

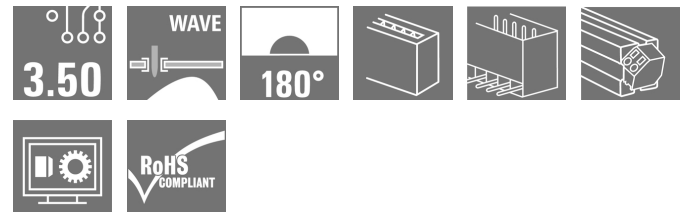
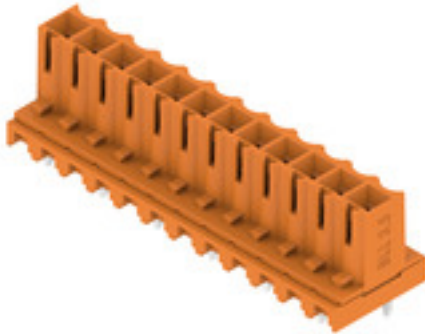
BLL 3.50/12/180 3.2SN OR TU
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image


Inverted female header for:

- finger-safety on the PCB
- Board-to-board component connection (with SL/SL-SMT 3.50)
- Wave soldering
- Outlet direction: 180° (standing, vertical to PCB)

General ordering data

Version	PCB plug-in connector, female header, closed side, THT solder connection, 3.50 mm, Number of poles: 12, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Tube
Order No.	1376480000
Type	BLL 3.50/12/180 3.2SN OR TU
GTIN (EAN)	4050118177732
Qty.	13 pc(s).
Product data	IEC: 320 V / 15.1 A UL: 300 V / 9 A
Packaging	Tube

Creation date March 23, 2021 7:57:24 PM CET

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Technical data
Dimensions and weights

Depth	11.85 mm	Depth (inches)	0.467 inch
Height	14.3 mm	Height (inches)	0.563 inch
Net weight	4.32 g		

System specifications

Product family	OMNIMATE Signal - series BL/SL 3.50	Type of connection	Board connection
Mounting onto the PCB	THT solder connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Outgoing elbow	180°
Number of poles	12	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0.2 / -0.2 mm
Solder pin dimensions	d = 0.8 mm	Solder pin dimensions = d tolerance	0 / -0,03 mm
Solder eyelet hole diameter (D)	1.3 mm	Solder eyelet hole diameter tolerance (D)	+ 0,1 mm
L1 in mm	38.5 mm	L1 in inches	1.516 inch
Number of rows	1	Pin series quantity	1
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
Plugging force/pole, max.	8 N	Pulling force/pole, max.	7 N

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	CuSn	Contact surface	tinned
Layer structure of solder connection	4...6 μm Sn glossy	Layer structure of plug contact	4...6 μm Sn glossy
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-50 °C	Operating temperature, max.	100 °C
Temperature range, installation, min.	-25 °C	Temperature range, installation, max.	100 °C

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	15.1 A
Rated current, max. number of poles (Tu=20°C)	7.7 A	Rated current, min. number of poles (Tu=40°C)	13 A
Rated current, max. number of poles (Tu=40°C)	6.6 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

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Technical data**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1121690

Rated voltage (Use group C / CSA) 300 V

Rated current (Use group C / CSA) 9 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

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) 9 A

Rated current (Use group D / UL 1059) 9 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

Packaging	Tube	VPE length	25 mm
VPE width	25 mm	VPE height	555 mm
Surface resistance	$R_s = 10^9 - 10^{12} \Omega$		

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ECLASS 9.0	27-44-04-02	ECLASS 9.1	27-44-04-02
ECLASS 10.0	27-44-04-02	ECLASS 11.0	27-46-02-01

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. • 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

Data sheet**BLL 3.50/12/180 3.2SN OR TU****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, Zuken E3.S

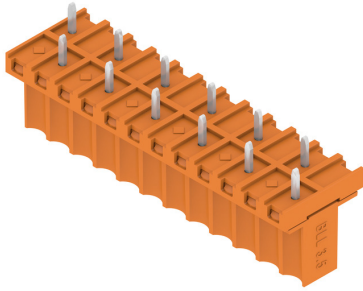
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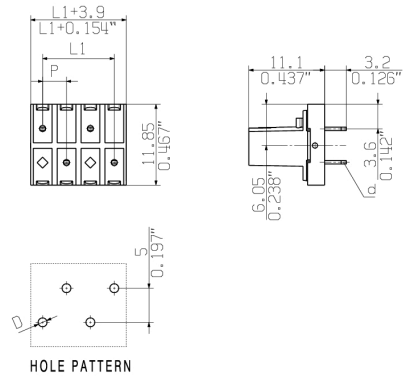
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Drawings

Product image



Dimensional drawing



Product benefits

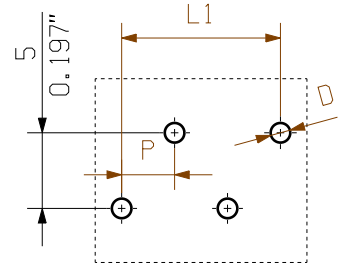
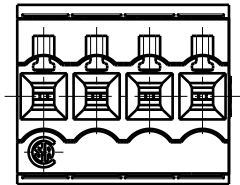
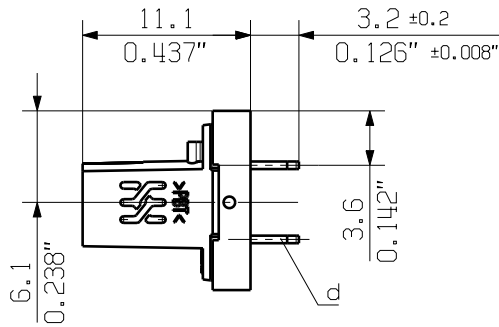


Connection made easy
 Safe board-to-board connection

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

ALLGEMEINGUELTIGE KUNDENZEICHUNG, AKTUELLER STAND NUR AUF ANFRAGE
GENERAL CUSTOMER DRAWING, TOPICAL VERSION ONLY IF REQUIRED



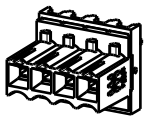
DETAIL A
X 5/1



SHOWN : BLL 3.50/04/180

HOLE PATTERN

M 1/1



P=3.50 RASTER PITCH
D=Ø1.3 +0.1
d=0.5x0.8

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.

n	POLZAHL POLES	L1 [mm]	L1 [inch]	REIHE/ ROW	1	2	3	4	5	6	7	8	9	10	11	12
12	38.5	1.516		1	X	0	X	0	X	0	X	0	X	0	X	0
				2	0	X	0	X	0	X	0	X	0	X	0	X
11	35.0	1.378		1	X	0	X	0	X	0	X	0	X	0	X	
				2	0	X	0	X	0	X	0	X	0	X	0	
10	31.5	1.240		1	X	0	X	0	X	0	X	0	X	0		
				2	0	X	0	X	0	X	0	X	0	X	0	
9	28.0	1.102		1	X	0	X	0	X	0	X	0	X			
				2	0	X	0	X	0	X	0	X	0			
8	24.5	0.965		1	X	0	X	0	X	0	X	0				
				2	0	X	0	X	0	X	0	X	0			
7	21.0	0.827		1	X	0	X	0	X	0	X					
				2	0	X	0	X	0	X	0					
6	17.5	0.689		1	X	0	X	0	X	0						
				2	0	X	0	X	0	X						
5	14.0	0.551		1	X	0	X	0	X							
				2	0	X	0	X	0							
4	10.5	0.413		1	X	0	X	0								
				2	0	X	0	X								
3	7.0	0.276		1	X	0	X									
				2	0	X	0									
2	3.5	0.138		1	X	0										
				2	0	X										

GENERAL TOLERANCE:

DIN ISO 2768-m



80439/5
17.02.15 HELIS_MA 01

MODIFICATION

Weidmüller

CAT.NO.:
C 33133 14

DRAWING NO. SHEET 01 OF 01 SHEETS
ISSUE NO.



DATE NAME
DRAWN 22.04.2005 FROEHLKING_M

RESPONSIBLE CHECKED 17.02.2015 LANG_T HELIS_MA

SCALE: 2/1

APPROVED LANG_T

BLL 3.50/.../180...
BUCHSENLEISTE
FEMALE HEADER

SUPERSEDES: .

PRODUCT FILE: BLL 3.50

7369

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Recommended wave soldering profiles

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Single Wave:



Double Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.