

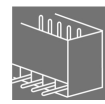
S2L-SMT 3.50/04/90G 3.2SN BK BX INK**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

General ordering data

Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 4, 90°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	1988350000
Type	S2L-SMT 3.50/04/90G 3.2SN BK BX INK
GTIN (EAN)	4050118373202
Qty.	222 pc(s).
Product data	IEC: 160 V / 10 A UL: 150 V / 10 A
Packaging	Box

Creation date March 26, 2021 7:28:33 PM CET

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Technical data**Dimensions and weights**

Depth	14.2 mm	Depth (inches)	0.559 inch
Height	14.2 mm	Height (inches)	0.559 inch
Height of lowest version	10.8 mm	Net weight	1.292 g
Width	8.4 mm	Width (inches)	0.331 inch

System specifications

Product family	OMNIMATE Signal - series B2L/S2L 3.50 - 2-row	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Outgoing elbow	90°
Number of poles	4	Number of solder pins per pole	1
Solder pin length (l)	3.2 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	
Outside diameter of solder pad	2.1 mm	Template aperture diameter	1.9 mm
L1 in mm	3.5 mm	L1 in inches	0.138 inch
Number of rows	2	Pin series quantity	2
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
Can be coded	Yes	Plugging cycles	25
Plugging force/pole, max.	3 N	Pulling force/pole, max.	6 N

Material data

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIb
Comparative Tracking Index (CTI)	≥ 175	Insulation strength	≥ 10 ⁸ Ω
Moisture Level (MSL)	1	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	Layer structure of plug contact	2...5 µm Sn / 1...3 µm Ni
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)	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	160 V
Rated voltage for surge voltage class / pollution degree III/2	125 V	Rated voltage for surge voltage class / pollution degree III/3	50 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	1.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	1.5 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

Rated voltage (Use group B / CSA)	150 V	Rated voltage (Use group C / CSA)	50 V
Rated voltage (Use group D / CSA)	150 V	Rated current (Use group B / CSA)	5 A
Rated current (Use group C / CSA)	9.5 A	Rated current (Use group D / CSA)	9.5 A

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Technical data**Rated data acc. to UL 1059**

Rated voltage (Use group B / UL 1059) 150 V

Rated current (Use group B / UL 1059) 10 A

Packing

Packaging	Box	VPE length	35 mm
VPE width	145 mm	VPE height	340 mm

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	Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

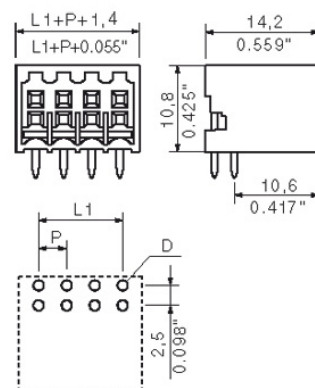
Approvals

ROHS	Conform
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Drawings**Dimensional drawing**

Recommended wave soldering profiles

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Fax: +49 5231 14-292083
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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.

Recommended reflow soldering profile

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Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically $\leq +3\text{K/s}$. In parallel the solder paste is 'activated'. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at $\geq -6\text{K/s}$ solder is cured. Board and components cool down while avoiding cold cracks.