

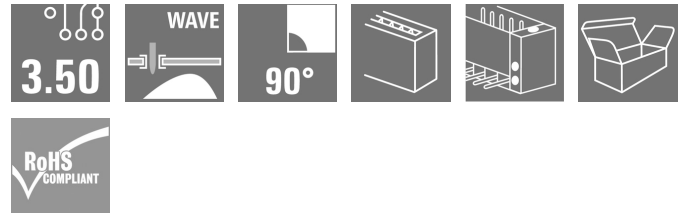
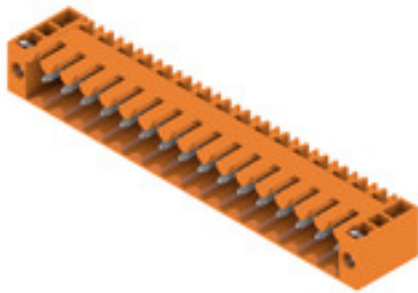
SL 3.50/16/90F 3.2SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

General ordering data

Version	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 16, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Box
Order No.	1607180000
Type	SL 3.50/16/90F 3.2SN OR BX
GTIN (EAN)	4008190004446
Qty.	50 pc(s).
Product data	IEC: 320 V / 17 A UL: 300 V / 10 A
Packaging	Box

Creation date May 15, 2025 11:14:40 PM CEST

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Technical data

Dimensions and weights

Depth	11.1 mm	Depth (inches)	0.437 inch
Height	10.7 mm	Height (inches)	0.421 inch
Height of lowest version	7.5 mm	Width	63 mm
Width (inches)	2.48 inch	Net weight	4.67 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	90°		
Number of poles	16		
Number of solder pins per pole	1		
Solder pin length (l)	3.2 mm		
Solder pin length tolerance	+0.1 / -0.3 mm		
Solder pin dimensions	d = 1.2 mm, Octagonal		
Solder pin dimensions = d tolerance	0 / -0.03 mm		
Solder eyelet hole diameter (D)	1.4 mm		
Solder eyelet hole diameter tolerance (D)	+ 0.1 mm		
L1 in mm	52.5 mm		
L1 in inches	2.067 "		
Number of rows	1		
Pin series quantity	1		
Touch-safe protection acc. to DIN VDE 57 106	finger-safe plugged/ back-of-hand-safe unplugged		
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged		
Volume resistance	6.00 mΩ		
Can be coded	Yes		
Plugging force/pole, max.	10 N		
Pulling force/pole, max.	10 N		
Tightening torque	Torque type	Mounting screw, PCB	
	Usage information	Tightening torque	min. 0.1 Nm
			max. 0.15 Nm
		Recommended screw	Part number PTSC KA 2.2X4.5 WN1412

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 base material	CuSn	Contact material	Cu-alloy
Contact surface	tinned	Layer structure of solder connection	2...4 µm Ni / 5...8 µm Sn glossy
Layer structure of plug contact	2...4 undefined Ni / 5...8 undefined 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.	-30 °C
Temperature range, installation, max.	100 °C		

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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 impulse voltage for surge voltage class/ pollution degree II/2	2,500 V
Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV		

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
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
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	151 mm
VPE width	132 mm	VPE height	38 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	EC002637
ETIM 10.0	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	ECLASS 14.0	27-46-02-01
ECLASS 15.0	27-46-02-01		

Cradle to gate

0.032 kg CO₂eq.

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Technical data

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@78a0bd92

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. • For additional mechanical support for male connectors with screw flange (...F), we recommend an additional cable gland with fastening screws (sheet metal screw ISO 1481-ST 2.2x4.5 C or ISO 7049-ST 2.2x4.5 C – see Accessories). Cable gland only permitted before soldering. • 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 Con-
formity

[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](#)

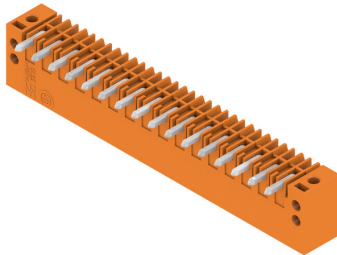
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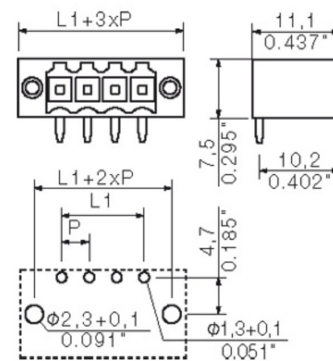
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Drawings

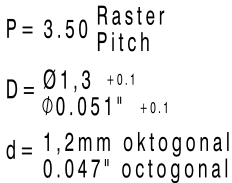
Product image



Dimensional drawing



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1,5	0,1
	-0,3
3,2	0,1
	-0,3
4,5	0,1
	-0,3
pin length l/ Stiftlänge l	tolerance/ Toleranz

24	80.5	+/-0.2
23	77.0	
22	73.5	
21	70.0	
20	66.5	
19	63.0	
18	59.5	
17	56.0	
16	52.5	
15	49.0	
14	45.5	+/-0.15
13	42.0	
12	38.5	
11	35.0	
10	31.5	
9	28.0	+/-0.1
8	24.5	
7	21.0	
6	17.5	
5	14.0	
4	10.5	
3	7.0	
2	3.5	
n Polzahl/ no of poles	L1	Toleranz/ tolerance L1

shown : SL 3.50/04/90F

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.

Weidmueller 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.

General tolerance: DIN ISO 2768-mK		96310/5 06.07.17 HELIS_MA		00	Weidmüller 	Cat.no.: .	
		Modification				3 19670	48
		Sheet	03	of	03	sheets	
		Date	Name	SL 3.50/././90... STIFTELEISTE MALE HEADER			
	Drawn	21.08.2008	HELIS_MA				
	Responsible		AMANN_A				
Scale: 5/1	Checked	20.09.2017	HERTEL_S				
Supersedes: .	Approved		LANG_T	Product file: SL 3.50			7296

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.

We reserve the right to make technical changes.