

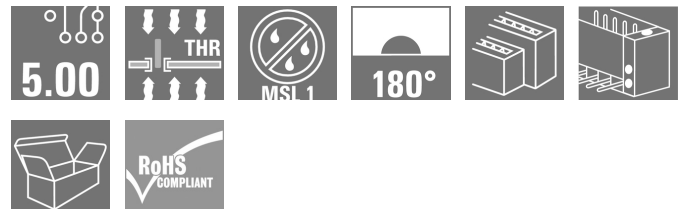
SLDV-THR 5.00/20/180F 3.2SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

High-temperature resistant, double level, laterally offset, male connector with flange or solder flange. 1.5 mm solder pin is suitable for reflow soldering. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded.

General ordering data

Version	PCB plug-in connector, male header, Flange, THT/THR solder connection, 5.00 mm, Number of poles: 20, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	1881340000
Type	SLDV-THR 5.00/20/180F 3.2SN BK BX
GTIN (EAN)	4032248482719
Qty.	20 pc(s).
Product data	IEC: 400 V / 15 A UL: 300 V / 10 A
Packaging	Box

Creation date May 29, 2024 1:55:20 PM CEST

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Technical data

Dimensions and weights

Depth	23.43 mm	Depth (inches)	0.922 inch
Height	29.36 mm	Height (inches)	1.156 inch
Height of lowest version	26.16 mm	Width	60 mm
Width (inches)	2.362 inch	Net weight	17.35 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 "		
Outgoing elbow	180°		
Number of poles	20		
Number of solder pins per pole	1		
Solder pin length (l)	3.2 mm		
Solder pin length tolerance	+0.1 / -0.2 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	45 mm		
L1 in inches	1.772 "		
Number of rows	2		
Pin series quantity	2		
Touch-safe protection acc. to DIN VDE 57 106	finger-safe unplugged/ back-of-hand-safe plugged		
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged		
Protection degree	IP20		
Volume resistance	≤5 mΩ		
Can be coded	Yes		
Plugging force/pole, max.	9 N		
Pulling force/pole, max.	8 N		
Tightening torque	Torque type	Mounting screw, PCB	
	Usage information	Tightening torque	min. 0.15 Nm max. 0.2 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	IIIa
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	Cu-alloy
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.	-25 °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, min. number of poles (Tu=20°C)	15 A
Rated current, max. number of poles (Tu=20°C)	10.5 A	Rated current, min. number of poles (Tu=40°C)	13 A
Rated current, max. number of poles (Tu=40°C)	9 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	Short-time withstand current resistance	1 x 1s with 120 A

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1121690
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
Institute (cURus)		Certificate No. (cURus)	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	200 mm
VPE width	130 mm	VPE height	50 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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	ECLASS 13.0	27-46-02-01

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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	<ul style="list-style-type: none"> Rated current related to rated cross-section & min. No. of poles. Spacing between rows: see hole layout 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. In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UR)	E60693
Certificate No. (cURus)	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE 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 PO OMNIMATE EN
White paper surface mount technology	Download Whitepaper

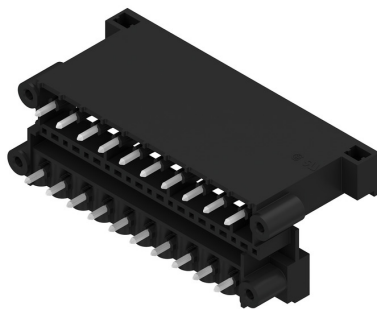
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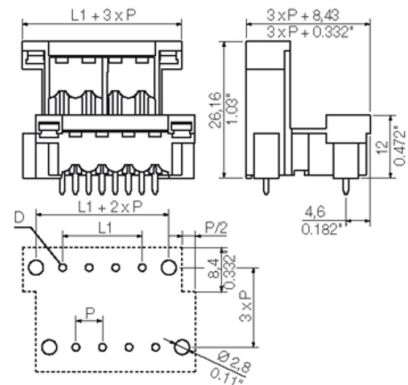
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Drawings

Product image



Dimensional drawing



Product benefits



Safe power transmission
Proven properties

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Accessories

Additional accessories

**No task is too small when creating the perfect solution.** br />

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

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 BK BX	Version	Product data	Packaging
Order No.	1545710000	PCB plug-in connector, Accessories, Coding element, black, Number of poles: 1		Box
GTIN (EAN)	4008190087142			
Qty.	50 pc(s).			

SLDV-THR 5.00/20/180F 3.2SN BK BX

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Accessories

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).			

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Drawings

Product benefits



Compliant with existing standards

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Technical Data

Rev.

Material data

Insulation material type	LCP GF
Insulation material colours	black
Insulation material flammability class	UL94 V-0
Insulation resistance	10 ⁵ MOhm
Contact base material	CuSn
Contact plating (mating end)	tin plated
Contact plating (solder end)	tin plated

System characteristic values

together with counterpart	BLZ 5.00
Pitch P	5.00/0.197
Number of rows	2
Dielectric strength (r.m.s withstand voltage)	4 kV
Mechanical operating cycles	25 acc. to IEC 512
Plug in force (max.)	n.a. N/pole
Pull out force (max.)	n.a. N/pole
Through resistance (typical)	<5 mOhm
Operating temperature range	-55...+100 °C
Degree of protection acc. to VDE 0106 (plugged/unplugged)	back of hands 7)
Degree of protection acc. to DIN EN 60529 (plugged/unplugged)	IP10 8)
Solder pin length L	3.2/0.126 ; 1.5/0.059 mm/inch
PCB hole diameter D (wave soldering)	1.4/0.055 mm/inch 2)
PCB hole diameter D (reflow soldering)	1.5/0.059 mm/inch 3)
Resistance to soldering heat acc. to DIN IEC 60512-6	260/5 °C/sec 4)
Resistance to soldering heat acc. to EN 61760-1	290/30 °C/sec 5)
Solderability classification acc. to EN 61760-1	class A
Solder connection type	through hole solder
Solder pin diameter d (max.)	1.2/0.047 mm/inch

Application notes

Coding possibility	yes/no	yes
Joinable without loss of pitch	yes/no	n.a.
Manual assembly of modules	yes/no	n.a.
Max. number of poles	n	48

IEC 664-1 / VDE0110 (4.97) rated data

Rated cross section acc. to EN 60999	mm ²	n.a.
Rated current @ 20°C ambient (together with BLZ 5.08)	A	18.6 6)
Rated current @ 40°C ambient (together with BLZ 5.08)	A	16.1 6)
Overvoltage category / Pollution degree	III/3 III/2 II/2	
Rated voltage	V	250 320 400
Rated impulse voltage	kV	4.0 4.0 4.0

UL 1059 rated data

File No.: E60693	B	C	D
Rated voltage	V	300	300
Rated current	A	10	10
AWG wire range (field wiring / factory wiring)		n.a.	

CSA C22.2 rated data

File No.: 12400(1308147)	B	C	D
Rated voltage	V	300	300
Rated current	A	10	10
AWG wire range (field wiring / factory wiring)		n.a.	

Packaging

carton

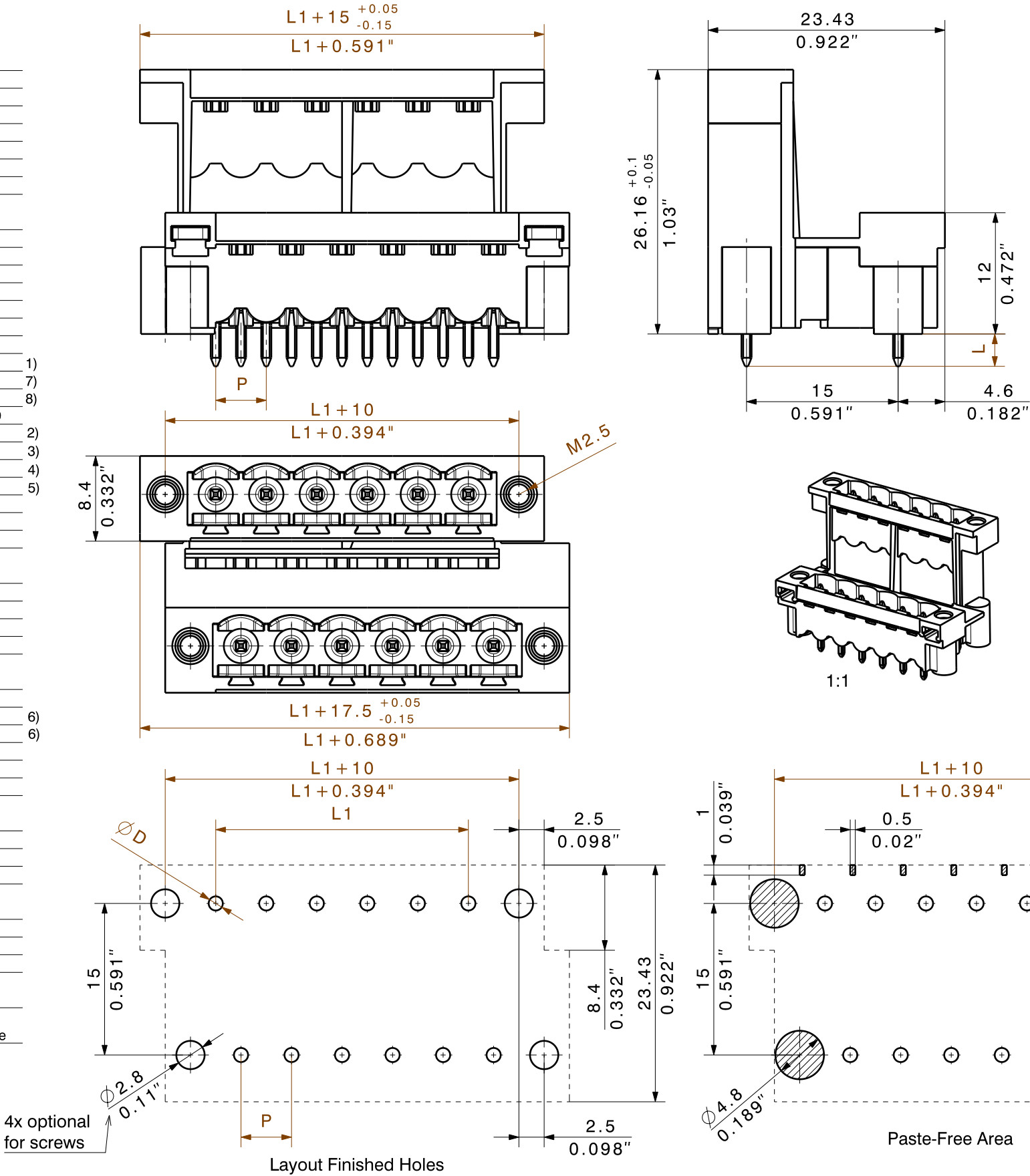
Downloads

www.weidmueller.de

- 1) Sum of ambient temperature and temperature rise
- 2) Recommendation for manual assembly
- 3) Recommendation for automatic assembly
- 4) Recommendation for wave soldering
- 5) Recommendation for reflow soldering
- 6) Referred to rated cross section and minimum pole number
- 7) Fingersafe above PC-board, if plugged with BLZ
- 8) IP20 above PC-board, if plugged with BLZ

n.a. = not applicable

Subject to technical changes



DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

48	115,00	4,53
46	110,00	4,33
44	105,00	4,13
42	100,00	3,94
40	95,00	3,74
38	90,00	3,54
36	85,00	3,35
34	80,00	3,15
32	75,00	2,95
30	70,00	2,76
28	65,00	2,56
26	60,00	2,36
24	55,00	2,17
22	50,00	1,97
20	45,00	1,77
18	40,00	1,57
16	35,00	1,38
14	30,00	1,18
12	25,00	0,98
10	20,00	0,79
8	15,00	0,59
6	10,00	0,39
4	5,00	0,20
n	L1 [mm]	L1 [inch]

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.

shown: SLDV-THR 5.00/12/180 F

METRIC TOLERANCES					
X. = ±0.3					
X.X = ±0.1					
X.XX = ±0.05					
RoHS					
MODIFICATION					
DATE					
NAME					
DRAWN	04.08.2004	HERTEL_S			
RESPONSIBLE					
CHECKED	13.09.2007	HERTEL_S			
APPROVED					
SCALE: 2:1					
SUPERSEDES:					
SUPERSEDED BY:					
CAT.NO.:					
C 36148					
02					
DRAWING NO.					
SHEET 3					
OF 6					
SHEETS					
SLDV-THR 5.00/./180 F					
Stiftleiste					
Pin header					
PRODUCT FILE: SLDV-THR 5.08					
None					

Recommended wave soldering profiles

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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.