

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26 D-32758 Detmold

Germany

Fon: +49 5231 14-0 Fax: +49 5231 14-292083 www.weidmueller.com

Product image

















Similar to illustration

The SC pin header has a parallel (recumbent) 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. They support a flood-light display and offer space for labelling and coding.

General ordering data

Туре	SC 3.81/05/90G 3.2SN BK BX
Order No.	<u>1793160000</u>
Version	PCB plug-in connector, male header, closed side, THT solder connection, 3.81 mm, Number of poles: 5, 90°, Solder pin length (I): 3.2 mm, tinned, black, Box
GTIN (EAN)	4032248227655
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Вох

Creation date May 3, 2020 3:56:18 PM CEST



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Technical data

Dimensions and weights

Width	20.45 mm	Width (inches)	0.805 inch
Height	10.3 mm	Height (inches)	0.406 inch
Height of lowest version	7.1 mm	Depth	9.2 mm
Depth (inches)	0.362 inch	Net weight	1.42 g

System specifications

Product family	OMNIMATE Signal - series	Type of connection	
	BC/SC 3.81		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	90°
Number of poles	5	Number of solder pins per pole	1
Solder pin length (I)	3.2 mm	Solder pin length tolerance	0 / -0,02 mm
Tolerance of solder pin position	± 0.1 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	15.24 mm
L1 in inches	0.6 inch	Number of rows	1
Pin series quantity		Touch-safe protection acc. to DIN VDE	
	1	57 106	Safe from finger touch
Touch-safe protection acc. to DIN VDE		Volume resistance	
0470	IP 20		≤ 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)	17.5 A	Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated current, max. number of poles (Tu=40°C)	16.3 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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Technical data

Rated data acc. to UL 1059			
Institute (cURus)	c SN [®] us	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)	
Reference to approval values	Specifications are maximum values, details - see approval certificate.		
Packing			
Packaging	Box	VPE length	44 mm
VPE width	57 mm	VPE height	78 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 or	cross-section & min. No. of poles.	
	•	mponent itself. Clearance and creepage distand th the relevant application standards.	es to other components are to
	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



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Technical data

Downloads

Approval/Certificate/Document of		
Conformity	Declaration of the Manufacturer	
Brochure/Catalogue	FL DRIVES EN	
, 0	MB DEVICE MANUF. EN	
	FL DRIVES DE	
	CAT 2 PORTFOLIOGUIDE EN	
	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	
	<u>FL_BASE_STATION_EN</u>	
	<u>FL ELEVATOR EN</u>	
	FL POWER SUPPLY EN	
	FL 72H SAMPLE SER EN	
	<u>PO OMNIMATE EN</u>	
Engineering Data	EPLAN, WSCAD	
Engineering Data	<u>STEP</u>	
Product Change Notification	Change of packaging - DE	
-	Change of packaging - EN	



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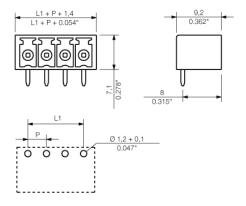
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Drawings

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.

Туре	BCZ 3.81/05/180F SN BK	Version	Product data	Packaging
Order No.	1792980000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248227068	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 1	6
Qty.	50 pc(s).	Box		
Туре	BCZ 3.81/05/180F SN OR	Version	Product data	Packaging
Order No.	1941040000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248655809	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Туре	BCZ 3.81/05/180F SN GN	Version	Product data	Packaging
Order No.	<u>1793070000</u>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248227150	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 1	6
Qty.	50 pc(s).	Вох		



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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.

Туре	BCZ 3.81/05/180LR SN OR	Version	Product data	Packaging
Order No.	1941430000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248698356	$180^{\circ}\text{, Clamping yoke connection, Clamping range, max.}: 1.5 \text{mm}^{2}\text{,}$	UL: 300 V / 10 A / AWG 28 - AWG 1	6
Qty.	50 pc(s).	Box		
Туре	BCZ 3.81/05/180LR SN BK	Version	Product data	Packaging
Order No.	<u>1941810000</u>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248698738	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		
Туре	BCZ 3.81/05/180LR SN GN	Version	Product data	Packaging
Order No.	1941620000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248698547	$180^{\circ},$ Clamping yoke connection, Clamping range, max. : $1.5\ mm^{2},$	UL: 300 V / 10 A / AWG 28 - AWG 1	6
Qty.	50 pc(s).	Вох		



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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.

Туре	BCZ 3.81/05/270F SN GN	Version	Product data	Packaging
Order No.	1799200000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248244096	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 1	6
Qty.	50 pc(s).	Вох		
Туре	BCZ 3.81/05/270F SN OR	Version	Product data	Packaging
Order No.	1940490000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248656349	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Вох		
Туре	BCZ 3.81/05/270F SN BK	Version	Product data	Packaging
Order No.	<u>1799120000</u>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248244010	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 1	6
Qty.	50 pc(s).	Box		



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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.

Туре	BCZ 3.81/05/90F SN BK BX	Version	Product data	Packaging
Order No.	<u>1798800000</u>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248243488	90°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box	UL: 300 V / 10 A / AWG 28 - AWG 10	6
Qty.	50 pc(s).			
Туре	BCZ 3.81/05/90F SN OR BX	Version	Product data	Packaging
Order No.	<u>1940010000</u>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248656813	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	UL: 300 V / 10 A / AWG 28 - AWG 10	6
Qty.	50 pc(s).			
Туре	BCZ 3.81/05/90F SN GN BX	Version	Product data	Packaging
Order No.	<u>1798880000</u>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 5,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ²	Box
GTIN (EAN)	4032248243563	90°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box	UL: 300 V / 10 A / AWG 28 - AWG 10	6
Qty.	50 pc(s).			



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Mating connector (fully pluggable)

BCL-SMT 3.81/180



The inverted BCL-SMT socket block for the PCB offers three significant advantages:

- The BCL-SMT offers touch-safe security on the PCB which makes it ideal for live, current-carrying outputs.
- The BCL-SMT widens the range of applications with board-to-board connections between component assemblies.
- The BCL-SMT is reflow-compatible and can be seamlessly integrated into the automatic assembly and soldering process.

Two outlet directions give you a choice of position and thus more design flexibility.

- 180° standing
- 90° recumbent

Two housing variants are available for the BCL-SMT:

- Without flange
- With inverted solder flange ("LFI", with nut)
- • Fastened to PCB without additional screw
 - · Fastened with screw to the SCZ FI

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.

Туре	BCL-SMT 3.81/05/180 1.5	Version	Product data	Packaging
Order No.	<u>1976530000</u>	PCB plug-in connector, female header, closed side, THT/THR solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248679010	connection, 3.81 mm, Number of poles: 5, 180°, Solder pin length (I)	: UL: 300 V / 10 A	
Qty.	50 pc(s).	1.5 mm, tinned, black, Box		



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Accessories

LED Light guides



Effective: the link between LED and front panel.

Floodlight indicators allow users to monitor the switching states without requiring a special design: optical plastic directs the light from standard LEDs around a bend into the connectors or through the front plate.

The fibre-optic elements are simply clipped behind the relevant 90° bend male connectors (90° outlet direction). Versions with different incoming light beam heights achieve maximum light efficiency for LEDs with different designs or heights.

The advantages compared to conventional solutions:

- No additional LED circuit board required behind the front panel
- No "long-legged" LEDs with separate mounting required
- Bent fibre-optic cable line for maximum light efficiency
- Uncomplicated front plate bore holes due to circular shape of outgoing light beam
- Easy to maintain correct clearance and creepage distance
- Can be partitioned for smaller pole numbers

The result: simplified manufacturing process, reduced costs and simplified design

Туре	SC 3.81 FLA 2.3/14.25	Version Product data		Packaging	
Order No.	<u>1979750000</u>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box	
GTIN (EAN)	4032248752478	Number of poles: 8			
Qty.	50 pc(s).				
Туре	SC 3.81 FLA 2.3/16	Version Product data		Packaging	
Order No.	<u>1979740000</u>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box	
GTIN (EAN)	4032248752461	Number of poles: 8			
Qty.	50 pc(s).				
Туре	SC 3.81 FLA 1.5/14.25	Version	Product data	Packaging	
Order No.	<u>1979730000</u>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box	
GTIN (EAN)	4032248752454	Number of poles: 8			
Qty.	50 pc(s).				
Туре	SC 3.81 FLA 1.5/16	Version	Product data	Packaging	
Order No.	<u>1979720000</u>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Вох	
GTIN (EAN)	4032248752447	Number of poles: 8			
Qty.	50 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.

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

72.39

68.58

64.77

60.96

57.15

53.34

49.53

45.72

41.91

38.10

34.29

30.48

26.67

22.86

19.05

15.24

11.43

7.62

2 3.81

18

16

15

14

2.850

2.700

2.550

2.400

2.250

2.100

1.950

1.800

1.650

1.500

1.350

1.200

1.050

0.900

0.750

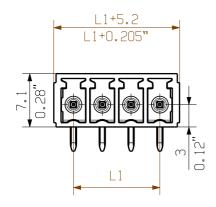
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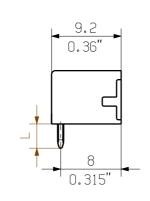
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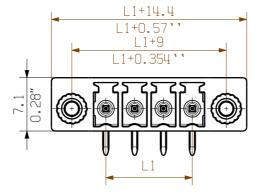
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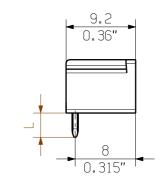
SC 3.81/.../90G 3.2....

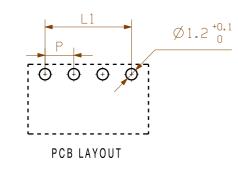


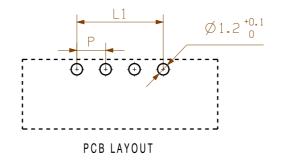




SC 3.81/.../90F 3.2...







CUSTOMER DRAWING

KUNDENZEICHNUNG

P = 3.81

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The neccessary 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 occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

OFNEDAL TOLEDANOS				N L1 [mm] L1 [inch] . . Cat.no.: .
GENERAL TOLERANCE: DIN ISO 2768-m ROMS Max. nos.	97482/0 06.09.17 MA	-	W	eidmüller 2 C 40384 08 Drawing no. Issue no.
COMPLIANT	Modifi	ication Date	Name	Sheet 01 of 02 sheets
	Drawn		ZHANG_H	SC 3.81//903.2
	Responsible		MA J	ANCOULUGO CTIETLEICTE

ANSCHLUSS STIFTLEISTE Scale: 5/1 13.09.2017 ZHOU_N PIN HEADER Checked Supersedes: Approved XU_S Product file: SC 3.81

7069



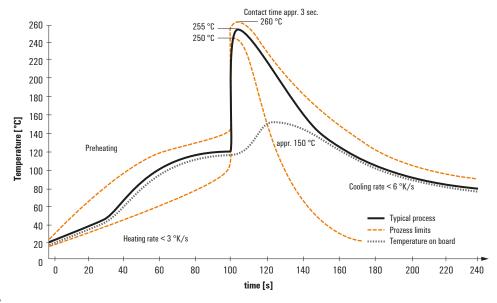
Recommended wave solderding profiles

Weidmüller Interface GmbH & Co. KG

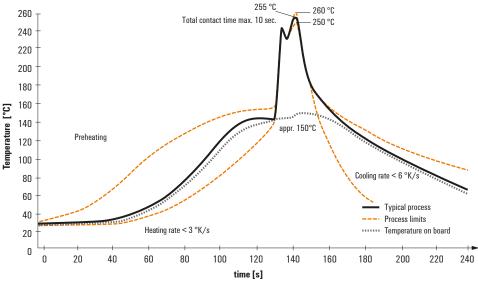
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Single Wave:



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.