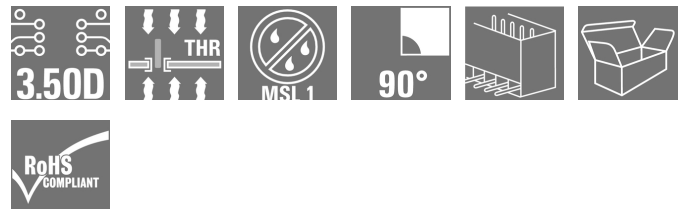


**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
S2L-SMT 3.50/20/90G 3.2SN BK BX**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Product image

Similar to illustration

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

Type	S2L-SMT 3.50/20/90G 3.2SN BK BX
Order No.	1794280000
Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, No. of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248231447
Qty.	48 pc(s).
Product data	IEC: 160 V / 10 A UL: 150 V / 10 A
Packaging	Box

OMNIMATE Signal - series B2L/S2L 3.50 - 2-row

S2L-SMT 3.50/20/90G 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Technical data

Dimensions and weights

Width	36.4 mm	Width (inches)	1.433 inch
Height	14.2 mm	Height (inches)	0.559 inch
Height of lowest version	10.8 mm	Depth	14.2 mm
Depth (inches)	0.559 inch	Net weight	6.15 g

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°
No. of poles	20	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Tolerance of solder pin position	± 0.20 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	31.5 mm
L1 in inches	1.24 inch	Number of rows	1
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
CTI	≥ 175	Insulation resistance	≥ 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	Storage temperature, min.	-25 °C
Storage temperature, max.	55 °C	Max. relative humidity during storage	80 %
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. no. of poles (Tu=20°C)	10 A
Rated current, max. no. of poles (Tu=20°C)	10 A	Rated current, min. no. of poles (Tu=40°C)	9 A
Rated current, max. no. 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

OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
S2L-SMT 3.50/20/90G 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Technical data
Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

200039-1176845

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

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.

Packaging

Packaging Box

VPE length 30 mm

VPE width 135 mm

VPE height 350 mm

Classifications

ETIM 4.0 EC002637

ETIM 5.0 EC002637

ETIM 6.0 EC002637

UNSPSC 30-21-18-10

eClass 5.1 27-26-07-01

eClass 6.2 27-26-07-04

eClass 7.1 27-44-04-02

eClass 8.1 27-44-04-02

eClass 9.0 27-44-04-02

eClass 9.1 27-44-04-02

Notes

Notes

- Additional colours 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.

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.

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
S2L-SMT 3.50/20/90G 3.2SN BK BX**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Technical data**Approvals**

Approvals



ROHS

Conform

DownloadsApproval/Certificate/Document of
Conformity[Declaration of the Manufacturer](#)

Brochure/Catalogue

[FL DRIVES EN](#)
[MB SMT EN](#)
[FL DRIVES DE](#)
[MB DEVICE MANUF. EN](#)
[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](#)

SMT white paper

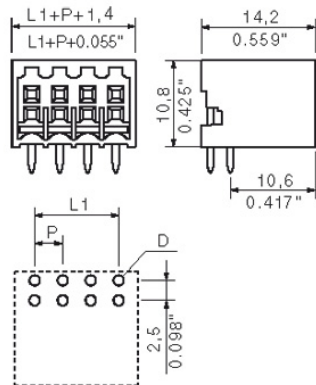
[Download Whitepaper](#)

OMNIMATE Signal - series B2L/S2L 3.50 - 2-row S2L-SMT 3.50/20/90G 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Drawings

Dimensional drawing

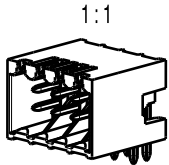
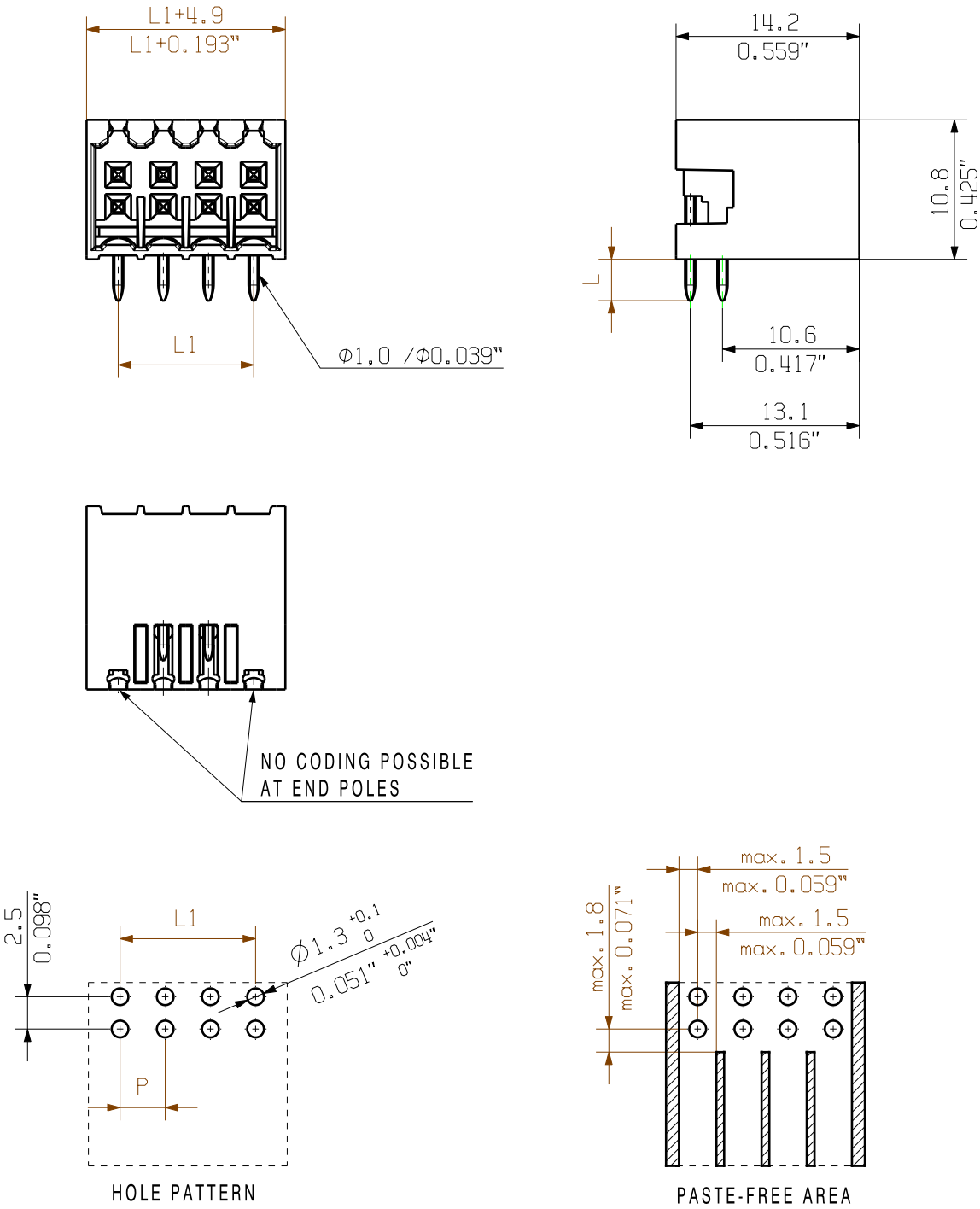


WEITERGABE SOWIE Vervielfaeltigung dieses Dokuments, Verwertung und MitteiluNG seines Inhalts sind verboten, soweit nicht ausdruecklich gestattet.
ZuWiderhandlungen Verpflichten zu Schadenersatz. Alle Rechte fuer den Fall der Patent-, Gebrauchsmuster- oder Geschmacksmustereintragung vorbehalten.
THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPLICIT AUTHORIZATION IS PROHIBITED.
OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. WEIDMUELLER EXCLUSIVELY RESERVES THE RIGHT TO FILE FOR PATENTS, UTILITY MODELS OR DESIGNS.

© WEIDMUELLER INTERFACE GmbH & Co.KG

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING



P = PITCH
n = NO OF POLES
SHOWN: S2L-SMT 3.50/04/90G

STIFTLAENGE/ PIN LENGTH L	TOLERANZ/ TOLERANCES	36	59,50	2,343
1.5	0	34	56,00	2,205
	-0.3	32	52,50	2,067
1.8	0	30	49,00	1,929
	-0.3	28	45,50	1,791
2.3	0	26	42,00	1,654
	-0.3	24	38,50	1,516
3.2	0	22	35,00	1,378
	-0.3	20	31,50	1,240
3.5	0	18	28,00	1,102
	-0.3	16	24,50	0,965
n	0	14	21,00	0,827
	-0.3	12	17,50	0,689
L1 [mm]	0	10	14,00	0,551
	-0.3	8	10,50	0,413
L1 [inch]	0	6	7,00	0,276
	-0.3	4	3,50	0,138

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

DIN ISO 2768

80058/3
19.01.15 HELIS_MA

01

MODIFICATION

DATE

NAME

DRAWN

19.03.2007

LANG_T

RESPONSIBLE

AMANN_A

CHECKED

21.01.2015

HERTEL_S

APPROVED

LANG_T

CAT.NO.: .

Weidmüller

C 32283 **26**

DRAWING NO. SHEET 02 OF 03 SHEETS

ISSUE NO.

S2L-SMT 3.50/./90...
STIFTELEISTE
MALE HEADER

PRODUCT FILE: S2L-SMT 3.50

7272

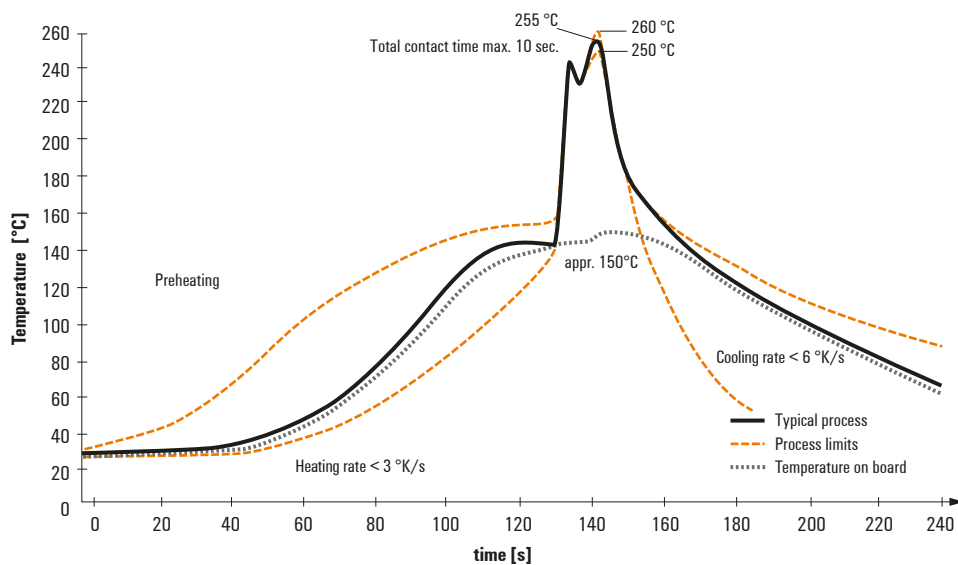
Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

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

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com



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.