

OMNIMATE Power - series BU/SU 10.16IT SU 10.16IT/03/90MF3 3.5AG BK BX

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Product image



Similar to illustration

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. With its isolated pin tips, the mating profile ensures that more than 1 mm of touch safety is present (also without a socket block) with a finger pressure of 20 N. 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

Type	SU 10.16IT/03/90MF3 3.5AG BK BX
Order No.	1156680000
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
GTIN (EAN)	4032248943678
Qty.	42 pc(s).
Product data	IEC: 1000 V / 78.3 A UL: 300 V / 60 A
Packaging	Box

Creation date May 2, 2020 8:46:21 AM CEST

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Technical data
Dimensions and weights

Net weight 13.9 g

System specifications

Product family		Type of connection	
OMNIMATE Power - series BU/SU 10.16IT			Board connection
Mounting onto the PCB	THT solder connection	Pitch in mm (P)	10.16 mm
Pitch in inches (P)	0.4 inch	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
Tolerance of solder pin position	± 0.1 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 inch	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	Plugging cycles	≤ 50

Material data

Insulating material	PA GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	Insulation strength	≥ 10 ⁸ Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	Copper alloy	Contact surface	silver-plated
Layer structure of solder connection	3- μm Ag	Layer structure of plug contact	3- μm Ag
Storage temperature, min.	-25 °C	Storage temperature, max.	50 °C
Max. relative humidity during storage	70 %	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

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Technical data**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1121690

Rated voltage (Use group B / CSA)	300 V
Rated voltage (Use group D / CSA)	600 V
Rated current (Use group C / CSA)	60 A

Rated voltage (Use group C / CSA)	300 V
Rated current (Use group B / 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 D / UL 1059)	600 V
Rated current (Use group C / UL 1059)	60 A

Rated voltage (Use group C / UL 1059)	300 V
Rated current (Use group B / UL 1059)	60 A
Rated current (Use group D / UL 1059)	5 A

Clearance distance, min.	8.9 mm
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Creepage distance, min.	10.5 mm
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Reference to approval values

Specifications are
 maximum values, details -
 see approval certificate.

Packing

Packaging	Box	VPE length	30 mm
VPE width	125 mm	VPE height	350 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
eClass 9.0	27-44-04-02	eClass 9.1	27-44-04-02
eClass 10.0	27-44-04-02		

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Technical data
Notes

- | | |
|-------|--|
| Notes | <ul style="list-style-type: none"> • Additional colours on request • Rated current related to rated cross-section & min. No. of poles. • Wire end ferrule with plastic collar to DIN 46228/4 • Wire end ferrule without plastic collar to DIN 46228/1 • P on drawing = pitch • 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. • MFX and MSFX: X= Position of the middle flange e.g. MF2, MSF3 • 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. |
|-------|--|

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.
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Approvals

Approvals



ROHS	Conform
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Downloads

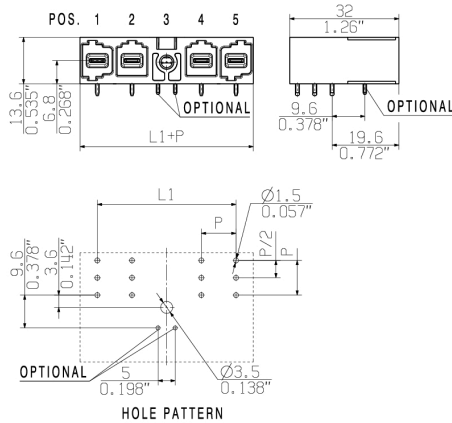
Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Brochure/Catalogue	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE CAT 2 PORTFOLIOGUIDE EN FL HEATING ELECTR EN FL APPL INVERTER EN FL_BASE_STATION_EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
White paper power electronics connected correctly	Download Whitepaper
White paper UL 600 V	Download Whitepaper

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Drawings

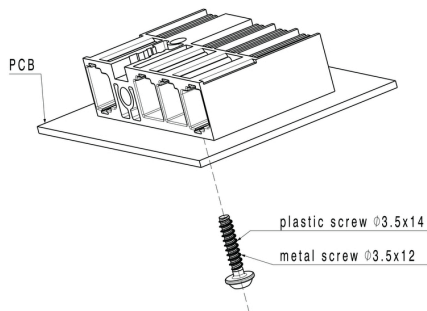
Dimensional drawing



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	o
5	M(S)F4	o	o	o	X	o	o	o
5	M(S)F3	o	o	X	o	o	o	o
5	M(S)F2	o	X	o	o	o	o	o
4	M(S)F4	o	o	o	X	o	o	o
4	M(S)F3	o	o	X	o	o	o	o
4	M(S)F2	o	X	o	o	o	o	o
3	M(S)F3	o	o	X	o	o	o	o
3	M(S)F2	o	X	o	o	o	o	o
2	M(S)F2	o	X	o	o	o	o	o
No of poles	X = middle flange position	1	2	3	4	5	6	7

Example of use



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Mating connector (conditionally pluggable)
BUF 10.16IT 180MSF AG


Device connectivity | OMNIMATE® Power BUF 10.16
PUSH IN PCB connector, 16mm², with wire-ready
function

- PUSH IN technology with settable wire-ready contact point simplifies the connection of stranded wires without wire-end ferrules and wires with particularly rigid insulation
- Direct and tool-free connection of solid wires and wires with crimped wire-end ferrules for fast and safe wiring
- Single-hand operation of the plug-in connector and automatic connection thanks to the middle flange with snap-on mechanism and optionally with additional screw fastening

General ordering data

Type	BUF 10.16IT/03/180MSF3 ...	Version	Product data	Packaging
Order No.	2493250000	PCB plug-in connector, female plug, 10.16 mm, Number of poles: 3,	IEC: 1000 V / 76 A / 2.5 - 16 mm ²	Box
GTIN (EAN)	4050118503036	180°, PUSH IN with actuator, Clamping range, max. : 16 mm ² , Box	UL: 600 V / 34 A / AWG 12 - AWG 6	
Qty.	28 pc(s).			

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Mating connector (fully pluggable)
BUZ 10.16IT/180MF


180° female plug with 10.16 pitch for IT power networks. Meets the requirements of UL1059 600 V class C. In combination with male header SU 10.16 IT with leading contact.

Meets the extended requirements on 5.5 mm touch safety for IT power networks as per IEC 61800-5-1 for 400 V to earth.

The self-locking (optionally also screwable) middle flange reduces the space requirements by one pitch width in comparison with conventional solutions.

Also optionally available without middle flange interlock.

General ordering data

Type	BUZ 10.16IT/03/180MF3 A ...	Version	Product data	Packaging
Order No.	1156620000	PCB plug-in connector, female plug, 10.16 mm, Number of poles: 3,	IEC: 1000 V / 78.3 A / 0.2 - 16 mm ²	Box
GTIN (EAN)	4032248943609	180°, Clamping yoke connection, Clamping range, max. : 16 mm ² , BoxUL: 600 V / 60 A / AWG 22 - AWG 4		
Qty.	21 pc(s).			

BUZ 10.16IT/180MF SH

OMNIMATE Power for IT networks – scalable to 50 kVA
Tailor-made solutions for special requirements

More standard-compliance means fewer compromises: OMNIMATE Power for IT networks has integrated features incorporated as standard across the range. This makes the design-in and approvals process simpler and makes them safer and more reliable in operation. Results for the application and advantages for the user: unlimited use in 400-V IT systems and touch safety according to IEC 61800-5-1 (+ 5.5 mm). The self-snapping one-handed safety flange enables intuitive and safe usage. Operational reliability is guaranteed by the automatic interlock feature during the plug-in process. In conclusion: You need no additional device covering. The application-oriented design means that no compromises are necessary during the approval process. Including pre-assembled pluggable shield connection for large area shielding in your application.

General ordering data

Type	BUZ 10.16IT/03/180MF3SH ...	Version	Product data
Order No.	2627350000	PCB plug-in connector, female plug, 10.16 mm, Number of poles: 3,	IEC: 1000 V / 78.3 A / 0.2 - 16 mm ²
GTIN (EAN)	4050118631234	180°, Clamping yoke connection, Clamping range, max. : 16 mm ²	UL: 600 V / 60 A / AWG 22 - AWG 4
Qty.	20 pc(s).		
Type	BUZ 10.16IT/03/180MF3SH ...	Version	Product data
Order No.	2627400000	PCB plug-in connector, female plug, 10.16 mm, Number of poles: 3,	IEC: 1000 V / 78.3 A / 0.2 - 16 mm ²
GTIN (EAN)	4050118631289	180°, Clamping yoke connection, Clamping range, max. : 16 mm ²	UL: 600 V / 60 A / AWG 22 - AWG 4
Qty.	20 pc(s).		

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Mating connector (fully pluggable)

Type	BUZ 10.16IT/03/180MF3SH ... Version	Product data
Order No.	2627450000	PCB plug-in connector, female plug, 10.16 mm, Number of poles: 3, IEC: 1000 V / 78.3 A / 0.2 - 16 mm ²
GTIN (EAN)	4050118631333	180°, Clamping yoke connection, Clamping range, max.: 16 mm ² UL: 600 V / 60 A / AWG 22 - AWG 4
Qty.	20 pc(s).	

BUF 10.16IT 180MF AG


Device connectivity | OMNIMATE® Power BUF 10.16
 PUSH IN PCB connector, 16mm², with wire-ready
 function

- PUSH IN technology with settable wire-ready contact point simplifies the connection of stranded wires without wire-end ferrules and wires with particularly rigid insulation
- Direct and tool-free connection of solid wires and wires with crimped wire-end ferrules for fast and safe wiring
- Single-hand operation of the plug-in connector and automatic connection thanks to the middle flange with snap-on mechanism and optionally with additional screw fastening

General ordering data

Type	BUF 10.16IT/03/180MF3 A ... Version	Product data	Packaging
Order No.	2493190000	PCB plug-in connector, female plug, 10.16 mm, Number of poles: 3, IEC: 1000 V / 76 A / 2.5 - 16 mm ²	Box
GTIN (EAN)	4050118502770	180°, PUSH IN with actuator, Clamping range, max.: 16 mm ² , Box	UL: 600 V / 34 A / AWG 12 - AWG 6
Qty.	28 pc(s).		

Data sheet

OMNIMATE Power - series BU/SU 10.16IT SU 10.16IT/03/90MF3 3.5AG BK BX

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Accessories

Coding elements



**Only connects what is supposed to be connected:
the right connection at the right place.**

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase. The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible. The advantage: no troubleshooting during manufacture and no operational errors by the user.

General ordering data

	Type	Version	Product data	Packaging
Type	KO BU/SU10.16HP BK			
Order No.	1824410000	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.