

## SU 10.16IT/04/90MLSF4 3.5 AG 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, closed side, Middle flange, THT solder connection, 10.16 mm, Number of poles: 4, 90°, Solder pin length (l): 3.5 mm, silver-plated, black, Box
Order No.	<a href="#">1283220000</a>
Type	SU 10.16IT/04/90MLSF4 3.5 AG BK BX
GTIN (EAN)	4050118073164
Qty.	36 pc(s).
Product data	IEC: 1000 V / 78.3 A UL: 300 V / 60 A
Packaging	Box

Creation date May 19, 2024 2:27:42 AM CEST

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## Technical data

### Dimensions and weights

Net weight 20.639 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	4			
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	40.64 mm			
L1 in inches	1.6 "			
Pin series quantity	2			
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.
	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.
	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.
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

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

## 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	352 mm
VPE width	136 mm	VPE height	49 mm

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**Technical data****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

**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

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Product Change Notification	<a href="#">20220630 Change OMNIMATE® Power SU 10.16IT</a> <a href="#">20220630 Technische Änderung OMNIMATE® Power SU 10.16IT</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

**Data sheet**

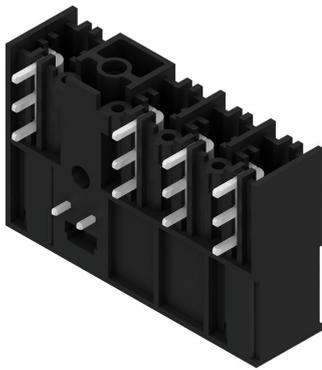
**SU 10.16IT/04/90MLSF4 3.5 AG BK BX**

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**Drawings**

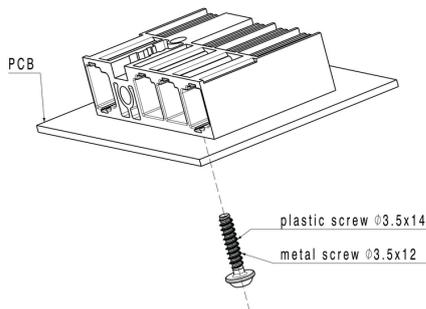
**Product image**

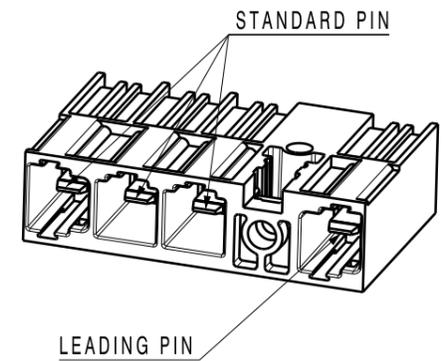
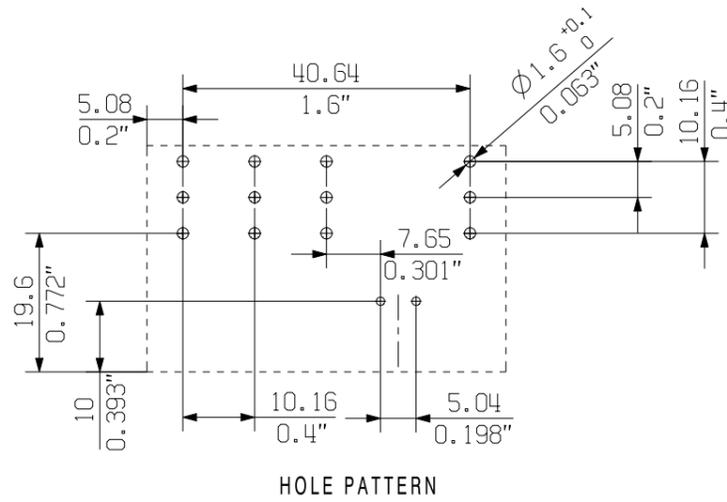
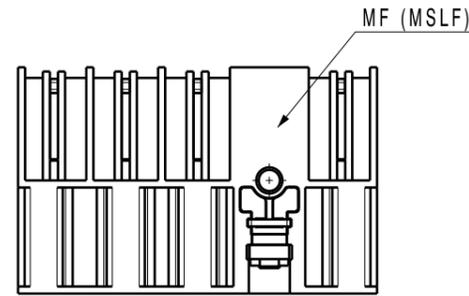
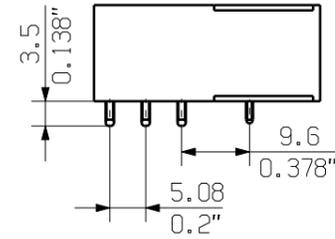
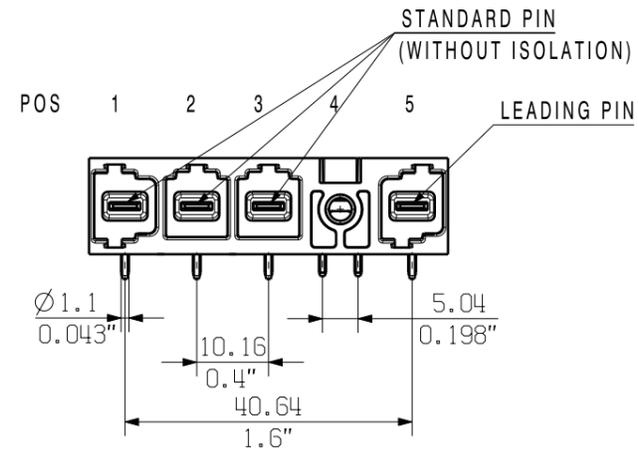


**Connection diagram**

6	M(S)F6	o	o	o	o	o	X	o
6	M(S)F5	o	o	o	o	o	X	o
6	M(S)F4	o	o	o	X	o	o	o
6	M(S)F3	o	o	X	o	o	o	o
6	M(S)F2	o	X	o	o	o	o	o
5	M(S)F5	o	o	o	o	X	o	
5	M(S)F4	o	o	o	X	o	o	
5	M(S)F3	o	o	X	o	o	o	
5	M(S)F2	o	X	o	o	o	o	
4	M(S)F4	o	o	o	X	o		
4	M(S)F3	o	o	X	o	o		
4	M(S)F2	o	X	o	o	o		
3	M(S)F3	o	o	X	o			
3	M(S)F2	o	X	o	o			
2	M(S)F2	o	X	o				
<b>No of poles</b>	<b>X = middle flange position</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>

**Example of use**





SHOWN: SU 10.16IT/04/90MLSF4 3.5 AG BK BX SO

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance with VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

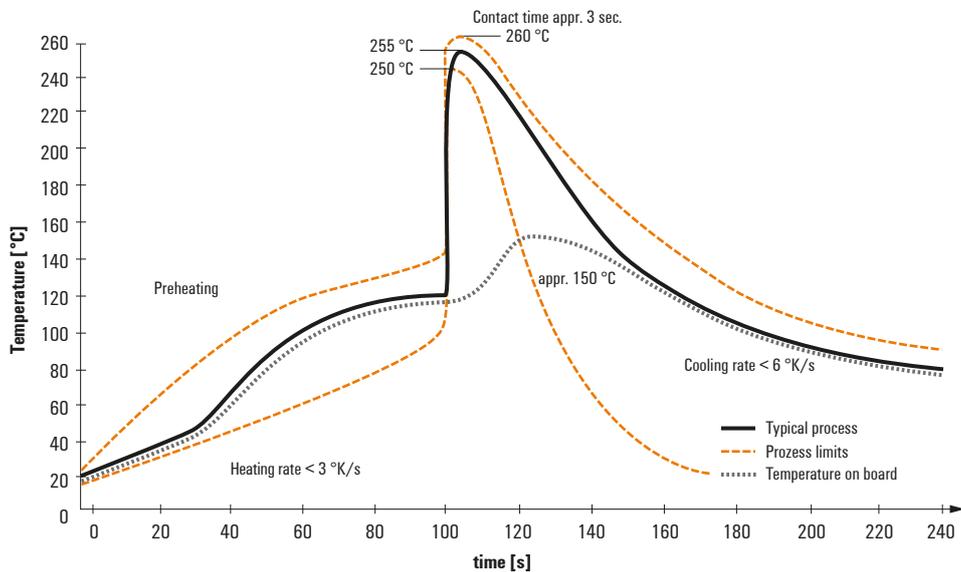
Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

General tolerance: DIN ISO 2768-mK 	94698/5 12.06.17 HELIS_MA 00		Cat.no.: .	
	Modification		<b>Weidmüller</b> 	
	Drawn	Date	Name	
	Responsible	18.01.2011	LUETZ_G	
	Checked	13.06.2017	HELIS_MA	
Scale: 2/1 Supersedes: .	Approved	LANG_T	SU 10.16IT/./90MLSF...SO STIFTLAISTE MALE HEADER	
Product file: BUZ/SU10.16HP_MF			Sheet 01 of 01 sheets	
				Issue no. 01 7392

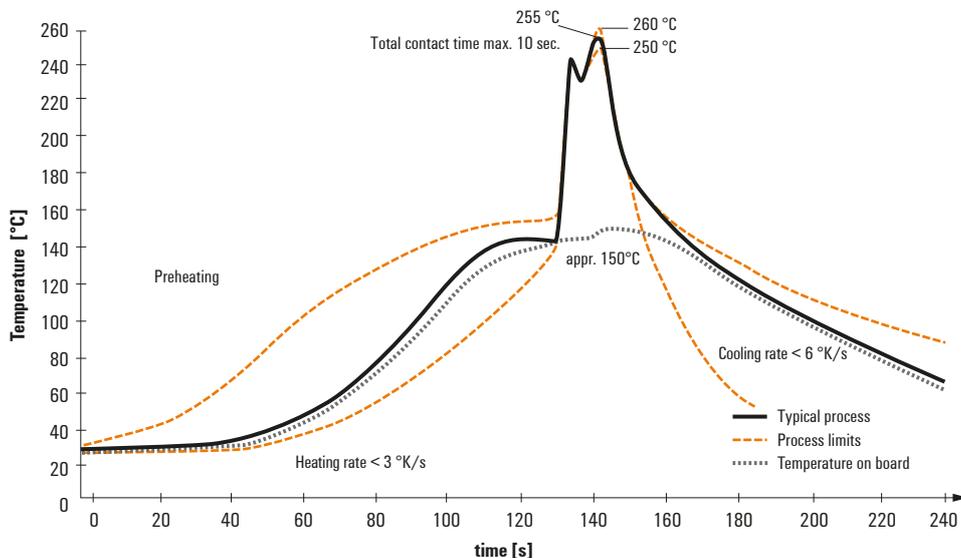
## Recommended wave soldering profiles

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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.