

**SU 10.16IT/03/90MF2 3.5AG BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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, closed side, Middle flange, THT solder connection, 10.16 mm, Number of poles: 3, 90°, Solder pin length (l): 3.5 mm, silver-plated, black, Box
Order No.	<a href="#">1156670000</a>
Type	SU 10.16IT/03/90MF2 3.5AG BK BX
GTIN (EAN)	4032248943654
Qty.	42 pc(s).
Product data	IEC: 1000 V / 78.3 A UL: 300 V / 60 A
Packaging	Box

Creation date October 4, 2024 6:55:34 PM CEST

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## Technical data

### Dimensions and weights

Net weight 14.055 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		
Number of solder pins per pole	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		
Solder eyelet hole diameter (D)	1.6 mm		
Solder eyelet hole diameter tolerance (D)	+ 0.1 mm		
L1 in mm	30.48 mm		
L1 in inches	1.2 "		
Number of rows	1		
Pin series quantity	1		
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch, plugged		
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged		
Volume resistance	2.00 mΩ		
Can be coded	Yes		
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>

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**Technical data****Material data**

Insulating material	PA GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-0
Contact material	Cu-alloy	Contact surface	silver-plated
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


**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	78.3 A
Rated current, max. number of poles (Tu=20°C)	67.9 A	Rated current, min. number of poles (Tu=40°C)	70.6 A
Rated current, max. number of poles (Tu=40°C)	61.3 A	Rated voltage for surge voltage class / pollution degree II/2	1,000 V
Rated voltage for surge voltage class / pollution degree III/2	1,000 V	Rated voltage for surge voltage class / pollution degree III/3	690 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	6 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	8 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	8 kV	Short-time withstand current resistance	3 x 1s mit 1000 A
Clearance, min.	8.9 mm	Creepage distance, min.	10.5 mm

**Rated data acc. to CSA**

Institute (CSA)		Certificate No. (CSA)	200039-1121690
Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	300 V
Rated voltage (Use group D / CSA)	600 V	Rated current (Use group B / CSA)	60 A
Rated current (Use group C / CSA)	60 A	Rated current (Use group D / CSA)	5 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Rated data acc. to UL 1059**

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group C / UL 1059)	300 V
Rated voltage (Use group D / UL 1059)	600 V	Rated current (Use group B / UL 1059)	60 A
Rated current (Use group C / UL 1059)	60 A	Rated current (Use group D / UL 1059)	5 A
Clearance distance, min.	8.9 mm	Creepage distance, min.	10.5 mm
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

Packaging	Box	VPE length	351 mm
VPE width	135 mm	VPE height	48 mm

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Catalogue status 28.09.2024 / We reserve the right to make technical changes.

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## Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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		

## Environmental Product Compliance

REACH SVHC	/
RoHS Compliance Status	Compliant without exemption

## 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>

## Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

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# Technical data

## Downloads

Approval/Certificate/Document of Con-  
formity

[Declaration of the Manufacturer](#)

Engineering Data

[CAD data – STEP](#)

Product Change Notification

[20220630 Change OMNIMATE® Power SU 10.16IT](#)

[20220630 Technische Änderung OMNIMATE® Power SU 10.16IT](#)

Catalogues

[Catalogues in PDF-format](#)

Brochures

[FL DRIVES EN](#)

[MB DEVICE MANUF. EN](#)

[FL DRIVES DE](#)

[FL HEATING ELECTR EN](#)

[FL APPL\\_INVERTER EN](#)

[FL\\_BASE\\_STATION\\_EN](#)

[FL ELEVATOR EN](#)

[FL POWER SUPPLY EN](#)

[FL 72H SAMPLE SER EN](#)

[PO OMNIMATE EN](#)

[PO OMNIMATE EN](#)

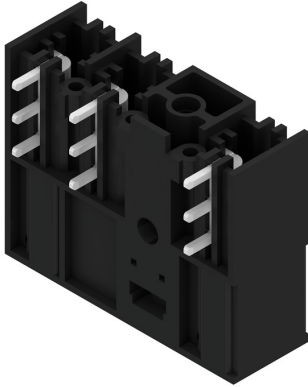
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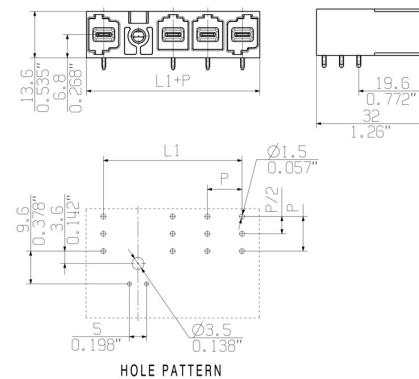
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## Drawings

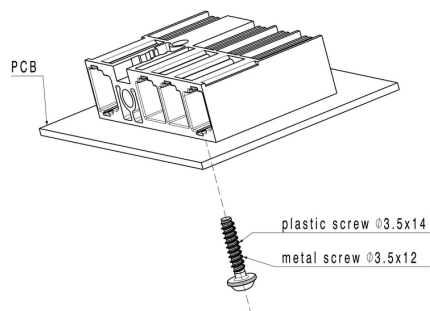
### Product image



## Dimensional drawing



### Example of use



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**Accessories****Mounting screw****General ordering data**

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).		
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).		

**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/SU10.16HP 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/SU10.16HP 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).			

## 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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