

SL 3.50/16/90G 3.2SN BK 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, closed side, THT solder connection, 3.50 mm, Number of poles: 16, 90°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	1790320000
Type	SL 3.50/16/90G 3.2SN BK BX
GTIN (EAN)	4032248214785
Qty.	50 pc(s).
Product data	IEC: 320 V / 17 A UL: 300 V / 10 A
Packaging	Box

Creation date May 11, 2025 7:21:01 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	57.4 mm
Width (inches)	2.26 inch	Net weight	4.118 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
Can be coded	Yes	Plugging force/pole, max.	10 N
Pulling force/pole, max.	10 N		

Material data

Insulating material	PBT	Colour	black
Colour chart (similar)	RAL 9011	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	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

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		

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Technical data

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	141 mm
VPE width	105 mm	VPE height	41 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		

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

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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 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



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

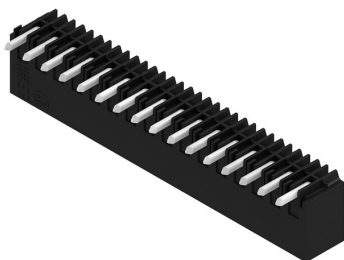
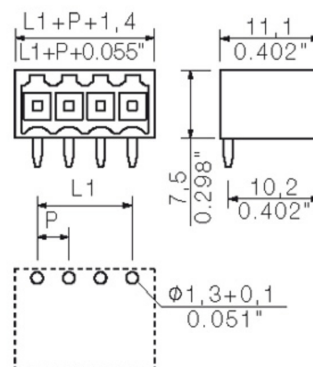
Downloads

Engineering Data	CAD data – STEP
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN FL DRIVES DE

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Drawings**Product image****Dimensional drawing**

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Dimensions without tolerances are no check dimensions

The English version is binding



hole pattern

P = 3.50 Raster Pitch

D = Ø1,3 +0.1
Ø0.051" +0.1

d = 1,2mm oktagonale
0.047" oktagonale

SHOWN: SL 3.50/04/90G

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 with 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.

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	+/-0.15
15	49.0	
14	45.5	
13	42.0	
12	38.5	+/-0.1
11	35.0	
10	31.5	
9	28.0	
8	24.5	
7	21.0	
6	17.5	
5	14.0	
4	10.5	Toleranz/ tolerance L1
3	7.0	
2	3.5	
n Polzahl/ no of poles	L1	Toleranz/ tolerance L1

General tolerance: DIN ISO 2768-mK		96310/5 06.07.17 HELIS_MA		00	Cat.no.: .	
		Modification			Weidmüller	
		Drawn	21.08.2008	HELIS_MA	SL 3.50/.. /90... STIFTLEISTE MALE HEADER	
		Responsible		AMANN_A		
		Checked	20.09.2017	HERTEL_S		
Scale: 5/1	Approved		LANG_T	Product file: SL 3.50		
Supersedes: .						7296

3 19670 48
Drawing no. Issue no.
Sheet 02 of 03 sheets

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.