

S2L 3.50/18/90F 3.5SN BK BX

Weidmüller Interface GmbH & Co. KG

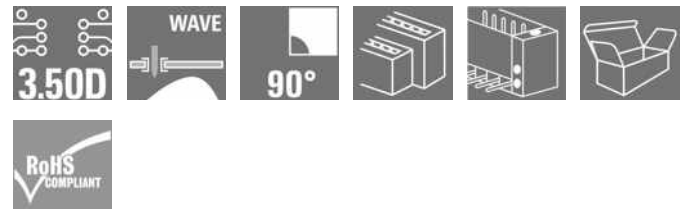
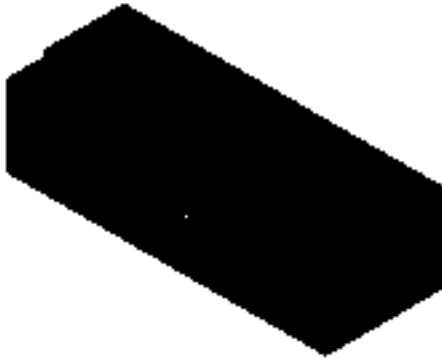
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



Angled, two-tier pin header available as closed-sided or with flange (open-sided pin headers on request). Pin headers with 3.5mm pins are designed for wave soldering and are packaged in a box. They can be screwed on to the PCB. The pin headers provide space for labelling and can be coded.

General ordering data

Version	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 18, 90°, Solder pin length (l): 3.5 mm, tinned, black, Box
Order No.	1728690000
Type	S2L 3.50/18/90F 3.5SN BK BX
GTIN (EAN)	4032248040155
Qty.	48 pc(s).
Product data	IEC: 250 V / 10 A UL: 150 V / 10 A
Packaging	Box

Creation date September 4, 2023 4:37:19 PM CEST

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Technical data

Dimensions and weights

Depth	14.2 mm	Depth (inches)	0.559 inch
Height	14 mm	Height (inches)	0.551 inch
Height of lowest version	10.5 mm	Width	38.5 mm
Width (inches)	1.516 inch	Net weight	6.812 g

Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	100 °C
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System specifications

Product family	OMNIMATE Signal - series B2L/S2L 3.50 - 2-row		
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	90°		
Number of poles	18		
Number of solder pins per pole	1		
Solder pin length (l)	3.5 mm		
Solder pin dimensions	d = 1.0 mm, Octagonal		
Solder eyelet hole diameter (D)	1.3 mm		
Solder eyelet hole diameter tolerance (D)	+ 0,1 mm		
L1 in mm	28 mm		
L1 in inches	1.102 inch		
Number of rows	1		
Pin series quantity	2		
Touch-safe protection acc. to DIN VDE 57 106	finger-safe unplugged/ back-of-hand-safe plugged		
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged		
Can be coded	Yes		
Plugging force/pole, max.	5 N		
Pulling force/pole, max.	4 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	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Layer structure of solder connection	2...3 µm Ni / 5...7 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.	-30 °C
Temperature range, installation, max.	100 °C		

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Technical data
Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	10 A
Rated current, max. number of poles (Tu=20°C)	10 A	Rated current, min. number of poles (Tu=40°C)	9 A
Rated current, max. number of poles (Tu=40°C)	8.5 A	Rated voltage for surge voltage class / pollution degree II/2	250 V
Rated voltage for surge voltage class / pollution degree III/2	125 V	Rated voltage for surge voltage class / pollution degree III/3	80 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 77 A

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1488444
Rated voltage (Use group B / CSA)	150 V	Rated current (Use group B / CSA)	5 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)	150 V	Rated voltage (Use group C / UL 1059)	50 V
Rated current (Use group B / UL 1059)	10 A	Rated current (Use group C / UL 1059)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	351 mm
VPE width	135 mm	VPE height	25 mm

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	27460201

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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	<ul style="list-style-type: none"> • Additional variants on request • Gold-plated contact surfaces on request • Spacing between rows: see hole layout • 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 148 1-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



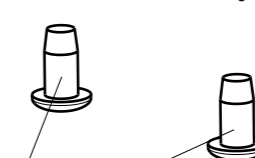
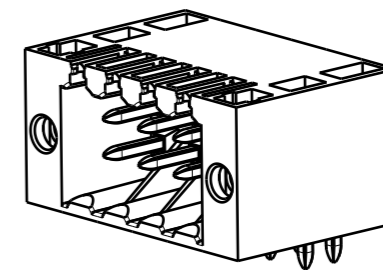
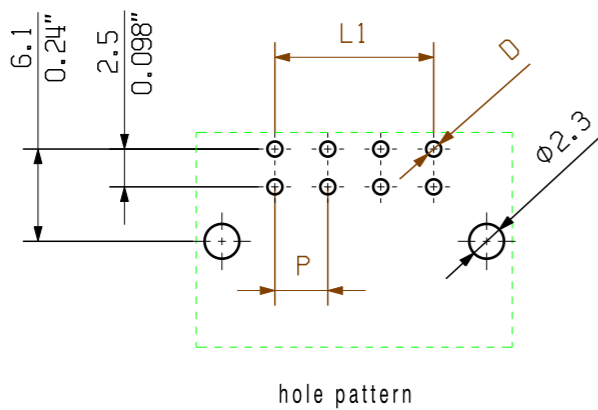
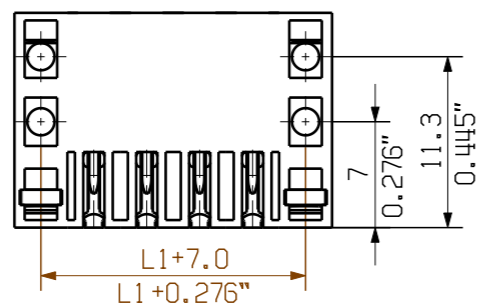
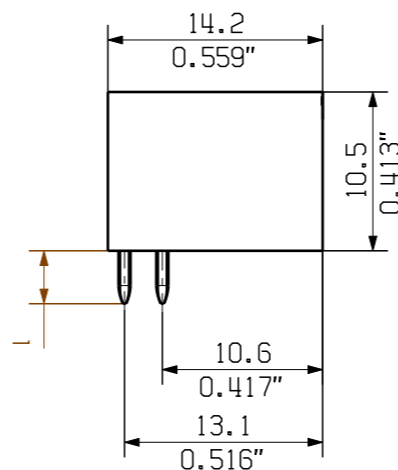
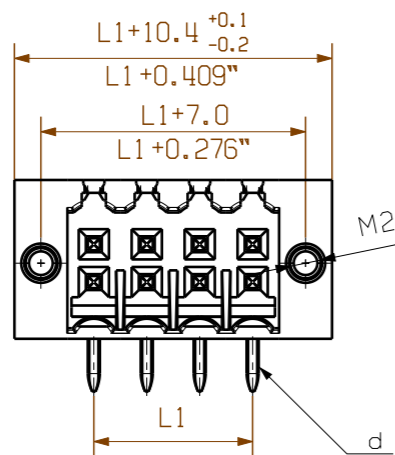
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UR)	E60693

Downloads

Approval/Certificate/Document of Conformity	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 FLIndustr.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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optional fixing screw
order no.: 161074 0000

P = 3.50 Raster Pitch
D = Ø1,3^{+0.1}
Ø0.051^{+0.1}
d = 1mm oktagon
0.039" octogonal

shown: S2L 3.50/08/90F

pin length l	tolerance
3,5	0,2 -0,2
2,6	0,2 -0,2

n	Polzahl/ no of poles	L1	Toleranz/ tolerance L1
46		77.0	
44		73.5	
42		70.0	
40		66.5	
38		63.0	+/-0.2
36		59.5	
34		56.0	
32		52.5	
30		49.0	
28		45.5	
26		42.0	
24		38.5	+/-0.15
22		35.0	
20		31.5	
18		28.0	
16		24.5	
14		21.0	
12		17.5	+/-0.1
10		14.0	
8		10.5	
6		7.0	
4		3.5	

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.

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.

General tolerance: DIN ISO 2768-mK		98746/5 29.11.17 HELIS_MA 01		Cat.no.: .											
		Modification													
		<table border="1"> <tr><td>Drawn</td><td>28.11.2008</td><td>HELIS_MA</td></tr> <tr><td>Responsible</td><td></td><td>AMANN_A</td></tr> <tr><td>Checked</td><td>04.12.2017</td><td>HELIS_MA</td></tr> <tr><td>Approved</td><td></td><td>LANG_T</td></tr> </table>		Drawn	28.11.2008	HELIS_MA	Responsible		AMANN_A	Checked	04.12.2017	HELIS_MA	Approved		LANG_T
Drawn	28.11.2008	HELIS_MA													
Responsible		AMANN_A													
Checked	04.12.2017	HELIS_MA													
Approved		LANG_T													
Scale: 5/1		Supersedes: .		S2L 3.50/.../... STIFTLEISTE MALE HEADER											
		Product file: S2L 3.50				7110									

Recommended wave soldering profiles

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 Germany
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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.