

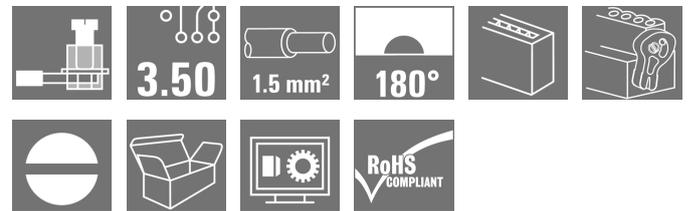
BL 3.50/14/180LH SN OR BX
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image


Similar to illustration

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 14, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² , Box
Order No.	1687770000
Type	BL 3.50/14/180LH SN OR BX
GTIN (EAN)	4008190853327
Qty.	30 pc(s).
Product data	IEC: 320 V / 17 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14
Packaging	Box

Creation date March 24, 2021 7:44:00 PM CET

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Technical data
Dimensions and weights

Depth	29.5 mm	Depth (inches)	1.161 inch
Height	14.9 mm	Height (inches)	0.587 inch
Net weight	13.7 g	Width	55.5 mm
Width (inches)	2.185 inch		

System Parameters

Product family	OMNIMATE Signal - series BL/SL 3.50		
Type of connection	Field connection		
Wire connection method	Clamping yoke connection		
Pitch in mm (P)	3.5 mm		
Pitch in inches (P)	0.138 inch		
Conductor outlet direction	180°		
Number of poles	14		
L1 in mm	45.5 mm		
L1 in inches	1.791 inch		
Number of rows	1		
Pin series quantity	1		
Rated cross-section	1.5 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	6 mm		
Clamping screw	M 2		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264		
Plugging cycles	25		
Plugging force/pole, max.	7 N		
Pulling force/pole, max.	5 N		
Tightening torque	Torque type	Wire connection	
	Usage information	Tightening torque	min. 0.2 Nm max. 0.25 Nm

Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Layer structure of plug contact	4...8 μm Sn hot-dip tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	100 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C		

Conductors suitable for connection

Clamping range, min.	0.08 mm ²
Clamping range, max.	1.5 mm ²
Wire connection cross section AWG, min.	AWG 28
Wire connection cross section AWG, max.	AWG 14

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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, min.	0.2 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, max.	1.5 mm ²
w. wire end ferrule, DIN 46228 pt 1, min.	0.2 mm ²
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm ²
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm ²
wire end ferrule		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.5/12 OR
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	H0.5/6
Cross-section for conductor connection		Type	fine-wired
		nominal	0.75 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.75/12 W
wire end ferrule		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	H0.75/6
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H1.0/12 GE
Cross-section for conductor connection		Type	fine-wired
		nominal	1 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H1.0/6
wire end ferrule		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	H1.0/6
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.25/10 HBL
Cross-section for conductor connection		Type	fine-wired
		nominal	0.25 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.25/5
wire end ferrule		Stripping length	nominal 5 mm
		Recommended wire-end ferrule	H0.25/5
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.34/10 TK
Cross-section for conductor connection		Type	fine-wired
		nominal	0.34 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.34/10 TK

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.

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Technical data

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17 A
Rated current, max. number of poles (Tu=20°C)	12 A	Rated current, min. number of poles (Tu=40°C)	14.5 A
Rated current, max. number of poles (Tu=40°C)	10 A	Rated voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	160 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	320 V	Rated impulse voltage for surge voltage class/ pollution degree III/2	160 V
Rated impulse voltage for surge voltage class/ contamination degree III/3	160 V	Short-time withstand current resistance	3 x 1s with 100 A

Rated data acc. to CSA

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	10 A	Rated current (Use group D / CSA)	10 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 14

Rated data acc. to UL 1059

Institute (UR)		Certificate No. (UR)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group B / UL 1059)	10 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 14
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	59 mm
VPE width	72 mm	VPE height	228 mm

Type tests

Test: Durability of markings	Standard	DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96
	Test	mark of origin, type identification, approval marking SEV, approval marking CSA
	Evaluation	available
	Test	durability
Test: Misengagement (Non-interchangeability)	Evaluation	passed
	Standard	DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN IEC 60512 part 7 section 5 / 05.94
	Test	180° turned with coding elements
Evaluation	passed	

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Test: Clampable cross section	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 28/1
		Type of conductor and conductor cross-section	AWG 28/19
		Type of conductor and conductor cross-section	AWG 16/1
		Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed		
Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	2 × AWG 24/1
		Type of conductor and conductor cross-section	2 × AWG 24/19 with wire end ferrule
	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 16/7	
Evaluation	passed		

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Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00		
	Requirement	≥5 N		
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1	
		Type of conductor and conductor cross-section	AWG 28/19	
	Evaluation	passed		
	Requirement	≥10 N		
	Conductor type	Type of conductor and conductor cross-section	2 × AWG 24/1	
		Type of conductor and conductor cross-section	2 × AWG 24/19 with wire end ferrule	
	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	
Type of conductor and conductor cross-section		AWG 16/7		
Evaluation	passed			

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	<ul style="list-style-type: none"> • Additional colours on request • Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Max. outer diameter of the conductor: 2.9 mm • Wire end ferrule without plastic collar to DIN 46228/1 • Wire end ferrule with plastic collar to DIN 46228/4 • 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. • Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Creation date March 24, 2021 7:44:00 PM CET

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

6

Data sheet**BL 3.50/14/180LH SN OR BX****Weidmüller Interface GmbH & Co. KG**
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Technical data**Approvals**

Approvals



ROHS	Conform
UL File Number Search	E60693

Downloads

Approval/Certificate/Document of Conformity	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

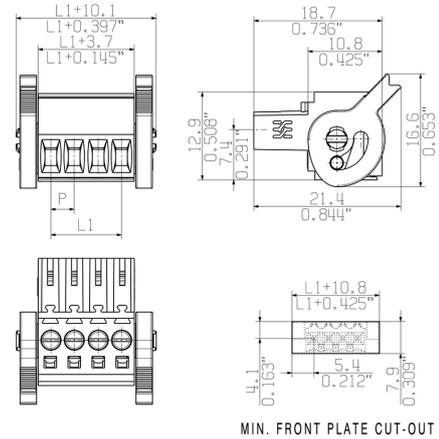
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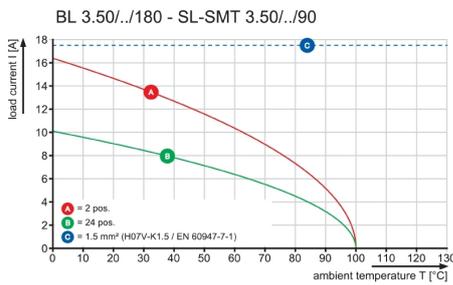
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Drawings

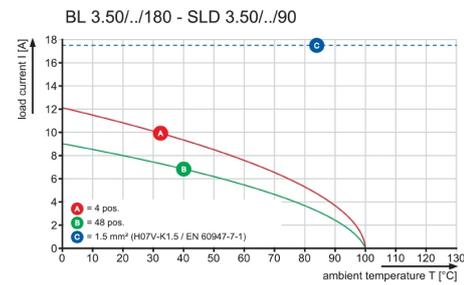
Dimensional drawing



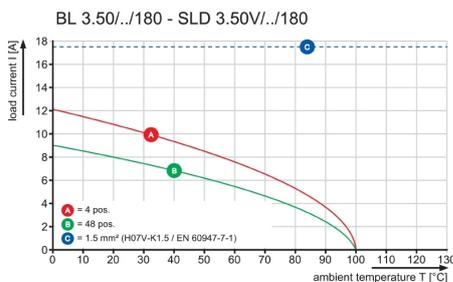
Graph



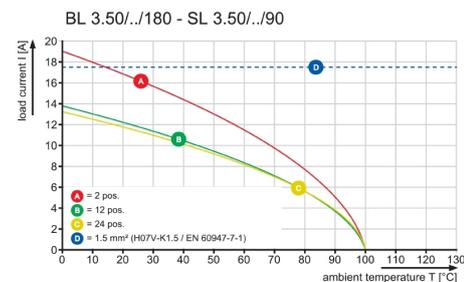
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Graph

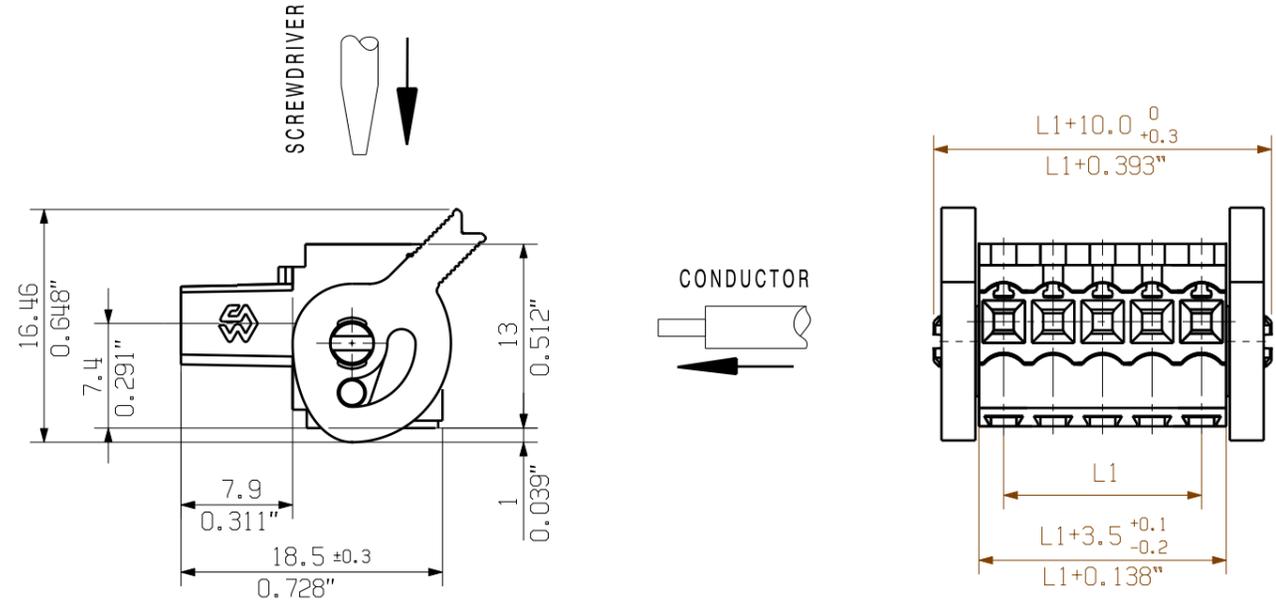


Graph



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24	80,50	3,169
23	77,00	3,031
22	73,50	2,894
21	70,00	2,756
20	66,50	2,618
19	63,00	2,480
18	59,50	2,343
17	56,00	2,205
16	52,50	2,067
15	49,00	1,929
14	45,50	1,791
13	42,00	1,654
12	38,50	1,516
11	35,00	1,378
10	31,50	1,240
9	28,00	1,102
8	24,50	0,965
7	21,00	0,827
6	17,50	0,689
5	14,00	0,551
4	10,50	0,413
3	7,00	0,276
2	3,50	0,138
n	L1 [mm]	L1 [inch]

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 to VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

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

SHOWN: BL 3.50/04/180/LH...

	DIN ISO 2768-m		CAT.NO.: C 22682 11	
	69114/0 20.03.13 HELIS_MA 01		DRAWING NO. SHEET 01 OF 02 SHEETS ISSUE NO.	
		DATE	NAME	BL 3.50/./180/ L(H/R) BUCHSENLEISTE SOCKET BLOCK
SCALE: 2/1		DRAWN	HELIS_MA	
SUPERSEDES: .		RESPONSIBLE	LANG_T	
		CHECKED	HECKERT_M	
		APPROVED	HECKERT_M	PRODUCT FILE: BL 3.50

