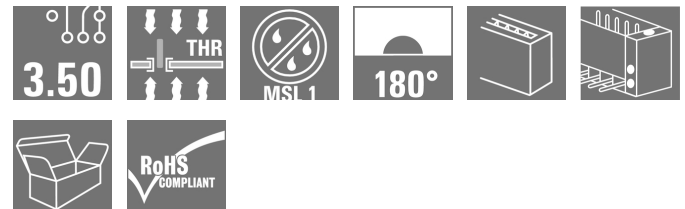


SL-SMT 3.50/18/180F 1.5SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Product image**

Similar to illustration

High-temperature-resistant male header, 3.50 mm pitch.

- **Plugging direction parallel (90°), straight 180° or angled (135°) to PCB**
- **Housing variants: closed side (G), screw flange (F), solder flange (LF) or snap-on solder flange (RF)**
- **Optimised for the SMT process**
- **Pin length 3.2 mm universal for all soldering methods**
- **Pin length 1.5 mm optimised for reflow soldering methods**
- **Packed either in a box (BX) or tape-on-reel (RL)**
- **Male header can be coded**

General ordering data

Version	PCB plug-in connector, male header, Flange, THT/THR solder connection, 3.50 mm, Number of poles: 18, 180°, Solder pin length (l): 1.5 mm, tinned, black, Box
Order No.	1761122001
Type	SL-SMT 3.50/18/180F 1.5SN BK BX
GTIN (EAN)	4032248131693
Qty.	24 pc(s).
Product data	IEC: 320 V / 15 A UL: 300 V / 10 A
Packaging	Box

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Technical data

Dimensions and weights

Depth	7.5 mm	Depth (inches)	0.295 inch
Height	12.6 mm	Height (inches)	0.496 inch
Height of lowest version	11.1 mm	Net weight	5 g
Width	70 mm	Width (inches)	2.756 inch

System specifications

Product family	OMNIMATE Signal - series BL/SL 3.50			
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	180°			
Number of poles	18			
Number of solder pins per pole	1			
Solder pin length (l)	1.5 mm			
Solder pin length tolerance	0 / -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			
Outside diameter of solder pad	2.3 mm			
Template aperture diameter	2.1 mm			
L1 in mm	59.5 mm			
L1 in inches	2.343 inch			
Number of rows	1			
Pin series quantity	1			
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			
Volume resistance	≤5 mΩ			
Can be coded	Yes			
Tightening torque for screw flange, max.	0.1 Nm			
Plugging force/pole, max.	6 N			
Pulling force/pole, max.	6 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	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIla
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	CuSn
Contact surface	tinned	Layer structure of solder connection	2...3 µm Ni / 5...7 µm Sn
Layer structure of plug contact	2...3 µm Ni / 5...7 µm Sn	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, max. number of poles
(Tu=20°C)

12 A

Rated current, max. number of poles
(Tu=40°C)

10 A

Rated voltage for surge voltage class /
pollution degree III/2

160 V

Rated impulse voltage for surge voltage
class/ pollution degree II/2

2.5 kV

Rated impulse voltage for surge voltage
class/ contamination degree III/3

2.5 kV

Rated current, min. number of poles
(Tu=20°C)

15 A

Rated current, min. number of poles
(Tu=40°C)

13 A

Rated voltage for surge voltage class /
pollution degree II/2

320 V

Rated voltage for surge voltage class /
pollution degree III/3

160 V

Rated impulse voltage for surge voltage
class/ pollution degree III/2

2.5 kV

Short-time withstand current resistance

3 x 1s with 100 A

Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

200039-1176845

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

45 mm

VPE width

80 mm

VPE height

85 mm

Classifications

ETIM 6.0

EC002637

ETIM 7.0

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

SL-SMT 3.50/18/180F 1.5SN BK BX**Weidmüller Interface GmbH & Co. KG**

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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	• Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Diameter of solder eyelet $D = 1.4 + 0.1 \text{ mm}$ • Solder eyelet diameter $D = 1.5 + 0.1 \text{ mm}$, from 9 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 1481-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	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP

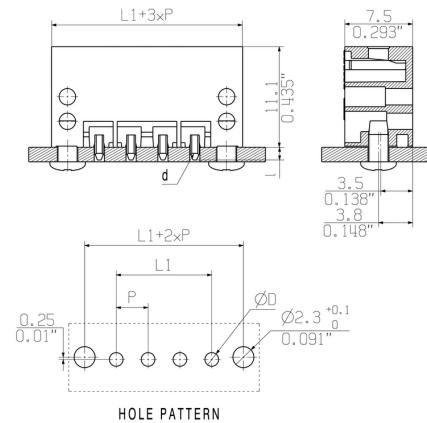
SL-SMT 3.50/18/180F 1.5SN BK BX

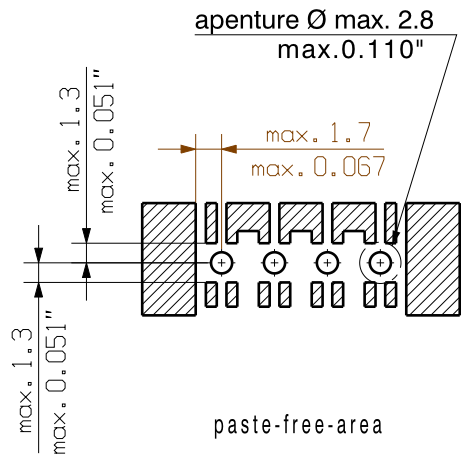
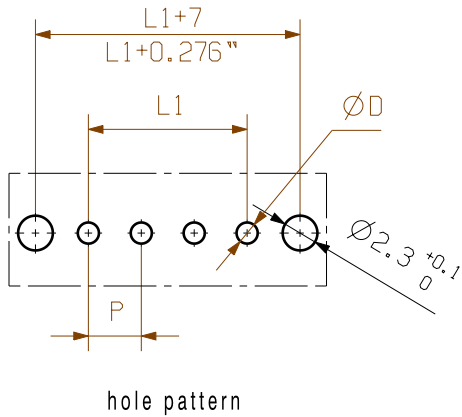
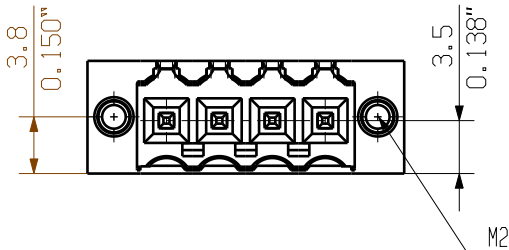
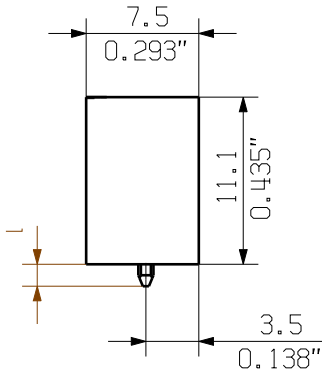
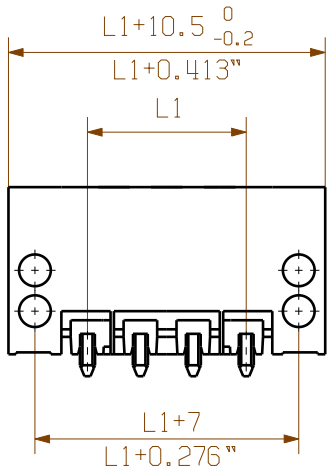
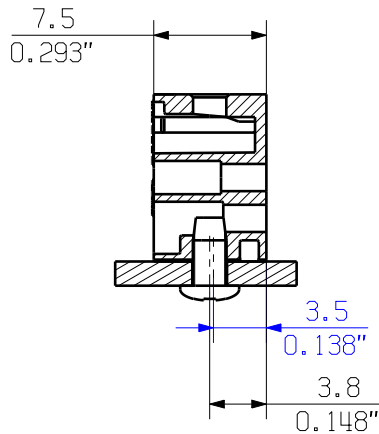
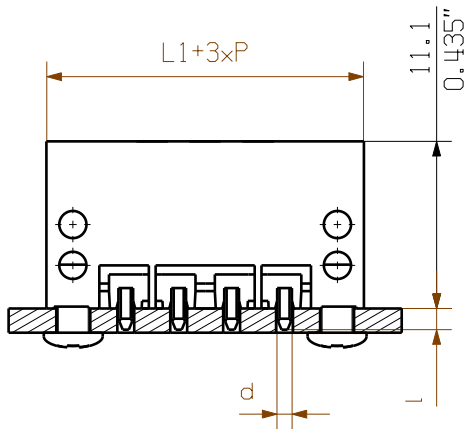
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Germany

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Drawings

Dimensional drawing





pin length l	tolerance
1,5	0,0 -0,3
2,6	0,0 -0,3
3,2	0,0 -0,3
4,5	0,0 -0,3

24	80,50	3,169	+/- 0.2
23	77,00	3,031	
22	73,50	2,894	
21	70,00	2,756	
20	66,50	2,618	
19	63,00	2,480	+/- 0.15
18	59,50	2,343	
17	56,00	2,205	
16	52,50	2,067	
15	49,00	1,929	
14	45,50	1,791	+/- 0.1
13	42,00	1,654	
12	38,50	1,516	
11	35,00	1,378	
10	31,50	1,240	
9	28,00	1,102	+/- 0.1
8	24,50	0,965	
7	21,00	0,827	
6	17,50	0,689	
5	14,00	0,551	
4	10,50	0,413	+/- 0.1
3	7,00	0,276	
2	3,50	0,138	
n	L1 [mm]	L1 [Inch]	tolerance

shown: SL-SMT 3.50/04/180F

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 to 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

99546/5
08.12.17 HELIS_MA 00

Modification

Scale: 2:1
Supersedes: .

Date
28.11.2007

Name
HELIS_MA

Drawn

Responsible

Checked
05.01.2018

Approved

HERTEL_S

LANG_T

Weidmüller

SL-SMT 3.50/.../180...
STIFTLISTE
MALE HEADER

Product file: SL-SMT 3.50

Cat.no.: .

3 34146 **11**

Drawing no. Issue no.

Sheet 04 of 05 sheets

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.

We reserve the right to make technical changes.

Recommended reflow soldering profile

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 16

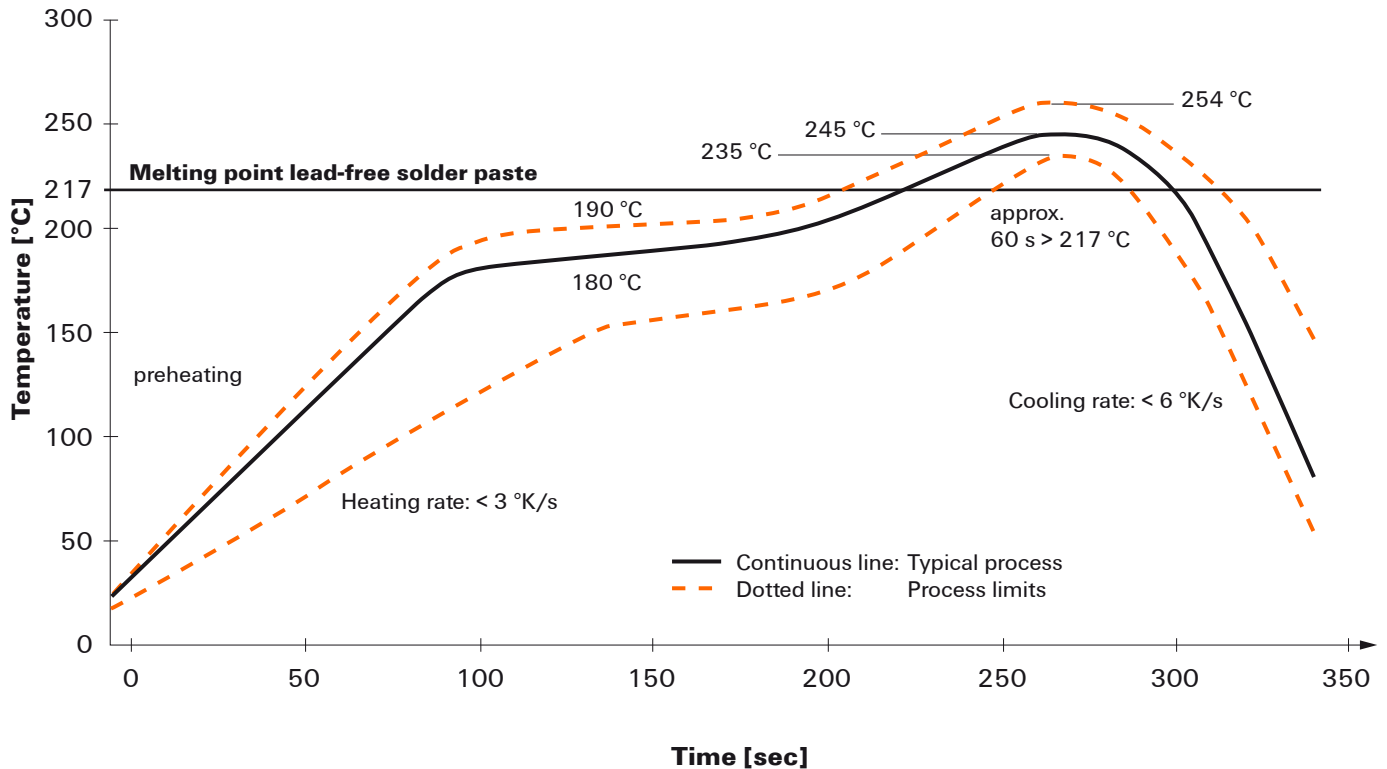
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Reflow soldering profile

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.