| Number of cables (pcs) x cable diameter (mm) | 4 x 10 - 25<br>6 x 4 - 9<br>-<br>- | 4 x 5 - 7<br>3 x 7 - 10<br>2 x 10 - 14<br>2 x 15 - 30 |
| Total number of cables                       | 10                                 | 11                                                    |
| Mounting hole size                           | B - FL 13                          | B - FL 13                                             |
| Weight (g)                                   | 68                                 | 86                                                    |
| Package (pcs)                                | 200                                | 200                                                   |

\* For the smaller mounting hole (size B).

Look more about materials at Comparison of materials on page 161.

**Dimensions of cable entry plates and mounting hole****FL 13**

| Type                    | Length (A) | Width (B) | Height (C) |
|-------------------------|------------|-----------|------------|
| <b>MB (IP55, 66/67)</b> |            |           |            |
| MB 4/10 (IP55)          | 146        | 56        | 31         |
| MB 5/11 (IP66/67)       | 147        | 57        | 42         |

MHF series plastic reinforced cable entry plates are suitable for leading through cables and various types of tubing. They match the cut-out dimensions of standard 10/16/24-pole industrial connectors, no separate gaskets are needed. These cable entry plates give total protection against ingress of dust and water splashed from all directions, due to IP protection class of IP66 and are suitable for both indoor and outdoor use. The materials are self-extinguishing (UL94 V0) and halogen free, the outer sides of the cable entry plates are flat, and thus suitable for medical and food industries, due to ease of cleaning.

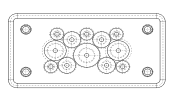
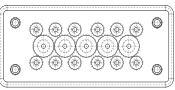
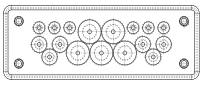
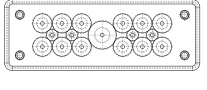
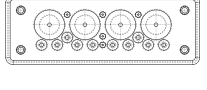
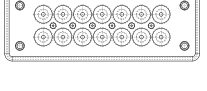
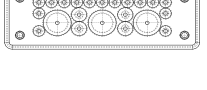
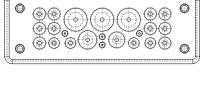
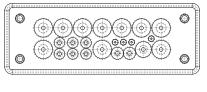
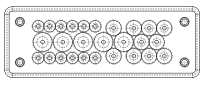
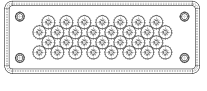
#### Technical specifications

- IP rating: IP66
- Membrane material: Thermoplastic elastomer
- Frame material: Glass fiber reinforced polypropylene
- Color: Grey (RAL7035) or black (RAL9005)
- Flame-retardancy class: UL94 V0
- Temperature: -40 °C...+90 °C
- Properties: Halogen free, Silicone free
- Mounting type: Screw type mounting
- Diam. of screw holes: 4,2 mm

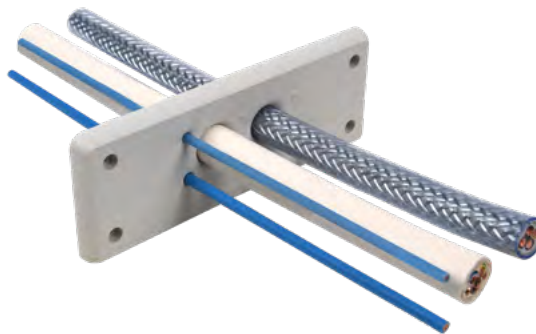
#### Advantages

- High cable density
- Self-extinguishing plastic
- Dual cable sealing with IP66
- Hygienic design - free of dirt-collecting recesses
- Screw mounting
- Suitable for both indoor and outdoor use



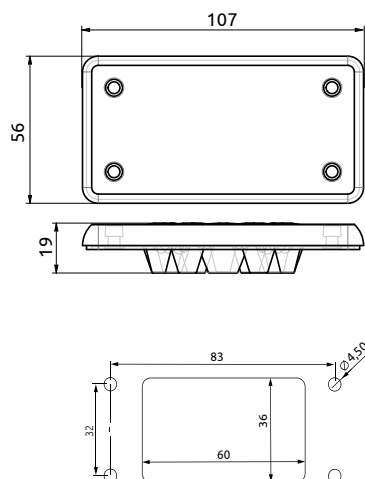
|                                                                                     | Drawing                                                                             | Name       | Product code                 | No. of cables x diameter                                                                        | Weight (g) | Opening size |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|------------------------------|-------------------------------------------------------------------------------------------------|------------|--------------|
|    |    | MH10 F12-1 | ● MBA8N12X10<br>● MBA8N12B10 | 5 x 3 - 7<br>4 x 5 - 10<br>2 x 7 - 13<br>1 x 9 - 16                                             | 48         | B10          |
|  |  | MH16 F17-1 | ● MBA8N17X16<br>● MBA8N17B16 | 12 x 3 - 7<br>5 x 7 - 13                                                                        | 59         | B16          |
|  |  | MH24 F17-2 | ● MBA8N17X24<br>● MBA8N17B24 | 6 x 3 - 7<br>6 x 5 - 10<br>5 x 9 - 16                                                           | 64         | B24          |
|  |  | MH24 F17-3 | ● MBA8N17X10<br>● MBA8N17B10 | 4 x 3 - 7<br>12 x 7 - 20<br>1 x 10 - 20                                                         | 59         | B24          |
|  |  | MH24 F19-1 | ● MBA8N19X24<br>● MBA8N19B24 | 5 x 1,5 - 3<br>10 x 3,2 - 6,5<br>4 x 16 - 22                                                    | 71         | B24          |
|  |  | MH24 F20-1 | ● MBA8N20X24<br>● MBA8N20B24 | 6 x 1,5 - 3<br>14 x 7,2 - 12                                                                    | 71         | B24          |
|  |  | MH24 F22-1 | ● MBA8N22X24<br>● MBA8N22B24 | 15 x 3 - 7<br>4 x 4,5 - 10<br>3 x 15 - 20                                                       | 65         | B24          |
|  |  | MH24 F23-1 | ● MBA8N23X24<br>● MBA8N23B24 | 4 x 1,5 - 3<br>4 x 3,2 - 6,3<br>10 x 4 - 7,5<br>1 x 5,5 - 10,5<br>1 x 8 - 12,5<br>3 x 12 - 16,2 | 71         | B24          |
|  |  | MH24 F23-2 | ● MBA8N24X24<br>● MBA8N24B24 | 4 x 1,5 - 3<br>6 x 3,2 - 6,3<br>2 x 4 - 7,5<br>1 x 5,5 - 10,5<br>10 x 8 - 12,5                  | 71         | B24          |
|  |  | MH24 F27-1 | ● MBA8N27X24<br>● MBA8N27B24 | 12 x 3 - 7<br>10 x 4,5 - 10<br>5 x 7 - 13                                                       | 70         | B24          |
|  |  | MH24 F30-1 | ● MBA8N30X10<br>● MBA8N30B10 | 30 x 3 - 8                                                                                      | 71         | B24          |

|  | Drawing | Name        | Product code                                               | No. of cables x diameter                                                     | Weight (g) | Opening size |
|--|---------|-------------|------------------------------------------------------------|------------------------------------------------------------------------------|------------|--------------|
|  |         | MH24 F30-2  | <div> <div>MBA8N30X24</div> <div>MBA8N30B24</div> </div>   | 8 x 1,5 - 3<br>8 x 3,2 - 5,5<br>6 x 4 - 7,5<br>6 x 5 - 8,5<br>2 x 9,5 - 14,5 | 71         | B24          |
|  |         | MH24 F30-3  | <div> <div>MBA8N32X24</div> <div>MBA8N32B24</div> </div>   | 6 x 1,5 - 3<br>4 x 3,2 - 6,3<br>14 x 4 - 7,5<br>2 x 8 - 12,5                 | 71         | B24          |
|  |         | MH24 F31-1  | <div> <div>MBA8N31X24</div> <div>MBA8N31B24</div> </div>   | 20 x 3,2 - 6,5<br>8 x 5 - 10,2<br>3 x 7,5 - 12                               | 71         | B24          |
|  |         | MH24 F42-1  | <div> <div>MBA8N42X24</div> <div>MBA8N42B24</div> </div>   | 42 x 3,2 - 6,5                                                               | 71         | B24          |
|  |         | MH24 F125-1 | <div> <div>MBA8N125X24</div> <div>MBA8N125B24</div> </div> | 123 x 1,5 - 3<br>2 x 2,5 - 5                                                 | 71         | B24          |

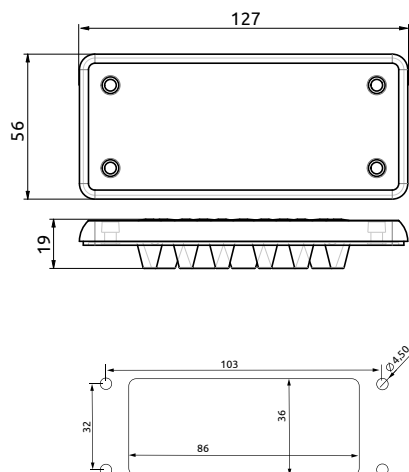


## Dimensions

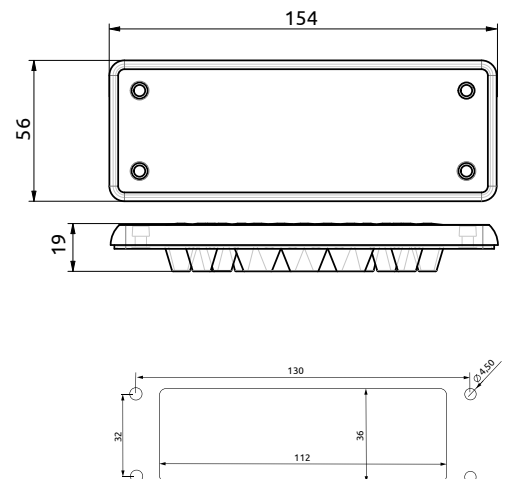
MH10



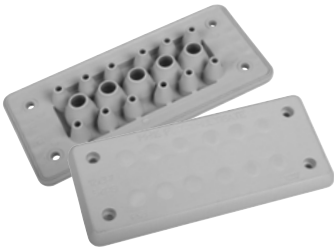
MH16



MH24



| Cable/tube diameter | MH-10 F12-1 | MH-16 F17-1 | MH-24 F17-2 | MH-24 F17-3 | MH-24 F22-1 | MH-24 F27-1 | MH-24 F30-1 | MH-24 F19-1 | MH-24 F20-1 | MH-24 F23-1 | MH-24 F23-2 | MH-24 F30-2 | MH-24 F30-3 | MH-24 F31-1 | MH-24 F42-1 | MH24 F125-1 |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1.5-3mm             |             |             |             |             |             |             |             | 5           | 6           | 4           | 4           | 8           | 6           |             |             | 123         |
| 2.5-5mm             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | 2           |
| 3-7mm               | 5           | 12          | 6           | 4           | 15          | 12          |             |             |             |             |             |             |             |             |             |             |
| 3-8mm               |             |             |             |             |             |             | 30          |             |             |             |             |             |             |             |             |             |
| 3.2-5.5mm           |             |             |             |             |             |             |             |             |             |             |             | 8           |             |             |             |             |
| 3.2-6.3mm           |             |             |             |             |             |             |             |             |             | 4           | 6           |             | 4           |             |             |             |
| 3.2-6.5mm           |             |             |             |             |             |             |             | 10          |             |             |             |             |             | 20          | 42          |             |
| 4-7.5mm             |             |             |             |             |             |             |             |             |             | 10          | 2           | 6           | 14          |             |             |             |
| 4.5-10mm            |             |             |             |             | 4           | 10          |             |             |             |             |             |             |             |             |             |             |
| 5-8.5mm             |             |             |             |             |             |             |             |             |             |             |             | 6           |             |             |             |             |
| 5-10mm              | 4           |             | 6           |             |             |             |             |             |             |             |             |             |             |             |             |             |
| 5-10.2mm            |             |             |             |             |             |             |             |             |             |             |             |             |             | 8           |             |             |
| 5.5-10.5mm          |             |             |             |             |             |             |             |             |             | 1           | 1           |             |             |             |             |             |
| 7-13mm              | 2           | 5           |             |             |             | 5           |             |             |             |             |             |             |             |             |             |             |
| 7-20mm              |             |             |             | 12          |             |             |             |             |             |             |             |             |             |             |             |             |
| 7.2-12mm            |             |             |             |             |             |             |             |             | 14          |             |             |             |             |             |             |             |
| 7.5-12mm            |             |             |             |             |             |             |             |             |             |             |             |             |             | 3           |             |             |
| 8-12.5mm            |             |             |             |             |             |             |             |             |             | 1           | 10          |             | 2           |             |             |             |
| 9-16mm              | 1           |             | 5           |             |             |             |             |             |             |             |             |             |             |             |             |             |
| 9.5-14.5mm          |             |             |             |             |             |             |             |             |             |             |             | 2           |             |             |             |             |
| 10-20mm             |             |             |             | 1           |             |             |             |             |             |             |             |             |             |             |             |             |
| 12-16.2mm           |             |             |             |             |             |             |             |             |             | 3           |             |             |             |             |             |             |
| 15-20mm             |             |             |             |             | 3           |             |             |             |             |             |             |             |             |             |             |             |
| 16-22mm             |             |             |             |             |             |             |             | 4           |             |             |             |             |             |             |             |             |





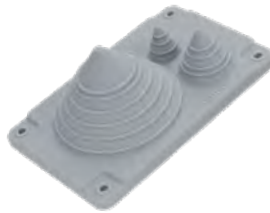
**Cable entry plates MC Solar are designed for efficient and secure cable routing in special cut-out applications. With an IP66 rating, these plates provide excellent protection against dust and water.**

## Advantages

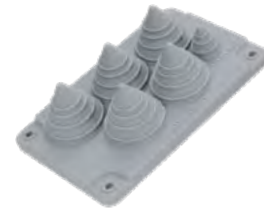
- Fast and easy assembly
- High cable density
- Dual cable sealing with IP66/IP67
- Excellent IP protection when cables are bent
- Screw mounting
- Suitable for both indoor and outdoor use

## Technical specifications

- IP rating: IP66
- Material: Thermoplastic elastomer TPE
- Color: Grey (RAL7035)
- Flame class: UL94-V0, self-extinguishing
- Temperature: -40 °C to +90 °C
- Properties: Halogen free, Silicone free



**MC 1/3 Solar (IP66)**



**MC 5/1 Solar (IP66)**

|                     |                    |                    |
|---------------------|--------------------|--------------------|
| Light Grey RAL 7035 | MBA1F13L11         | MBA1F51L11         |
|                     | UL 94 V-0 approved | UL 94 V-0 approved |

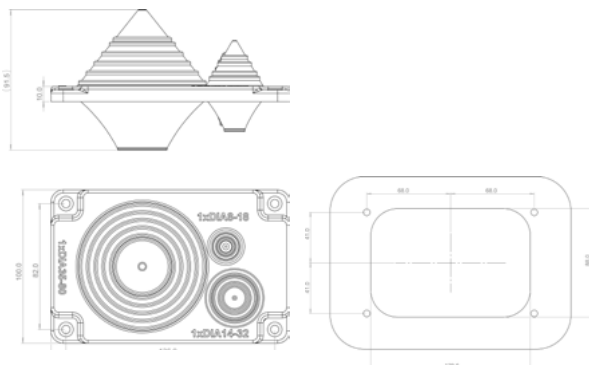
## Technical data

|                                              |                                          |                                |
|----------------------------------------------|------------------------------------------|--------------------------------|
| Number of cables (pcs) x cable diameter (mm) | 1 x 35 - 80<br>1 x 14 - 32<br>1 x 8 - 18 | 5 x 18 - 40<br>1 x 8 - 18<br>- |
| Total number of cables                       | 3                                        | 5                              |
| Mounting hole size                           | 130 x 88 mm                              | 130 x 88 mm                    |
| Length (A) / Width (B) / Height (C) (mm)     | 155,6 / 100 / 91                         | 155,6 / 100 / 91               |
| Weight (g)                                   | 128                                      | 130                            |
| Package (pcs)                                | 60                                       | 60                             |

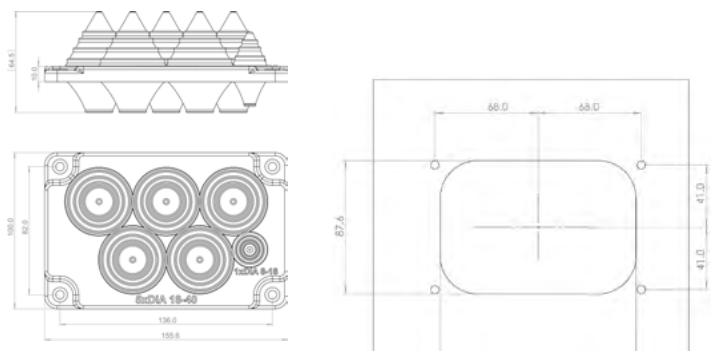
Look more about materials at Comparison of materials on page 161.

## Dimensions

MC 1/3



MC 5/1



# Cable entry plate RMC (IP65)

## Patent-pending solution

Very quick, precise  
and easy way  
to insert cables

## No need to use cutting, pliers, knives or other tools



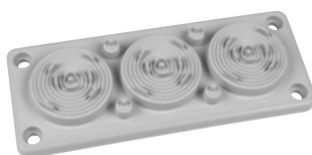
- Cable gland plate used as a conductor entry point in an electrical cabinet; the enclosure wall thickness can vary from 1 to 4 mm
- For use with diverse cable sizes in both low and medium voltage power applications
- Suitable for rough industrial conditions indoors as well as extreme climatic conditions outdoors

#### Advantages

- Each cable entry point has a tab that can be peeled off to create an opening for quick insertion and pull-through operations without the need for cutting pliers, knives or other tools
- Pre-embossed, circular entry points guarantee a precise, clean and robust seal around the cable; no additional glands or gaskets required
- A high density of incoming/outgoing conductors can be installed with minimal space requirements

#### Technical specifications

- Feed-through membrane made of thermoplastic elastomer (TPE) with polypropylene glass fiber reinforcement (PP-GF)
- Cable entry points with various cross-sectional diameters (no pre-attached connectors)
- Available in two colors: black and light grey (RAL7035)
- Designed to match an FL21 flange size cut-out
- Standard M8 bolts used for mounting on the enclosure wall (bolts not included in package)
- High IP65 protection against the ingress of dust and water
- Flammability rating according to UL 94 V-0
- Operational ambient temperature range (material unstressed): -40 °C...+90 °C



RMC 3 (IP65)



RMC 17 (IP65)

|                  |   |            |            |
|------------------|---|------------|------------|
| Grey (RAL 7035)  | ● | MBA9N07X11 | MBA1N17X11 |
| Black (RAL 9005) | ● | MBA9N07B11 | MBA1N17B11 |

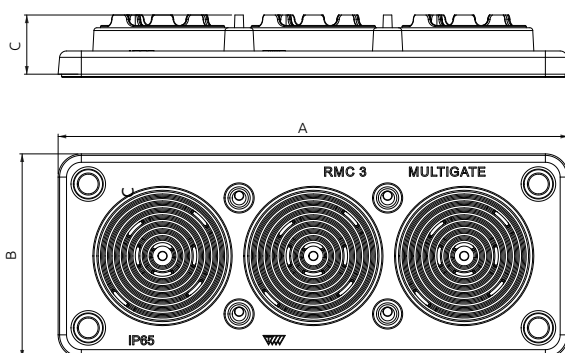
#### Technical data

|                                                 |                       |                                                |
|-------------------------------------------------|-----------------------|------------------------------------------------|
| Number of cables (pcs)<br>x cable diameter (mm) | 4 x 7-10<br>3 x 12-57 | 4 x 5-7<br>2 x 10-12<br>2 x 12-15<br>9 x 10-30 |
| Total number of cables                          | 7                     | 17                                             |
| Dimensions A / B / C (mm)                       | 220 / 88 / 25,5       | 220 / 88 / 25,5                                |
| Classification                                  | UL 94 V-0             | UL 94 V-0                                      |
| Weight (g)                                      | 131                   | 134                                            |
| Package (pcs)                                   | 100                   | 100                                            |

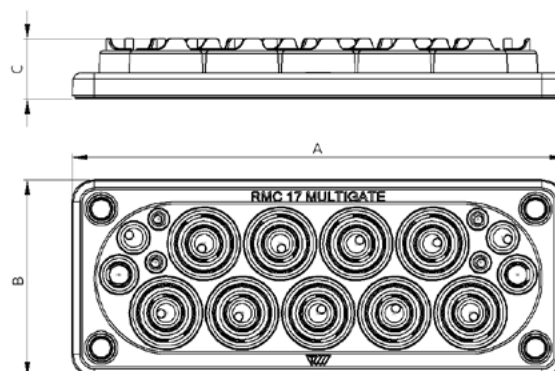
Look more about materials at Comparison of materials on page 161.

## Dimensions

RMC 3



RMC 17



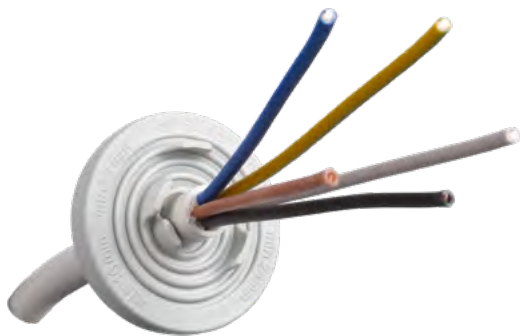
- Used as a conductor entry point in an electrical cabinet; the wall thickness can vary from 1-3,5 mm
- For use with diverse cable sizes in both low and medium voltage power applications
- Suitable for rough industrial conditions indoors as well as extreme climatic conditions outdoors

Advantages

- Each RGD has several cable entry points - tabs - that can be peeled off to create an opening for quick insertion and pull-through operations without the need for cutting pliers, knives or other tools
- Each tab has marking of cable diameter matching it written next to it
- Pre-embossed, circular entry points guarantee a precise, clean and robust seal around the cable; no additional glands or gaskets required

Technical specifications

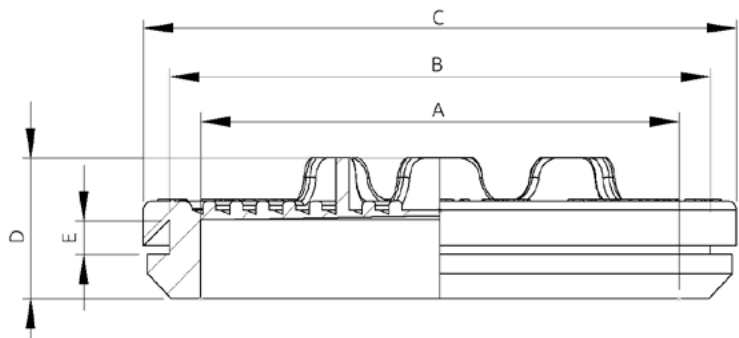
- Made of thermoplastic elastomer (TPE)
- Designed to match M40, M50 and M60 size cut-out and diameter range from 10 to 54 mm:
  - o M40: 10-34 mm cable
  - o M50: 12-44 mm cable
  - o M60: 12-54 mm cable
- Available in two colors: black and light grey (RAL7035)
- High IP64 protection against the ingress of dust and water
- Flammability rating according to UL 94 V-0
- Operational ambient temperature range (material unstressed): -40 °C...+100 °C



| Order code | Type      | Cable diameter (mm) | Color | Shade                                                                                        | Classification | Dimensions (mm) |       |       |       |          | Weight (g) | Package (pcs) |
|------------|-----------|---------------------|-------|----------------------------------------------------------------------------------------------|----------------|-----------------|-------|-------|-------|----------|------------|---------------|
|            |           |                     |       |                                                                                              |                | A               | B     | C     | D     | E        |            |               |
| MBB0540X11 | T-RGDM 40 | 10-34               | Grey  |  RAL 9035 | UL 94 V-0      | 34 mm           | 40 mm | 47 mm | 16 mm | 1,5-3 mm | 10         | 400           |
| MBB0540B11 |           |                     | Black |  RAL 7005 | UL 94 V-0      |                 |       |       |       |          |            |               |
| MBB0550X11 | T-RGDM 50 | 12-44               | Grey  |  RAL 9035 | UL 94 V-0      | 44 mm           | 50 mm | 57 mm | 16 mm | 1,5-3 mm | 13,2       | 250           |
| MBB0550B11 |           |                     | Black |  RAL 7005 | UL 94 V-0      |                 |       |       |       |          |            |               |
| MBB0560X11 | T-RGDM 60 | 12-54               | Grey  |  RAL 9035 | UL 94 V-0      | 54 mm           | 60 mm | 67 mm | 16 mm | 1,5-3 mm | 16,4       | 200           |
| MBB0560B11 |           |                     | Black |  RAL 7005 | UL 94 V-0      |                 |       |       |       |          |            |               |

Look more about materials at Comparison of materials on page 161.

Dimensions



# Splitting cable entry plates

Splitting cable entry plates are compact system to route and seal pre-terminated cables

Insertion of  
pre-terminated  
cables

UL 94 V-0

Does  
not affect  
warranty  
of pre-terminated cables



Often with the cables come the connectors and very often the connectors can not be removed and re-attached. The delicate data cables, HDMI's etc. are difficult or impossible to re-join at site. The splitting cable entry plate is the solution that lets the cables be installed with the connectors and on top of that the cables can be changed as often as wanted. Choose splitting cable entry plate for fast, safe and versatile installations.

Splitting cable entry plates SCG and MC are suitable for both in- and outdoor application and operating temperature range is from -40 °C to +90 °C.

Splitting cable entry plates SCG and MC are intended for leading through both low and medium power current cables, but also various kinds of tubing.

Splitting cable entry plates SCG and MC are new type of metal and plastic reinforced cable entry plate made of different types of polymers (TPE and PP-GF).



**SCG 6x3-20 (IP55)**

| Technical data                               |              |               |               |
|----------------------------------------------|--------------|---------------|---------------|
| Service temperature                          | -40 - +90    | -40 - +90     | -40 - +90     |
| Dimensions (A / B / C) (mm)                  | 77 / 60 / 40 | 136 / 60 / 40 | 220 / 60 / 40 |
| Number of cables (pcs) x cable diameter (mm) | 1 x 3-35     | 2 x 3-35      | 6 x 3-20      |
| Total number of cables                       | 1            | 2             | 6             |
| Mounting hole size                           | SCG 1        | SCG 2         | SCG 6         |
| Weight (g)                                   | 160          | 263           | 250           |
| Package (pcs)                                | 100          | 50            | 20            |

### Dimension of mounting hole





MC 1x10-65 (IP66)

MC 2x10-65 (IP66)

|                 |   |            |            |
|-----------------|---|------------|------------|
| Black           | ● | MBA1N10A11 | -          |
| Black UL 94 V-0 | ● | MBA1N10B11 | MBA2N10B11 |

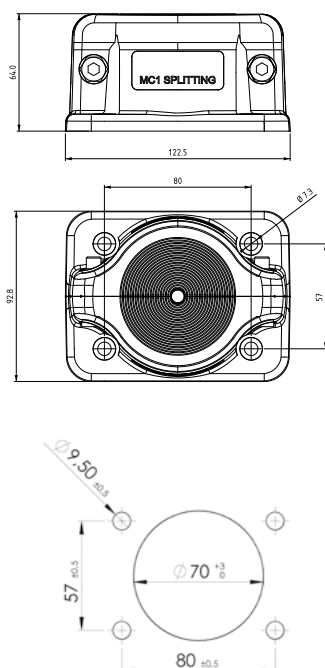
#### Technical data

|                                              |                   |                 |
|----------------------------------------------|-------------------|-----------------|
| Service temperature                          | -40 - +100        | -40 - +100      |
| Dimensions (A / B / C) (mm)                  | 122,5 / 92,8 / 64 | 221 / 92 / 63,4 |
| Number of cables (pcs) x cable diameter (mm) | 1 x 10 - 65       | 1 x 10 - 65     |
| Total number of cables                       | 1                 | 2               |
| Mounting hole size                           | MC 1              | MC 2            |
| Weight (g)                                   | 568               | 1086            |
| Package (pcs)                                | 20                | 10              |

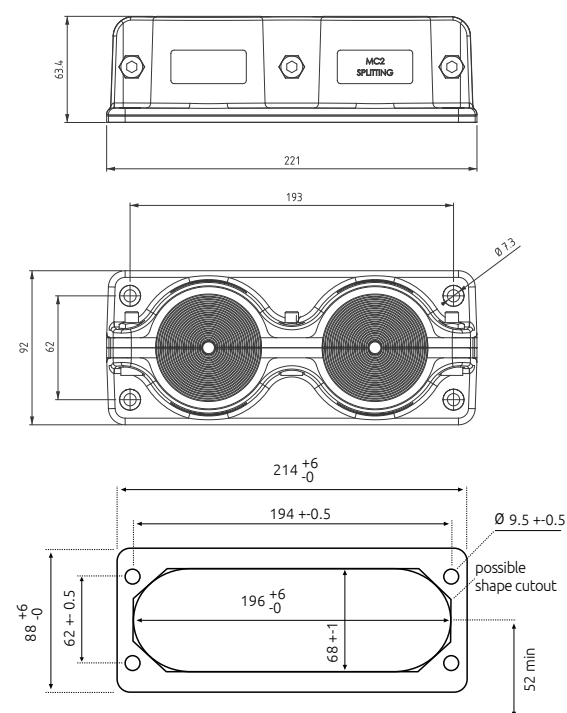
\* Only for cables without connector

## Dimensions

MC 1



MC 2

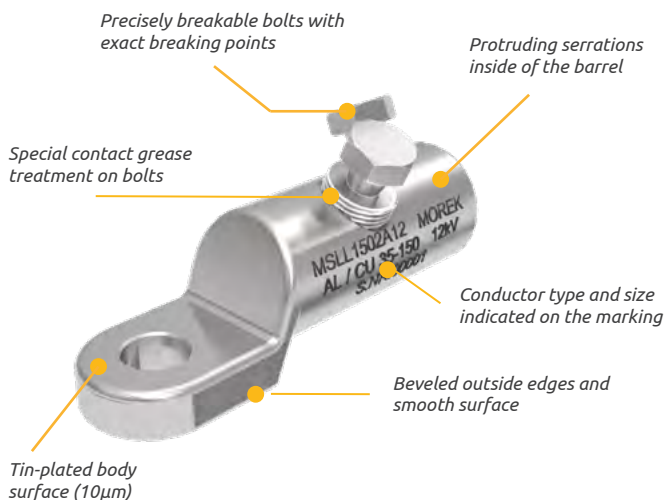


Size C (FL 21)



# Shear Bolt Cable Lugs up to 12kV

Shear Bolt lugs are used for terminating aluminium or copper conductors in applications up to 12kV.



Morek's **Shear Bolt Cable Lugs** provide efficient and reliable termination for both aluminum and copper conductors in applications up to 12kV. Designed for simplicity and versatility, these lugs eliminate the need for crimping tools by using shear bolt technology, allowing installation with a standard wrench or spanner. The lugs are made from high-strength, tin-plated aluminum alloy and are coated with antioxidation grease, ensuring long-lasting performance and optimal conductivity.

Morek's Shear Bolt Cable Lugs are engineered for ease, reliability, and adaptability, offering a top-tier solution for terminating conductors without the need for specialized tools. With certified durability and compatibility, they are a practical choice for safe, efficient installations in diverse applications.

Compliance: Certified to EN 61238-1 Class A, suitable for applications with high short-circuit intensity.

## Shear Bolt Technology:

Enables installation using basic tools, with no need for crimping or special equipment.

## Range-Taking Design:

Accommodates conductors of various cross-sections, reducing the need for multiple lug sizes.

## Durable and Safe Materials:

Made from high-strength, tin-plated aluminum alloy, suitable for aluminum and copper conductors.

## Optimal Electrical Connection:

Bolts break at the precise torque needed for a secure, watertight seal.

## Antioxidation Protection:

Bolts are treated with antioxidation grease, preventing corrosion and ensuring a clean electrical contact.

## Indoor and Outdoor Compatibility:

Watertight and suitable for installations in both environments, supporting various conductor shapes and insulation types.

Morek's shear bolt lugs are tested to Class A under IEC 61238-1, ensuring their suitability for most industrial and electrical distribution networks. These compact lugs are compatible with widely-used termination kits and require minimal installation space, even for larger conductor sizes.



| Palm opening size | MSLL35      | MSLL50      | MSLL51      | MSLL70      | MSLL95      |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| M10               | MSLL0351A10 | MSLL0501A10 | MSLL0502A10 | -           | -           |
| M12               | MSLL0351A12 | MSLL0501A12 | MSLL0502A12 | MSLL0702A12 | MSLL0951A12 |
| M16               | -           | -           | -           | -           | -           |

#### Technical data

Conductor cross-section Al (mm<sup>2</sup>)

|                                                                                                                |         |         |         |         |         |
|----------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|
| RE  Round, solid              | 6 - 35  | 10 - 50 | 10 - 50 | 16 - 70 | 16 - 95 |
| RM  Round, stranded          | 10 - 35 | 10 - 50 | 10 - 50 | 16 - 70 | 16 - 95 |
| SE  Sector shaped, solid    | 35      | 35 - 50 | 35 - 50 | 35 - 70 | 35 - 95 |
| SM  Sector shaped, stranded | 35      | 35 - 50 | 35 - 50 | 35 - 70 | 35 - 95 |

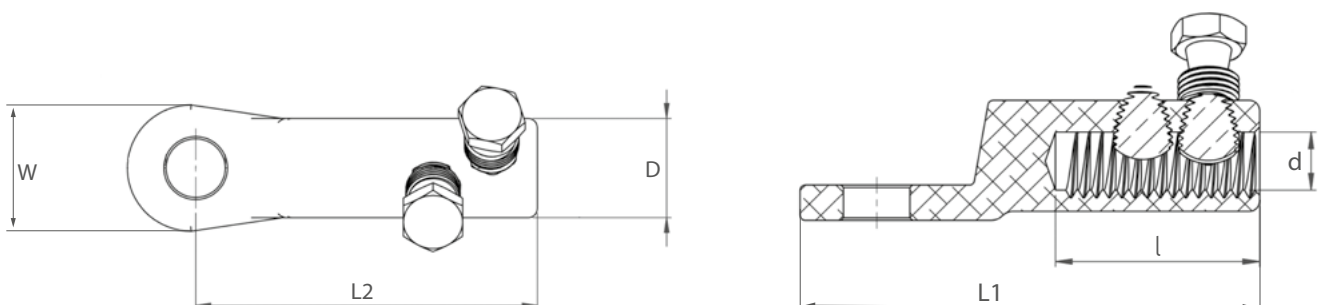
Conductor cross-section Cu (mm<sup>2</sup>)

|                                                                                                                |        |        |        |         |         |
|----------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------|---------|
| RM  Round, stranded         | 6 - 35 | 6 - 50 | 6 - 50 | 16 - 70 | 16 - 95 |
| SM  Sector shaped, stranded | 6 - 35 | 6 - 50 | 6 - 50 | 16 - 70 | 16 - 95 |
| RE  Round, solid            | 6 - 35 | 6 - 35 | 6 - 35 | 23 - 35 | 16 - 35 |

|                   |              |              |              |              |              |
|-------------------|--------------|--------------|--------------|--------------|--------------|
| No. of bolts Ø mm | 1 / M10      | 1 / M10      | 2 / M10      | 2 / M12      | 1 / M12      |
| L1 / L2 / l       | 53 / 40 / 18 | 62 / 51 / 28 | 62 / 51 / 30 | 90 / 75 / 40 | 65 / 52 / 24 |
| W / D / d         | 24 / 16 / 9  | 25 / 20 / 11 | 25 / 20 / 11 | 28 / 22 / 12 | 25 / 25 / 14 |
| Weight (g)        | 23           | 37           | 42           | 62           | 65           |
| Package (pcs)     | 50           | 50           | 50           | 50           | 25           |

Suitable for Al/Cu applications

#### Dimensions



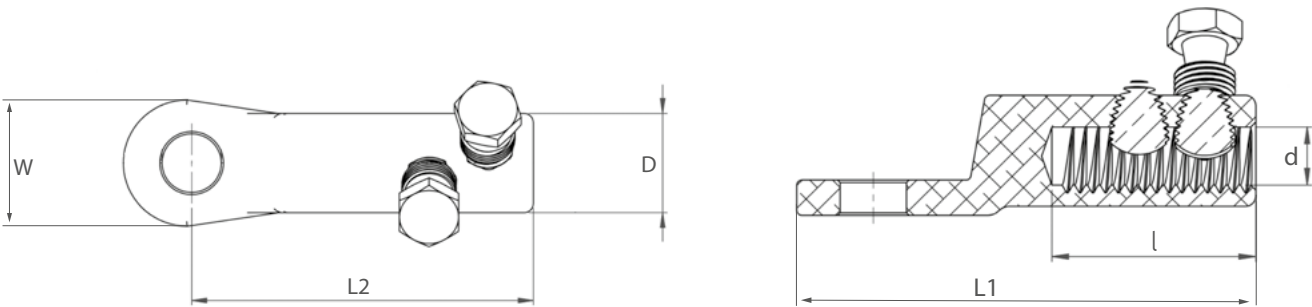


| Palm opening size | MSLL96      | MSLL150     | MSLL240     | MSLL300     |
|-------------------|-------------|-------------|-------------|-------------|
| M10               | -           | -           | -           | -           |
| M12               | MSLL0952A12 | MSLL1502A12 | MSLL2402A12 | MSLL3002A12 |
| M16               | -           | -           | MSLL2402A16 | MSLL3002A16 |

| Technical data                                                                                                 |              |               |               |                |  |
|----------------------------------------------------------------------------------------------------------------|--------------|---------------|---------------|----------------|--|
| Conductor cross-section Al (mm²)                                                                               |              |               |               |                |  |
| RE  Round, solid              | 16 - 95      | 35 - 150      | 50 - 240      | 120 - 300      |  |
| RM  Round, stranded           | 16 - 95      | 35 - 150      | 50 - 240      | 120 - 300      |  |
| SE  Sector shaped, solid    | 35 - 95      | 35 - 150      | 50 - 240      | 120 - 300      |  |
| SM  Sector shaped, stranded | 35 - 95      | 35 - 120      | 50 - 240      | 120 - 300      |  |
| Conductor cross-section Cu (mm²)                                                                               |              |               |               |                |  |
| RM  Round, stranded         | 16 - 95      | 35 - 120      | 50 - 240      | 120 - 300      |  |
| SM  Sector shaped, stranded | 16 - 95      | 35 - 120      | 50 - 240      | 120 - 300      |  |
| RE  Round, solid            | 16 - 35      | 35            | -             | -              |  |
| No. of bolts Ø mm                                                                                              | 2 / M12      | 2 / M16       | 2 / M18       | 2 / M22        |  |
| L1 / L2 / l                                                                                                    | 76 / 63 / 32 | 100 / 85 / 52 | 115 / 97 / 57 | 123 / 104 / 59 |  |
| W / D / d                                                                                                      | 25 / 25 / 15 | 29 / 29 / 18  | 35 / 35 / 22  | 38 / 38 / 24,5 |  |
| Weight (g)                                                                                                     | 82           | 120           | 250           | 280            |  |
| Package (pcs)                                                                                                  | 25           | 40            | 15            | 10             |  |

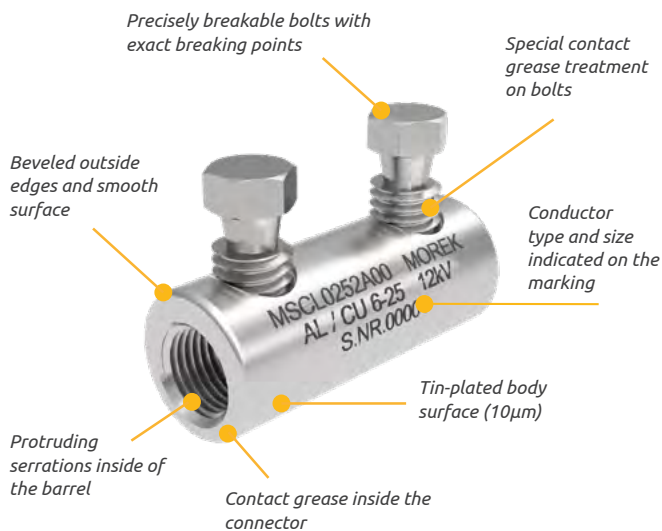
Suitable for Al/Cu applications

Dimensions



# Shear Bolt Cable Connectors up to 12kV

Shear Bolt connectors are used for joining aluminium or copper conductors in applications up to 12kV.



Morek's **Shear Bolt Cable Connectors** provide a secure and efficient solution for joining aluminum or copper conductors in applications up to 12kV. Utilizing shear bolt technology, these connectors enable installation without the need for crimping, using only a standard wrench or spanner. Constructed from high-strength, tin-plated aluminum alloy, Morek's shear bolt connectors offer excellent electrical and mechanical performance, making them suitable for a range of conductor sizes and configurations.

Morek's Shear Bolt Cable Connectors combine ease of installation with robust performance, providing an efficient solution for joining conductors without specialized tools. Backed by industry-standard certifications and built for durability, they meet the demands of industrial and distribution networks.

Compliance: Certified to EN 61238-1 Class A, ensuring suitability for applications requiring heat cycle and short-circuit resistance.

## Easy Installation with Shear Bolt Technology:

Allows for quick and tool-free installation with basic tools, no crimping required.

## Versatile Range-Taking Design:

Supports varying conductor cross-sections, reducing the need for multiple connector sizes.

## Durable Materials:

Made of high-strength, tin-plated aluminum alloy, suitable for both aluminum and copper conductors.

## Optimal Electrical Connection:

Shear bolts are designed to break at the correct torque for a secure and watertight connection.

## Antioxidation Protection:

Treated with antioxidation grease to prevent corrosion and oxidation, ensuring long-lasting performance.

## Indoor and Outdoor Compatibility:

Watertight design suitable for installations in diverse environments, supporting solid, stranded, sector-shaped, and round conductors with plastic or oil-impregnated insulation.

Tested according to IEC 61238-1 Class A, these connectors are ideal for electrical distribution and industrial networks where high short-circuit intensity may occur. Compactly designed, they also minimize required installation space, particularly advantageous for larger cable sizes.



MSCL16

MSCL25

MSCL50

MSCL95

|  |             |             |             |             |
|--|-------------|-------------|-------------|-------------|
|  | MSCL0162A00 | MSCL0252A00 | MSCL0502A00 | MSCL0952A00 |
|--|-------------|-------------|-------------|-------------|

Technical data

Conductor cross-section Al (mm<sup>2</sup>)

|    |                                                                                                            |          |         |         |         |
|----|------------------------------------------------------------------------------------------------------------|----------|---------|---------|---------|
| RE |  Round, solid             | 1,5 - 16 | 10 - 35 | 10 - 50 | 25 - 95 |
| RM |  Round, stranded          | 1,5 - 16 | 10 - 35 | 10 - 50 | 25 - 95 |
| SE |  Sector shaped, solid     | -        | 35      | 35 - 50 | 35 - 95 |
| SM |  Sector shaped, stranded | -        | 35      | 35 - 50 | 35 - 95 |

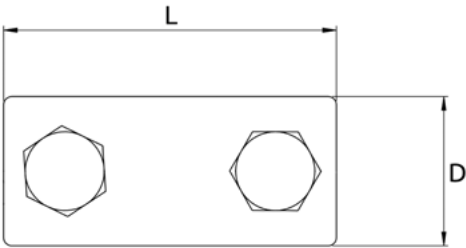
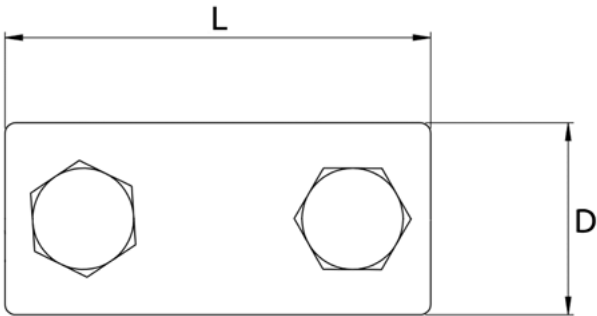
Conductor cross-section Cu (mm<sup>2</sup>)

|    |                                                                                                             |          |         |        |         |
|----|-------------------------------------------------------------------------------------------------------------|----------|---------|--------|---------|
| RM |  Round, stranded         | 1,5 - 16 | 10 - 35 | 6 - 50 | 25 - 95 |
| SM |  Sector shaped, stranded | 1,5 - 16 | 10 - 35 | 6 - 50 | 25 - 95 |
| RE |  Round, solid            | 1,5 - 16 | 6 - 25  | 6 - 35 | 25 - 35 |

|                   |         |         |         |         |
|-------------------|---------|---------|---------|---------|
| No. of bolts Ø mm | 2 / M6  | 2 / M8  | 2 / M10 | 2 / M12 |
| L / l             | 30 / 14 | 40 / 17 | 37 / 17 | 54 / 24 |
| D / d             | 12 / 6  | 16 / 9  | 18 / 10 | 25 / 14 |
| Weight (g)        | 10      | 22      | 26      | 47      |
| Package (pcs)     | 100     | 100     | 50      | 50      |

Suitable for Al/Cu applications

Dimensions





**MSCL150**

**MSCL240**

**MSCL241**

**MSCL300**

|  |             |             |             |             |
|--|-------------|-------------|-------------|-------------|
|  | MSCL1502A00 | MSCL2402A00 | MSCL2404A00 | MSCL3004A00 |
|--|-------------|-------------|-------------|-------------|

**Technical data**

Conductor cross-section Al (mm<sup>2</sup>)

|    |                                                                                                            |          |           |          |           |
|----|------------------------------------------------------------------------------------------------------------|----------|-----------|----------|-----------|
| RE |  Round, solid             | 25 - 150 | 120 - 240 | 50 - 240 | 150 - 300 |
| RM |  Round, stranded          | 25 - 150 | 120 - 240 | 50 - 240 | 150 - 300 |
| SE |  Sector shaped, solid     | 35 - 150 | 120 - 240 | 50 - 240 | 150 - 300 |
| SM |  Sector shaped, stranded | 35 - 120 | 120 - 240 | 50 - 240 | 150 - 300 |

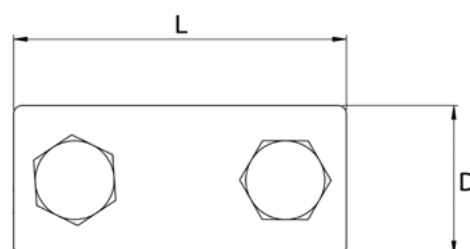
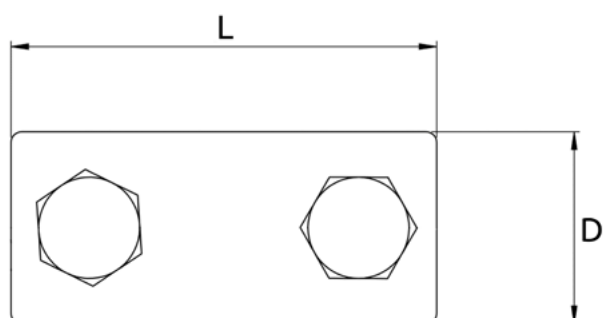
Conductor cross-section Cu (mm<sup>2</sup>)

|    |                                                                                                             |          |           |          |           |
|----|-------------------------------------------------------------------------------------------------------------|----------|-----------|----------|-----------|
| RM |  Round, stranded         | 25 - 150 | 120 - 240 | 50 - 240 | 150 - 300 |
| SM |  Sector shaped, stranded | 25 - 150 | 120 - 240 | 50 - 240 | 150 - 300 |
| RE |  Round, solid            | 25 - 35  | -         | -        | -         |

|                   |         |         |          |          |
|-------------------|---------|---------|----------|----------|
| No. of bolts Ø mm | 2 / M16 | 2 / M18 | 4 / M18  | 4 / M22  |
| L / l             | 70 / 30 | 80 / 32 | 120 / 56 | 112 / 52 |
| D / d             | 28 / 17 | 35 / 24 | 35 / 22  | 38 / 22  |
| Weight (g)        | 87      | 162     | 220      | 265      |
| Package (pcs)     | 35      | 25      | 20       | 20       |

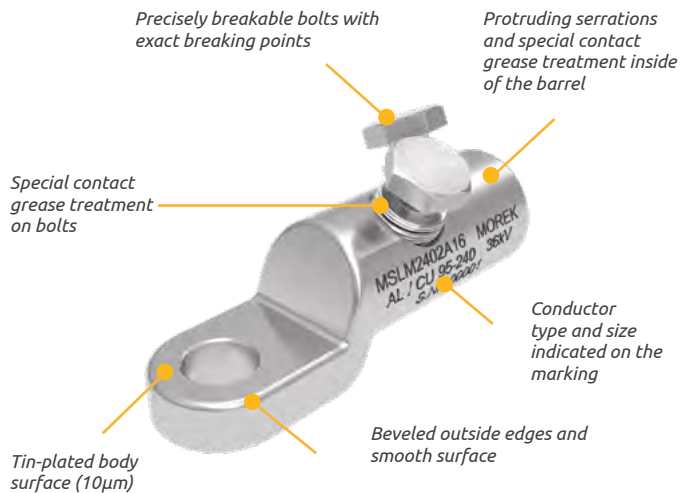
Suitable for Al/Cu applications

**Dimensions**



# Shear Bolt Cable Lugs up to 36kV

Shear Bolt lugs are used for terminating aluminium or copper conductors in applications up to 36kV.



Morek's **Shear Bolt Cable Lugs** are engineered to provide secure and efficient termination for aluminum and copper conductors in high-voltage applications up to 36kV. Utilizing advanced shear bolt technology, these lugs can be installed with a standard wrench or spanner, eliminating the need for specialized crimping tools. Made from high-strength, tin-plated aluminum alloy, Morek's lugs offer excellent conductivity and durability, along with a watertight seal for both indoor and outdoor installations.

Morek's Shear Bolt Cable Lugs up to 36kV offer a reliable, easy-to-install solution that requires no special tools. Built to withstand high-intensity demands, these lugs deliver lasting performance and compatibility, meeting the needs of industrial and distribution networks.

Compliance: Certified to EN 61238-1 Class A, suitable for applications with high short-circuit intensity.

## Easy Installation with Shear Bolt Technology:

Allows tool-free installation using basic tools, ensuring a secure connection without crimping.

## Range-Taking Design:

Accommodates a wide range of conductor cross-sections, minimizing the need for multiple lug sizes.

## High-Strength Materials:

Constructed from tin-plated aluminum alloy, suitable for aluminum and copper conductors, providing durability and conductivity.

## Precise Torque for Optimal Connection:

Shear bolts break at the exact torque required for reliable electrical performance.

## AntiOxidation Grease Treatment:

Both bolts and lug barrels are coated with antioxidation grease to prevent corrosion and ensure clean electrical contact.

## Indoor and Outdoor Compatibility:

Designed for various conductor shapes and insulation types, supporting solid, stranded, sector-shaped, and round conductors with plastic or oil-impregnated paper isolation.

Certified according to IEC 61238-1 Class A, these lugs meet stringent standards for short-circuit and heat cycle resistance, making them ideal for electrical distribution and industrial networks with high-intensity short circuits.





| Palm opening size | MSLM95      | MSLM150     | MSLM240     | MSLM300     |
|-------------------|-------------|-------------|-------------|-------------|
| M12               | MSLM0951A12 | MSLM1501A12 | MSLM2402A12 | MSLM3002A12 |
| M16               | -           | -           | MSLM2402A16 | MSLM3002A16 |
| M20               | -           | -           | -           | -           |

#### Technical data

Conductor cross-section Al (mm<sup>2</sup>)

|                                                                                                                |         |          |          |           |
|----------------------------------------------------------------------------------------------------------------|---------|----------|----------|-----------|
| RE  Round, solid             | 16 - 95 | 50 - 150 | 95 - 240 | 120 - 300 |
| RM  Round, stranded         | 16 - 95 | 50 - 150 | 95 - 240 | 120 - 300 |
| SM  Sector shaped, stranded | 25 - 70 | 50 - 120 | 95 - 185 | 120 - 240 |

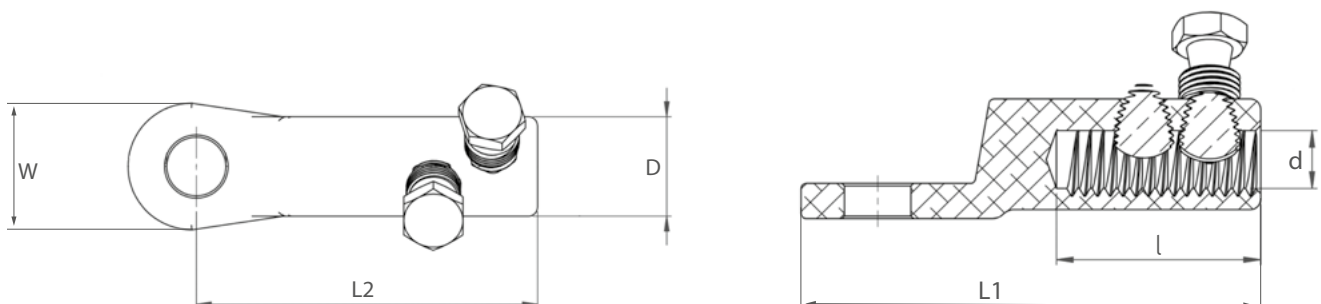
Conductor cross-section Cu (mm<sup>2</sup>)

|                                                                                                                |         |          |          |           |
|----------------------------------------------------------------------------------------------------------------|---------|----------|----------|-----------|
| RM  Round, stranded         | 16 - 70 | 35 - 120 | 95 - 240 | 120 - 300 |
| SM  Sector shaped, stranded | 25 - 70 | 50 - 120 | 95 - 185 | 120 - 240 |

|                   |              |              |               |                |
|-------------------|--------------|--------------|---------------|----------------|
| No. of bolts Ø mm | 1 / M12      | 1 / M14      | 2 / M18       | 2 / M22        |
| L1 / L2 / l       | 76 / 60 / 32 | 95 / 78 / 42 | 112 / 95 / 57 | 125 / 105 / 67 |
| W / D / d         | 32 / 24 / 14 | 29 / 29 / 16 | 33 / 33 / 20  | 38 / 38 / 24,5 |
| Weight (g)        | 60           | 122          | 182           | 246            |
| Package (pcs)     | 25           | 25           | 15            | 14             |

Suitable for Al/Cu applications

## Dimensions





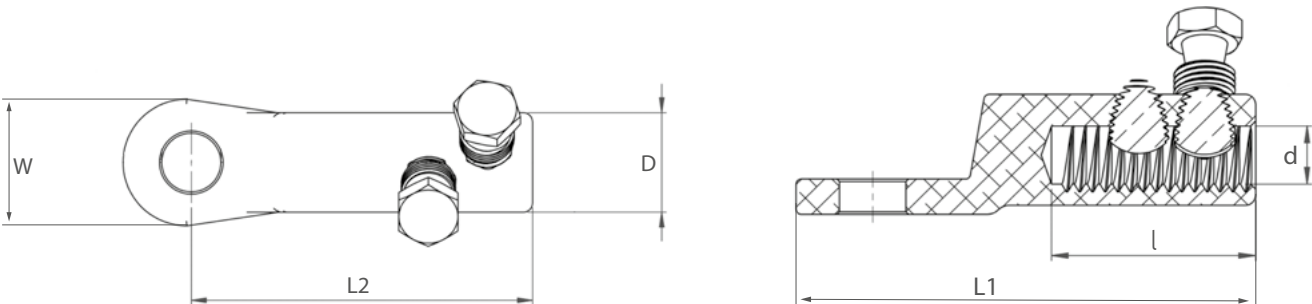
| Palm opening size | MSLM400     | MSLM630     | MSLM1000     |
|-------------------|-------------|-------------|--------------|
| M12               | MSLM4003A12 | MSLM6303A12 | -            |
| M16               | MSLM4003A16 | MSLM6303A16 | MSLM10004A16 |
| M20               | -           | -           | MSLM10004A20 |
| 2 x M12           | -           | -           | -            |

Technical data

|                                                                                                                |                |                |                 |
|----------------------------------------------------------------------------------------------------------------|----------------|----------------|-----------------|
| Conductor cross-section Al (mm²)                                                                               |                |                |                 |
| RE  Round, solid             | 185 - 400      | 400 - 630      | 630 - 1000      |
| RM  Round, stranded         | 185 - 400      | 400 - 630      | 630 - 1000      |
| SM  Sector shaped, stranded | 185 - 300      | 400 - 500      | -               |
| Conductor cross-section Cu (mm²)                                                                               |                |                |                 |
| RM  Round, stranded         | 185 - 400      | 400 - 630      | 630 - 1000      |
| SM  Sector shaped, stranded | 185 - 300      | 400 - 500      | -               |
| No. of bolts Ø mm                                                                                              | 3 / M22        | 3 / M22        | 4 / M22 long    |
| L1 / L2 / l                                                                                                    | 140 / 120 / 79 | 163 / 136 / 94 | 194 / 161 / 105 |
| W / D / d                                                                                                      | 42 / 42 / 26   | 52 / 52 / 34   | 65 / 65 / 41    |
| Weight (g)                                                                                                     | 367            | 605            | 1095            |
| Package (pcs)                                                                                                  | 10             | 6              | 3               |

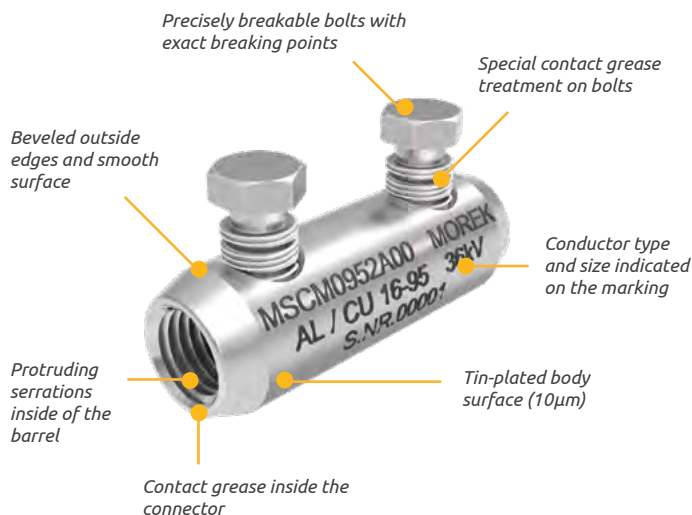
Suitable for Al/Cu applications

Dimensions



# Shear Bolt Cable Connectors up to 36kV

Shear Bolt connectors are used for joining aluminium or copper conductors in applications up to 36kV.



Morek's Shear Bolt Cable Connectors provide a robust and efficient solution for joining aluminum and copper conductors in high-voltage applications up to 36kV. Utilizing shear bolt technology, these connectors enable secure connections using only a standard wrench or spanner, eliminating the need for crimping tools. Constructed from high-strength, tin-plated aluminum alloy, Morek's connectors ensure exceptional conductivity and durability, suitable for both indoor and outdoor installations.

Morek's Shear Bolt Cable Connectors up to 36kV offer a practical and reliable solution for high-voltage connections, requiring no specialized tools. Built to withstand demanding conditions, these connectors provide dependable performance, supported by industry-standard certifications for high short-circuit and heat cycle resistance.

**Compliance:** Certified to EN 61238-1 Class A, suitable for applications that demand short-circuit durability and high electrical performance.

## Tool-Free Shear Bolt Technology:

Allows for easy installation without the need for crimping, using only a wrench or spanner.

## Range-Taking Design:

Supports a broad range of conductor cross-sections, reducing the need for multiple connector sizes.

## Durable Material Composition:

Made from high-strength, tin-plated aluminum alloy, ensuring compatibility with both aluminum and copper conductors.

## Precise Torque Control for Optimal Connection:

Bolts break at the exact torque required to ensure a reliable and watertight connection.

## AntiOxidation Grease Treatment:

Bolts and connector barrels are treated with antioxidation grease, preventing corrosion and maintaining clean electrical contact.

## Indoor and Outdoor Compatibility:

Watertight and suitable for diverse environments, accommodating solid, stranded, sector-shaped, and round conductors with various insulation types.

## Space-Saving Compact Design:

Requires minimal installation space, ideal for larger conductor sizes and compact installations.

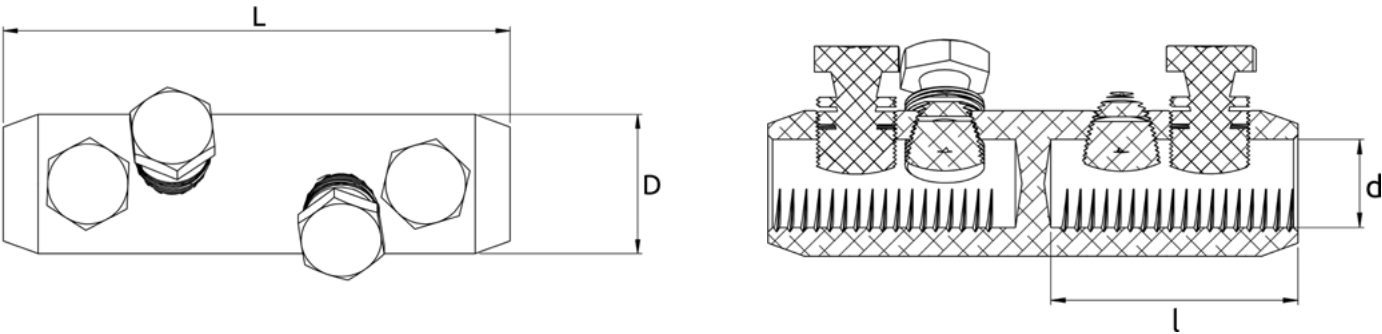
These connectors are tested according to IEC 61238-1 Class A standards, making them suitable for use in electrical distribution and industrial networks that experience high short-circuit intensities. Their compact design and compatibility with a range of termination kits ensure flexible, efficient installation across a variety of applications.



|                                                                                                                | MSCM95      | MSCM150     | MSCM240     | MSCM300     |
|----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
|                                                                                                                | MSCM0952A00 | MSCM1502A00 | MSCM2404A00 | MSCM3004A00 |
| <b>Technical data</b>                                                                                          |             |             |             |             |
| Conductor cross-section Al (mm²)                                                                               |             |             |             |             |
| RE  Round, solid              | 16 - 95     | 50 - 150    | 95 - 240    | 120 - 300   |
| RM  Round, stranded           | 16 - 95     | 50 - 150    | 95 - 240    | 120 - 300   |
| SM  Sector shaped, stranded   | 25 - 70     | 50 - 120    | 95 - 185    | 120 - 240   |
| Conductor cross-section Cu (mm²)                                                                               |             |             |             |             |
| RM  Round, stranded         | 16 - 95     | 35 - 150    | 95 - 240    | 120 - 300   |
| SM  Sector shaped, stranded | 25 - 70     | 50 - 120    | 95 - 185    | 120 - 240   |
| No. of bolts Ø mm                                                                                              | 2 / M12     | 2 / M14     | 4 / M18     | 4 / M22     |
| L / l                                                                                                          | 70 / 33     | 80 / 35     | 120 / 56    | 142 / 67    |
| D / d                                                                                                          | 24 / 12,5   | 30 / 15,5   | 33 / 20     | 38 / 24,5   |
| Weight (g)                                                                                                     | 74          | 146         | 230         | 400         |
| Package (pcs)                                                                                                  | 30          | 25          | 15          | 10          |

Suitable for Al/Cu applications

Dimensions

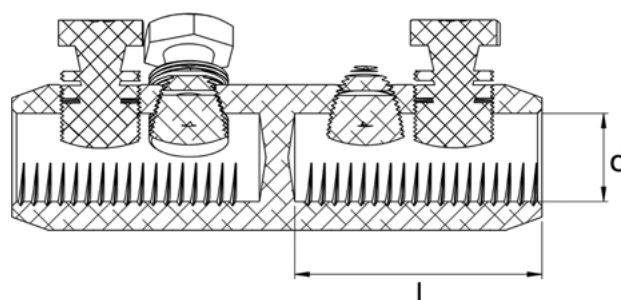
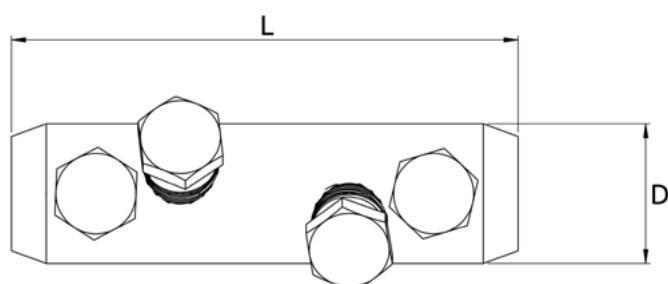



**MSCM400**
**MSCM630**
**MSCM1000**

|                                                                                                                | MSCM4006A00 | MSCM6306A00 | MSCM10008A00 |
|----------------------------------------------------------------------------------------------------------------|-------------|-------------|--------------|
| <b>Technical data</b>                                                                                          |             |             |              |
| Conductor cross-section Al (mm <sup>2</sup> )                                                                  |             |             |              |
| RE  Round, solid              | 185 - 400   | 400 - 630   | 630 - 1000   |
| RM  Round, stranded           | 185 - 400   | 400 - 630   | 630 - 1000   |
| SM  Sector shaped, stranded   | 185 - 300   | 400 - 500   | -            |
| Conductor cross-section Cu (mm <sup>2</sup> )                                                                  |             |             |              |
| RM  Round, stranded         | 185 - 400   | 400 - 630   | 630 - 1000   |
| SM  Sector shaped, stranded | 185 - 300   | 400 - 500   | -            |
| No. of bolts Ø mm                                                                                              | 6 / M22     | 6 / M22     | 8 / M22 long |
| L / l                                                                                                          | 170 / 82    | 200 / 94    | 220 / 105    |
| D / d                                                                                                          | 42 / 25,5   | 52 / 34     | 65 / 41      |
| Weight (g)                                                                                                     | 580         | 815         | 1340         |
| Package (pcs)                                                                                                  | 5           | 3           | 2            |

Suitable for Al/Cu applications

## Dimensions



# Clamp device for screw connectors

Morek shearbolt installation tool for holding screw connectors.

For fastening and easy installation of insulated and bare connectors with a diameter of 14 to 40 mm. Insulation according to CEI / EN 60900: 2004. Application also of very low temperatures down to -40 °C.

Morek shearbolt installation tool

|                     |               |
|---------------------|---------------|
|                     | MSCLTOOLB01   |
| Technical data      |               |
| Clamping range (mm) | 14 - 40       |
| Color design        | black         |
| Material            | Polyamid (PA) |
| Weight (g)          | 816           |
| Package (pcs)       | 1             |



# *Heat-shrink Tubing, Breakouts and End Cups*

**selection  
of reliable,  
high-quality  
products**

**safe  
efficient  
electrical  
connections**  
for any installation



The product portfolio includes medium and heavy-wall tubing, thin-wall tubing. Each product reflects Morek's commitment to quality, innovation, and ease of use.

All products are crafted from durable materials and meet industry standards, allowing professionals to work with dependable solutions in both indoor and outdoor environments. Every connection made with Morek products represents quality and assurance, developed and tested for long-term durability.



# Thinwall Heat-shrink Tubing

## Insulation and Protection for Low Voltage Cables.



The **MTW Thinwall Heat-shrink Tubing** by Morek provides reliable insulation and protection for low-voltage cables and components. This versatile tubing is crafted from cross-linked polyolefin, offering flexibility, durability, and ease of installation, ideal for applications that demand a balance of protection and minimal added bulk. UV-stabilized (black version) and available in various colors, including yellow/green, MTW tubing supports a range of environments and visual coding needs.

Morek’s MTW Thinwall Heat-shrink Tubing represents our commitment to quality, flexibility, and innovation, offering customers a dependable solution for various electrical insulation needs. With consistent performance and industry compliance, Morek’s MTW tubing is an essential choice for professionals seeking efficient and lasting cable protection.

- High Electrical and Mechanical Strength:**  
Delivers reliable insulation and stability for low-voltage applications.
- Thinwall, Durable Construction:**  
UV-stabilized Thinwall polyolefin (black version) provides effective protection against radiation and weathering.
- Safe and Environmentally Friendly:**  
Halogen-free, silicone-free, and free from lead and aluminum, ensuring a non-corrosive, non-toxic solution.
- Compliance and Versatile Design:**  
Meets RoHS and REACH regulations and is available in black and various colors upon request, supporting versatile installation needs.
- Extended Shelf Life:**  
Unlimited shelf life under normal storage conditions.

Available in black, yellow/green, and other colors, ideal for color-coded cable installations in both indoor and outdoor settings.

Compliance: CENELEC EN50655

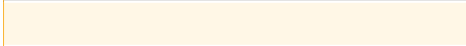
### Dimensions



## MTW Thinwall Heat-shrink Tubing

| 1m length order code | Full coil order code | Size (mm)  | As supplied (mm) | After recovered (mm) |          | Full coil length (m) |
|----------------------|----------------------|------------|------------------|----------------------|----------|----------------------|
|                      |                      |            | D (Min.)         | d (Max.)             | w (Min.) |                      |
| MTWA01206B11         | MTWA01206B10         | 1,2/0,6    | 1,2              | 0,6                  | 0,33     | 200                  |
| MTWA01608B11         | MTWA01608B10         | 1,6/0,8    | 1,6              | 0,8                  | 0,36     | 200                  |
| MTWA02412B11         | MTWA02412B10         | 2,4/1,2    | 2,4              | 1,2                  | 0,42     | 200                  |
| MTWA03216B11         | MTWA03216B10         | 3,2/1,6    | 3,2              | 1,6                  | 0,42     | 200                  |
| MTWA04824B11         | MTWA04824B10         | 4,8/2,4    | 4,8              | 2,4                  | 0,52     | 100                  |
| MTWA06432B11         | MTWA06432B10         | 6,4/3,2    | 6,4              | 3,2                  | 0,54     | 100                  |
| MTWA08040B11         | MTWA08040B10         | 8,0/4,0    | 8,0              | 4,0                  | 0,54     | 100                  |
| MTWA09548B11         | MTWA09548B10         | 9,5/4,8    | 9,5              | 4,8                  | 0,54     | 100                  |
| MTWA12764B11         | MTWA12764B10         | 12,7/6,4   | 12,7             | 6,4                  | 0,62     | 100                  |
| MTWA16080B11         | MTWA16080B10         | 16,0/8     | 16,0             | 8,0                  | 0,67     | 100                  |
| MTWA19095B11         | MTWA19095B10         | 19,0/9,5   | 19,0             | 9,5                  | 0,75     | 100                  |
| MTWA25412B11         | MTWA25412B10         | 25,4/12,7  | 25,4             | 12,7                 | 0,85     | 50                   |
| MTWA31815B11         | MTWA31815B10         | 31,8/15,9  | 31,8             | 15,9                 | 0,85     | 50                   |
| MTWA38119B11         | MTWA38119B10         | 38,1/19,1  | 38,1             | 19,1                 | 0,96     | 50                   |
| MTWA50825B11         | MTWA50825B10         | 50,8/25,4  | 50,8             | 25,4                 | 0,97     | 25                   |
| MTWA60030B11         | MTWA60030B10         | 60,0/30,0  | 60,0             | 30,0                 | 1,10     | 25                   |
| MTWA76238B11         | MTWA76238B10         | 76,2/38,1  | 76,2             | 38,1                 | 1,17     | 25                   |
| MTWA10150B11         | MTWA10150B10         | 101,6/50,8 | 101,6            | 50,8                 | 1,30     | 25                   |
| MTWA12060B11         | MTWA12060B10         | 120,0/60,0 | 120,0            | 60,0                 | 1,30     | 25                   |
| MTWA15276B11         | MTWA15276B10         | 152,4/76,2 | 152,4            | 76,2                 | 1,30     | 15                   |

## List of products MTW available in different colors

| Available colors                                                                   |              | For the colour version replace the third letter from the end in the ordering code |
|------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------|
|  | Black        | <b>B</b> (B10/B11)                                                                |
|  | Clear        | <b>C</b> (C10/C11)                                                                |
|  | Blue         | <b>N</b> (N10/N11)                                                                |
|  | Green        | <b>G</b> (G10/B11)                                                                |
|  | Red          | <b>R</b> (R10/R11)                                                                |
|  | Yellow/Green | <b>X</b> (X10/X11)                                                                |

Other colors and lengths upon request.

# Mediumwall Heat-shrink Tubing

Insulation and core protection for low and medium voltage cables.



Morek's **MMWT Heat-shrink Tubing** is engineered to provide top-quality insulation, protection, and sealing for low-voltage cable accessories and electrical components. This Mediumwall, cross-linked polyolefin tubing is ideal for low and medium voltage cables, delivering robust mechanical strength and exceptional electrical properties.

The MMWT tubing offers a durable solution that withstands UV radiation, weathering, and environmental pollutants, making it well-suited for both indoor and outdoor applications, including offshore environments.

Compliance: CENELEC EN50655

## Reliable Electrical and Mechanical Strength:

Ensures stable insulation and protection for low-voltage applications.

## Durable Material Composition:

UV-stabilized, halogen-free, and silicone-free, with non-corrosive, non-toxic properties, and free from lead and aluminum.

## Adhesive Options:

Available with or without a hot-melt adhesive coating to suit various sealing and moisture-proofing needs.

## Compliance and Approvals:

Meets RoHS and REACH regulations and is approved for offshore applications, ensuring environmentally responsible and safe usage.

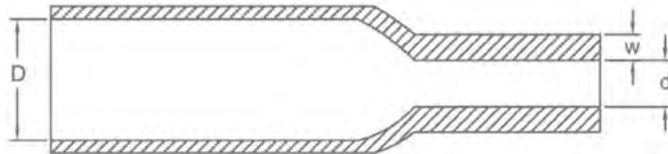
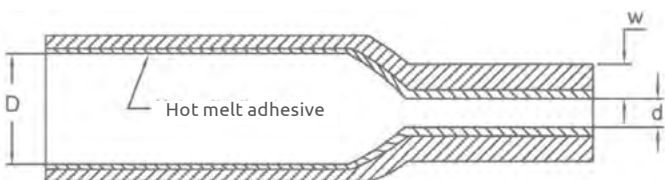
## High Shrink Ratio and Color:

Black, with a 3:1 shrink ratio, enabling a tight, secure fit over various cable sizes and shapes.

## Extended Shelf Life:

Unlimited shelf life under normal storage conditions.

## Dimensions



## MMWT Mediumwall tubing with adhesive

| Order code   | Size (mm) | As supplied (mm) | After recovered (mm) |          | Standard Length (m) |
|--------------|-----------|------------------|----------------------|----------|---------------------|
|              |           | D (Min.)         | d (Max.)             | w (Min.) |                     |
| MMWT00802A10 | 8/2       | 8                | 2                    | 1,8      | 1000                |
| MMWT01203A10 | 12/3      | 12               | 3                    | 1,8      | 1000                |
| MMWT01905A10 | 19/5      | 19               | 5                    | 2,0      | 1000                |
| MMWT02206A10 | 22/6      | 22               | 6                    | 2,4      | 1000                |
| MMWT02806A15 | 28/6      | 28               | 6                    | 2,7      | 1000                |
| MMWT03308A10 | 33/8      | 33               | 8                    | 2,7      | 1000                |
| MMWT04012A10 | 40/12     | 40               | 12                   | 2,7      | 1000                |
| MMWT05516A10 | 55/16     | 55               | 16                   | 2,7      | 1000                |
| MMWT06519A10 | 65/19     | 65               | 19                   | 2,9      | 1000                |
| MMWT07522A10 | 75/22     | 75               | 22                   | 3,0      | 1000                |
| MMWT09525A10 | 95/25     | 95               | 25                   | 3,5      | 1000                |
| MMWT11534A10 | 115/34    | 115              | 34                   | 3,5      | 1000                |
| MMWT14042A10 | 140/42    | 140              | 42                   | 3,5      | 1000                |

## MMWT Mediumwall tubing without adhesive

| Order code   | Size (mm) | As supplied (mm) | After recovered (mm) |          | Standard Length (m) |
|--------------|-----------|------------------|----------------------|----------|---------------------|
|              |           | D (Min.)         | d (Max.)             | w (Min.) |                     |
| MMWT00802U10 | 8/2       | 8                | 2                    | 1,7      | 1000                |
| MMWT01203U10 | 12/3      | 12               | 3                    | 1,7      | 1000                |
| MMWT01905U10 | 19/5      | 19               | 5                    | 2,0      | 1000                |
| MMWT02206U10 | 22/6      | 22               | 6                    | 2,4      | 1000                |
| MMWT02806U10 | 28/6      | 28               | 6                    | 2,6      | 1000                |
| MMWT03308U10 | 33/8      | 33               | 8                    | 2,6      | 1000                |
| MMWT04012U10 | 40/12     | 40               | 12                   | 2,6      | 1000                |
| MMWT05516U10 | 55/16     | 55               | 16                   | 2,7      | 1000                |
| MMWT06519U10 | 65/19     | 65               | 19                   | 2,9      | 1000                |
| MMWT07522U10 | 75/22     | 75               | 22                   | 3,0      | 1000                |
| MMWT09525U10 | 95/25     | 95               | 25                   | 3,1      | 1000                |
| MMWT11534U10 | 115/34    | 115              | 34                   | 3,2      | 1000                |
| MMWT14042U10 | 140/42    | 140              | 42                   | 3,2      | 1000                |
| MMWT16050U10 | 160/50    | 160              | 50                   | 3,2      | 1000                |
| MMWT18058U10 | 180/58    | 180              | 58                   | 3,3      | 1000                |
| MMWT20055U10 | 200/55    | 200              | 55                   | 3,7      | 1000                |

# Heavywall Heat-shrink Tubing

## Insulation and Outer Sealing for Low and Medium Voltage Cables



The **MHWT Heavywall Heat-shrink Tubing** by Morek is designed for robust insulation, protection, and re-jacketing of low, medium, and high-voltage cables and accessories. This Heavywall tubing is crafted from durable, cross-linked polyolefin, combining electrical and mechanical properties to withstand demanding environments and ensure reliable performance in both indoor and outdoor installations, including offshore applications.

With Morek’s MHWT tubing, customers gain a reliable, high-quality solution that meets industry standards for safety and durability. Backed by our commitment to quality and customer support, MHWT tubing ensures effective insulation and protection across various applications.

Compliance: CENELEC EN50655

### Superior Electrical and Mechanical Strength:

Ensures reliable insulation for low-voltage applications, offering stability and protection.

### Heavywall Material Composition:

Thick, UV-stabilized polyolefin provides exceptional durability against radiation and weathering.

### Safe and Non-Toxic:

Halogen-free, silicone-free, and free from lead and aluminum, offering a non-corrosive, non-toxic option.

### Adaptable Adhesive Options:

Available with or without an internal hot-melt adhesive coating for customized sealing needs.

### Compliance and Approvals:

RoHS and REACH compliant, suitable for offshore environments.

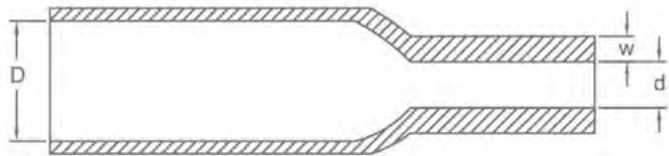
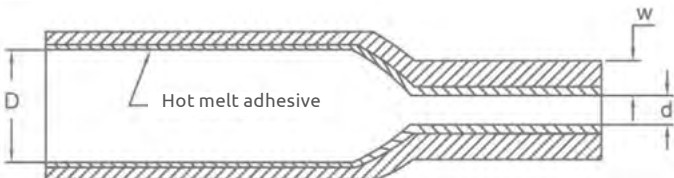
### High Shrink Ratio and Versatile Design:

Black with a high shrink ratio, fitting securely over various cable sizes and irregular shapes.

### Extended Shelf Life:

Unlimited shelf life under normal storage conditions.

## Dimensions



## MHWT Heavywall tubing with adhesive

| Order code   | Size (mm) | As supplied (mm) | After recovered (mm) |          | Standard Length (mm) |
|--------------|-----------|------------------|----------------------|----------|----------------------|
|              |           | D (Min.)         | d (Max.)             | W (Min.) |                      |
| MHWT00903A10 | 9/3       | 9                | 3                    | 2        | 1000                 |
| MHWT01605A10 | 16/5      | 16               | 5                    | 2,4      | 1000                 |
| MHWT01905A10 | 19/5      | 19               | 5                    | 2,4      | 1000                 |
| MHWT02206A10 | 22/6      | 22               | 6                    | 2,7      | 1000                 |
| MHWT03308A10 | 33/8      | 33               | 8                    | 3,2      | 1000                 |
| MHWT04012A10 | 40/12     | 40               | 12                   | 4        | 1000                 |
| MHWT05516A10 | 55/16     | 55               | 16                   | 4        | 1000                 |
| MHWT06519A10 | 65/19     | 65               | 19                   | 4        | 1000                 |
| MHWT07522A10 | 75/22     | 75               | 22                   | 4        | 1000                 |
| MHWT09525A10 | 95/25     | 95               | 25                   | 4,2      | 1000                 |
| MHWT10529A10 | 105/29    | 105              | 29                   | 4,2      | 1000                 |
| MHWT11534A10 | 115/34    | 115              | 34                   | 4,2      | 1000                 |
| MHWT13036A10 | 130/36    | 130              | 36                   | 4,2      | 1000                 |
| MHWT14042A10 | 140/42    | 140              | 42                   | 4,2      | 1000                 |
| MHWT16050A10 | 160/50*   | 160              | 50                   | 4,2      | 1000                 |
| MHWT18058A10 | 180/58*   | 180              | 58                   | 4,2      | 1000                 |

## MHWT Heavywall tubing without adhesive

| Order code   | Size (mm) | As supplied (mm) | After recovered (mm) |          | Standard Length (mm) |
|--------------|-----------|------------------|----------------------|----------|----------------------|
|              |           | D (Min.)         | d (Max.)             | W (Min.) |                      |
| MHWT00903U10 | 9/3       | 9                | 3                    | 2,0      | 1000                 |
| MHWT01605U10 | 16/5      | 16               | 5                    | 2,4      | 1000                 |
| MHWT01905U10 | 19/5      | 19               | 5                    | 2,4      | 1000                 |
| MHWT02206U10 | 22/6      | 22               | 6                    | 2,7      | 1000                 |
| MHWT03308U10 | 33/8      | 33               | 8                    | 3,2      | 1000                 |
| MHWT04012U10 | 40/12     | 40               | 12                   | 3,7      | 1000                 |
| MHWT05516U10 | 55/16     | 55               | 16                   | 3,7      | 1000                 |
| MHWT06519U10 | 65/19     | 65               | 19                   | 3,7      | 1000                 |
| MHWT07522U10 | 75/22     | 75               | 22                   | 3,7      | 1000                 |
| MHWT09525U10 | 95/25     | 95               | 25                   | 3,7      | 1000                 |
| MHWT10529U10 | 105/29    | 105              | 29                   | 4,0      | 1000                 |
| MHWT11534U10 | 115/34    | 115              | 34                   | 4,0      | 1000                 |
| MHWT13036U10 | 130/36    | 130              | 36                   | 4,0      | 1000                 |
| MHWT14042U10 | 140/42    | 140              | 42                   | 4,0      | 1000                 |
| MHWT16050U10 | 160/50    | 160              | 50                   | 4,0      | 1000                 |
| MHWT13036U10 | 180/58    | 180              | 50                   | 4,1      | 1000                 |

# Heat-shrink Low Voltage Breakouts

Heat-shrink Low voltage breakouts up to 1kV



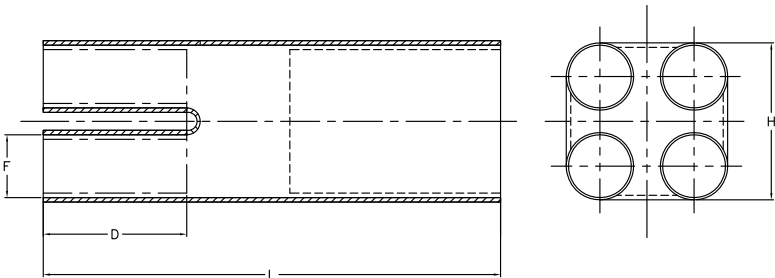
Morek’s **Heat-shrink Low Voltage Breakouts** are designed to provide reliable insulation and sealing for multi-core cables up to 1kV. Engineered for durability, these breakouts are made from thermally stabilized, cross-linked polyolefin, blended with synthetic rubber to deliver excellent electrical insulation, UV resistance, and weatherproofing. The black-colored breakouts are available with two, three, four, or five fingers, each coated with either a polyamide-based hot melt adhesive or rubber mastic (upon request), ensuring a watertight environmental seal.

With Morek’s Heat-shrink Low Voltage Breakouts, customers receive a product that meets high standards of quality, durability, and flexibility. Ideal for a wide range of low-voltage applications, these breakouts ensure that cables remain secure, insulated, and sealed against moisture and environmental factors.

- Reliable Electrical Insulation:**  
Designed for low voltage (up to 1kV) applications, providing essential insulation for cable crutches.
- Durable and UV Resistant:**  
Constructed from UV-stabilized, cross-linked polyolefin, protecting against environmental degradation.
- Customizable Sealing Options:**  
Spiral-coated with polyamide hot melt adhesive for secure sealing; rubber mastic coating available on request.
- Material Composition:**  
Blended with synthetic rubber and fire-retardant additives (optional), with resistance to oxidation, ozone, and other environmental factors.
- Efficient Design:**  
Available in black, with options for two to five fingers to fit various cable configurations.

When heated above 125°C, the LV breakouts shrink to a predetermined size, creating a tight, waterproof seal over the cable crutch. The hot melt adhesive or mastic sealant provides added protection against moisture, making these breakouts an ideal solution for environments where cables require robust, long-lasting insulation.

## Dimensions



## MHLB Heat-shrinkable Low Voltage Breakouts

| Order code | Breakout main diameter (H) |         | Finger Diameter (F) |         | Full Length | Finger Length |
|------------|----------------------------|---------|---------------------|---------|-------------|---------------|
|            | R* (mm)                    | S* (mm) | R* (mm)             | S* (mm) | L (mm)      | D (mm)        |

## LV Breakout 2-Fingers Models

|             |      |      |     |      |       |      |
|-------------|------|------|-----|------|-------|------|
| MHLB03310B2 | 10,0 | 33,0 | 3,0 | 14,0 | 90,0  | 20,0 |
| MHLB06022B2 | 22,0 | 60,0 | 6,7 | 24,0 | 120,0 | 35,0 |

## LV Breakout 3-Fingers Models

|             |      |       |      |      |       |      |
|-------------|------|-------|------|------|-------|------|
| MHLB02808B3 | 8,5  | 28,0  | 2,5  | 12,0 | 70,0  | 23,0 |
| MHLB04514B3 | 14,0 | 45,0  | 4,0  | 15,0 | 110,0 | 20,0 |
| MHLB06022B3 | 22,0 | 60,0  | 8,0  | 26,0 | 185,0 | 45,0 |
| MHLB08033B3 | 33,0 | 80,0  | 16,0 | 36,0 | 210,0 | 50,0 |
| MHLB11033B3 | 33,0 | 110,0 | 16,0 | 40,0 | 210,0 | 50,0 |
| MHLB11047B3 | 47,0 | 110,0 | 20,0 | 48,0 | 225,0 | 75,0 |
| MHLB12547B3 | 47,0 | 125,0 | 20,0 | 55,0 | 250,0 | 75,0 |
| MHLB14054B3 | 54,0 | 140,0 | 27,0 | 62,0 | 240,0 | 65,0 |
| MHLB15554B3 | 54,0 | 155,0 | 27,0 | 62,0 | 240,0 | 65,0 |

## LV Breakout 4-Fingers Models

|             |      |       |      |      |       |      |
|-------------|------|-------|------|------|-------|------|
| MHLB02808B4 | 8,5  | 28,0  | 1,8  | 10,0 | 70,0  | 23,0 |
| MHLB03814B4 | 14,0 | 38,0  | 3,2  | 15,0 | 105,0 | 25,0 |
| MHLB05014B4 | 14,0 | 50,0  | 3,2  | 15,0 | 105,0 | 25,0 |
| MHLB05525B4 | 25,0 | 55,0  | 6,0  | 20,0 | 180,0 | 45,0 |
| MHLB06525B4 | 25,0 | 65,0  | 6,0  | 25,0 | 180,0 | 45,0 |
| MHLB07222B4 | 22,0 | 72,0  | 8,5  | 25,0 | 190,0 | 45,0 |
| MHLB10033B4 | 33,0 | 100,0 | 14,0 | 35,0 | 215,0 | 50,0 |
| MHLB12547B4 | 47,0 | 125,0 | 20,0 | 45,0 | 245,0 | 72,0 |

## LV Breakout 5-Fingers Models

|             |      |       |     |      |       |      |
|-------------|------|-------|-----|------|-------|------|
| MHLB05015B5 | 15,0 | 50,0  | 3,2 | 15,0 | 105,0 | 30,0 |
| MHLB08033B5 | 33,0 | 80,0  | 9,0 | 27,0 | 215,0 | 60,0 |
| MHLB10233B5 | 33,0 | 102,0 | 9,0 | 35,0 | 215,0 | 60,0 |

## LV Breakout 6-Fingers Model

| Order code  | Breakout main dia. (H) |         | Finger F1 Dia. |         | Finger F2 Dia. |         | Full Length | Finger Length |
|-------------|------------------------|---------|----------------|---------|----------------|---------|-------------|---------------|
|             | R* (mm)                | S* (mm) | R* (mm)        | S* (mm) | R* (mm)        | S* (mm) | L (mm)      | D (mm)        |
| MHLB10033B6 | 33,0                   | 100,0   | 6,0            | 19,0    | 12,0           | 38,0    | 215,0       | 50,0          |

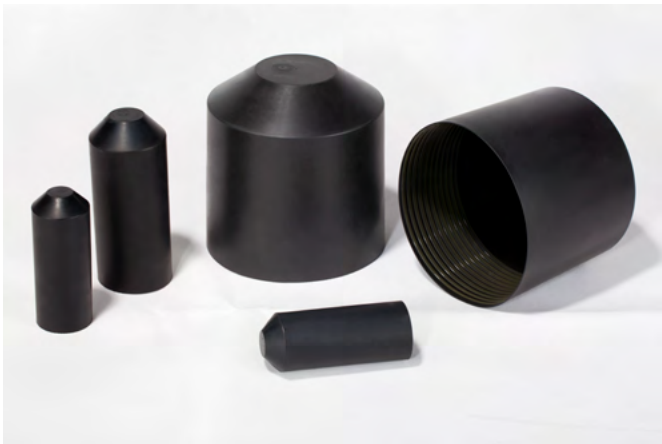
\* S: As Supplied

R: Fully Recovered



# Heat-shrink End Caps

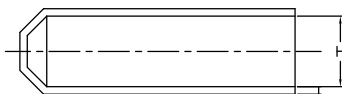
Designed to protect and insulate the unused ends of cables, safeguarding them from environmental effects.



Morek’s **MHLC Heat-shrinkable End Caps** are designed to protect and insulate the unused ends of cables, safeguarding them from environmental effects. Constructed from thermally stabilized, cross-linked polyolefin, these end caps offer reliable insulation and are pre-coated with a yellowish, translucent hot melt adhesive for a secure, moisture-resistant seal. Available in both film and spiral coating forms, these end caps can accommodate various cable types, including PVC, XLPE, PILC, and rubber jackets, and are suitable for both pressurized and unpressurized applications.

Morek’s MHLC Heat-shrinkable End Caps deliver consistent, high-quality insulation and protection for a wide range of applications. Built for durability and flexibility, they meet stringent industry standards and provide reliable sealing and protection, backed by Morek’s commitment to quality and customer satisfaction.

## Dimensions



RECOVERED END CAP



EXPANDED END CAP

### Reliable Insulation and Protection:

Ensures environmental protection and insulation for unused cable ends, preventing damage and exposure.

### Durable Composition:

UV-resistant and made from cross-linked polyolefin, providing protection against oxidation, ozone, and harsh conditions.

### Versatile Adhesive Options:

Coated with polyamide hot melt adhesive in either film form for pressurized cables or spiral form for unpressurized cables.

### Flexible Applications:

Suitable for a wide range of electrical and telecommunications cables, with non-return air valves available for pressurized telecom cables.

### Efficient and Secure Design:

Black color with pre-applied adhesive coating, ensuring quick and easy installation.

Upon heating above 125°C, MHLC end caps shrink to form a tight seal over the cable end, providing a barrier against moisture, UV, and other environmental effects. The adhesive layer ensures a strong bond, making these end caps ideal for both industrial and outdoor installations.

## MHLC Heat-shrinkable End Caps

| End Cap     | End Cap Dimension mm |            | Cable Diameter (H) |          |
|-------------|----------------------|------------|--------------------|----------|
| Order code  | EXP-H (mm)           | Length (L) | min (mm)           | max (mm) |
| MHLC01003B0 | 10,0/3,0             | 35         | 4                  | 9        |
| MHLC01504B0 | 15,0/4,5             | 45         | 5                  | 13       |
| MHLC02006B0 | 20,0/6,0             | 63         | 7                  | 17       |
| MHLC02508B0 | 25,0/8,5             | 70         | 10                 | 22       |
| MHLC04014B0 | 40,0/14,5            | 102        | 17                 | 35       |
| MHLC04014BX | 40,0/14,5            | 190        | 17                 | 35       |
| MHLC06324B0 | 63,0/24,0            | 118        | 28                 | 55       |
| MHLC06324BX | 63,0/24,0            | 175        | 28                 | 55       |
| MHLC07532B0 | 75,0/32,0            | 133        | 37                 | 65       |
| MHLC07532BX | 75,0/32,0            | 175        | 37                 | 65       |
| MHLC07838B0 | 78,0/38,0            | 130        | 44                 | 70       |
| MHLC10645B0 | 106,0/45,0           | 164        | 52                 | 95       |
| MHLC10057B0 | 100,0/57,0           | 155        | 65                 | 90       |
| MHLC12057B0 | 120,0/57,0           | 155        | 65                 | 110      |
| MHLC14557B0 | 145,0/57,0           | 155        | 65                 | 135      |

# Heat-shrink sets for cables up to 1kV

Suitable for low voltage, high-performance insulation needs.



Morek's **Low Voltage Kits** provide a complete solution for the termination and jointing of cables up to 1kV. Available in two main types—MSLS Termination Kits and MSCS Joint Kits—these heat-shrink sets are designed to facilitate secure, durable connections for both aluminum and copper conductors. Each kit includes all necessary components, such as shear bolt cable lugs, sanding and cleaning materials, and installation instructions, ensuring a straightforward and reliable installation process.

Both the MSLS and MSCS kits are designed for low voltage installations in diverse environments, offering protection and ease of use for contractors and installers working on indoor and outdoor projects.

Certified according to EN61238-1 class A

## For Applications up to 1kV:

Engineered to meet the demands of low-voltage cable terminations and joints.

## Versatile Compatibility:

Ideal for cables with PVC or XLPE insulation, accommodating 3, 4, or 5 core configurations.

## Shear Bolt Cable Lugs:

Included in both kits, compatible with aluminum and copper conductors for reliable connections.

## Complete Installation Materials:

Includes sanding and cleaning supplies, ensuring optimal contact surfaces and reliable insulation.

## Indoor and Outdoor Use:

Designed to withstand varied environmental conditions, providing flexibility for diverse installations.

## Heat-Shrink Technology:

High-quality heat-shrink tubes and terminations ensure secure sealing and simplify the installation process.

## MSLS Termination Kits

| Order code  | Conductor size                    | Lugs            | Qty of cores |
|-------------|-----------------------------------|-----------------|--------------|
| MSLS0351A10 | Al / Cu 6 - 35 mm <sup>2</sup>    | 4 x MSLL0351A10 | 4            |
| MSLS0701A12 | Al / Cu 25 - 70 mm <sup>2</sup>   | 4 x MSLL0951A12 | 4            |
| MSLS1202A12 | Al / Cu 70 - 120 mm <sup>2</sup>  | 4 x MSLL1502A12 | 4            |
| MSLS2402A12 | Al / Cu 120 - 240 mm <sup>2</sup> | 4 x MSLL2402A12 | 4            |

The **MSLS Termination Kits** are specifically designed for terminating low voltage cables with plastic insulation and an outer plastic sheath. Suitable for both indoor and outdoor use, these kits are available for 3, 4, and 5 core cables and come with high-quality heat-shrink tubes that ensure a secure and reliable seal.

- **Shear Bolt Cable Lugs Included:**  
Supports aluminum and copper conductors.
- **Comprehensive Materials:**  
Includes sanding and cleaning supplies for optimal contact and sealing.
- **Easy Installation:**  
High-quality heat-shrink terminations simplify the process, reducing installation time and effort.

Please contact your Customer Service representative for information on kits for 3 and 5 core cables.



## MSCS Joint Kits

| Order code  | Conductor size                    | Connectors      | Qty of cores |
|-------------|-----------------------------------|-----------------|--------------|
| MSCS0162A00 | Al / Cu 2,5 - 16 mm <sup>2</sup>  | 4 x MSCL0162A00 | 4            |
| MSCS0352A00 | Al / Cu 6 - 35 mm <sup>2</sup>    | 4 x MSCL0252A00 | 4            |
| MSCS0502A00 | Al / Cu 16 - 50 mm <sup>2</sup>   | 4 x MSCL0502A00 | 4            |
| MSCS0952A00 | Al / Cu 25 - 95 mm <sup>2</sup>   | 4 x MSCL0952A00 | 4            |
| MSCS1202A00 | Al / Cu 70 - 150 mm <sup>2</sup>  | 4 x MSCL1502A00 | 4            |
| MSCS2404A00 | Al / Cu 95 - 240 mm <sup>2</sup>  | 4 x MSCL2404A00 | 4            |
| MSCS3004A00 | Al / Cu 150 - 300 mm <sup>2</sup> | 4 x MSCL3004A00 | 4            |

The **MSCS Joint Kits** enable secure jointing of low voltage cables with plastic insulation and outer sheaths, providing the same reliable sealing as the termination kits. These kits also include shear bolt cable lugs, sanding and cleaning materials, and installation instructions.

- **Bolt Cable Lugs Included:**  
Compatible with both aluminum and copper conductors.
- **Heat-Shrink Tubes for Core and Outer Sheath:**  
Provides durable insulation for the entire joint, supporting long-term reliability.
- **User-Friendly Assembly:**  
Designed for easy handling and secure installation, ensuring dependable connections.

Please contact your Customer Service representative for information on kits for 3 and 5 core cables.



# Gel joints Break

**Fastest way to make an underground connection!**



Morek's **Gel Joints Break** series provides the fastest and most efficient solution for creating underground connections for low-voltage applications up to 1kV. Designed for quick installation, these joints guarantee secure insulation for both main and shunted connections, supporting single-pole and multi-pole configurations. The cross-linked gel filling in each joint shell eliminates the need for additional casting, making Gel Joints Break a time-saving, reliable choice for diverse installation environments.

Morek's Gel Joints Break series combines ease of installation with robust performance, allowing professionals to create reliable, watertight connections quickly. Designed for flexibility and durability, these joints meet stringent safety standards, providing a long-lasting solution for challenging underground installations.

**Compliance:** EN 50393 (0.6/1kV), EN 60529, RoHS Directive 2011/65/EC, and EN 60695-2-11.

**Protection Level:** IP68, suitable for submerged conditions

**Operating Temperature:** -20°C to +90°C

## Efficient Underground Connections:

The fastest solution for underground cable connections, with high-strength and watertight sealing.

## Flexible Configurations:

Available for main (up to 1x185 mm<sup>2</sup> single-pole, 4x25 mm<sup>2</sup> multi-pole) and shunted connections (up to 1x120 mm<sup>2</sup> single-pole, 4x10 mm<sup>2</sup> multi-pole).

## Innovative Insulation:

Includes separators or modular insulated terminals for up to five phases (max. 35 mm<sup>2</sup>), ensuring high dielectric strength.

## High-Strength Gel Filling:

Cross-linked gel provides durable, non-slip connections without additional casting, maintaining watertight integrity.

## Wide Temperature and UV Resistance:

Operates from -20°C to +90°C, with resistance to UV rays, chemicals, and environmental pollutants.

## Indoor and Outdoor Compatibility:

Watertight and suitable for diverse environments, accommodating solid, stranded, sector-shaped, and round conductors with various insulation types.

## Re-Enterable Design:

Easily accessible for re-entry without compromising insulation, providing maintenance flexibility.

### Kit content\*

- Shell
- Tie-wraps
- Separator





Break 25

Break 30

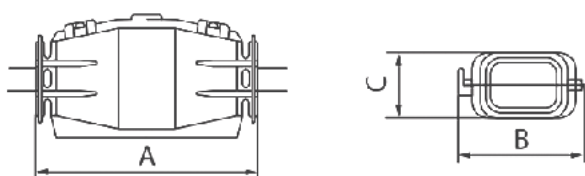
Break 50

Break 50Y

Break 100

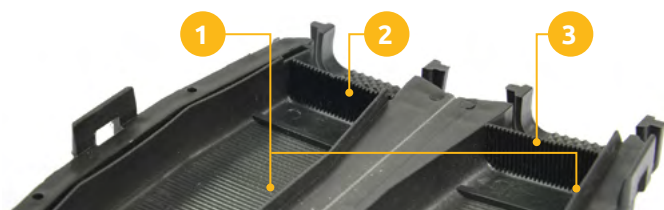
| Order code                | MBG0025A24   | MBG0030A24    | MBG0050A24    | MBG0050Y24     | MBG0100A24     |
|---------------------------|--------------|---------------|---------------|----------------|----------------|
| Dimensions A / B / C (mm) | 70 / 42 / 24 | 100 / 59 / 34 | 165 / 62 / 36 | 180 / 105 / 36 | 220 / 100 / 50 |
| Package (pcs)             | 4            | 5             | 3             | 1              | 1              |

### Dimensions



### Components and characteristics

- Two polypropylene hinged shells with patented watertight system, made up of a longitudinal ribbing (1) functioning as the gel containing bulkhead. At both ends there are pre-fractured walls (2) that allow gel overflowing, ensuring a good water tightness.
- Wire slipping is avoided in longitudinal direction thanks to ribbing (3) at the ends of the shells and in transversal direction thanks to wire fixing with tie-wraps included in the package.
- Patented separator made up of two notched plates that allow a reciprocal jointing and two protrusions that block the plates.
- There are two holes at the ends of each model in order to insert and fix tie-wraps. Joint opening can occur only using a tool according to norm CEI 64-8.



| Order code | Type      | Connection type  | 1          |      |               |      | 2          |      |               |      | 3          |      |               |      | 4          |      |               |      |
|------------|-----------|------------------|------------|------|---------------|------|------------|------|---------------|------|------------|------|---------------|------|------------|------|---------------|------|
|            |           |                  | Main (mm²) |      | Shunted (mm²) |      | Main (mm²) |      | Shunted (mm²) |      | Main (mm²) |      | Shunted (mm²) |      | Main (mm²) |      | Shunted (mm²) |      |
|            |           |                  | Min.       | Max. | Min.          | Max. | Min.       | Max. | Min.          | Max. | Min.       | Max. | Min.          | Max. | Min.       | Max. | Min.          | Max. |
| MBG0025A24 | Break 25  | Main wiring      | 1,5        | 25   | -             | -    | -          | -    | -             | -    | -          | -    | -             | -    | -          | -    | -             | -    |
|            |           | Branching wiring | 1,5        | 25   | 1,5           | 10   | -          | -    | -             | -    | -          | -    | -             | -    | -          | -    | -             | -    |
| MBG0030A24 | Break 30  | Main wiring      | 1,5        | 50   | -             | -    | 1,5        | 10   | -             | -    | 1,5        | 4    | -             | -    | 1,5        | 2,5  | -             | -    |
|            |           | Branching wiring | 1,5        | 50   | 1,5           | 35   | -          | -    | -             | -    | -          | -    | -             | -    | -          | -    | -             | -    |
| MBG0050A24 | Break 50  | Main wiring      | 10         | 120  | -             | -    | 6          | 16   | -             | -    | 1,5        | 10   | -             | -    | 1,5        | 10   | -             | -    |
|            |           | Branching wiring | 10         | 70   | 1,5           | 35   | 1,5        | 10   | 1,5           | 6    | 1,5        | 10   | 1,5           | 4    | 1,5        | 6    | 1,5           | 4    |
| MBG0100A24 | Break 100 | Main wiring      | 35         | 185  | -             | -    | 16         | 50   | -             | -    | 4          | 25   | -             | -    | 6          | 25   | -             | -    |
|            |           | Branching wiring | 25         | 150  | 10            | 120  | 10         | 35   | 6             | 25   | 4          | 16   | 2,5           | 4    | 6          | 16   | 2,5           | 10   |
| MBG0050Y24 | Break 50Y | Main wiring      | -          | -    | -             | -    | -          | -    | -             | -    | -          | -    | -             | -    | -          | -    | -             | -    |
|            |           | Branching wiring | 6          | 70   | 2,5           | 50   | 1,5        | 25   | 1,5           | 16   | 2,5        | 16   | 1,5           | 10   | 2,5        | 16   | 1,5           | 10   |

# Modular Terminal Blocks

Designed for fast, easy wiring with reliable double insulation.



Morek's **Modular Terminal Blocks** are designed for flexible and space-saving connections, ideal for use in compact installations, including resin and Gel Joints Break applications. Available in three single-pole models—MC 06, MC 16, and MC 35—these blocks support conductor sizes up to 6 mm<sup>2</sup>, 16 mm<sup>2</sup>, and 35 mm<sup>2</sup>, respectively. With the ability to connect two to five poles, these blocks can be configured in various combinations, with three- and five-pole arrangements forming a unique pyramidal structure to optimize space utilization.

Morek's Modular Terminal Blocks offer a dependable, flexible solution for modular connections, balancing compact design with durability. With fast, easy installation and compliance with stringent safety standards, these blocks are the optimal choice for adaptable and space-efficient electrical connections in various applications.

Compliance with EN 60695-2-11, EN 60998-1:2004, EN 60998-2-1:2004, RoHS 2011/65/CE

## Modular Configurations:

Assemble from two to five poles, with options for same-size or mixed-size sections to accommodate various requirements.

## Space-Saving Pyramidal Design:

Three- and five-pole combinations create a compact pyramid structure, ideal for confined spaces.

## High Durability and Insulation:

Made from self-extinguishing polycarbonate with brass conductive components, providing long-lasting and secure connections.

## Re-enterable and Reusable:

Designed for easy re-entry and maintenance, particularly beneficial in reusable joint connections.

## Ease of Installation:

Simple and quick wiring setup, supporting efficient installation and reliable double insulation.

Designed for fast, easy wiring with reliable double insulation, Morek's Modular Terminal Blocks offer high protection and flexibility for varied applications.

**Operating Temperature:** -20°C to +90°C

**Rated Insulation Voltage:** 500V

**Current Ratings:** 24A (MC 06), 41A (MC 16), 76A (MC 35)

**Tightening Torque:** 0.6 Nm (MC 06), 1.8 Nm (MC 16), 10 Nm (MC 35)

**Material Composition:** Self-extinguishing polycarbonate, brass, and zinc-plated steel



MC 06

MC 16

MC 35

| Order code | MAH0006A24 | MAH0016A24 | MAH0035A24 |
|------------|------------|------------|------------|
|------------|------------|------------|------------|

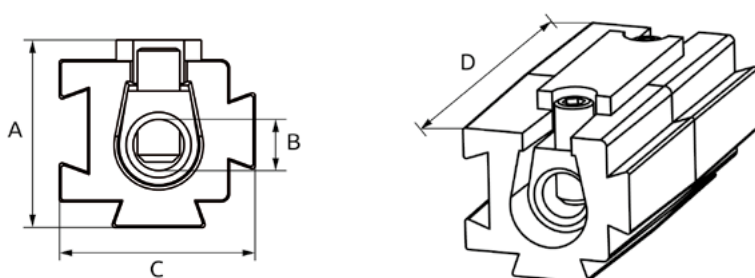
## Technical data

|                      |                         |                    |         |       |       |
|----------------------|-------------------------|--------------------|---------|-------|-------|
| In-line connection   | max. wire section (mm²) |                    | 6       | 16    | 35    |
| Shunted connection   | Feed through wire       | min. section (mm²) | 1,5     | 2,5   | 6     |
|                      |                         | max. section (mm²) | 6       | 10    | 25    |
|                      | Shunted wire            | min. section (mm²) | 1,5     | 2,5   | 6     |
|                      |                         | max. section (mm²) | 1,5     | 4     | 10    |
|                      |                         |                    |         |       |       |
| Size (mm)            | A                       |                    | 13,2    | 13,6  | 19,2  |
|                      | B                       |                    | 3,6     | 5,8   | 9,3   |
|                      | C                       |                    | 13,8    | 14,2  | 19,8  |
|                      | D                       |                    | 28      | 31    | 40    |
| Screw, hexagonal key |                         |                    | No. 1,5 | No. 2 | No. 4 |
| Weight (g)           |                         |                    | 7       | 10    | 34    |
| Package (pcs)        |                         |                    | 10      | 10    | 5     |

Maximum number of terminals recommended to use inside of gel joints Break.

|           | MC 06 | MC 16 | MC 35 |
|-----------|-------|-------|-------|
| Break 25  | 1     | 1     | -     |
| Break 30  | 3     | 3     | 2     |
| Break 50  | 5     | 5     | 2     |
| Break 50Y | 5     | 5     | 3     |
| Break 100 | 5     | 5     | 5     |

## Dimensions





# InsuGel One

Designed for secure filling and sealing of junction boxes, delivering high insulation and transparency in versatile installation settings.



Morek's **InsuGel One** provides a flexible, ready-to-use insulation and protection solution, perfect for challenging installations. Available in 300 ml and 1 kg options, InsuGel One adapts to various applications—from confined spaces to filling junction boxes—offering high-performance sealing in both horizontal and vertical installations. This eco-friendly, non-toxic gel is re-enterable and reusable, making it ideal for installations requiring future adjustments.

The gel's auto-leveling properties ensure thorough coverage and adhesion, while its transparency allows easy inspection of connections. With high dielectric strength, temperature resistance, and IPX8 waterproof protection in suitable containers, InsuGel One guarantees durable, reliable performance for low-voltage applications, making it a practical choice for efficient and long-lasting insulation.

## Ready to Use:

Immediate application without mixing or drying, ideal for fast, flexible installations.

## Eco-Friendly and Non-Toxic:

Safe to handle, with no expiration date and no harmful effects on the environment..

## Re-Enterable and Reusable:

Maintains flexibility, allowing easy re-entry for adjustments even after extended use.

## Auto-Leveling and High Adherence:

Provides reliable, durable insulation that conforms to connection surfaces.

## Transparent for Inspection:

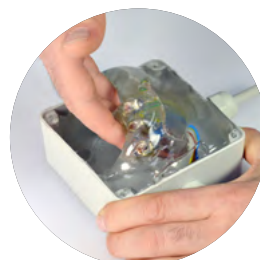
Allows immediate visual checks, ensuring connection integrity.

## Flexible Application:

Suitable for both confined spaces (300 ml) and junction box filling (1 kg), usable in horizontal and vertical positions.

## High Insulation and Protection:

Delivers strong dielectric strength and IPX8 protection for waterproof applications.



## InsuGel One, 300 ml

| Order code | Description                                      | PHS (pcs) |
|------------|--------------------------------------------------|-----------|
| MBG0002G24 | Insulation mono-component gel in cartridges 300g | 1 / 24    |

The InsuGel One 300 ml cartridge provides a convenient, ready-to-use solution for insulation and protection in applications with limited space or difficult access. Designed for injection and auto-leveling, this transparent gel is ideal for flexible, re-enterable connections and allows precise dosing, reducing waste.

### Technical specifications

- Operating temperature from -60 °C to 200 °C
- Dielectric strength > 23 kv/mm
- Thermal conductivity < 0,2 w/mk
- Dielectric constant < 5
- Volume resistivity >  $2 \times 10^{15} \Omega \times \text{cm}$
- Autoignition temperature: > 400 °C



## InsuGel One, 1 kg

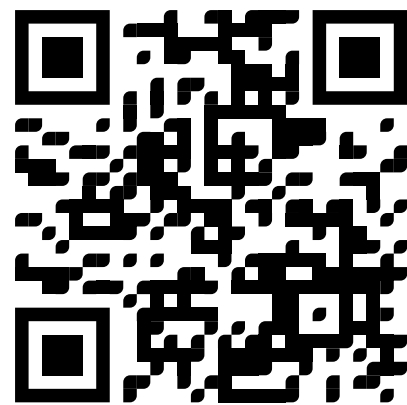
| Order code | Description                                                          | PHS (pcs) |
|------------|----------------------------------------------------------------------|-----------|
| MBG0001G24 | Mono-component gel in paste form, re-enterable/reusable, 1kg package | 1 / 12    |

The InsuGel One 1 kg solution is perfect for filling junction boxes. With high insulation resistance and no mixing required, it ensures optimal protection when all casing holes are sealed.

### Technical specifications

- Linear shrinkage 23°C / 0%
- Penetration degree 23°C / 200 mm
- Hardness (Shore A) 23°C gel
- Self-extinguishing (compliant to norm CEI EN 60695-2)
- Protection degree IPX8 (compliant to norm CEI EN 60695) with waterproof container
- High insulation resistance up to 3500 V: compliant to norm EN 60439-1





## ***Morek Q-Line – the tool-less innovated PV connections***



### **40 A High performance**

Rated input current at the highest levels in its category.

### **1500 V Top of range**

Rated voltage at the highest level in the category: 1500 V.

### **IP 65/68 protection degree**

Maximum protection degree of the category that resists both to continuous immersions and high-power water jets.

***The new Morek “Q-LINE” connectors feature the innovative patented “TwinLock” technology, where the special construction of the spring clamp, thanks to the combination of two blades allows you to:***

- **Firmly lock the conductor of the solar cable**
- **Ensure exceptional current transmission thanks to the large contact surface**

All is certified by the prestigious TÜV SUD mark, to guarantee the maximum performance of the MOREK connectors.

In this way, the connection is fast, secure and avoids the frequent crimping errors that arise from repetitive movements in uncomfortable environments such as rooftops. 50% time saving compared to a standard crimp connection.



*The new Morek "Q-LINE" connectors feature the innovative patented "TwinLock" technology, where the special construction of the spring clamp, thanks to the combination of two blades allows you to:*

- **Firmly lock the conductor of the solar cable**
- **Exceptional current transmission thanks to the large contact surface.**

All is certified by the prestigious TÜV SUD mark, to guarantee the maximum performance of the MOREK connectors.

In this way, the connection is fast, secure and avoids the frequent crimping errors that arise from repetitive movements in uncomfortable environments such as rooftops. 50% time saving compared to a standard crimp connection.



| Type                              | Male       | Female     |
|-----------------------------------|------------|------------|
| For conductor 4÷6 mm <sup>2</sup> | MAP1006Q40 | MAP2006Q40 |

#### Technical data

|                                            |                                  |                    |
|--------------------------------------------|----------------------------------|--------------------|
| Conductor cross-section (mm <sup>2</sup> ) | 4 ÷ 6 mm <sup>2</sup>            |                    |
| Rated input current (A)                    | 40 A                             |                    |
| Rated voltage DC (V)                       | 1500                             |                    |
| Rated impuls voltage (kV)                  | 8                                |                    |
| Rated insulation voltage (kV)              | 10                               |                    |
| Pollution degree                           | 3                                |                    |
| Temperature range (°C)                     | - 40 ÷ +85                       |                    |
| Material of the electroconductive part     | tinned copper                    |                    |
| Material of the insulating part            | PPE + PS                         |                    |
| Flammability                               | UL 94 V-0 standard, halogen free |                    |
| Width / Height / Length (mm)               | 20,8 / 20,8 / 64,2               | 20,8 / 20,8 / 61,8 |
| Weight (g)                                 | 12,2                             | 11,4               |
| Package (pcs)                              | 50 / 500                         |                    |
| Tested according standards                 | EN 62852:2015 + A1:2020          |                    |

## Connection sequence



- 1.** Strip 20-22 mm using the end of the female connector as a reference.



- 2.** Insert the cable into the connector as far as it will go.



- 3.** Tighten the ring nut as far as it will go with the help of the tightening wrenches.



**Regular connectors for PV applications are designed for long-term outdoor use and are compatible with MC-4 connections.**

#### Advantages

- For conductors  $4 \div 10 \text{ mm}^2$
- Rated voltage 1500 VDC
- Rated input current 40 A / 62 A
- Standard MC-4
- Protection class IP 68
- Easy disconnection without tools
- Versions for shield and panels



Flying version

Panel version

| Type                                  | Male         | Female     | Male       | Female     |
|---------------------------------------|--------------|------------|------------|------------|
| For conductor $4 \div 6 \text{ mm}^2$ | ● MAP1006B40 | MAP2006B40 | MAP1106B40 | MAP2106B40 |
| For conductor $10 \text{ mm}^2$       | ● MAP1010B40 | MAP2010B40 | MAP1110B40 | MAP2110B40 |

#### Technical data

|                                              |                                                               |                                                               |                                                               |                                                               |
|----------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Conductor cross-section Cu ( $\text{mm}^2$ ) | $4 \div 6 \text{ mm}^2 / 10 \text{ mm}^2$                     | $4 \div 6 \text{ mm}^2 / 10 \text{ mm}^2$                     | $4 \div 6 \text{ mm}^2 / 10 \text{ mm}^2$                     | $4 \div 6 \text{ mm}^2 / 10 \text{ mm}^2$                     |
| Rated input current (A)                      | 40 A ( $4 \div 6 \text{ mm}^2$ ) / 62 A ( $10 \text{ mm}^2$ ) | 40 A ( $4 \div 6 \text{ mm}^2$ ) / 62 A ( $10 \text{ mm}^2$ ) | 40 A ( $4 \div 6 \text{ mm}^2$ ) / 62 A ( $10 \text{ mm}^2$ ) | 40 A ( $4 \div 6 \text{ mm}^2$ ) / 62 A ( $10 \text{ mm}^2$ ) |
| Rated voltage DC (V)                         | 1500                                                          | 1500                                                          | 1500                                                          | 1500                                                          |
| Rated impuls voltage (kV)                    | 8                                                             | 8                                                             | 8                                                             | 8                                                             |
| Rated insulation voltage(kV)                 | 10                                                            | 10                                                            | 10                                                            | 10                                                            |
| Pollution degree                             | 3                                                             | 3                                                             | 3                                                             | 3                                                             |
| Temperature range ( $^{\circ}\text{C}$ )     | $-40 \div +85$                                                | $-40 \div +85$                                                | $-40 \div +85$                                                | $-40 \div +85$                                                |
| Material of the electroconductive part       | tinned copper                                                 | tinned copper                                                 | tinned copper                                                 | tinned copper                                                 |
| Material of the insulating part              | PPE + PS                                                      | PPE + PS                                                      | PPE + PS                                                      | PPE + PS                                                      |
| Flammability                                 | UL 94 V-0 standard, halogen free                              | UL 94 V-0 standard, halogen free                              | UL 94 V-0 standard, halogen free                              | UL 94 V-0 standard, halogen free                              |
| Width / Height / Length (mm)                 | 20 / 20 / 62                                                  | 20 / 20 / 59                                                  | 20 / 20 / 52                                                  | 20 / 20 / 62                                                  |
| Weight (g)                                   | 10,5                                                          | 9,8                                                           | 7,5                                                           | 6,7                                                           |
| Package (pcs)                                | 50 / 300                                                      | 50 / 300                                                      | 50 / 300                                                      | 50 / 300                                                      |
| Tested according standards                   | EN 62852:2015 + A1:2020                                       | EN 62852:2015 + A1:2020                                       | EN 62852:2015 + A1:2020                                       | EN 62852:2015 + A1:2020                                       |

#### PV Accessories



Assembly keys



Crimping plier for PV connectors

$4 \div 6 \text{ mm}^2$



$2,5 \div 10 \text{ mm}^2$



Edge clip for frame thick 1-3mm

$4,8 \times 180 \text{ mm}$

|               |            |            |            |            |
|---------------|------------|------------|------------|------------|
| Order code    | MAP0000A40 | MAP0001A40 | MAP0003A40 | MAP0002A40 |
| Color design  | Red        | Red / blue | Green      | Black      |
| Package (pcs) | 1 pair     | 1          | 1          | 30         |

#### Connector assembly instruction

**Please referred to the assembly specification for cable dimension as shown in the following table before cable assembling, and please do not applying exceeded tightening torque for the connecting safety and performance issues.**

- The cable must be 8 mm stripped.
- Insert the crimped contact without removing the gland ring.
- Applies to products:

MAP1006B40    MAP1010B40  
 MAP2006B40    MAP2010B40  
 MAP1106B40    MAP1110B40  
 MAP2106B40    MAP2110B40

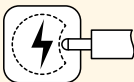
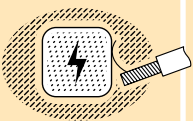
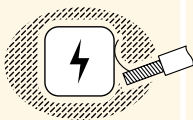


#### Assembling specification

| Conductor cross-section (cable diameter) | Tightening torque (panel version) |
|------------------------------------------|-----------------------------------|
| $4 \text{ mm}^2$ (max. 6,5 mm)           | $1,2 \div 1,5 \text{ Nm}$         |
| $6 \text{ mm}^2$ (max. 7,0 mm)           | $1,2 \div 1,5 \text{ Nm}$         |
| $10 \text{ mm}^2$ (max. 8,0 mm)          | $1,2 \div 1,5 \text{ Nm}$         |

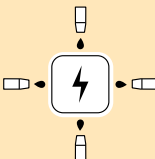
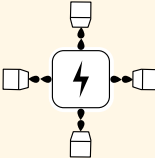
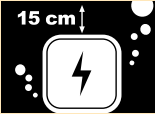
## First numeral

## Protection against ingress of solid foreign objects

| IP | Requirements                                                                                                                                               | Example                                                                             | Meaning protection of persons against access to hazardous parts with: |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 0  | No protection                                                                                                                                              |    | No protection provided                                                |
| 1  | Full penetration of 50,0 mm diameter sphere not allowed and shall have adequate clearance from hazardous parts. Contact with hazardous parts not permitted |    | Back of hand                                                          |
| 2  | Full penetration of 12,5 mm diameter sphere not allowed. The jointed test finger shall have adequate clearance from hazardous parts                        |    | Finger                                                                |
| 3  | The access probe of 2,5 mm diameter shall not penetrate                                                                                                    |  | Tool                                                                  |
| 4  | The access probe of 1,0 mm diameter shall not penetrate                                                                                                    |  | Wire                                                                  |
| 5  | Limited ingress of dust permitted (no harmful deposit, refer to standard)                                                                                  |  | Wire                                                                  |
| 6  | Totally protected against ingress of dust                                                                                                                  |  | Wire                                                                  |

## Second numeral

## Protection against harmful ingress of water

| IP | Requirements                                                                                     | Example                                                                               | Meaning for protection from ingress of water: |
|----|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------|
| 0  | No protection                                                                                    |    | No protection provided                        |
| 1  | Protected against vertically falling drops of water                                              |    | Vertically dripping                           |
| 2  | Protected against vertically falling drops of water with enclosure tilted 15° from the vertical. |    | Enclosure tilted 15° from the vertical        |
| 3  | Protected against sprays to 60° from the vertical                                                |  | Limited spraying                              |
| 4  | Protected against water splashed from all directions                                             |  | Splashing from all directions                 |
| 5  | Protected against low-pressure jets of water from all directions                                 |  | Hosing jets from all directions               |
| 6  | Protected against strong jets of water                                                           |  | Strong hosing jets from all directions        |
| 7  | Protected against the effects of immersion between 15,0 cm and 1,0 m                             |  | Temporary immersion                           |
| 8  | Protected against longer periods of immersion under pressure                                     |  | Immersion                                     |