

**SL-SMT 5.08HC/04/90LF 1.5SN BK BX**
**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



High-temperature-resistant pin header, packed in box or tape. On tape, with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

**General ordering data**

Version	PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 5.08 mm, Number of poles: 4, 90°, Solder pin length (l): 1.5 mm, tinned, black, Box
Order No.	<a href="#">1775252001</a>
Type	SL-SMT 5.08HC/04/90LF 1.5SN BK BX
GTIN (EAN)	4032248157235
Qty.	60 pc(s).
Product data	IEC: 400 V / 27.5 A UL: 300 V / 18.5 A
Packaging	Box

Creation date September 16, 2022 11:09:41 AM CEST

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**Technical data**
**Dimensions and weights**

Depth	12 mm	Depth (inches)	0.472 inch
Height	10 mm	Height (inches)	0.394 inch
Height of lowest version	8.5 mm	Width	30.12 mm
Width (inches)	1.186 inch	Net weight	2.93 g

**System specifications**

Product family	OMNIMATE Signal - series BL/SL 5.08	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	5.08 mm
Pitch in inches (P)	0.2 inch	Outgoing elbow	90°
Number of poles	4	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 eyelet hole diameter (D)	1.5 mm
Solder eyelet hole diameter tolerance (D)+	0,1 mm	L1 in mm	15.24 mm
L1 in inches	0.6 inch	Number of rows	1
Pin series quantity	1	Protection degree	IP20
Volume resistance	≤5 mΩ	Can be coded	Yes
Plugging force/pole, max.	9 N	Pulling force/pole, max.	7 N

**Material data**

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	CuMg
Contact surface	tinned	Layer structure of solder connection	1...3 μm Ni / 2...4 μm Sn matt
Layer structure of plug contact	1...3 μm Ni / 2...4 μm Sn matt	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)	27.5 A
Rated current, max. number of poles (Tu=20°C)	19 A	Rated current, min. number of poles (Tu=40°C)	24 A
Rated current, max. number of poles (Tu=40°C)	16.5 A	Rated voltage for surge voltage class / pollution degree II/2	400 V
Rated voltage for surge voltage class / pollution degree III/2	320 V	Rated voltage for surge voltage class / pollution degree III/3	250 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	4 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	4 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	4 kV		

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**Technical data****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) 18.5 A

Rated current (Use group D / CSA) 18.5 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

**Packing**

Packaging	Box	VPE length	153 mm
VPE width	112 mm	VPE height	33 mm

**Classifications**

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	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

**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+0.1mm
- Solder eyelet diameter D = 1.5 + 0.1 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.
- 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

## SL-SMT 5.08HC/04/90LF 1.5SN BK BX

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# Technical data

## Downloads

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">WSCAD</a>
Product Change Notification	<a href="#">PCN_2017_164_PL30_Gerichtete_Verpackung_SL-SMT5.0x_DE</a> <a href="#">PCN_2017_164_PL30_Sorted_Packaging_SL-SMT5.0x_EN</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a> <a href="#">MB SMT EN</a> <a href="#">FL DRIVES DE</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FLIndustr.CONTROLS EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL HEATING ELECTR EN</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL_BASE_STATION_EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a> <a href="#">PO OMNIMATE EN</a>
White paper surface mount technology	<a href="#">Download Whitepaper</a>

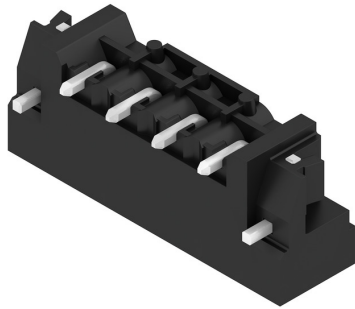
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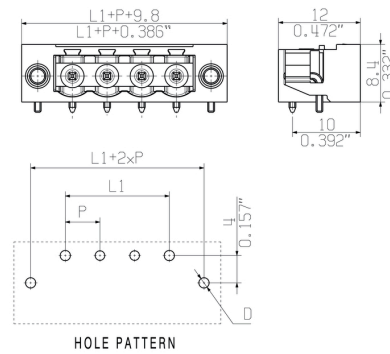
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**Drawings**

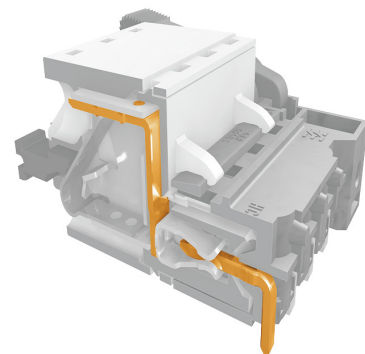
**Product image**



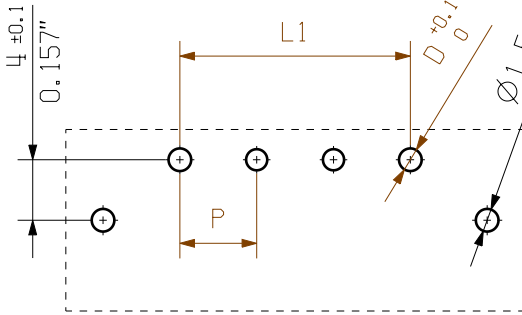
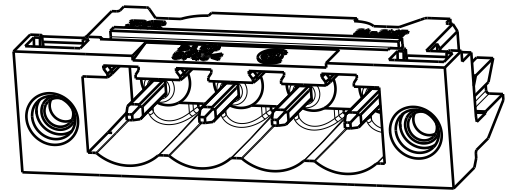
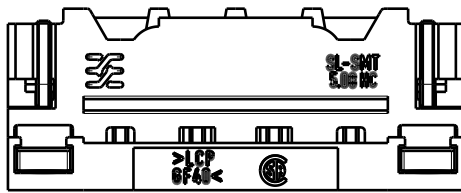
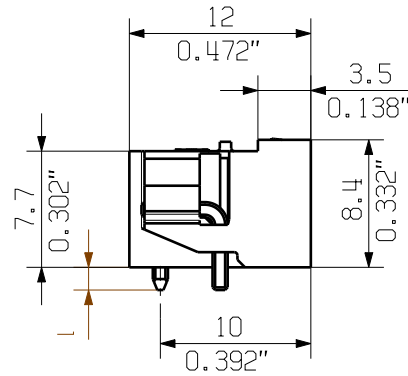
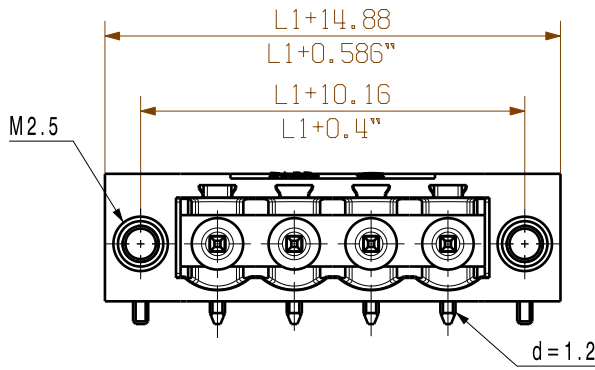
**Dimensional drawing**



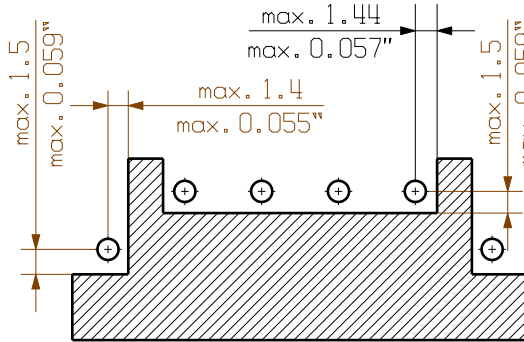
**Product benefits**



Safe power transmission  
 Proven properties



hole pattern



paste-free-area

D = 1.5/0.059" (REFLOW SOLDERING)  
RECOMMENDATION FOR AUTOMATIC ASSEMBLY

n = Polzahl / no of poles  
P = Raster / pitch

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.

shown: SL-SMT 5.08HC/04/90LF

24	116.84	4.600	+/- 0.2
23	111.76	4.400	
22	106.68	4.200	+/- 0.15
21	101.60	4.000	
20	96.52	3.800	+/- 0.1
19	91.44	3.600	
18	86.36	3.400	+/- 0.1
17	81.28	3.200	
16	76.20	3.000	+/- 0.1
15	71.12	2.800	
14	66.04	2.600	+/- 0.1
13	60.96	2.400	
12	55.88	2.200	+/- 0.1
11	50.80	2.000	
10	45.72	1.800	+/- 0.1
9	40.64	1.600	
8	35.56	1.400	+/- 0.1
7	30.48	1.200	
6	25.40	1.000	+/- 0.1
5	20.32	0.800	
4	15.24	0.600	+/- 0.1
3	10.16	0.400	
2	5.08	0.200	+/- 0.1
1	tolerance		

4.5	0.1/-0.3
3.2	0.1/-0.3
2.1	0.1/-0.3
1.5	-0.3
1	tolerance

	DIN ISO 2768-m	106339/4 30.07.18 HERTEL_S 01			Cat.no.: . . .		
	Modification	Date			<b>2 33262</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">31</span>		
	Drawn	29.11.2007	HELIS_MA	Drawing no. Issue no.			
	Responsible		HERTEL_S	Sheet 03 of 04 sheets			
Scale: 2:1	Checked	01.08.2018	KOCH_JG	<b>SL-SMT 5.08HC/.../90...</b> STIFTLIESTE MALE HEADER			
Supersedes: .	Approved		LANG_T				

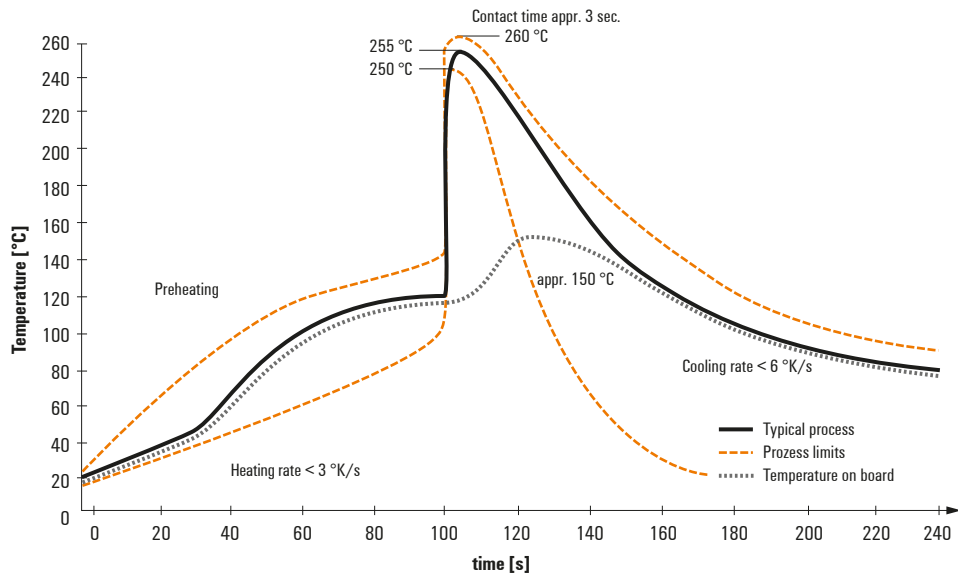
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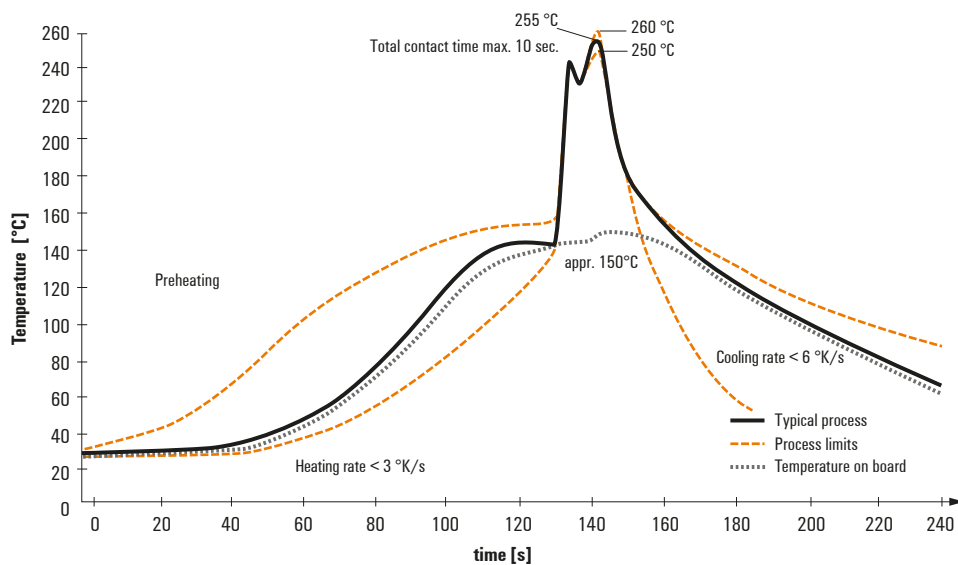
## Recommended wave soldering profiles

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 Fon: +49 5231 14-0  
 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.

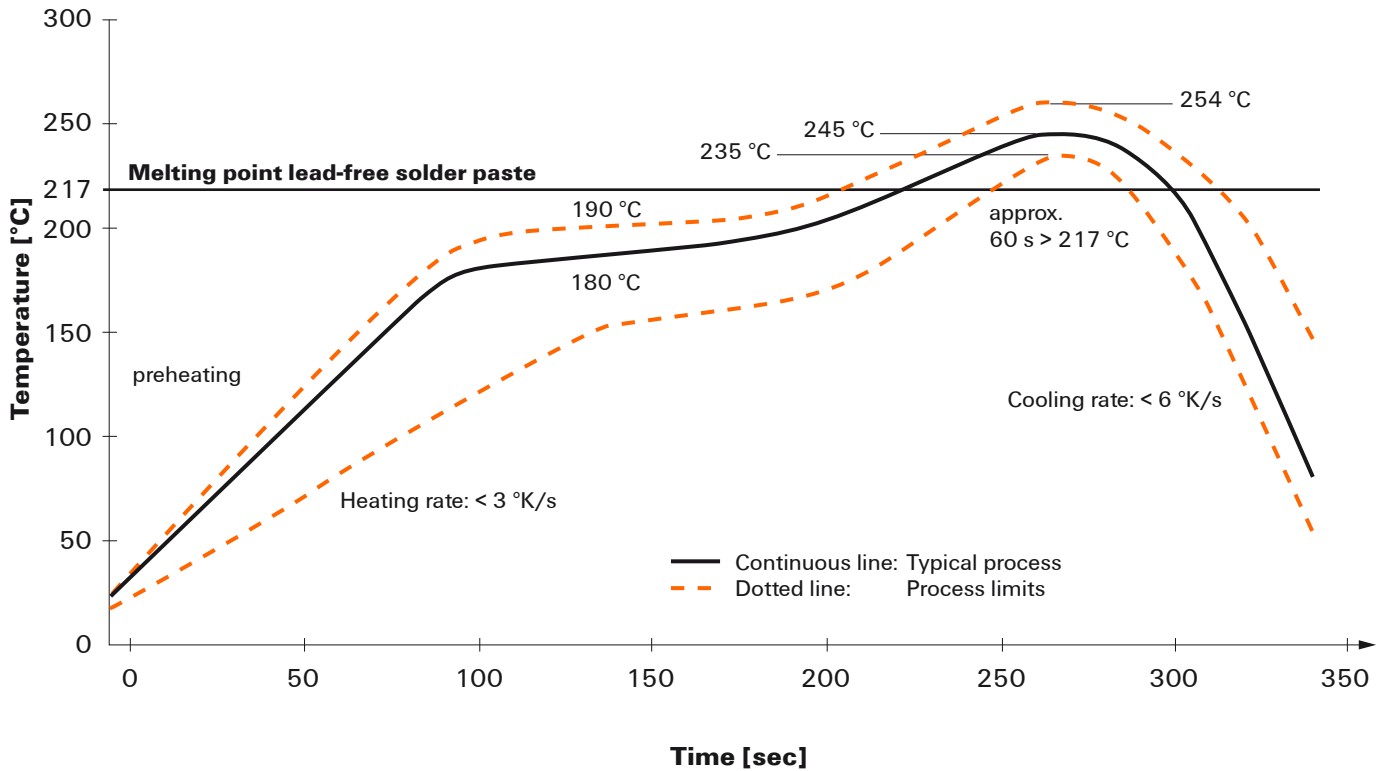
When choosing a suitable profile for your application, the following factors also need to be considered:

- 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.

## 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  $217^\circ\text{C}$  the paste gets liquid and components and boards begin to connect. The maximum temperature of  $245^\circ\text{C}$  to  $254^\circ\text{C}$  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.



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