

BL 3.50/07/270F SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**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: 7, 270°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box
Order No.	1639980000
Type	BL 3.50/07/270F SN OR BX
GTIN (EAN)	4008190277536
Qty.	60 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

Creation date September 4, 2023 2:15:58 PM CEST

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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	31.5 mm	Width (inches)	1.24 inch
Net weight	6.467 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	270°		
Number of poles	7		
L1 in mm	21 mm		
L1 in inches	0.827 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
	Torque type		Screw flange
	Usage information		Tightening torque
			min. 0.15 Nm
			max. 0.2 Nm

Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Insulation strength	≥ 10 ⁸ Ω
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

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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
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, 1.5 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 0.2 mm ² min.	
w. wire end ferrule, DIN 46228 pt 1, 1.5 mm ² max.	
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

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Technical data

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, max. number of poles
(Tu=20°C)

10 A

Rated current, max. number of poles
(Tu=40°C)

8 A

Rated voltage for surge voltage class /
pollution degree III/2

160 V

Rated impulse voltage for surge voltage
class/ pollution degree II/2

2.5 kV

Rated impulse voltage for surge voltage
class/ contamination degree III/3

2.5 kV

Rated current, min. number of poles
(Tu=20°C)

12 A

Rated current, min. 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/3

160 V

Rated impulse voltage for surge voltage
class/ pollution degree III/2

2.5 kV

Short-time withstand current resistance

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 current (Use group B / CSA)

10 A

Wire cross-section, AWG, min.

AWG 28

Reference to approval values

Specifications are
maximum values, details -
see approval certificate.

Rated voltage (Use group D / CSA)

300 V

Rated current (Use group D / CSA)

10 A

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 current (Use group B / UL 1059)

8 A

Wire cross-section, AWG, min.

AWG 28

Reference to approval values

Specifications are
maximum values, details -
see approval certificate.

Rated voltage (Use group D / UL 1059)

300 V

Rated current (Use group D / UL 1059)

8 A

Wire cross-section, AWG, max.

AWG 14

Packing

Packaging

Box

VPE length

348 mm

VPE width

134 mm

VPE height

30 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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Catalogue status 01.09.2023 / We reserve the right to make technical changes.

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Technical data

Test: Misengagement (Non-interchangeability)	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	
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
ETIM 8.0	EC002638	ETIM 9.0	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	ECLASS 13.0	27460202

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Technical data**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 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

Approvals

Approvals



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

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
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 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 PO OMNIMATE EN

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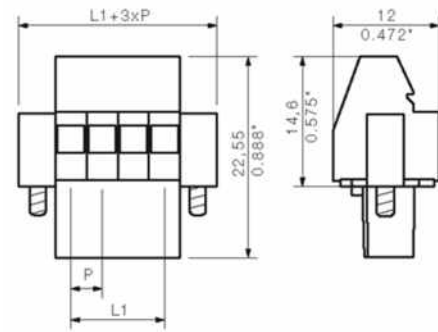
www.weidmueller.com

Drawings

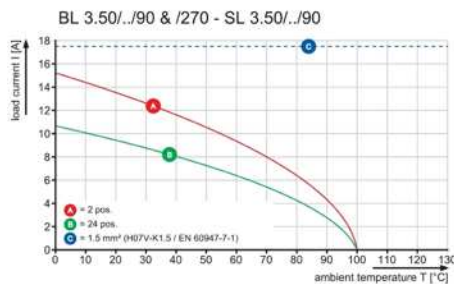
Product image



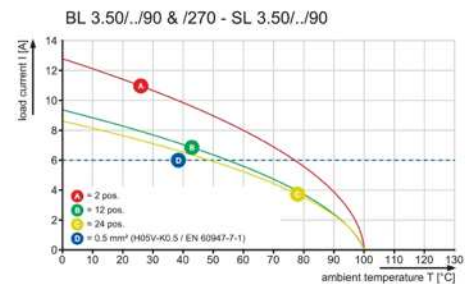
Dimensional drawing



Graph



Graph



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DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING



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:BL3.50/05/270F

For the mounting of PCBs, it should be noted that the rated data stated here relates only to the PCB components alone.
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / 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 EN 61984 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 occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

	DIN ISO 2768-m				CAT.NO.: .	
	74368/5 15.04.14 HELIS_MA 01		MODIFICATION		Weidmüller 	
	DRAWN	24.07.2003	KOWOLLIK_R	BL 3.50/.../270... BUCHSENLEISTE SOCKET BLOCK		
	RESPONSIBLE		LANG_T			
SCALE: 5/1	CHECKED	15.04.2014	THELEN_E			
SUPERSEDES: .	APPROVED		HECKERT_M	7368		

CAT.NO.: .

C 21347 09

DRAWING NO. SHEET 02 OF 02 SHEETS

ISSUE NO.