

BL 3.50/05/90 SN BK BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

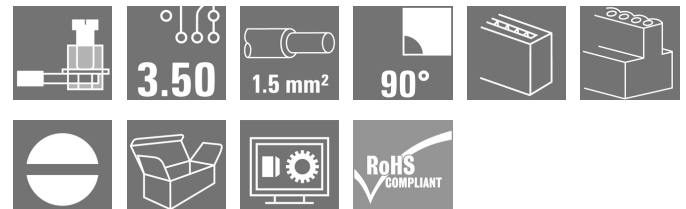
Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

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Product image



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: 5, 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box
Order No.	1638810000
Type	BL 3.50/05/90 SN BK BX
GTIN (EAN)	4008190276355
Qty.	102 pc(s).
Product data	IEC: 320 V / 12 A / 0.2 - 1.5 mm² UL: 300 V / 8 A / AWG 28 - AWG 14
Packaging	Box

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Technical data

Dimensions and weights

Depth	22.45 mm	Depth (inches)	0.884 inch
Height	12 mm	Height (inches)	0.472 inch
Width	17.5 mm	Width (inches)	0.689 inch
Net weight	2.51 g		

Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	100 °C
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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	90°		
Number of poles	5		
L1 in mm	14 mm		
L1 in inches	0.551 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	IP20 plugged/ IP10 unplugged		
Protection degree	IP20, when fully mounted		
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	black
Colour chart (similar)	RAL 9011	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
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Technical data

Clamping range, max.	1.5 mm ²			
Wire connection cross section AWG, min.	AWG 28			
Wire connection cross section AWG, max.	AWG 14			
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	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	H0.75/12 W	
		Stripping length	nominal	6 mm
		Recommended wire-end ferrule	H0.75/6	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1 mm ²	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	H1.0/12 GE	
		Stripping length	nominal	6 mm
		Recommended wire-end ferrule	H1.0/6	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.25 mm ²	
wire end ferrule	Stripping length	nominal	8 mm	
	Recommended wire-end ferrule	H0.25/10 HBL		
	Stripping length	nominal	5 mm	
	Recommended wire-end ferrule	H0.25/5		
Cross-section for conductor connection	Type	fine-wired		
	nominal	0.34 mm ²		
wire end ferrule	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

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12 A

10 A

320 V

160 V

2.5 kV

2.5 kV

160 V

2.5 kV

3 x 1s with 100 A

Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

154685-1318353

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

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) 300 V

Rated voltage (Use group D / UL 1059) 300 V

Rated current (Use group B / UL 1059) 8 A

Rated current (Use group D / UL 1059) 8 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 58 mm

VPE width 72 mm VPE height 113 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
	Evaluation	passed

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DIN EN 61984 section 6.3 and 6.9.1 / 09.02,
DIN IEC 60512 article 5 / 05.94

180° turned with coding elements

passed www.weidmueller.com

Technical data

Test: Misengagement (Non-interchangeability)	Standard	DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN IEC 60512 article 5 / 05.94		
	Test	180° turned with coding elements		
	Evaluation	passed www.weidmueller.com		
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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DIN EN 60999-1 section 9.5 / 12.00

≥5 N info@weidmueller.com

Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00		
	Requirement	≥5 N info@weidmueller.com		
	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
ETIM 8.0	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	ECLASS 12.0	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.
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Notes	<ul style="list-style-type: none"> • Additional variants 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
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Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UR)	E60693

Downloads

Engineering Data	CAD data – STEP
Engineering Data	WSCAD, EPLAN
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FLIndustr.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 PO OMNIMATE EN

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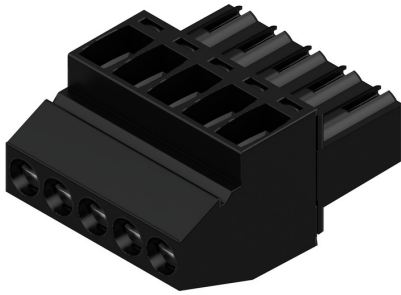
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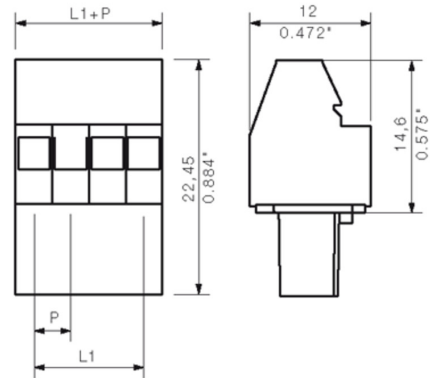
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Drawings

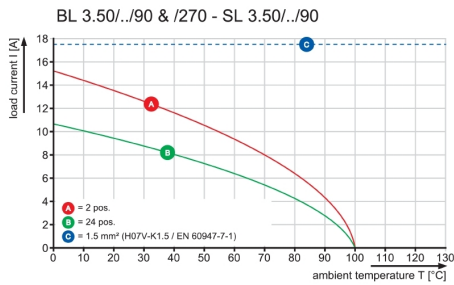
Product image



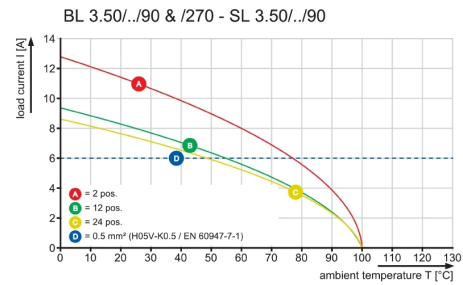
Dimensional drawing info@weidmueller.com



Graph

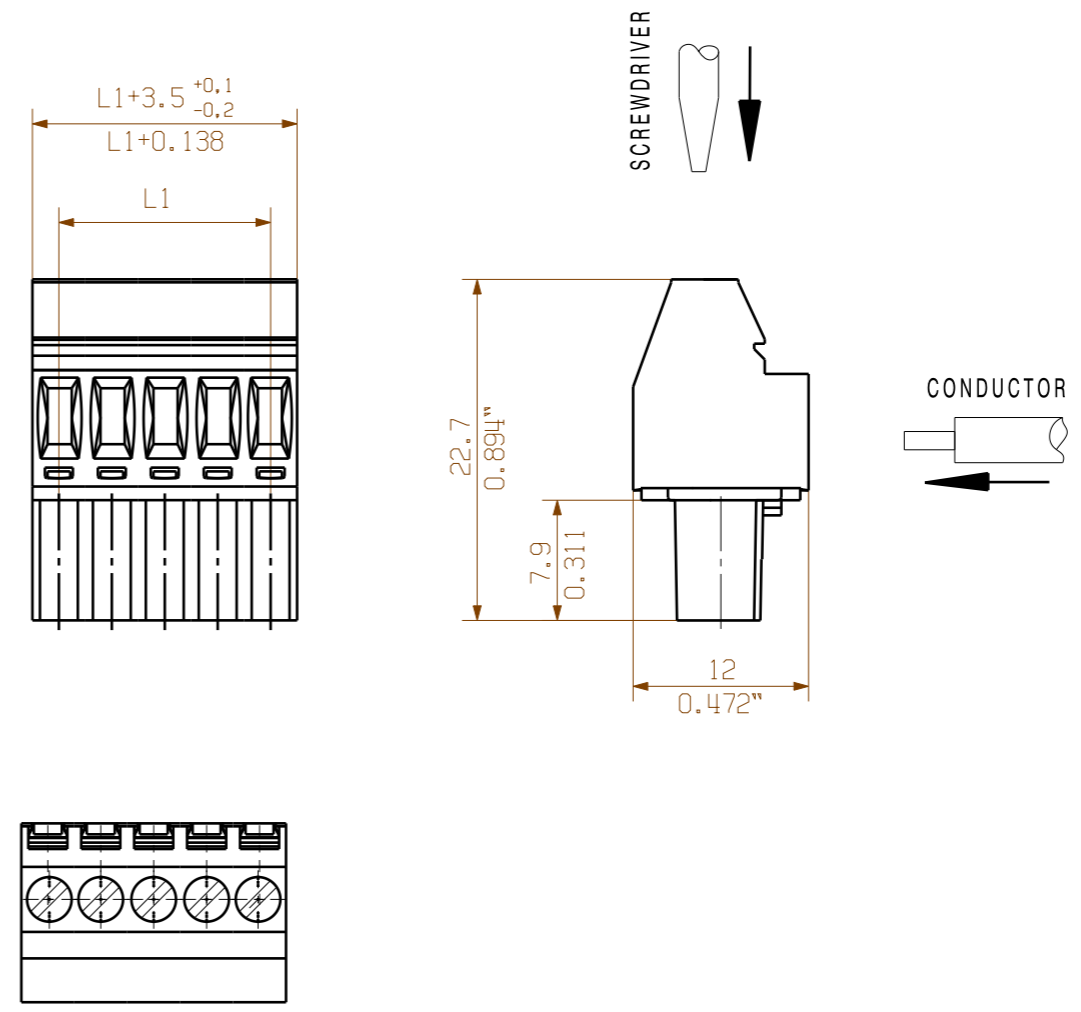


Graph



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THE GERMAN VERSION IS BINDING

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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]

SHOWN : BL 3.50/05/90

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 connectors 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.

	METRIC TOLERANCES: X. = ±0.3 X.X = ±0.1 X.XX = ±0.05		CAT.NO.:	
	60340/0 15.09.11 HELIS_MA 01		C 21346 15	
MODIFICATION		DRAWING NO. SHEET 01 OF 03 SHEETS		ISSUE NO.
		DATE DRAWN 24.07.2003	NAME KOWOLLIK_R	BL 3.50/././90... BUCHSENSTECKER FEMALE PLUG
SCALE: 5/1		RESPONSIBLE CHECKED 15.09.2011	LANG_T RIEPENHAUSEN_H	
SUPERSEDES:		APPROVED HECKERT_M	PRODUCT FILE: BL 3.50	
			7369	