

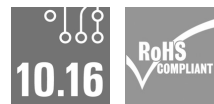
**SU 10.16IT/03/90MSF3 3.5AG BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Male header with middle solder flange fastening in 10.16 pitch for 400-V IT systems according to IEC 61800-5-1. UL approval in compliance with UL840 (600 V) when using leading contact. When used together with the BUZ 10.16 IT, they comply with the expanded requirements for 5.5 mm of touch protection with IT systems (400 V relative to earth), according to IEC 61800-5-1.

The middle-flange interlock feature decreases the space required by one pitch width when compared to other standard solutions.

Available on request with screw flange or without flange.

**General ordering data**

|              |                                                                                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, male header, THT solder connection, 10.16 mm, Number of poles: 3, 90°, Solder pin length (l): 3.5 mm, tinned, black, Box |
| Order No.    | <a href="#">2630160000</a>                                                                                                                      |
| Type         | SU 10.16IT/03/90MSF3 3.5AG BK BX                                                                                                                |
| GTIN (EAN)   | 4050118633832                                                                                                                                   |
| Qty.         | 42 pc(s).                                                                                                                                       |
| Product data | IEC: 1000 V / 78.3 A<br>UL:                                                                                                                     |
| Packaging    | Box                                                                                                                                             |

Creation date May 11, 2025 9:43:36 PM CEST

Catalogue status 26.04.2025 / We reserve the right to make technical changes.

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## Technical data

### Dimensions and weights

Net weight 15.771 g

### System specifications

|                                          |                                       |                     |                                                    |
|------------------------------------------|---------------------------------------|---------------------|----------------------------------------------------|
| Product family                           | OMNIMATE Power - series BU/SU 10.16IT |                     |                                                    |
| Type of connection                       | Board connection                      |                     |                                                    |
| Mounting onto the PCB                    | THT solder connection                 |                     |                                                    |
| Pitch in mm (P)                          | 10.16 mm                              |                     |                                                    |
| Pitch in inches (P)                      | 0.4 "                                 |                     |                                                    |
| Outgoing elbow                           | 90°                                   |                     |                                                    |
| Number of poles                          | 3                                     |                     |                                                    |
| Solder pin length (l)                    | 3.5 mm                                |                     |                                                    |
| Solder pin length tolerance              | +0.1 / -0.3 mm                        |                     |                                                    |
| Solder pin dimensions                    | 1.2 x 1.1 mm                          |                     |                                                    |
| Solder pin dimensions = d tolerance      | +0.1 / -0.1 mm                        |                     |                                                    |
| L1 in mm                                 | 30.48 mm                              |                     |                                                    |
| L1 in inches                             | 1.2 "                                 |                     |                                                    |
| Pin series quantity                      | 1                                     |                     |                                                    |
| Tightening torque for screw flange, min. | 0.3 Nm                                |                     |                                                    |
| Tightening torque for screw flange, max. | 0.4 Nm                                |                     |                                                    |
| Tightening torque                        | Torque type                           | Mounting screw, PCB |                                                    |
|                                          | Usage information                     | Thickness           | min. 1.44 mm                                       |
|                                          |                                       |                     | max. 1.76 mm                                       |
|                                          |                                       | Tightening torque   | min. 0.25 Nm                                       |
|                                          |                                       |                     | max. 0.3 Nm                                        |
|                                          |                                       | Recommended screw   | Part number <a href="#">SU 10.16 BFSC P 35X 14</a> |
|                                          |                                       |                     |                                                    |
|                                          |                                       | Thickness           | min. 2.88 mm                                       |
|                                          |                                       |                     | max. 3.52 mm                                       |
|                                          |                                       | Tightening torque   | min. 0.2 Nm                                        |
|                                          |                                       |                     | max. 0.25 Nm                                       |
|                                          |                                       | Recommended screw   | Part number <a href="#">SU 10.16 BFSC P 35X 14</a> |
|                                          |                                       |                     |                                                    |
|                                          |                                       | Thickness           | min. 1.44 mm                                       |
|                                          |                                       |                     | max. 3.52 mm                                       |
|                                          |                                       | Tightening torque   | min. 0.8 Nm                                        |
|                                          |                                       |                     | max. 0.9 Nm                                        |
|                                          |                                       | Recommended screw   | Part number <a href="#">SU 10.16 BFSC S 35X12</a>  |
|                                          |                                       |                     |                                                    |

### Material data

|                                       |           |                                       |           |
|---------------------------------------|-----------|---------------------------------------|-----------|
| Insulating material                   | PA GF     | Colour                                | black     |
| Colour chart (similar)                | RAL 9011  | UL 94 flammability rating             | V-0       |
| Contact material                      | Cu-alloy  | Contact surface                       | tinned    |
| Layer structure of solder connection  | ≥ 3 µm Ag | Layer structure of plug contact       | ≥ 3 µm Ag |
| Storage temperature, min.             | -40 °C    | Storage temperature, max.             | 70 °C     |
| Operating temperature, min.           | -50 °C    | Operating temperature, max.           | 120 °C    |
| Temperature range, installation, min. | -25 °C    | Temperature range, installation, max. | 120 °C    |

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## Technical data

## Rated data acc. to IEC

|                                                                         |         |                                                                          |         |
|-------------------------------------------------------------------------|---------|--------------------------------------------------------------------------|---------|
| Rated current, min. number of poles<br>(Tu=20°C)                        | 78.3 A  | Rated current, max. number of poles<br>(Tu=20°C)                         | 67.9 A  |
| Rated current, min. number of poles<br>(Tu=40°C)                        | 70.6 A  | Rated current, max. number of poles<br>(Tu=40°C)                         | 61.3 A  |
| Rated voltage for surge voltage class /<br>pollution degree II/2        | 1,000 V | Rated voltage for surge voltage class /<br>pollution degree III/2        | 1,000 V |
| Rated impulse voltage for surge voltage<br>class/ pollution degree II/2 | 6,000 V | Rated impulse voltage for surge voltage<br>class/ pollution degree III/2 | 8 kV    |
| Clearance, min.                                                         | 8.9 mm  | Creepage distance, min.                                                  | 10.5 mm |

## Rated data acc. to UL 1059

|                          |        |                         |         |
|--------------------------|--------|-------------------------|---------|
| Clearance distance, min. | 8.9 mm | Creepage distance, min. | 10.5 mm |
|--------------------------|--------|-------------------------|---------|

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 338 mm |
| VPE width | 130 mm | VPE height | 44 mm  |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002637    | ETIM 7.0    | EC002637    |
| ETIM 8.0    | EC002637    | ETIM 9.0    | EC002637    |
| ETIM 10.0   | EC002637    | ECLASS 9.0  | 27-44-04-02 |
| ECLASS 9.1  | 27-44-04-02 | ECLASS 10.0 | 27-44-04-02 |
| ECLASS 11.0 | 27-46-02-01 | ECLASS 12.0 | 27-46-02-01 |
| ECLASS 13.0 | 27-46-02-01 | ECLASS 14.0 | 27-46-02-01 |
| ECLASS 15.0 | 27-46-02-01 |             |             |

## Environmental Product Compliance

|                        |                             |
|------------------------|-----------------------------|
| RoHS Compliance Status | Compliant without exemption |
| REACH SVHC             | No SVHC above 0.1 wt%       |

## Important note

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IPC conformity | Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Notes          | <ul style="list-style-type: none"> <li>• Additional variants on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• P on drawing = pitch</li> <li>• Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.</li> <li>• For all applications with flange we recommend to fix the pin header with the help of the soldering flange or a self-tapping screw on the board.</li> <li>• In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Approvals**

|      |         |
|------|---------|
| ROHS | Conform |
|------|---------|

**Downloads**

|                             |                                                                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Engineering Data            | <a href="#">CAD data – STEP</a>                                                                                                       |
| Product Change Notification | <a href="#">20220630 Change OMNIMATE® Power SU 10.16IT</a><br><a href="#">20220630 Technische Änderung OMNIMATE® Power SU 10.16IT</a> |
| Catalogues                  | <a href="#">Catalogues in PDF-format</a>                                                                                              |

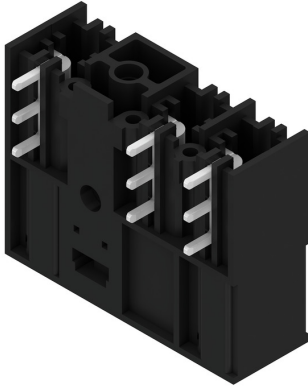
## SU 10.16IT/03/90MSF3 3.5AG BK BX

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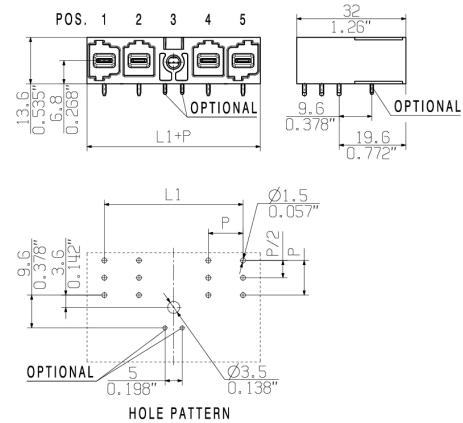
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

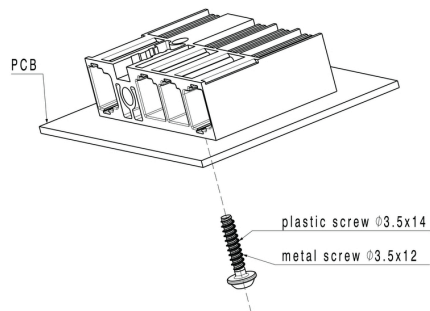
## Product image



## Dimensional drawing



## Example of use



## SU 10.16IT/03/90MSF3 3.5AG BK BX

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## Accessories

### Coding elements



**The pluggable connections for power electronics - optimised for modern drive technologies, e.g. motor starters, frequency converters and servo-controllers.**

OMNIMATE Power sets the new standard – with increased safety and innovative solutions such as the pluggable shield, integrated signal contacts and one-handed operation.

The three product lines offer you further advantages:

- Application-oriented scalability: from the compact 4 mm<sup>2</sup> connector for 29 A (IEC) or 20 A (UL) up to the sturdy 16 mm<sup>2</sup> connector for 76 A (IEC) or 54 A (UL)
- Unlimited usage up to 1,000 V (IEC) or 600 V (UL)
- A variety of application optimised mounting options

Our Service:

Design your individual connectors simply by using the

### General ordering data

| Type       | KO BU/SU 10.16HP WT        | Version                                                             | Product data | Packaging |
|------------|----------------------------|---------------------------------------------------------------------|--------------|-----------|
| Order No.  | <a href="#">2592600000</a> | PCB plug-in connector, Accessories, Coding element, Natural, Number |              | Box       |
| GTIN (EAN) | 4050118717389              | of poles: 1                                                         |              |           |
| Qty.       | 50 pc(s).                  |                                                                     |              |           |
| Type       | KO BU/SU 10.16HP BK        | Version                                                             | Product data | Packaging |
| Order No.  | <a href="#">1824410000</a> | PCB plug-in connector, Accessories, Coding element, black, Number   |              | Box       |
| GTIN (EAN) | 4032248326716              | of poles: 1                                                         |              |           |
| Qty.       | 50 pc(s).                  |                                                                     |              |           |

### Mounting screw

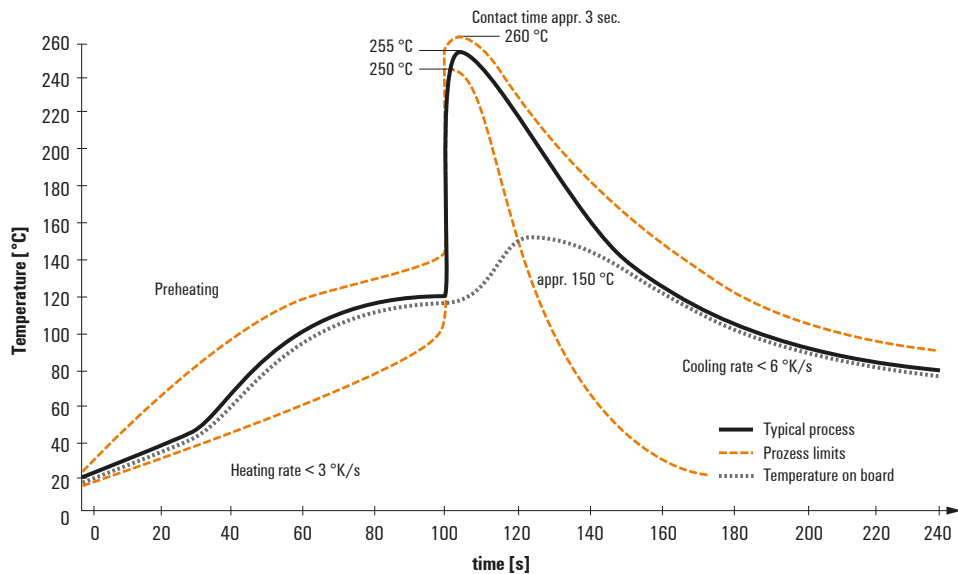
### General ordering data

| Type       | SU 10.16 BFSC S 35X12      | Version                               | Product data |
|------------|----------------------------|---------------------------------------|--------------|
| Order No.  | <a href="#">2812290000</a> | PCB plug-in connector, Mounting screw |              |
| GTIN (EAN) | 4064675294955              |                                       |              |
| Qty.       | 50 pc(s).                  |                                       |              |
| Type       | SU 10.16 BFSC P 35X 14     | Version                               | Product data |
| Order No.  | <a href="#">2812340000</a> | PCB plug-in connector, Mounting screw |              |
| GTIN (EAN) | 4064675295495              |                                       |              |
| Qty.       | 50 pc(s).                  |                                       |              |

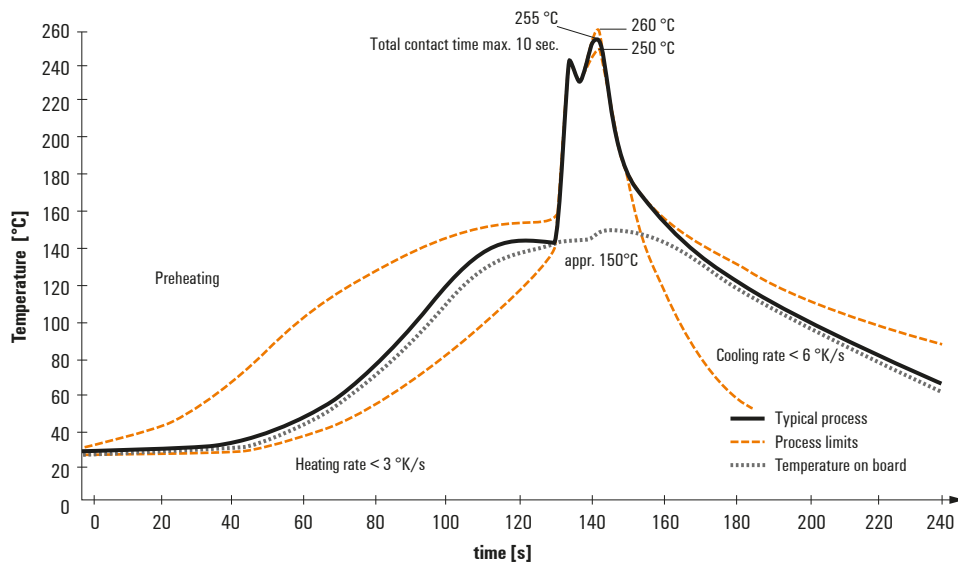
## Recommended wave soldering profiles

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### Single Wave:



### Double Wave:



### Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

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