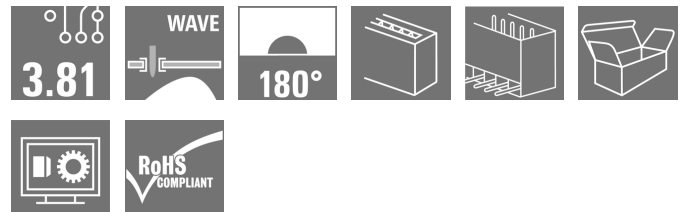


**OMNIMATE Signal - series BC/SC 3.81
SC 3.81/10/180G 3.2SN BK BX**

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
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 Germany
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 Fax: +49 5231 14-292083
 www.weidmueller.com

Product image

Similar to illustration

The SC pin header has a perpendicular (standing) plugging direction in relation to the PCB. It is available in closed (G) and screw flange (F) versions.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of standard connectors and offer space for labelling and coding.

General ordering data

Type	SC 3.81/10/180G 3.2SN BK BX
Order No.	1793580000
Version	PCB plug-in connector, male header, closed side, THT solder connection, 3.81 mm, Number of poles: 10, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box
GTIN (EAN)	4032248230501
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

Creation date May 3, 2020 4:08:59 PM CEST

**OMNIMATE Signal - series BC/SC 3.81
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Technical data**Dimensions and weights**

Width	39.5 mm	Width (inches)	1.555 inch
Height	12.4 mm	Height (inches)	0.488 inch
Height of lowest version	9.2 mm	Depth	7.1 mm
Depth (inches)	0.28 inch	Net weight	2.54 g

System specifications

Product family	OMNIMATE Signal - series BC/SC 3.81	Type of connection	Board connection
Mounting onto the PCB	THT solder connection	Pitch in mm (P)	3.81 mm
Pitch in inches (P)	0.15 inch	Outgoing elbow	180°
Number of poles	10	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	0 / -0,02 mm
Tolerance of solder pin position	± 0.15 mm	Solder pin dimensions	d = 1.0 mm, Octagonal
Solder pin dimensions = d tolerance	0 / -0,03 mm	Solder eyelet hole diameter (D)	1.2 mm
Solder eyelet hole diameter tolerance (D)+	0,1 mm	L1 in mm	34.29 mm
L1 in inches	1.35 inch	Number of rows	1
Pin series quantity	1	Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch
Touch-safe protection acc. to DIN VDE 0470	IP 20	Volume resistance	≤ 5mΩ
Can be coded	Yes	Plugging cycles	25
Plugging force/pole, max.	7 N	Pulling force/pole, max.	5 N

Material data

Insulating material	PA GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 550	Insulation strength	≥ 10 ⁸ Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	Copper alloy	Contact surface	tinned
Storage temperature, min.	-25 °C	Storage temperature, max.	50 °C
Max. relative humidity during storage	70 %	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C		

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, max. number of poles (Tu=20°C)	17.1 A	Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated current, max. number of poles (Tu=40°C)	17.1 A	Rated voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	160 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV	Short-time withstand current resistance	3 x 1s with 76 A

Rated data acc. to CSA

Rated voltage (Use group B / CSA)	300 V	Rated current (Use group B / CSA)	8 A
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Data sheet

**OMNIMATE Signal - series BC/SC 3.81
SC 3.81/10/180G 3.2SN BK BX**

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Technical data

Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059) 300 V
 Rated current (Use group B / UL 1059) 10 A
 Reference to approval values Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group D / UL 1059) 300 V
 Rated current (Use group D / UL 1059) 10 A

Packing

Packaging	Box	VPE length	40 mm
VPE width	70 mm	VPE height	98 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
- Additional colours on request
 - Rated current related to rated cross-section & min. No. of poles.
 - 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.
 - P on drawing = pitch

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.

Approvals

Approvals



ROHS Conform

Data sheet**OMNIMATE Signal - series BC/SC 3.81
SC 3.81/10/180G 3.2SN BK BX**

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Technical data**Downloads**

Approval/Certificate/Document of Conformity	CB Certificate CB Testreport Declaration of the Manufacturer
Brochure/Catalogue	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE CAT 2 PORTFOLIOGUIDE EN FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FLIndustr.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
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
Product Change Notification	Change of packaging - DE Change of packaging - EN

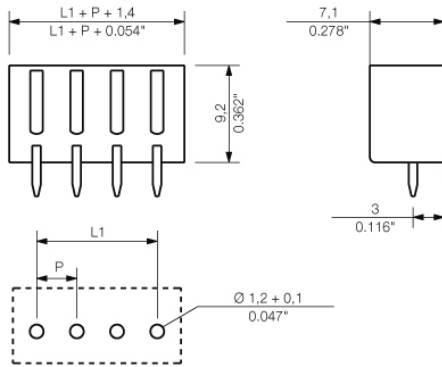
Data sheet

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Drawings

Dimensional drawing



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Mating connector (conditionally pluggable)
BCZ 3.81/180F


Female socket connectors with clamping-yoke screw system for connecting wires.

Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of customary connectors and offer space for labelling and coding.

General ordering data

Type	BCZ 3.81/10/180F SN BK ...	Version	Product data	Packaging
Order No.	1793010000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248227099	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Type	BCZ 3.81/10/180F SN OR ...	Version	Product data	Packaging
Order No.	1941090000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248655755	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Type	BCZ 3.81/10/180F SN GN ...	Version	Product data	Packaging
Order No.	1793100000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248227181	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		

**OMNIMATE Signal - series BC/SC 3.81
SC 3.81/10/180G 3.2SN BK BX**

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Mating connector (conditionally pluggable)
BCZ 3.81/180LR


Female socket connectors with clamping-yoke screw system for connecting wires.

Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of customary connectors and offer space for labelling and coding.

General ordering data

Type	BCZ 3.81/10/180LR SN OR ...	Version	Product data	Packaging
Order No.	1941480000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248698400	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Type	BCZ 3.81/10/180LR SN BK ...	Version	Product data	Packaging
Order No.	1941860000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248698899	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Type	BCZ 3.81/10/180LR SN GN ...	Version	Product data	Packaging
Order No.	1941670000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248698592	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		

**OMNIMATE Signal - series BC/SC 3.81
SC 3.81/10/180G 3.2SN BK BX**

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Mating connector (conditionally pluggable)
BCZ 3.81/270F


Female socket connectors with clamping-yoke screw system for connecting wires.

Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of customary connectors and offer space for labelling and coding.

General ordering data

Type	BCZ 3.81/10/270F SN BK ...	Version	Product data	Packaging
Order No.	1799140000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248244034	270°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Type	BCZ 3.81/10/270F SN OR ...	Version	Product data	Packaging
Order No.	1940540000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248656295	270°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Type	BCZ 3.81/10/270F SN GN ...	Version	Product data	Packaging
Order No.	1799230000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248244126	270°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		

**OMNIMATE Signal - series BC/SC 3.81
SC 3.81/10/180G 3.2SN BK BX**

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Mating connector (conditionally pluggable)
BCZ 3.81/90F


Female socket connectors with clamping-yoke screw system for connecting wires.

Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of customary connectors and offer space for labelling and coding.

General ordering data

Type	BCZ 3.81/10/90F SN GN BX	Version	Product data	Packaging
Order No.	1798910000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248243594	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).			
Type	BCZ 3.81/10/90F SN BK BX	Version	Product data	Packaging
Order No.	1798820000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248243501	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).			
Type	BCZ 3.81/10/90F SN OR BX	Version	Product data	Packaging
Order No.	1940060000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248656769	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).			

Data sheet

OMNIMATE Signal - series BC/SC 3.81 SC 3.81/10/180G 3.2SN BK BX

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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.

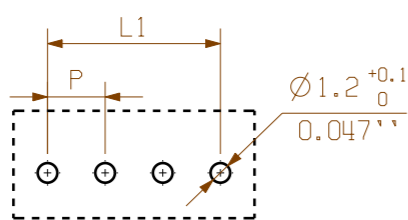
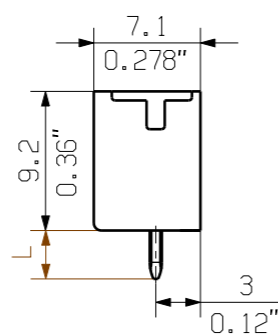
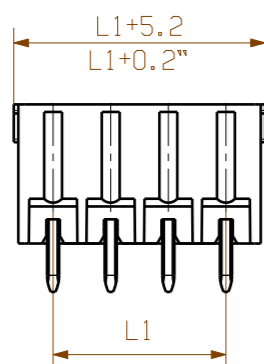
Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible. The advantage: no troubleshooting during manufacture and no operational errors by the user.

General ordering data

	Type	Version	Product data	Packaging
Type	SC-SMT 3.81 KO GY BX			
Order No.	1968900000	PCB plug-in connector, Accessories, Coding element, grey, Number of		Box
GTIN (EAN)	4032248772865	poles: 6		
Qty.	100 pc(s).			

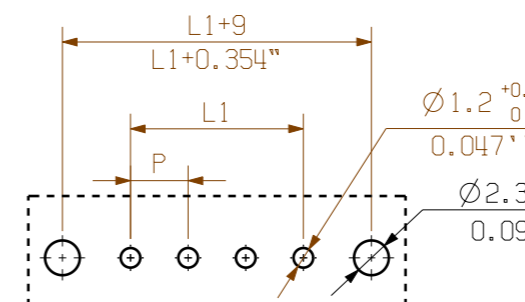
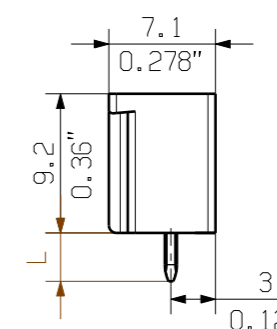
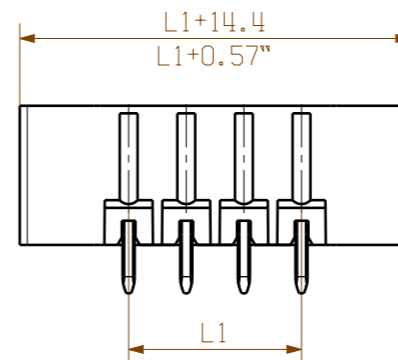
09

SC 3.81/.../180G 3.2...



PCB LAYOUT

SC 3.81/.../180F 3.2...



PCB LAYOUT

KUNDENZEICHNUNG
CUSTOMER DRAWING

P=3.81
L=3.2

20	72.39	2.850
19	68.58	2.700
18	64.77	2.550
17	60.96	2.400
16	57.15	2.250
15	53.34	2.100
14	49.53	1.950
13	45.72	1.800
12	41.91	1.650
11	38.10	1.500
10	34.29	1.350
9	30.48	1.200
8	26.67	1.050
7	22.86	0.900
6	19.05	0.750
5	15.24	0.600
4	11.43	0.450
3	7.62	0.300
2	3.81	0.150
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.

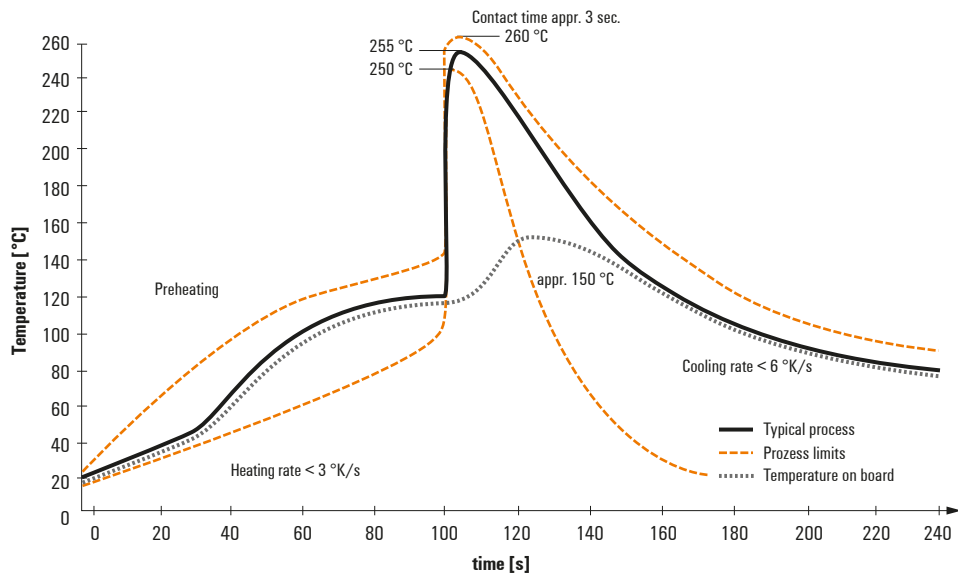
GENERAL TOLERANCE: DIN ISO 2768-m		97482/0 06.09.17 MA_J 01		Cat.no.:	
RoHS COMPLIANT	Max. nos.	Modification		Weidmüller	
Scale: 5/1		Drawn	Date	Name	C 40385 09 Drawing no. Issue no. Sheet 01 of 02 sheets
Supersedes:		Responsible	09.02.2006	ZHANG_H	
		Checked	13.09.2017	ZHOU_N	
		Approved	XU_S	SC 3.81/.../180...3.2... ANSCHLUSS STIFTLISTE PIN HEADER	
				Product file: SC 3.81	7069

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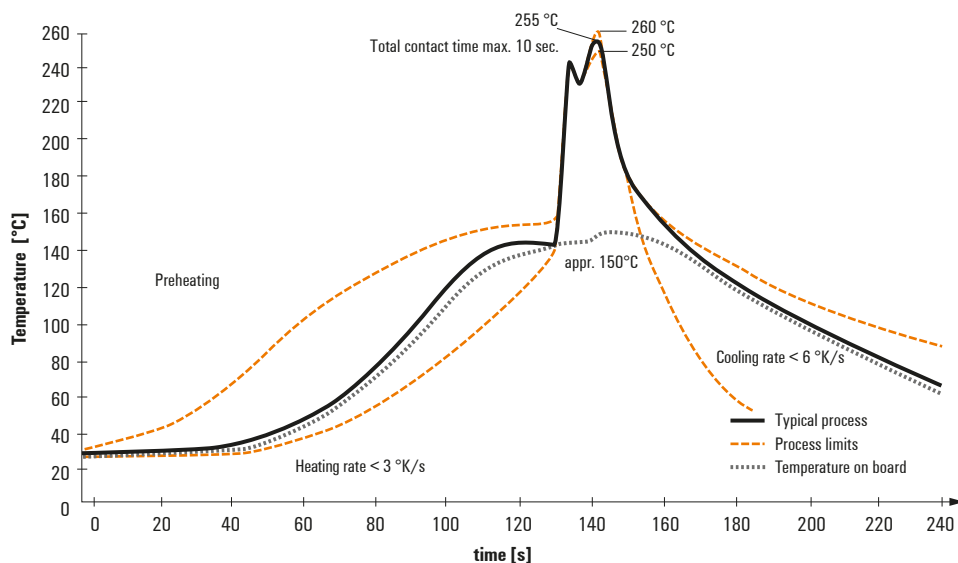
Recommended wave soldering profiles

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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.