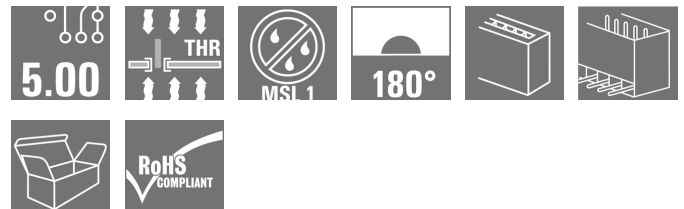


OMNIMATE Signal - series BL/SL 5.00 SL-SMT 5.00HC/17/180G 3.2SN BK BX

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Similar to illustration

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

Type	SL-SMT 5.00HC/17/180G 3.2SN BK BX
Order No.	1841310000
Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 5.00 mm, Number of poles: 17, 180°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248352210
Qty.	20 pc(s).
Product data	IEC: 400 V / 27.5 A UL: 300 V / 18.5 A
Packaging	Box

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Technical data

Dimensions and weights

Width	88.2 mm	Width (inches)	3.472 inch
Height	15.2 mm	Height (inches)	0.598 inch
Height of lowest version	12 mm	Depth	8.5 mm
Depth (inches)	0.335 inch	Net weight	7.65 g

System specifications

Product family	OMNIMATE Signal - series BL/SL 5.00	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	5 mm
Pitch in inches (P)	0.197 inch	Outgoing elbow	180°
Number of poles	17	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0.1 / -0.2 mm
Tolerance of solder pin position	± 0.20 mm	Solder pin dimensions	d = 1.2 mm, Octagonal
Solder pin dimensions = d tolerance	0 / -0.03 mm	Solder eyelet hole diameter (D)	1.5 mm
Solder eyelet hole diameter tolerance (D)+ 0,1 mm		L1 in mm	80 mm
L1 in inches	3.15 inch	Number of rows	1
Pin series quantity	1	Volume resistance	≤ 5mΩ
Can be coded	Yes	Plugging cycles	25
Plugging force/pole, max.	7 N	Pulling force/pole, max.	5.5 N

Material data

Insulating material	LCP GF	Colour	Black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 175	Insulation strength	≥ 10 ⁸ Ω
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
GWIT	930 °C	GWFI	960 °C
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.	-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. 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		

OMNIMATE Signal - series BL/SL 5.00
SL-SMT 5.00HC/17/180G 3.2SN BK BX

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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) 15 A

Rated current (Use group D / CSA) 15 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) 18.5 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	42 mm
VPE width	70 mm	VPE height	168 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	UNSPSC	30-21-18-10

Notes

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.

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.

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Technical data**Approvals**

Approvals



ROHS

Conform

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

Brochure/Catalogue

[FL DRIVES EN](#)
[MB SMT EN](#)
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[MB DEVICE MANUF. EN](#)
[CAT 2 PORTFOLIOGUIDE EN](#)
[FL BUILDING SAFETY EN](#)
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[FL 72H SAMPLE SER EN](#)
[PO OMNIMATE EN](#)

Engineering Data

[STEP](#)

White paper surface mount technology

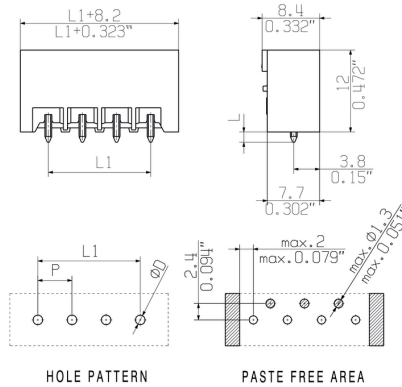
[Download Whitepaper](#)

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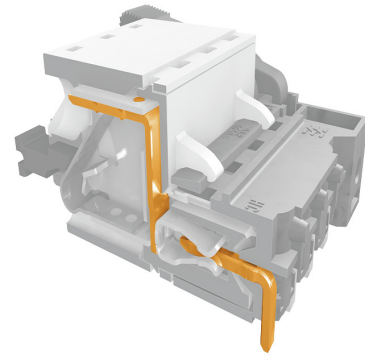
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Drawings

Dimensional drawing



Product benefits



Safe power transmission

Product benefits Proven properties



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Mating connector (fully pluggable)

BLZP 5.00HC/180 SN



Female plug with clamping-yoke screw system for connecting wires with straight (180°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

General ordering data

Type	BLZP 5.00HC/17/180 SN B ...	Version	Product data	Packaging
Order No.	1955420000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 4 mm²	Box
GTIN (EAN)	4032248633906	180°, Clamping yoke connection, Clamping range, max. : 4 mm², Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLZP 5.00HC/17/180 SN O ...	Version	Product data	Packaging
Order No.	1954330000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 4 mm²	Box
GTIN (EAN)	4032248633050	180°, Clamping yoke connection, Clamping range, max. : 4 mm², Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

BLZP 5.00HC/90 SN



Female plugs with clamping-yoke connection for connecting wires with a right-angle (90° or 270°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

General ordering data

Type	BLZP 5.00HC/17/90 SN OR ...	Version	Product data	Packaging
Order No.	1957910000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 4 mm²	Box
GTIN (EAN)	4032248637010	90°, Clamping yoke connection, Clamping range, max. : 4 mm², Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLZP 5.00HC/17/90 SN BK ...	Version	Product data	Packaging
Order No.	1958460000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 4 mm²	Box
GTIN (EAN)	4032248637249	90°, Clamping yoke connection, Clamping range, max. : 4 mm², Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

OMNIMATE Signal - series BL/SL 5.00 SL-SMT 5.00HC/17/180G 3.2SN BK BX

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Mating connector (fully pluggable)

BLZ 5.00/180



Female plugs with clamping-yoke screw for wire connection with straight (180°) outlet direction. The female plugs provide space for labelling and can be coded.

General ordering data

Type	BLZ 5.00/17/180 SN DKGN ...	Version	Product data	Packaging
Order No.	1646970000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 19 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190288310	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	20 pc(s).	Box		

BLF 5.00HC/90 SN



Just as reliable as the millionfold proven original and featuring innovative details:

The BLF 5.00HC PUSH IN version of the BLZ 5.00HC female connector features a new connection system and a more compact design. Weidmüller's innovative PUSH IN spring connection system stands for the future of easy and tool-free wire connection. HC = High Current. In terms of versatility, the BLF 5.00HC offers just as much as the older versions:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user

General ordering data

Type	BLF 5.00HC/17/90 SN BK ...	Version	Product data	Packaging
Order No.	1979420000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 24 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248674626	90°, PUSH IN, Tension-clamp connection, Clamping range, max. : 3.31	UL: 300 V / 18.5 A / AWG 26 - AWG 12	
Qty.	18 pc(s).	mm ² , Box		
Type	BLF 5.00HC/17/90 SN OR ...	Version	Product data	Packaging
Order No.	1980320000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 24 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248675401	90°, PUSH IN, Tension-clamp connection, Clamping range, max. : 3.31	UL: 300 V / 18.5 A / AWG 26 - AWG 12	
Qty.	18 pc(s).	mm ² , Box		

OMNIMATE Signal - series BL/SL 5.00 SL-SMT 5.00HC/17/180G 3.2SN BK BX

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Mating connector (fully pluggable)

BLZ 5.00/270



Female plugs with clamping-yoke screw for wire connection with 270° outlet direction. The female plugs provide space for labelling and can be coded.

General ordering data

Type	BLZ 5.00/17/270 SN DKGN ...	Version	Product data	Packaging
Order No.	1650040000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 15 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190296629	270°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	20 pc(s).	Box		

BLF 5.00HC/180 SN



Just as reliable as the millionfold proven original and featuring innovative details:

The BLF 5.00HC PUSH IN version of the BLZ 5.00HC female connector features a new connection system and a more compact design. Weidmüller's innovative PUSH IN spring connection system stands for the future of easy and tool-free wire connection. HC = High Current. In terms of versatility, the BLF 5.00HC offers just as much as the older versions:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user

General ordering data

Type	BLF 5.00HC/17/180 SN BK ...	Version	Product data	Packaging
Order No.	1017840000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248728695	180°, PUSH IN, Tension-clamp connection, Clamping range, max. :	UL: 300 V / 18.5 A / AWG 26 - AWG 12	
Qty.	18 pc(s).	3.31 mm ² , Box		
Type	BLF 5.00HC/17/180 SN OR ...	Version	Product data	Packaging
Order No.	1018040000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248728527	180°, PUSH IN, Tension-clamp connection, Clamping range, max. :	UL: 300 V / 18.5 A / AWG 26 - AWG 12	
Qty.	18 pc(s).	3.31 mm ² , Box		

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Mating connector (fully pluggable)

BLZP 5.00HC/270 SN



Female plugs with clamping-yoke connection for connecting wires with a right-angle (90° or 270°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

General ordering data

Type	BLZP 5.00HC/17/270 SN O ...	Version	Product data	Packaging
Order No.	1958730000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 4 mm²	Box
GTIN (EAN)	4032248637560	90°, Clamping yoke connection, Clamping range, max. : 4 mm², Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLZP 5.00HC/17/270 SN B ...	Version	Product data	Packaging
Order No.	1958950000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 17,	IEC: 400 V / 23 A / 0.2 - 4 mm²	Box
GTIN (EAN)	4032248637881	90°, Clamping yoke connection, Clamping range, max. : 4 mm², Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

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Accessories

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	BLZ/SL KO OR BX	Version	Product data	Packaging
Order No.	1573010000	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4008190048396	of poles: 1		
Qty.	100 pc(s).			
Type	BLZ/SL KO BK BX	Version	Product data	Packaging
Order No.	1545710000	PCB plug-in connector, Accessories, Coding element, Black, Number		Box
GTIN (EAN)	4008190087142	of poles: 1		
Qty.	50 pc(s).			

Additional accessories



No task is too small when creating the perfect solution.

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	SL AT OR	Version	Product data	Packaging
Order No.	1598300000	PCB plug-in connector, Accessories, Spacer, orange, Number of poles:		Box
GTIN (EAN)	4008190189266	1		
Qty.	100 pc(s).			

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Accessories

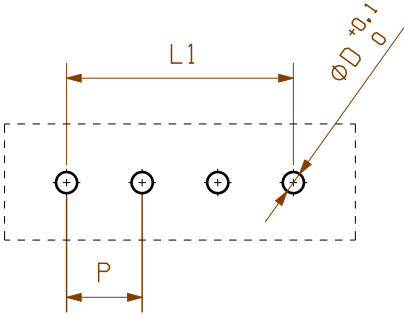
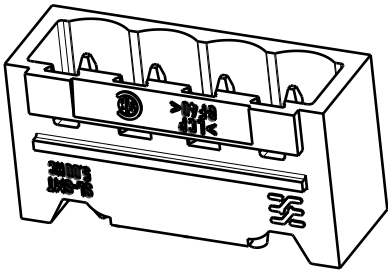
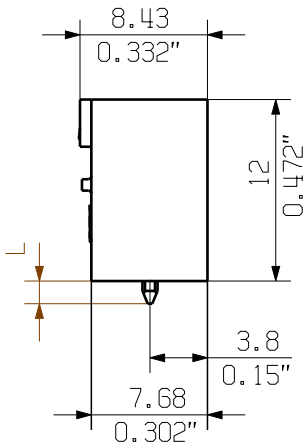
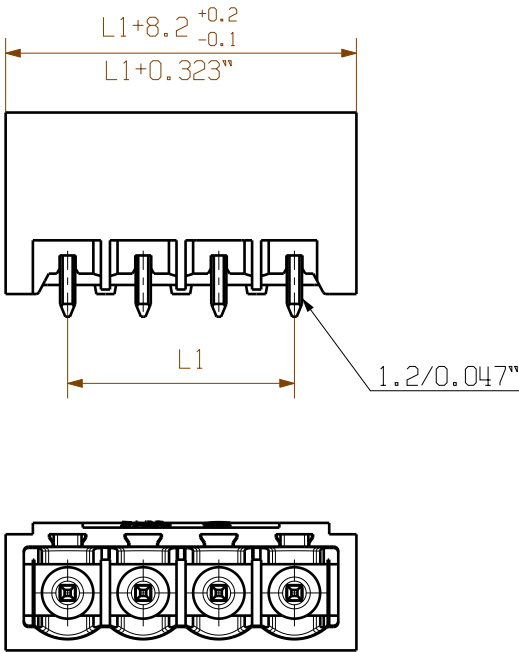
Type	SL AT SW	Version	Product data	Packaging
Order No.	1770240000	PCB plug-in connector, Accessories, Spacer, Black, Number of poles: 1		Box
GTIN (EAN)	4032248117710			
Qty.	100 pc(s).			

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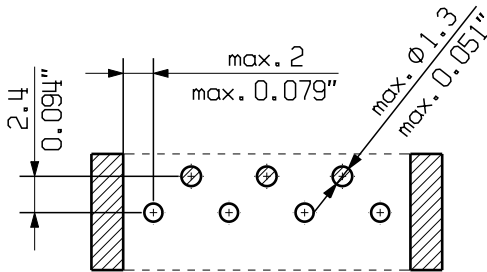
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Dimensions without tolerances are no check dimensions

The English version is binding



HOLE PATTERN



PASTE FREE AREA

D = 1.4/0.055" or 1.5/0.059" (REFLOW SOLDERING)
RECOMMENDATION FOR AUTOMATIC ASSEMBLY
(1.4mm FOR n=2...8 / 1.5mm for n=9...24)

P = RASTER/PITCH

SHOWN: SL-SMT 5.00HC/04/180 G

STIFTLAENGE L	TOLERANZ	
1,5	0,0 -0,3	
3,2	0,1 -0,3	
n	L1 [mm]	L1 [Inch]

24	115,00	4,528
23	110,00	4,331
22	105,00	4,134
21	100,00	3,937
20	95,00	3,740
19	90,00	3,543
18	85,00	3,346
17	80,00	3,150
16	75,00	2,953
15	70,00	2,756
14	65,00	2,559
13	60,00	2,362
12	55,00	2,165
11	50,00	1,969
10	45,00	1,772
9	40,00	1,575
8	35,00	1,378
7	30,00	1,181
6	25,00	0,984

For the mounting of PCBs, it should be noted that the rated data stated here 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-m

106340/4
30.07.18 HERTEL_S

00

Modification

Date

Name

Drawn

22.01.2008

HERTEL_S

Responsible

HERTEL_S

Checked

27.08.2018

HERTEL_S

Supersedes: .

Approved

LANG_T

Weidmüller

Cat.no.: .

C 34165

07

Drawing no.

Issue no.

Sheet 02

of 04

sheets

SL-SMT 5.00HC/.../180...

STIFTLAISTE
PIN HEADER

Product file: SL-SMT 5.00

7279

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
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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.