

SL 3.50/12/180F 3.2SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Similar to illustration

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: 12, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Box
Order No.	1607600000
Type	SL 3.50/12/180F 3.2SN OR BX
GTIN (EAN)	4008190164935
Qty.	50 pc(s).
Product data	IEC: 320 V / 17 A UL: 300 V / 10 A
Packaging	Box

Creation date March 24, 2021 10:43:10 AM CET

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Technical data

Dimensions and weights

Depth	7.5 mm	Depth (inches)	0.295 inch
Height	14.3 mm	Height (inches)	0.563 inch
Height of lowest version	11.1 mm	Net weight	3.41 g
Width	49 mm	Width (inches)	1.929 inch

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	+0.1 / -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	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 back-of-hand touch			
Touch-safe protection acc. to DIN VDE 0470	IP 10			
Volume resistance	≤5 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 material	CuSn	Contact surface	tinned
Layer structure of solder connection	5...7 µm Sn glossy	Layer structure of plug contact	5...7 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 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
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	82 mm
VPE width	88 mm	VPE height	104 mm

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

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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 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. • 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. • 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	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP

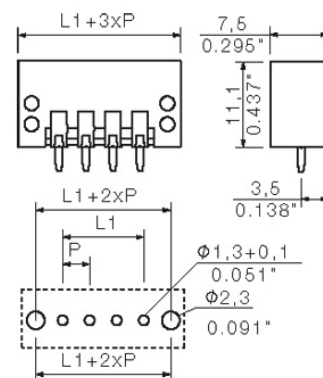
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Drawings

Dimensional drawing



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Dimensions without tolerances are no check dimensions

The English version is binding



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.

P = Raster / pitch

shown: SL 3.50/04/180F

24	80.5	3.171	±0.2
23	77.0	3.033	
22	73.5	2.895	
21	70.0	2.757	
20	66.5	2.619	
19	63.0	2.481	
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	±0.15
11	35.0	1.378	
10	31.5	1.240	
9	28.0	1.102	
8	24.5	0.965	±0.1
7	21.0	0.827	
6	17.5	0.689	
5	14.0	0.551	
4	10.5	0.413	
3	7.00	0.276	
2	3.50	0.138	
n	no of poles	L1 [mm] L1 [inch]	

General tolerance:
DIN ISO 2768-mK



90310/5
30.09.16 HELIS_MA 00

Modification

Weidmüller



Cat.no.: .

4 19672

28

Drawing no.

Issue no.

Sheet 03

of 03 sheets



Date Name

Drawn 04.09.2008 HELIS_MA

Responsible AMANN_A

Checked 18.10.2016 HELIS_MA

Approved LANG_T

SL 3.50/.. /180...

STIFTELEISTE
MALE HEADER

Scale: 5:1

Supersedes: .

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.