

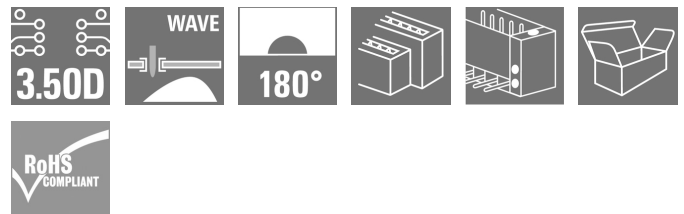
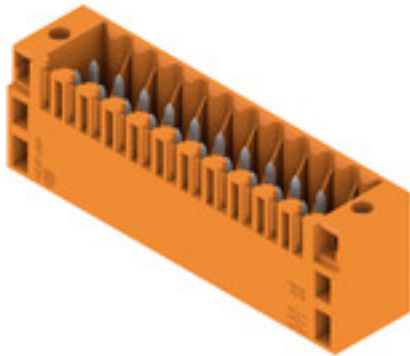
S2L 3.50/22/180F 3.5SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Straight, double-row pin header available in closed-sided or flange version (open-sided pin headers on request). The male headers with a pin length of 3.5mm are designed for wave soldering and are packed in a box. They can be screwed on to the PCB. The male 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: 22, 180°, Solder pin length (l): 3.5 mm, tinned, orange, Box
Order No.	1729510000
Type	S2L 3.50/22/180F 3.5SN OR BX
GTIN (EAN)	4032248040919
Qty.	36 pc(s).
Product data	IEC: 250 V / 10 A UL: 150 V / 10 A
Packaging	Box

Creation date June 7, 2024 12:06:19 AM CEST

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Technical data

Dimensions and weights

Depth	10.5 mm	Depth (inches)	0.413 inch
Height	17.7 mm	Height (inches)	0.697 inch
Height of lowest version	14.2 mm	Width	45.5 mm
Width (inches)	1.791 inch	Net weight	3.97 g

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 "			
Outgoing elbow	180°			
Number of poles	22			
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	35 mm			
L1 in inches	1.378 "			
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	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	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	341 mm
VPE width	135 mm	VPE height	22 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	27-46-02-01

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www.weidmueller.com**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.• Diameter of solder eyelet $D = 1.3 \pm 0.1$ mm• 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



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

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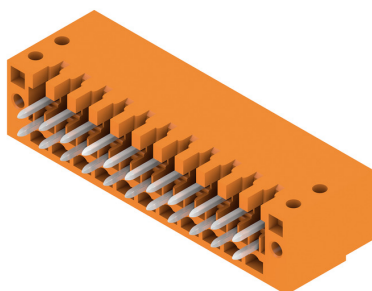
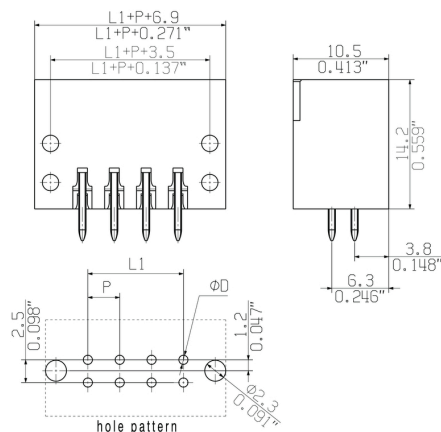
Downloads

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 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**

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Accessories

Additional accessories



No task is too small when creating the perfect solution. br />

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but useful details:

- Test plugs - ensure reliable pick-up from diagnostic sockets
- Cross-connectors - ensure a stable electrical distribution contact directly at the connection
- Compartment partition elements - divide a large number of male connectors into several separate socket connector channels
- Locks and clips - optional vibration-resistant clip-on connection or mounting for male and female connectors

In tandem with the manufacturing process and application - more accessories = smaller workload

General ordering data

Type	PTSC KA 2.2X4.5 WN1412	Version	Product data
Order No.	1610740000	PCB plug-in connector, Accessories, Mounting screw, Number of	
GTIN (EAN)	4008190039523	poles: 1	
Qty.	100 pc(s).		

Coding elements



Only connects what is supposed to be connected: the right connection at the right place.

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase.

The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible.

The advantage: no troubleshooting during manufacture and no operational errors by the user.

General ordering data

Type	B2L/S2L 3.50 KO BK BX	Version	Product data	Packaging
Order No.	1849740000	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4032248378203	of poles: 1		
Qty.	100 pc(s).			

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www.weidmueller.com**Accessories**

Type	B2L/S2L 3.50 KO OR BX	Version	Product data	Packaging
Order No.	1849730000	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4032248378197	of poles: 1		
Qty.	100 pc(s).			



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

shown S2L 3.50/././180F

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		
36	59.5		
34	56.0		
32	52.5		
30	49.0		
28	45.5		
26	42.0		
24	38.5		
22	35.0		
20	31.5		
18	28.0		
16	24.5		
14	21.0		
12	17.5		
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.

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

98746/5
29.11.17 HELIS_MA

01

Modification

Date

Name

Drawn

28.11.2008

HELIS_MA

Responsible

AMANN_A

Checked

04.12.2017

HELIS_MA

Approved

LANG_T

3 25607

18

Drawing no.

Issue no.

Sheet 06

of 06

sheets

Scale: 5/1

Supersedes: .

S2L 3.50/././...

STIFTLEISTE

MALE HEADER

Product file: S2L 3.50

7110

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.