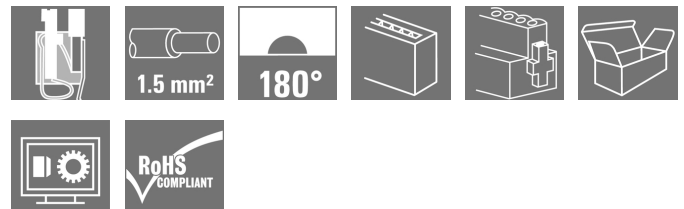


OMNIMATE Signal - series BL/SL 3.50 BL-I/O 3.50/10F SN BK BX

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
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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 3.50/10F SN BK BX
Order No.	1779880000
Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 10, 180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm², Box
GTIN (EAN)	4032248165209
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	Width (inches)	1.654 inch
Height	10.3 mm	Height (inches)	0.406 inch
Depth	27.6 mm	Depth (inches)	1.087 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, Spring connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Conductor outlet direction	180°
Number 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 ²
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Touch-safe protection acc. to DIN VDE 0470	IP 20
Volume resistance	≤ 5mΩ	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	black
Colour of operational elements	grey, blue, red	Material of operational elements	PBT
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Insulation strength	≥ 10 ⁸ 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.	-40 °C
Storage temperature, max.	70 °C	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 ²
Clamping range, max.	1.5 mm ²
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 ²
Solid, max. H05(07) V-U	1.5 mm ²
Flexible, min. H05(07) V-K	0.2 mm ²
Flexible, max. H05(07) V-K	1.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, min.	0.2 mm ²
w. wire end ferrule, DIN 46228 pt 1, max.	1 mm ²

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Technical data

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm; 1.9mm

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.25 mm ²
wire end ferrule		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0.25/12 HBL
Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm ²
wire end ferrule		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0.34/12 TK
Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm ²
wire end ferrule		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0.5/14 OR
Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm ²
wire end ferrule		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0.75/14T HBL

Max. clamping range 1.5 mm²

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	2.2 A
Rated current, max. number of poles (Tu=20°C)	2 A	Rated current, min. number of poles (Tu=40°C)	2.2 A
Rated current, max. number 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)	200039-1202189
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.		

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Technical data

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.		

Packing

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

Type tests

Test: Durability of markings	Standard	draft DIN VDE 0627 section 6.2.2 / 09.91		
	Test	mark of origin, type identification, pitch, type of material		
	Evaluation	available		
	Test	durability		
Test: Clampable cross section	Evaluation	passed		
	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.99		
	Conductor type	Type of conductor and conductor cross-section	solid 0.2 mm ²	
		Type of conductor and conductor cross-section	stranded 0.2 mm ²	
		Type of conductor and conductor cross-section	solid 1.5 mm ²	
		Type of conductor and conductor cross-section	stranded 1.5 mm ²	
		Type of conductor and conductor cross-section	AWG 24/1	
		Type of conductor and conductor cross-section	AWG 24/19	
		Type of conductor and conductor cross-section	AWG 16/1	
		Type of conductor and conductor cross-section	AWG 16/19	
Evaluation	passed			

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Technical data

Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999 section 8.4 / 04.94	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 0.05 mm ²
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
		Type of conductor and conductor cross-section	AWG 24/1
		Type of conductor and conductor cross-section	AWG 24/19
	Evaluation	passed	
	Requirement	0.4 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm ²
		Type of conductor and conductor cross-section	stranded 1.5 mm ²
		Type of conductor and conductor cross-section	AWG 16/1
Type of conductor and conductor cross-section		AWG 16/19	
Evaluation	passed		
Pull-out test	Standard	DIN EN 60999 section 8.5 / 04.94	
	Requirement	≥10 N	
	Conductor type	Type of conductor and conductor cross-section	AWG 24/1
		Type of conductor and conductor cross-section	AWG 24/19
	Evaluation	passed	
	Requirement	≥30 N	
	Conductor type	Type of conductor and conductor cross-section	H05V-U0.5
		Type of conductor and conductor cross-section	H05V-K0.5
	Evaluation	passed	
	Requirement	≥40 N	
	Conductor type	Type of conductor and conductor cross-section	H05V-U1.5
		Type of conductor and conductor cross-section	H05V-K1.5
	Evaluation	passed	

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Technical data

Classifications

ETIM 6.0	EC002638	ETIM 7.0	EC002638
eClass 9.0	27-44-03-09	eClass 9.1	27-44-03-09
eClass 10.0	27-44-03-09	UNSPSC	30-21-18-10

Notes

- Notes
- Additional colours on request
 - P on drawing = pitch
 - Crimp form A for wire end ferrules with PZ 6/5 crimping tool are recommended for the largest cable sizes.
 - Total load-carrying capacity of the potential bridges when feeding with 1.5 mm² is max. 17.5 A (so the capacity is 2.18 A for poles 2 through 9)
 - Wire end ferrule without plastic collar to DIN 46228/1
 - Wire end ferrule with plastic collar to DIN 46228/4
 - Conductor < 0.2 mm² tinned
 - Max. outer diameter of the conductor: 2.9 mm
 - 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.
 - Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

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**OMNIMATE Signal - series BL/SL 3.50
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Technical data**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 BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.CONTROLS EN FL MACHINE SAFETY 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 PUSH IN wire connection	Download Whitepaper

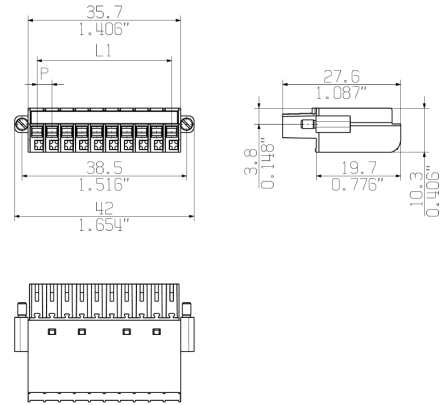
Data sheet

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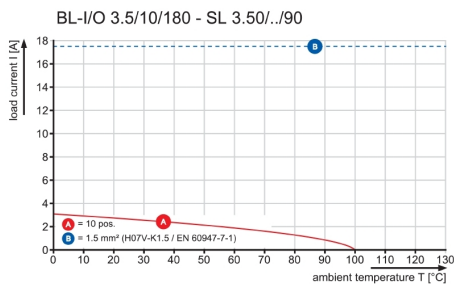
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Drawings

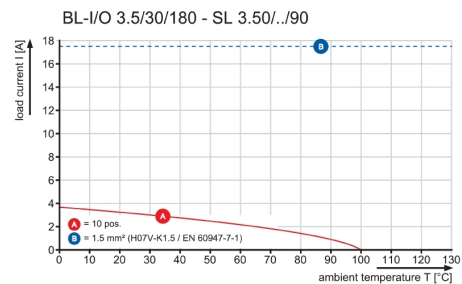
Dimensional drawing



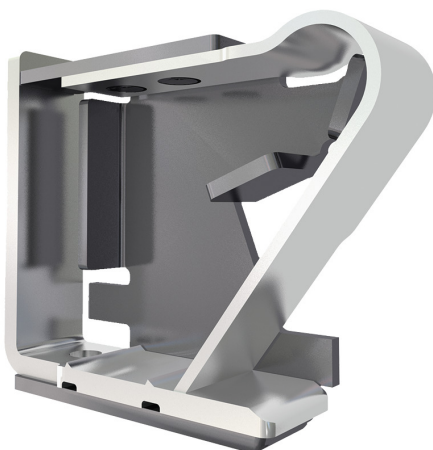
Graph



Graph

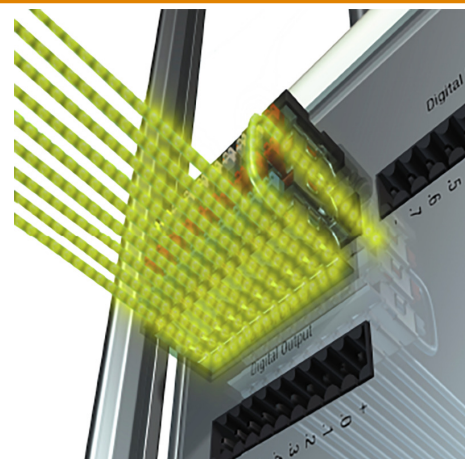


Product benefits



Solid PUSH IN contact
 Safe and durable

Product benefits



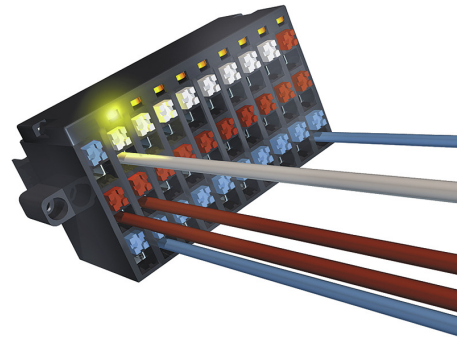
Multiplies the potential
 Low wiring costs

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Product benefits

PUSH IN - fast and secure
Invented by Weidmüller

Product benefits

Integrated electronics
For more space on the circuit board