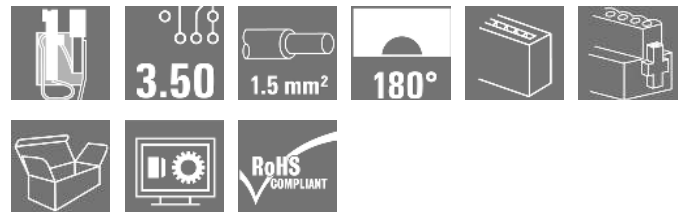


## OMNIMATE Signal - series BL/SL 3.50 BL-I/O 3.50/10FP SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
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### Product image



Similar to illustration

Female plugs with spring connection (PUSH IN) as a plug-in connection level for decentralised I/O electronic components; used together with male headers in a 3.50-mm pitch.

### General ordering data

Type	BL-I/O 3.50/10FP SN BK BX
Order No.	<a href="#">1779870000</a>
Version	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 10, 180°, PUSH IN, Tension-clamp connection, Clamping range, max.: 1.5 mm², Box
GTIN (EAN)	4032248165193
Qty.	20 pc(s).
Product data	IEC: 200 V / 2.2 A / 0.2 - 1.5 mm² UL: 50 V / 5 A / AWG 24 - AWG 16
Packaging	Box

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**Technical data****Dimensions and weights**

Width	42 mm	Width (inches)	1.654 inch
Height	10.3 mm	Height (inches)	0.406 inch
Depth	27 mm	Depth (inches)	1.063 inch
Net weight	11.15 g		

**system parameters**

Product family	OMNIMATE Signal - series BL/SL 3.50	Type of connection	Field connection
Wire connection method	PUSH IN, Tension-clamp connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Conductor outlet direction	180°
No. of poles	10	L1 in mm	31.5 mm
L1 in inches	1.24 inch	Number of rows	1
Pin series quantity	1	Rated cross-section	1 mm <sup>2</sup>
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Touch-safe protection acc. to DIN VDE 0470	IP 20
Can be coded	Yes	Stripping length	8 mm
Tightening torque for screw flange, min.	0.15 Nm	Tightening torque for screw flange, max.	0.2 Nm
Screwdriver blade	0.4 x 2.5	Screwdriver blade standard	DIN 5264
Plugging force/pole, max.	6 N	Pulling force/pole, max.	6 N

**Material data**

Insulating material	PBT	Colour code	black
Colour of operational elements	grey, red, blue	Material of operational elements	PBT
Colour chart (similar)	RAL 9011	Insulating material group	Illa
CTI	≥ 200	Insulation strength	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact base material	Copper alloy	Contact material	Copper alloy
Contact surface	tinned	Storage temperature, min.	-25 °C
Storage temperature, max.	55 °C	Max. relative humidity during storage	80 %
Operating temperature, min.	-50 °C	Operating temperature, max.	75 °C
Temperature range, installation, min.	-30 °C	Temperature range, installation, max.	75 °C

**Conductors suitable for connection**

Clamping range, min.	0.2 mm <sup>2</sup>
Clamping range, max.	1.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 24
Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>
Solid, max. H05(07) V-U	1.5 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>
Flexible, max. H05(07) V-K	1.5 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm <sup>2</sup> min.	
w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm <sup>2</sup> max.	
w. wire end ferrule, DIN 46228 pt 1, min. 0.2 mm <sup>2</sup>	
w. wire end ferrule, DIN 46228 pt 1, 1 mm <sup>2</sup> max.	
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm; 1.9mm

Creation date April 25, 2019 8:51:21 PM CEST

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## Technical data

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.25 mm <sup>2</sup>
	AEH	Stripping length	nominal 10 mm
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm <sup>2</sup>
	AEH	Stripping length	nominal 10 mm
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm <sup>2</sup>
Max. clamping range	AEH	Stripping length	nominal 10 mm
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm <sup>2</sup>
	AEH	Stripping length	nominal 10 mm


### Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	2.2 A
Rated current, max. no. of poles (Tu=20°C)	2 A	Rated current, min. no. of poles (Tu=40°C)	2.2 A
Rated current, max. no. of poles (Tu=40°C)	2 A	Rated voltage for surge voltage class / pollution degree II/2	200 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	50 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	0.8 kV	Short-time withstand current resistance	3 x 1s with 120 A

### Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	154685-1202189
Rated voltage (Use group B / CSA)	50 V	Rated voltage (Use group D / CSA)	50 V
Rated current (Use group B / CSA)	5 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 22	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

### Rated data acc. to UL 1059

Institute (UR)		Certificate No. (UR)	E60693
Rated voltage (Use group B / UL 1059)	50 V	Rated voltage (Use group D / UL 1059)	50 V
Rated current (Use group B / UL 1059)	5 A	Rated current (Use group D / UL 1059)	5 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

# Data sheet

## OMNIMATE Signal - series BL/SL 3.50 BL-I/O 3.50/10FP SN BK BX

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# Technical data

### Packing

Packaging	Box	VPE length	40 mm
VPE width	90 mm	VPE height	126 mm

### Classifications

ETIM 3.0	EC001284	ETIM 4.0	EC002637
ETIM 5.0	EC002637	ETIM 6.0	EC002637
UNSPSC	30-21-18-10	eClass 5.1	27-26-07-04
eClass 6.2	27-26-07-04	eClass 7.1	27-44-04-02
eClass 8.1	27-44-04-02	eClass 9.0	27-44-04-02
eClass 9.1	27-44-04-02		

### Notes

Notes	<ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• P on drawing = pitch</li> <li>• Crimp form A for wire end ferrules with PZ 6/5 crimping tool are recommended for the largest cable sizes.</li> <li>• Total load-carrying capacity of the potential bridges when feeding with 1.5 mm<sup>2</sup> is max. 17.5 A (so the capacity is 2.18 A for poles 2 through 9)</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• Conductor &lt; 0.2 mm<sup>2</sup> tinned</li> <li>• Max. outer diameter of the conductor: 2.9 mm</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> </ul>
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.

### Approvals

Approvals	
ROHS	Conform

## Data sheet

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## Technical data

### Downloads

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Brochure/Catalogue	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FLIndustr.CONTROLS EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL HEATING ELECTR EN</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL_BASE_STATION_EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Engineering Data	<a href="#">STEP</a>
White Paper wire connection	<a href="#">Download Whitepaper</a>

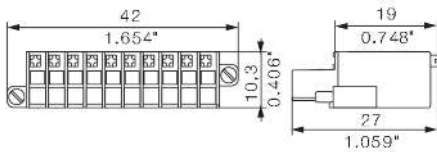
**Data sheet**

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**Drawings**

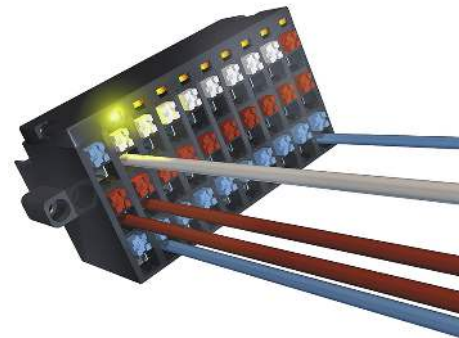
**Dimensional drawing**



**PUSH IN - fast and secure**  
Invented by Weidmüller

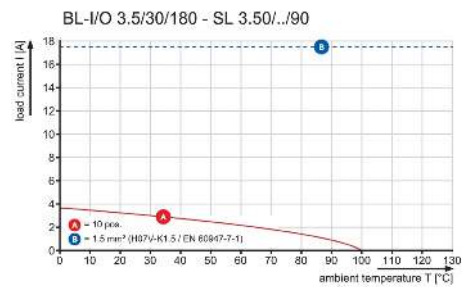
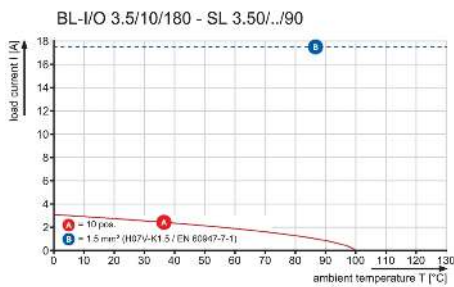
**Graph**

**Product benefits**



**Integrated electronics**  
For more space on the circuit board

**Graph**

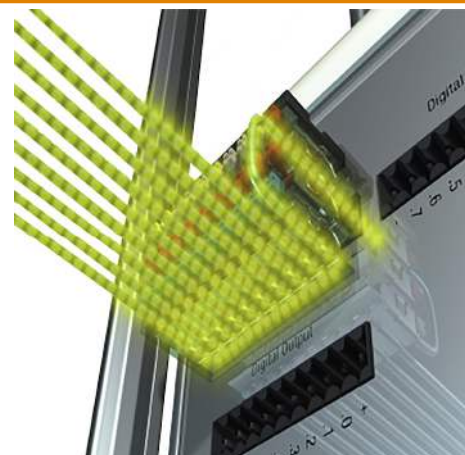


**Product benefits**



**Solid PUSH IN contact**  
Safe and durable

**Product benefits**



**Multiplies the potential**  
Low wiring costs