

BL 3.50/03/180F SN BK BX

Weidmüller Interface GmbH & Co. KG

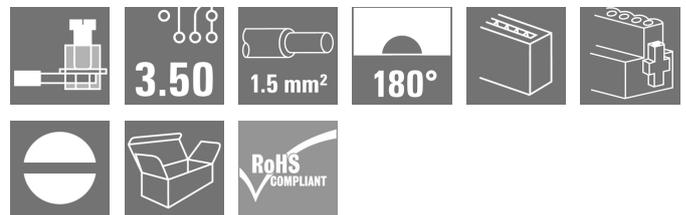
Klingenbergstraße 26

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: 3, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box
Order No.	1615790000
Type	BL 3.50/03/180F SN BK BX
GTIN (EAN)	4008190062132
Qty.	102 pc(s).
Product data	IEC: 320 V / 17 A / 0.2 - 1.5 mm² UL: 300 V / 10 A / AWG 28 - AWG 14
Packaging	Box

Creation date June 12, 2025 11:47:02 AM CEST

Catalogue status 07.06.2025 / We reserve the right to make technical changes.

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Technical data
Dimensions and weights

Depth	18.5 mm	Depth (inches)	0.728 inch
Height	13 mm	Height (inches)	0.512 inch
Width	17.5 mm	Width (inches)	0.689 inch
Net weight	3.392 g		

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 "		
Conductor outlet direction	180°		
Number of poles	3		
L1 in mm	7 mm		
L1 in inches	0.276 "		
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	black
Colour chart (similar)	RAL 9011	Insulating material group	Illa
Comparative Tracking Index (CTI)	≥ 200	UL 94 flammability rating	V-0
Contact material	Cu-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

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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	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	wire end ferrule	Type	fine-wired
		nominal	0.75 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.75/12 W
Cross-section for conductor connection	wire end ferrule	Type	fine-wired
		nominal	1 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H1.0/12 GE
Cross-section for conductor connection	wire end ferrule	Type	fine-wired
		nominal	0.25 mm ²
		Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.25/10 HBL
Cross-section for conductor connection	wire end ferrule	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	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	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 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)	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	351 mm
VPE width	136 mm	VPE height	26 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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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 solid 0.2 mm ² conductor cross-section
		Type of conductor and stranded 0.2 mm ² conductor cross-section
		Type of conductor and solid 1.5 mm ² conductor cross-section
		Type of conductor and stranded 1.5 mm ² conductor cross-section
		Type of conductor and AWG 28/1 conductor cross-section
		Type of conductor and AWG 28/19 conductor cross-section
		Type of conductor and AWG 16/1 conductor cross-section
		Type of conductor and AWG 16/19 conductor cross-section
	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 AWG 28/1 conductor cross-section
		Type of conductor and AWG 28/19 conductor cross-section
	Evaluation	passed
	Requirement	0.3 kg
	Conductor type	Type of conductor and 2 × AWG 24/1 conductor cross-section
		Type of conductor and 2 × AWG 24/19 with conductor cross-section wire end ferrule
	Evaluation	passed
	Requirement	0.4 kg
Conductor type	Type of conductor and solid 1.5 mm ² conductor cross-section	
	Type of conductor and stranded 1.5 mm ² conductor cross-section	
	Type of conductor and AWG 16/7 conductor cross-section	
Evaluation	passed	

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Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00
	Requirement	≥5 N
	Conductor type	Type of conductor and AWG 28/1 conductor cross-section
		Type of conductor and AWG 28/19 conductor cross-section
	Evaluation	passed
	Requirement	≥10 N
	Conductor type	Type of conductor and 2 × AWG 24/1 conductor cross-section
		Type of conductor and 2 × AWG 24/19 with conductor cross-section wire end ferrule
	Evaluation	passed
	Requirement	≥40 N
	Conductor type	Type of conductor and H05V-U1.5 conductor cross-section
		Type of conductor and H05V-K1.5 conductor cross-section
Type of conductor and AWG 16/7 conductor cross-section		
Evaluation	passed	

Classifications

ETIM 6.0	EC002638	ETIM 7.0	EC002638
ETIM 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	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	27-46-02-02	ECLASS 14.0	27-46-02-02
ECLASS 15.0	27-46-02-02		

Cradle to gate 0.023 kg CO₂eq.

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%
Product Carbon Footprint	de.myview.objectmodel.impl.BlockImpl@7cd7a5cf

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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 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. • In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load • Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Approvals

Approvals



Approvals MAMID	https://mdcop.weidmueller.com/mediadelivery/rendition/900_319226/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319262/-T1z1mm-S800/
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UR)	E60693

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Technical data

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
	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	

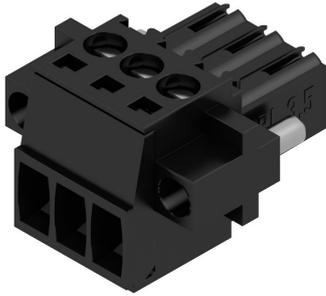
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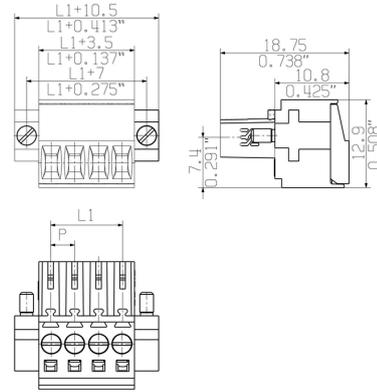
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Drawings

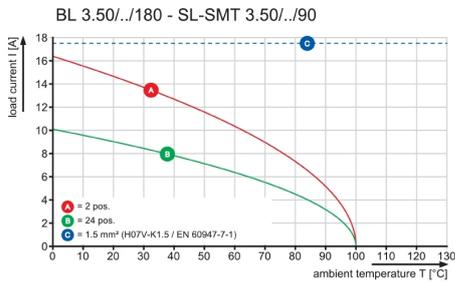
Product image



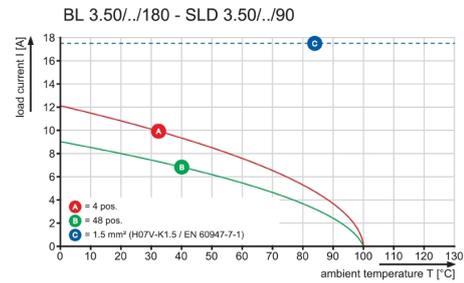
Dimensional drawing



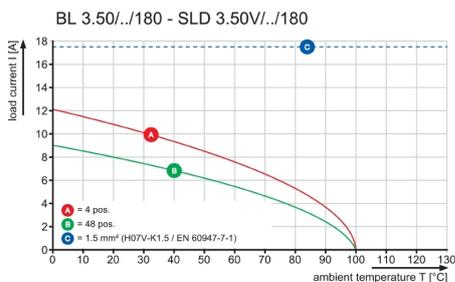
Graph



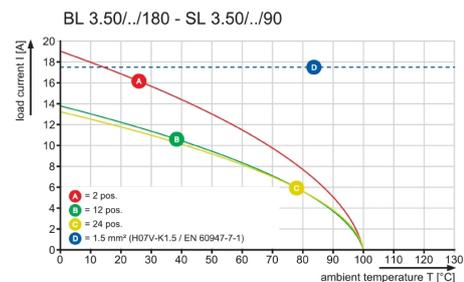
Graph



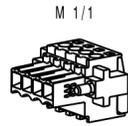
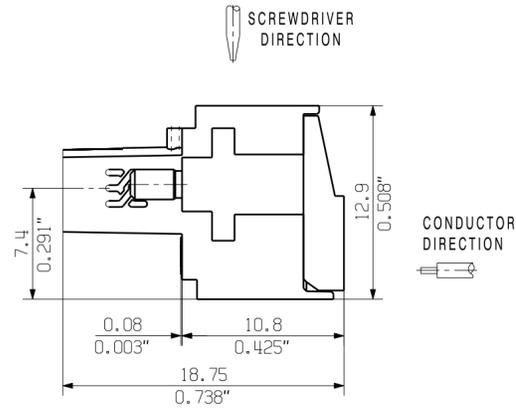
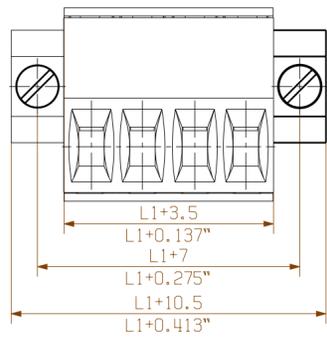
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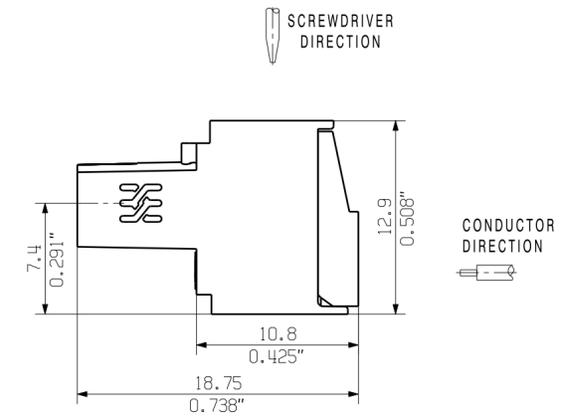
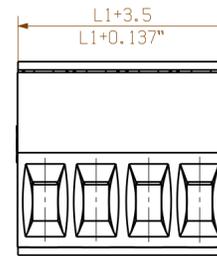
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BL 3.50/04/180F



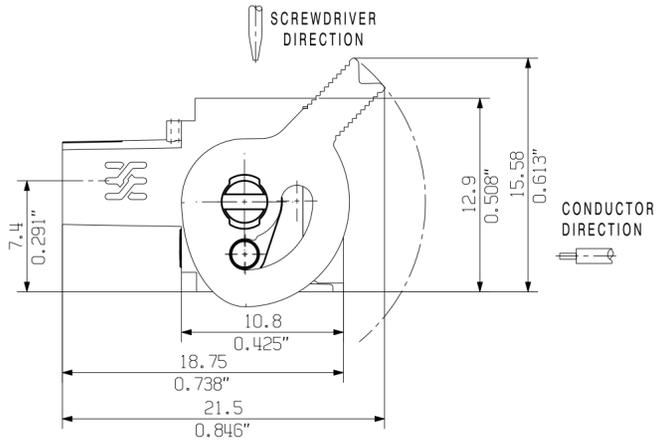
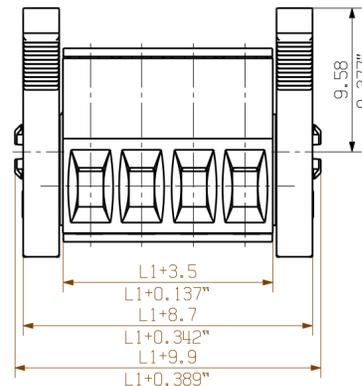
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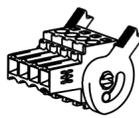
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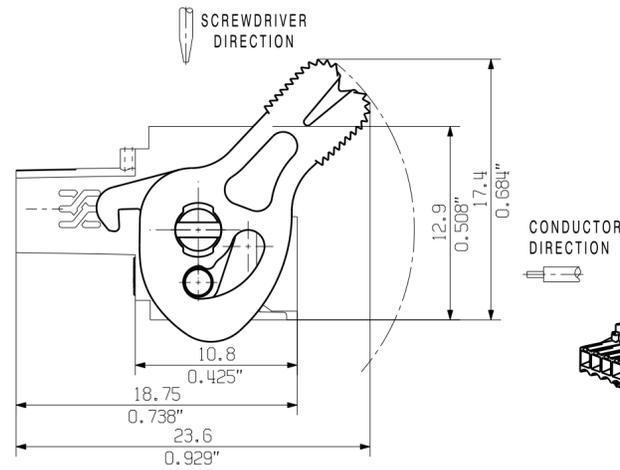
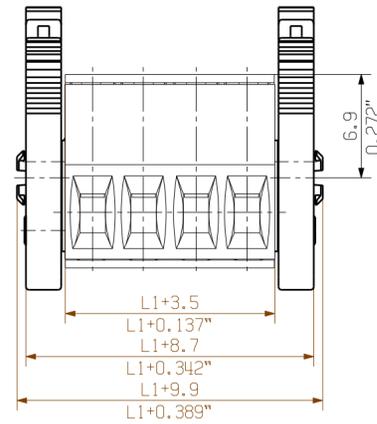
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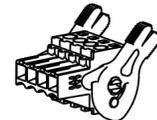
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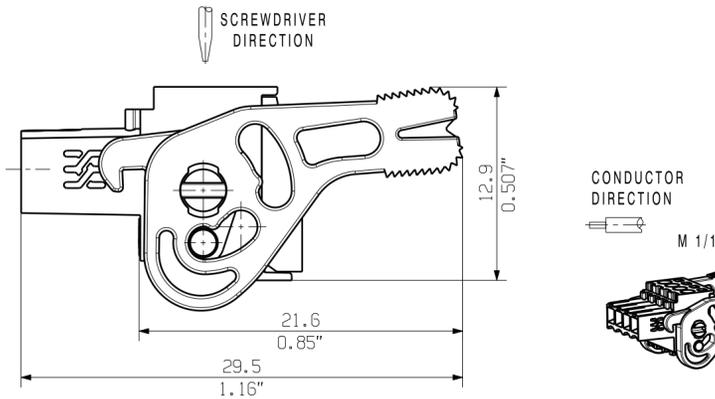
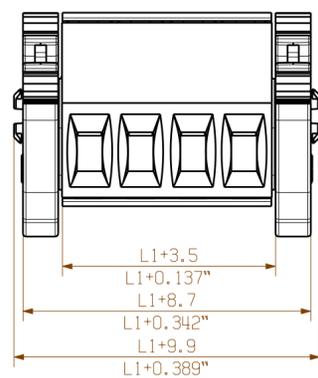
BL 3.50/04/180LR



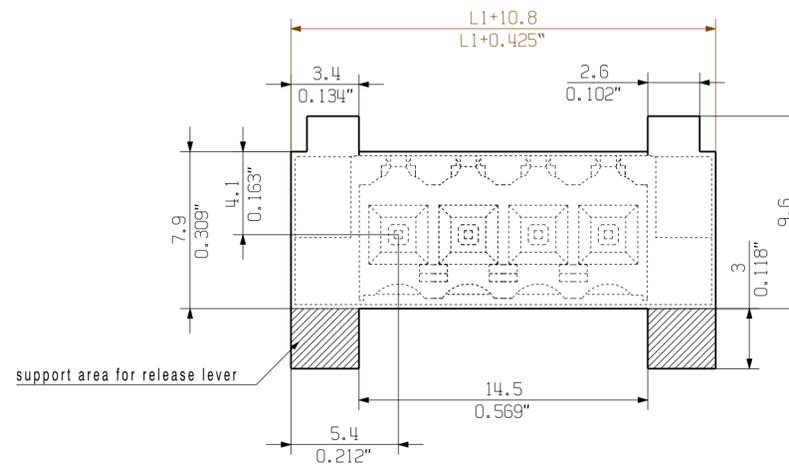
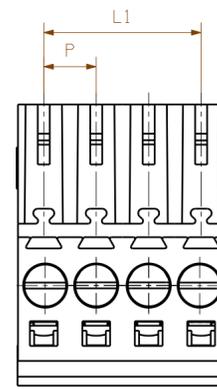
M 1/1



BL 3.50/04/180LR REDESIGN



M 1/1



MIN. FRONT PLATE CUT-OUT

P = 3.50 RASTER PITCH

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 connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

24	80.5	3.169
23	77.0	3.032
22	73.5	2.894
21	70.0	2.756
20	66.5	2.618
19	63.0	2.480
18	59.5	2.343
17	56.0	2.205
16	52.5	2.067
15	49.0	1.929
14	45.5	1.791
13	42.0	1.654
12	38.5	1.516
11	35.0	1.378
10	31.5	1.240
9	28.0	1.102
8	24.5	0.965
7	21.0	0.827
6	17.5	0.689
5	14.0	0.551
4	10.5	0.413
3	7.0	0.276
2	3.5	0.138
n	POLZAHL POLES	L1 [mm] L1 [inch]

GENERAL TOLERANCE: DIN ISO 2768-m

103300/5
17.05.18 HELIS_MA 01

RoHS COMPLIANT

Modification

Date Name

Drawn 02.09.2008 HELIS_MA

Responsible AMANN_A

Checked

Approved LANG_T

Cat.no.: 3 19675 (36)

Sheet 00 of 00 sheets

Issue no. sheets

Scale: 5/1

Supersedes: .

Product file: BL 3.50

9782

BL 3.50/././180 BUCHSENSTECKER FEMALE PLUG

Prüfung / Verification

ALLGEMEINGÜLTIGE KUNDENZEICHNUNG, AKTUELLER STAND NUR AUF ANFRAGE
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