

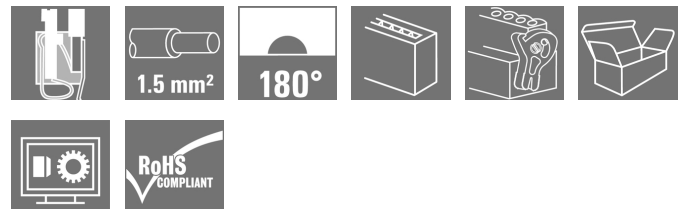
BL-I/O 3.50/30LR NPN LED SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 30, 180°, PUSH IN, Spring connection, Clamping range, max.: 1.5 mm², Box
Order No.	1000590000
Type	BL-I/O 3.50/30LR NPN LED SN BK BX
GTIN (EAN)	4032248822393
Qty.	20 pc(s).
Product data	IEC: / 2.2 A / 0.2 - 1.5 mm² UL: 50 V / 5 A / AWG 24 - AWG 16
Packaging	Box

Creation date March 22, 2021 12:06:02 PM CET

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Technical data**Dimensions and weights**

Height	18.4 mm	Height (inches)	0.724 inch
Net weight	23.25 g	Width	42.3 mm
Width (inches)	1.665 inch		

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	30	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	≤5 mΩ	Can be coded	Yes
Stripping length	8 mm	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 chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Insulation strength	≥ 10 ⁸ Ω
UL 94 flammability rating	V-0	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
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm; 1.9mm

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Technical data

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
	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
	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
	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

Reference text The outside diameter of the plastic collar should not be larger than the pitch (P), Length of ferrules is to be chosen depending on the product and the rated voltage.

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 III/3	50 V
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

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

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	37 mm
VPE width	110 mm	VPE height	186 mm

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Catalogue status 12.03.2021 / We reserve the right to make technical changes.

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Technical data**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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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	ECLASS 11.0	27-46-02-02

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
- 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

Approvals

Approvals



ROHS	Conform
UL File Number Search	E60693

Downloads

Approval/Certificate/Document of Conformity	Konformitätserklärung BL I/O Declaration of the Manufacturer
Engineering Data	STEP
Engineering Data	EPLAN, WSCAD
Product Change Notification	Change of Material LR 3.50 - DE Change of Material LR 3.50 - EN
User Documentation	Operating Instruction

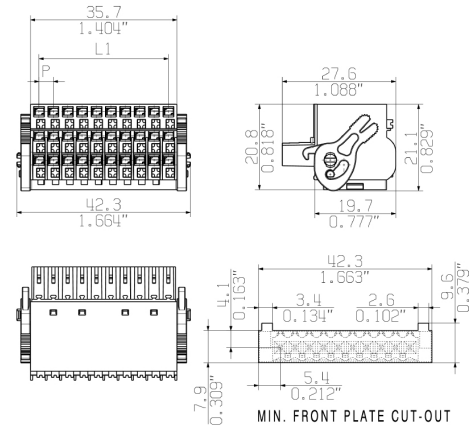
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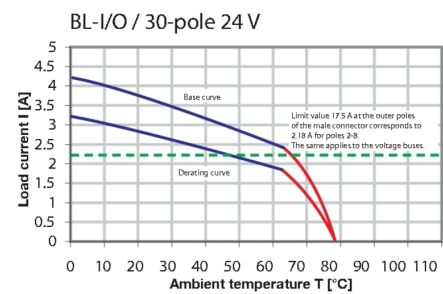
Drawings

Dimensional drawing



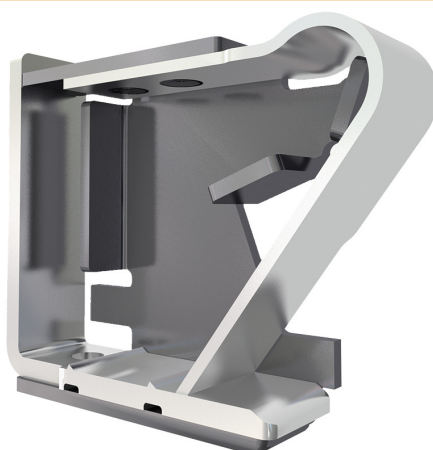
Graph

Graph

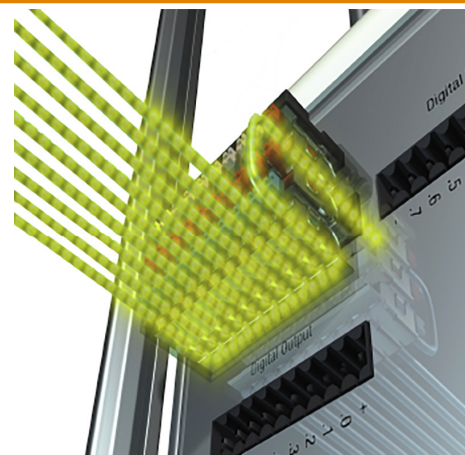


Product benefits

Product benefits



Solid PUSH IN contact
Safe and durable



Multiplies the potential
Low wiring costs

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Drawings

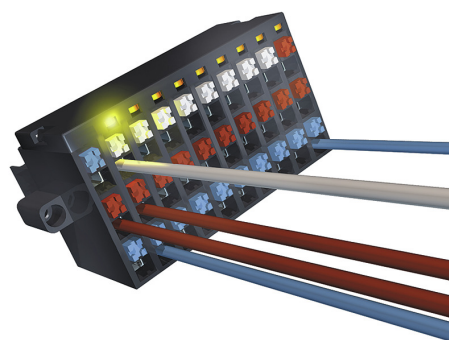
Product benefits



PUSH IN - fast and secure
Invented by Weidmüller

Example of use

Product benefits



Integrated electronics
For more space on the circuit board

