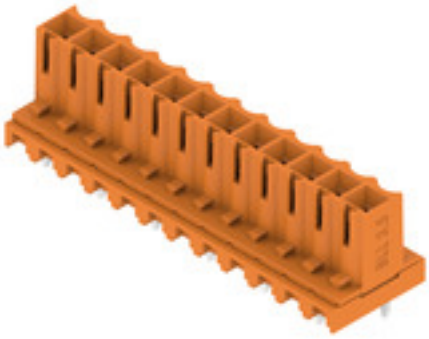
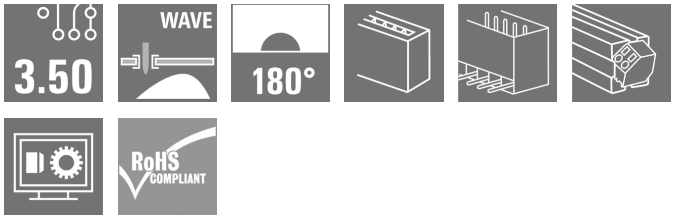
BLL 3.50/12/180 3.2SN OR TU

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 July 5, 2024 2:21:10 AM CEST

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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 "	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 "
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	IP20 plugged/ IP10 un-plugged
Protection degree	IP20	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	Cu-alloy	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	555 mm
VPE width	20 mm	VPE height	17 mm
Surface resistance	Rs = 10^{9} - 10^{12} Ω		

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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
ECLASS 12.0	27-46-02-01	ECLASS 13.0	27-46-02-01

Environmental Product Compliance

REACH SVHC	/

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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	• Additional variants 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. • 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	
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Engineering Data	Zuken E3.S
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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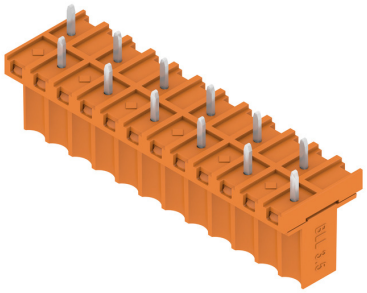
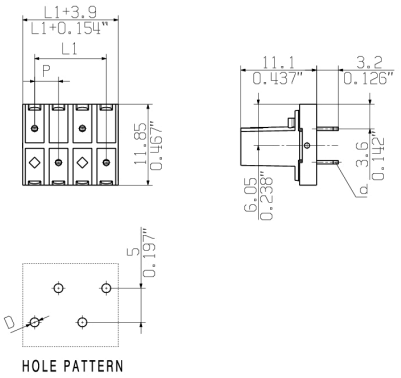
Drawings

Product image



Dimensional drawing



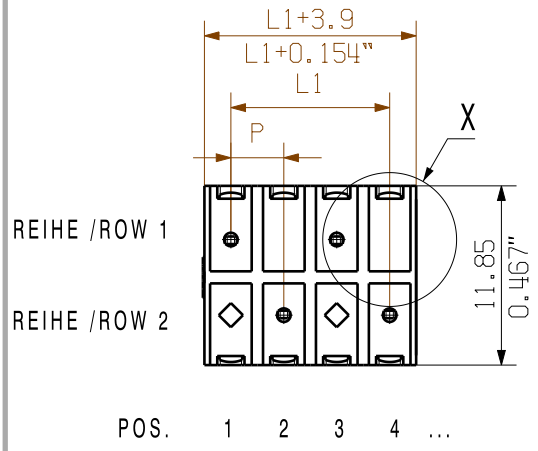
Product benefits

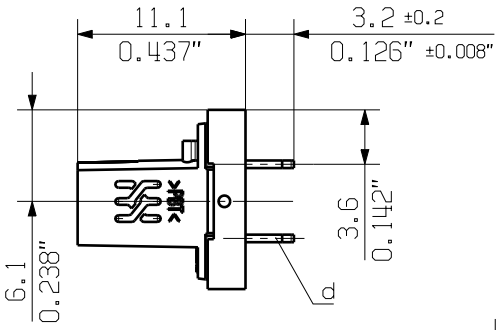
Connection made easy
Safe board-to-board connection

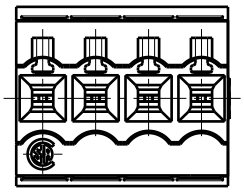
MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

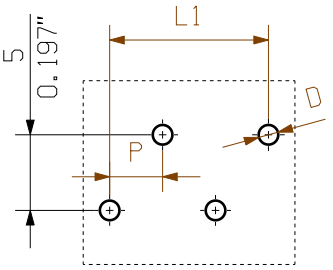
DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

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



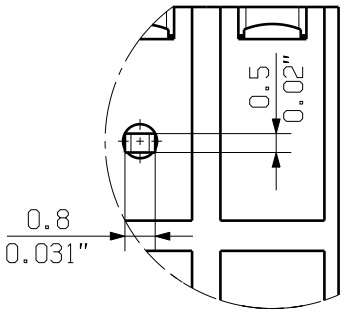






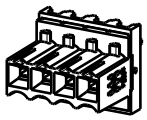
HOLE PATTERN

DETAIL A
X 5/1



SHOWN : BLL 3.50/04/180

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 neccessary 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 occuring 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		
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				
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

RoHS COMPLIANT

80439/5
17.02.15 HELIS_MA 01
MODIFICATION

Weidmüller

CAT.NO.: .

C 33133 14
DRAWING NO. ISSUE NO.

SHEET 01 OF 01 SHEETS

	DATE	NAME
DRAWN	22.04.2005	FROEHLKING_M
RESPONSIBLE		LANG_T
CHECKED	17.02.2015	HELIS_MA
APPROVED		LANG_T

SCALE: 2/1
SUPERSEDES: .

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

PRODUCT FILE: BLL 3.50 7369

Wave Solder Profile

Recommended wave solderding profiles

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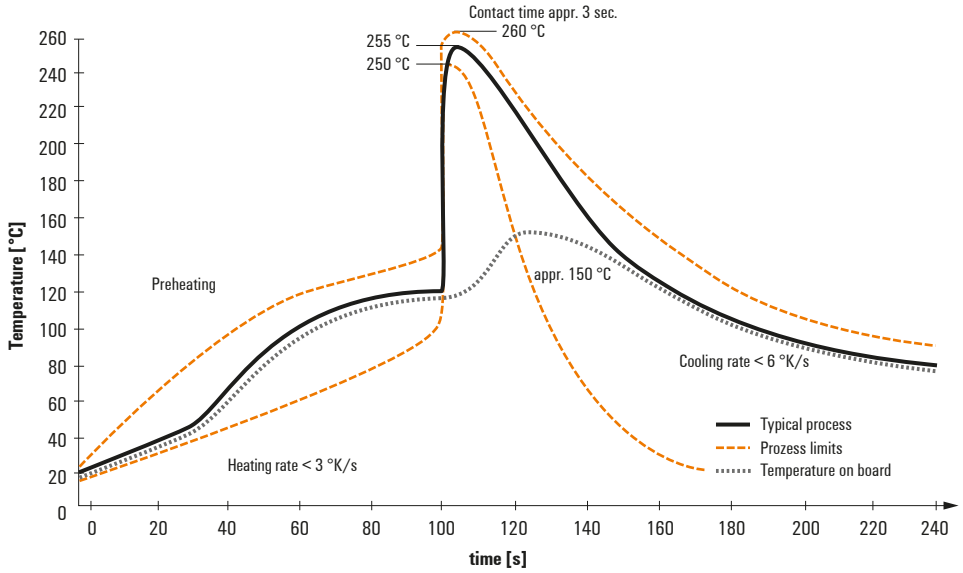
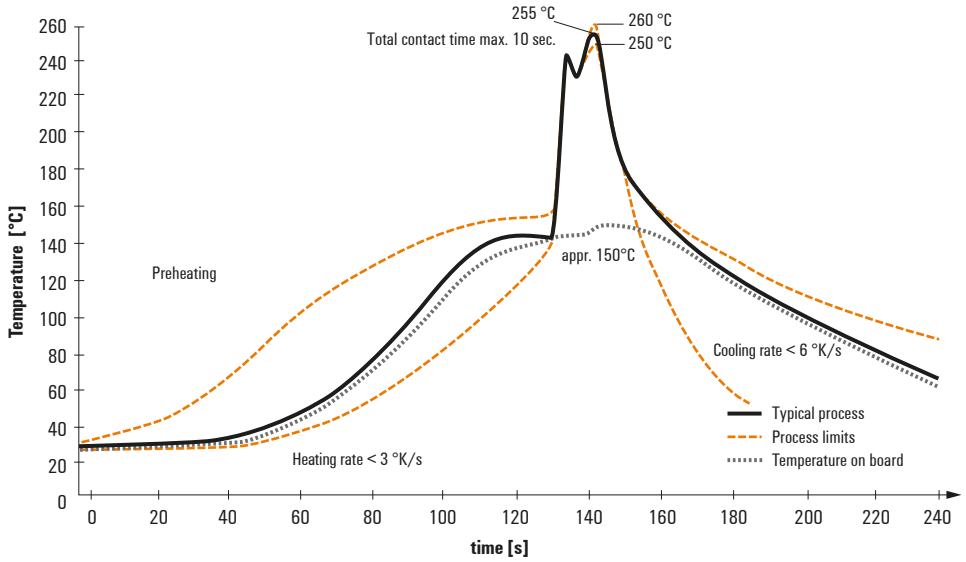
Single Wave:



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.