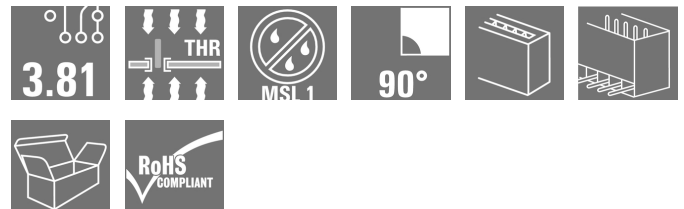
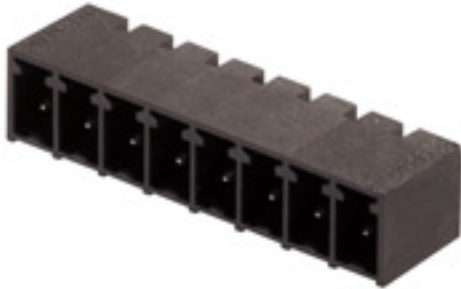


OMNIMATE Signal - series BC/SC 3.81 SC-SMT 3.81/05/90G 3.2SN BK BX

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



High-temperature-resistant pin header (SC-SMT 90G) in 3.81-mm pitch (0.15 inch)

- Plugging direction parallel to PCB (recumbent)
- Closed (G)
- Packed either in box (BX) or on anti-static roll (tape-on-reel, RL)
- Pin length of either 1.5 mm or 3.2 mm

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-SMT 3.81/05/90G 3.2SN BK BX
Order No.	1862500000
Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.81 mm, No. of poles: 5, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248427635
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

**OMNIMATE Signal - series BC/SC 3.81
SC-SMT 3.81/05/90G 3.2SN BK BX**

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Technical data
Dimensions and weights

Net weight 1.42 g

System specifications

Product family		Type of connection	
OMNIMATE Signal - series BC/SC 3.81		Board connection	
Mounting onto the PCB		Pitch in mm (P)	
THT/THR solder connection		3.81 mm	
Pitch in inches (P)		Outgoing elbow	
0.15 inch		90°	
No. of poles		Number of solder pins per pole	
5		1	
Solder pin length (l)		Solder pin length tolerance	
3.2 mm		0 / -0,02 mm	
Tolerance of solder pin position		Solder pin dimensions	
± 0.1 mm		d = 1.0 mm, Octagonal	
Solder pin dimensions = d tolerance		Solder eyelet hole diameter (D)	
0 / -0,04 mm		1.3 mm	
Solder eyelet hole diameter tolerance (D)+ 0,1 mm		Outside diameter of solder pad	
		2.1 mm	
Template aperture diameter		L1 in mm	
1.9 mm		15.24 mm	
L1 in inches		Number of rows	
0.6 inch		1	
Pin series quantity		Touch-safe protection acc. to DIN VDE 57 106	
1		Safe from finger touch	
Touch-safe protection acc. to DIN VDE 0470		Volume resistance	
IP 20		6.00 mΩ	
Can be coded		Plugging cycles	
Yes		25	
Packaging			
Box			

Material data

Insulating material		Colour	
LCP GF		Black	
Colour chart (similar)		Insulating material group	
RAL 9011		IIIa	
CTI		Insulation resistance	
≥ 175		≥ 10 ⁸ Ω	
Moisture Level (MSL)		UL 94 flammability rating	
1		V-0	
Contact material		Contact surface	
Copper alloy		tinned	
Storage temperature, min.		Storage temperature, max.	
-25 °C		55 °C	
Max. relative humidity during storage		Operating temperature, min.	
80 %		-50 °C	
Operating temperature, max.		Temperature range, installation, min.	
120 °C		-25 °C	
Temperature range, installation, max.			
120 °C			

Rated data acc. to IEC

tested acc. to standard		Rated current, min. no. of poles (Tu=20°C)	
IEC 60664-1, IEC 61984		17.5 A	
Rated current, max. no. of poles (Tu=20°C)		Rated current, min. no. of poles (Tu=40°C)	
13.9 A		17 A	
Rated current, max. no. of poles (Tu=40°C)		Rated voltage for surge voltage class / pollution degree II/2	
12.4 A		320 V	
Rated voltage for surge voltage class / pollution degree III/2		Rated voltage for surge voltage class / pollution degree III/3	
160 V		160 V	
Rated impulse voltage for surge voltage class/ pollution degree II/2		Rated impulse voltage for surge voltage class/ pollution degree III/2	
2.5 kV		2.5 kV	
Rated impulse voltage for surge voltage class/ contamination degree III/3		Short-time withstand current resistance	
2.5 kV		3 x 1s with 76 A	


Data sheet

**OMNIMATE Signal - series BC/SC 3.81
SC-SMT 3.81/05/90G 3.2SN BK BX**


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Technical data

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1121690
Rated voltage (Use group B)	300 V	Rated current (use group B)	8 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Rated data acc. to UL 1059

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (use group B)	300 V	Rated voltage (use group D)	300 V
Rated current (use group B)	10 A	Rated current (use group D)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Classifications

ETIM 3.0	EC001284	ETIM 4.0	EC002637
ETIM 5.0	EC002637	ETIM 6.0	EC002637
UNSPSC	30-21-18-10	eClass 5.1	27-26-07-04
eClass 6.2	27-26-07-04	eClass 7.1	27-44-04-02
eClass 8.1	27-44-04-02	eClass 9.0	27-44-04-02
eClass 9.1	27-44-04-02		

Notes

Notes	<ul style="list-style-type: none"> 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	The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.

Approvals

Approvals	
ROHS	Conform

**OMNIMATE Signal - series BC/SC 3.81
SC-SMT 3.81/05/90G 3.2SN BK BX**

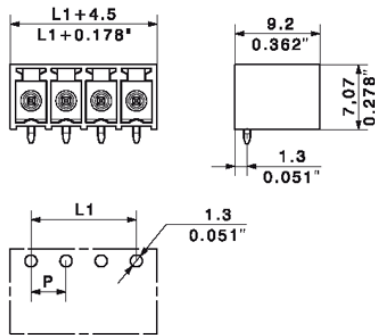
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Technical data**Downloads**

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Brochure/Catalogue	FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. EN 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 FL_BASE_STATION_EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN
SMT white paper	Download Whitepaper

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Drawings**Dimensional drawing**

OMNIMATE Signal - series BC/SC 3.81 SC-SMT 3.81/05/90G 3.2SN BK BX

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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.

General ordering data

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

**OMNIMATE Signal - series BC/SC 3.81
SC-SMT 3.81/05/90G 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	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BCZ 3.81/05/270F SN BK BX	1799120000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	4032248244010	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/05/270F SN OR BX	1940490000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	4032248656349	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/05/270F SN GN BX	1799200000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	4032248244096	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16	Box

**OMNIMATE Signal - series BC/SC 3.81
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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)
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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	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BCZ 3.81/05/90F SN OR BX	1940010000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	4032248656813	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/05/90F SN BK BX	1798800000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	4032248243488	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/05/90F SN GN BX	1798880000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , Box	4032248243563	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16	Box

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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)
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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

Delivery status	Available until	Type	Order No.	Version	GTIN (EAN)	Qty.
Discontinued	2014-05-20T00:00:00+02:00	BCZ 3.81/05/180LR SN GN BX	1941620000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	4032248698547	50 pc(s).
Discontinued	2017-12-31T00:00:00+01:00	BCZ 3.81/05/180LR SN BK BX	1941810000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	4032248698738	50 pc(s).
This article will no longer be available in the future.	2017-12-31T00:00:00+01:00	BCZ 3.81/05/180LR SN OR BX	1941430000	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	4032248698356	50 pc(s).

**OMNIMATE Signal - series BC/SC 3.81
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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:

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- 270° wire perpendicular and below plugging direction

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

Data sheet

**OMNIMATE Signal - series BC/SC 3.81
SC-SMT 3.81/05/90G 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

Delivery status	Available until	Type	Order No.	Version	GTIN (EAN)	Qty.
Discontinued	2016-11-01T00:00:00+01:00	SC-SMT 3.81 KO GY BX	1968900000	PCB plug-in connector, Accessories, Coding element, Grey, No. of poles: 6	4032248772865	100 pc(s).

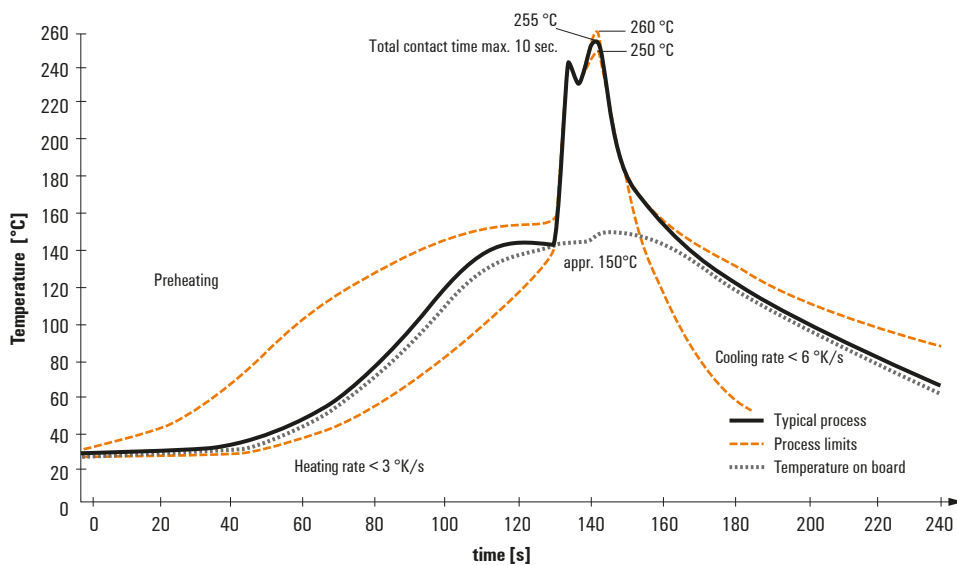
Recommended wave soldering profiles

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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.

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.