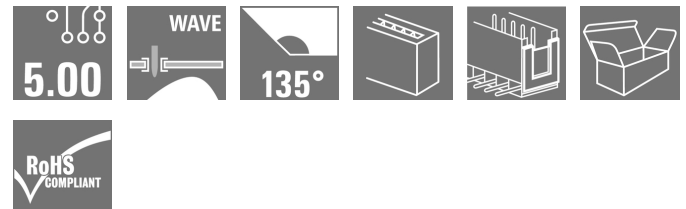


OMNIMATE Signal - series BL/SL 5.00 SL 5.00/20/135B 3.2SN OR BX

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Similar to illustration

Male connectors with 135° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

General ordering data

Type	SL 5.00/20/135B 3.2SN OR BX
Order No.	1630660000
Version	PCB plug-in connector, male header, Dovetails for fixing blocks, THT solder connection, 5.00 mm, Number of poles: 20, 135°, Solder pin length (l): 3.2 mm, tinned, orange, Box
GTIN (EAN)	4008 190204082
Qty.	20 pc(s).
Product data	IEC: 400 V / 17 A UL: 300 V / 15 A
Packaging	Box

Creation date May 3, 2020 6:56:48 PM CEST

OMNIMATE Signal - series BL/SL 5.00
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Technical data
Dimensions and weights

Width	102 mm	Width (inches)	4.016 inch
Height	15.5 mm	Height (inches)	0.61 inch
Height of lowest version	12.3 mm	Depth	13.13 mm
Depth (inches)	0.517 inch	Net weight	7.85 g

System specifications

Product family	OMNIMATE Signal - series BL/SL 5.00	Type of connection	Board connection
Mounting onto the PCB	THT solder connection	Pitch in mm (P)	5 mm
Pitch in inches (P)	0.197 inch	Outgoing elbow	135°
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
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)	1.3 mm
Solder eyelet hole diameter tolerance (D)+	0,1 mm	L1 in mm	95 mm
L1 in inches	3.74 inch	Number of rows	1
Pin series quantity	1	Touch-safe protection acc. to DIN VDE 57 106	finger-safe plugged/ back-of-hand-safe unplugged
Volume resistance	≤ 5mΩ	Can be coded	Yes
Plugging cycles	25	Plugging force/pole, max.	10 N
Pulling force/pole, max.	8 N		

Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Insulation strength	≥ 10 ⁸ Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	CuSn	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.	50 °C
Max. relative humidity during storage	70 %	Operating temperature, min.	-50 °C
Operating temperature, max.	100 °C	Temperature range, installation, min.	-25 °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)	17 A
Rated current, max. number of poles (Tu=20°C)	13 A	Rated current, min. number of poles (Tu=40°C)	15 A
Rated current, max. number of poles (Tu=40°C)	11 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	3 x 1s with 120 A

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Technical data**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)	15 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
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)	15 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	38 mm
VPE width	118 mm	VPE height	169 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	<ul style="list-style-type: none"> • Additional colours on request • Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of 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.

Data sheet**OMNIMATE Signal - series BL/SL 5.00
SL 5.00/20/135B 3.2SN OR BX**

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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 DEVICE MANUF. EN](#)
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[FL POWER SUPPLY EN](#)
[FL 72H SAMPLE SER EN](#)
[PO OMNIMATE EN](#)

Engineering Data

[STEP](#)

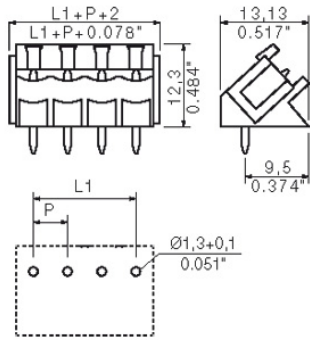
Data sheet

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Drawings

Dimensional drawing



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Mating connector (conditionally 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 5.00/20/270 SN DKGN ...	Version	Product data	Packaging
Order No.	1650070000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 15 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190296667	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		

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 5.00/20/180 SN DKGN ...	Version	Product data	Packaging
Order No.	1647000000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 19 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190288372	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		

**OMNIMATE Signal - series BL/SL 5.00
SL 5.00/20/135B 3.2SN OR BX**

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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/20/180 SN O ...	Version	Product data	Packaging
Order No.	1954300000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 4 mm ²	Box
GTIN (EAN)	4032248633029	180°, Clamping yoke connection, Clamping range, max. : 4 mm ² , Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLZP 5.00HC/20/180 SN B ...	Version	Product data	Packaging
Order No.	1955390000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 4 mm ²	Box
GTIN (EAN)	4032248633876	180°, Clamping yoke connection, Clamping range, max. : 4 mm ² , Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

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/20/90 SN BK ...	Version	Product data	Packaging
Order No.	1979450000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 24 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248674657	90°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm ² , Box	UL: 300 V / 18.5 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLF 5.00HC/20/90 SN OR ...	Version	Product data	Packaging
Order No.	1980360000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 24 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248675425	90°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm ² , Box	UL: 300 V / 18.5 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

**OMNIMATE Signal - series BL/SL 5.00
SL 5.00/20/135B 3.2SN OR BX**

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Mating connector (fully pluggable)**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/20/180 SN OR ...	Version	Product data	Packaging
Order No.	1211770000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248993437	180°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 18.5 A / AWG 26 - AWG	
Qty.	18 pc(s).	Box	12	
Type	BLF 5.00HC/20/180 SN BK ...	Version	Product data	Packaging
Order No.	1211830000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248993307	180°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 18.5 A / AWG 26 - AWG	
Qty.	18 pc(s).	Box	12	

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/20/270 SN O ...	Version	Product data	Packaging
Order No.	1958700000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 4 mm ²	Box
GTIN (EAN)	4032248637539	90°, Clamping yoke connection, Clamping range, max. : 4 mm ² , Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLZP 5.00HC/20/270 SN B ...	Version	Product data	Packaging
Order No.	1958920000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 4 mm ²	Box
GTIN (EAN)	4032248637850	90°, Clamping yoke connection, Clamping range, max. : 4 mm ² , Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

**OMNIMATE Signal - series BL/SL 5.00
SL 5.00/20/135B 3.2SN OR BX**

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Mating connector (fully pluggable)
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/20/90 SN OR ...	Version	Product data	Packaging
Order No.	1957850000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 4 mm ²	Box
GTIN (EAN)	4032248636983	90°, Clamping yoke connection, Clamping range, max. : 4 mm ² , Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			
Type	BLZP 5.00HC/20/90 SN BK ...	Version	Product data	Packaging
Order No.	1958400000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,	IEC: 400 V / 23 A / 0.2 - 4 mm ²	Box
GTIN (EAN)	4032248637218	90°, Clamping yoke connection, Clamping range, max. : 4 mm ² , Box	UL: 300 V / 20 A / AWG 26 - AWG 12	
Qty.	18 pc(s).			

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Accessories

Blocks for PCB mounting



Minor component, major effect:

Clip-on attachment elements increase the mechanical resilience of the whole plug connection by

- securing the male connectors to the circuit board
- providing a vibration-proof connection between the sockets and the male connectors

Clip-on or pre-assembled - always the right solution:

- Hard-wearing, precise fitting dovetail joint
- Hard-wearing metal threaded inserts
- Suitable for all outlet directions

Maximum stability, minimum effort:

- Extremely resilient for frequent fastening operations
- Complete set for easy selection

The result: soldering points, contacts and overall module are more resilient against mechanical stress such as vibrations and tensile loads.

General ordering data

Type	SL 135 BB15R SW	Version	Product data		
Order No.	1636370000	PCB plug-in connector, Accessories, Mounting block, black, Number of			
GTIN (EAN)	4008190267315	poles: 1			
Qty.	20 pc(s).				
Type	SL 135 BB15R OR	Version	Product data	Packaging	
Order No.	1606450000	PCB plug-in connector, Accessories, Mounting block, orange, Number			Box
GTIN (EAN)	4008190179984	of poles: 1			
Qty.	20 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 OR BX	Version	Product data	Packaging
Order No.	1573010000	PCB plug-in connector, Accessories, Coding element, orange, Number		
GTIN (EAN)	4008190048396	of poles: 1		
Qty.	100 pc(s).			

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Accessories

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. 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

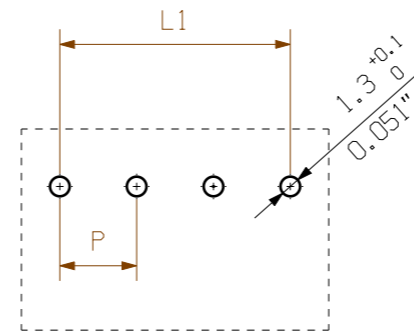
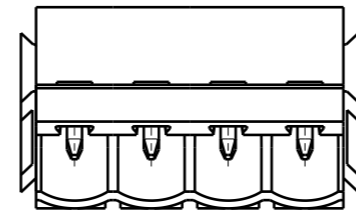
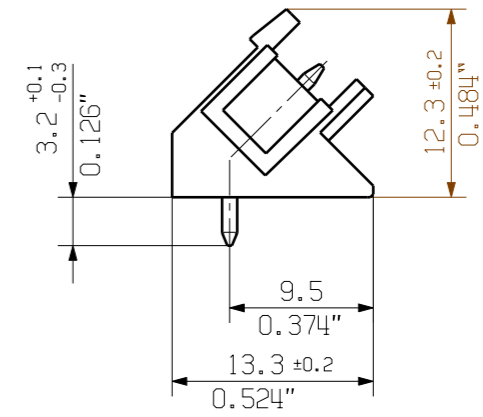
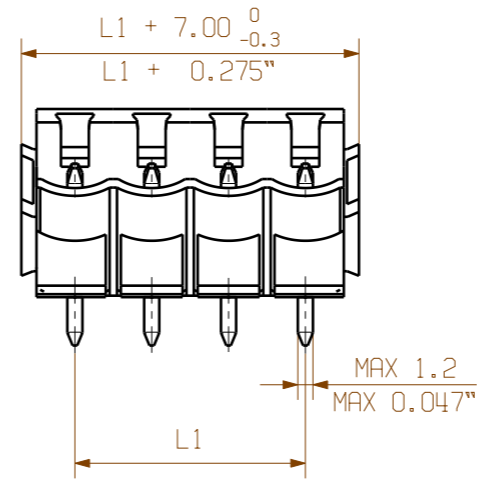
In tandem with the manufacturing process and application - more accessories = smaller workload

General ordering data

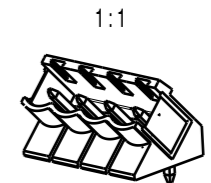
Type	SL AT SW	Version	Product data	Packaging
Order No.	1770240000	PCB plug-in connector, Accessories, Spacer, black, Number of poles: 1		Box
GTIN (EAN)	4032248117710			
Qty.	100 pc(s).			
Type	SL AT OR	Version	Product data	Packaging
Order No.	1598300000	PCB plug-in connector, Accessories, Spacer, orange, Number of poles:		Box
GTIN (EAN)	4008190189266	1		
Qty.	100 pc(s).			

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HOLE PATTERN



24	115,00	4,531
23	110,00	4,334
22	105,00	4,137
21	100,00	3,940
20	95,00	3,743
19	90,00	3,546
18	85,00	3,349
17	80,00	3,152
16	75,00	2,955
15	70,00	2,758
14	65,00	2,561
13	60,00	2,364
12	55,00	2,167
11	50,00	1,970
10	45,00	1,773
9	40,00	1,576
8	35,00	1,379
7	30,00	1,182
6	25,00	0,985
5	20,00	0,788
4	15,00	0,591
3	10,00	0,394
2	5,00	0,197
n	L1 [mm]	L1 [Inch]

P = pitch
shown: SL 5.00/04/135B

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.

GENERAL TOLERANCE: DIN ISO 2768-m		88133/0 13.05.16 HELIS_MA 00		Cat.no.: .	
		Modification			
		Drawing no. 3 21296 Issue no. 05 Sheet 02 of 02 sheets			
		Date	Name	Benutzer None nicht gefunden SL 5.00/.../135 STIFTLAISTE MALE HEADER	
Scale: 2:1		Drawn	09.07.2003	Product file: SL 5.00/135	
Supersedes: .		Responsible	HERTEL_S	7287	
		Checked	17.05.2016		
		Approved	LANG_T		

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.