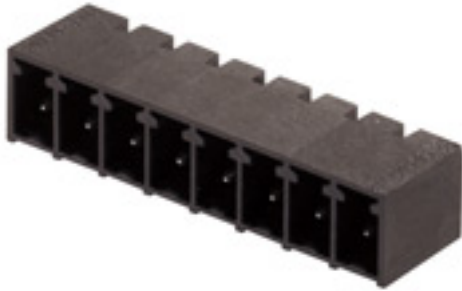


## OMNIMATE Signal - series BC/SC 3.81 SC-SMT 3.81/04/90G 3.2SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
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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.

- 320 V (IEC) / 300 V (UL)
- 14.9 A (IEC) / 10 A (UL)

### General ordering data

Type	SC-SMT 3.81/04/90G 3.2SN BK BX
Order No.	<a href="#">1862490000</a>
Version	PCB plug-in connector, male header, closed side, Reflow solder connection, 3.81 mm, No. of poles: 4, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248427628
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

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**Technical data****Dimensions and weights**

Net weight	0.908 g
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**System parameters**

Product family		Mounting onto the PCB	
Product family	OMNIMATE Signal - series BC/SC 3.81	Reflow solder connection	
Outgoing elbow	90°	Pitch in mm (P)	3.81 mm
Pitch in inches (P)	0.15 inch	No. of poles	4
Solder pin length (l)	3.2 mm	Pin dimensions	d = 1.0 mm, Octagonal
Can be coded	Yes	Number of solder pins per pole	1
Solder eyelet hole diameter (D)	1.3 mm	Solder eyelet hole diameter tolerance (D)	+ 0.1 mm
L1 in mm	11.43 mm	L1 in inches	0.45 inch
Insulation resistance	10 <sup>3</sup> Ω	Touch-safe protection acc. to DIN VDE 0470	IP 20
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch		


**Material data**

Insulating material	LCP GF	Colour	Black
Insulating material group	IIIa	UL 94 flammability rating	V-0
CTI	≥ 175	Contact material	Cu-Leg
Contact surface	tinned	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C	Max. relative humidity during storage	85 %

**DIN IEC rating data**

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

**CSA rating data**

Institute (CSA)		Rated voltage (Use group B)	300 V
Rated current (use group B)	10 A	Rated voltage (use group D)	300 V
Rated current (use group D)	10 A		

**UL 1059 rating data**

Rated voltage (use group B)	300 V	Rated current (use group B)	10 A
Rated voltage (use group D)	300 V	Rated current (use group D)	10 A

**Data sheet**

**OMNIMATE Signal - series BC/SC 3.81  
SC-SMT 3.81/04/90G 3.2SN BK BX**

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**Technical data**

**Classifications**

ETIM 3.0	EC001284	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		

**Notes**

- Notes
- 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

**Approvals**

Approvals



ROHS

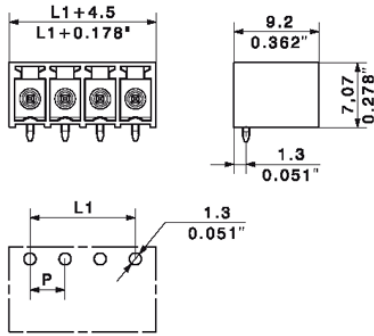
Conform

**Data sheet**

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**Drawings**



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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.

- 0.20 - 1.5 mm<sup>2</sup> (IEC) / 28 - 16 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17.5 A (IEC) / 10 A (UL)

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BCZ 3.81/04/90F SN BK BX	<a href="#">1798790000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248243471	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/90F SN OR BX	<a href="#">1940000000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248656820	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/90F SN GN BX	<a href="#">1798870000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248243556	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> 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 3.81/270F**


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.

- 0.20 - 1.5 mm<sup>2</sup> (IEC) / 28 - 16 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17.5 A (IEC) / 10 A (UL)

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BCZ 3.81/04/270F SN BK BX	<a href="#">1799110000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248244003	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/270F SN GN BX	<a href="#">1799190000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248244089	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/270F SN OR BX	<a href="#">1940480000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248656356	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> 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)
- 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.

- 0.20 - 1.5 mm<sup>2</sup> (IEC) / 28 - 16 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17.5 A (IEC) / 10 A (UL)

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BCZ 3.81/04/180LR SN OR BX	<a href="#">1941420000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248698349	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/180LR SN GN BX	<a href="#">1941610000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248698530	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/180LR SN BK BX	<a href="#">1941800000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248698721	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box

## OMNIMATE Signal - series BC/SC 3.81 SC-SMT 3.81/04/90G 3.2SN BK BX

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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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- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

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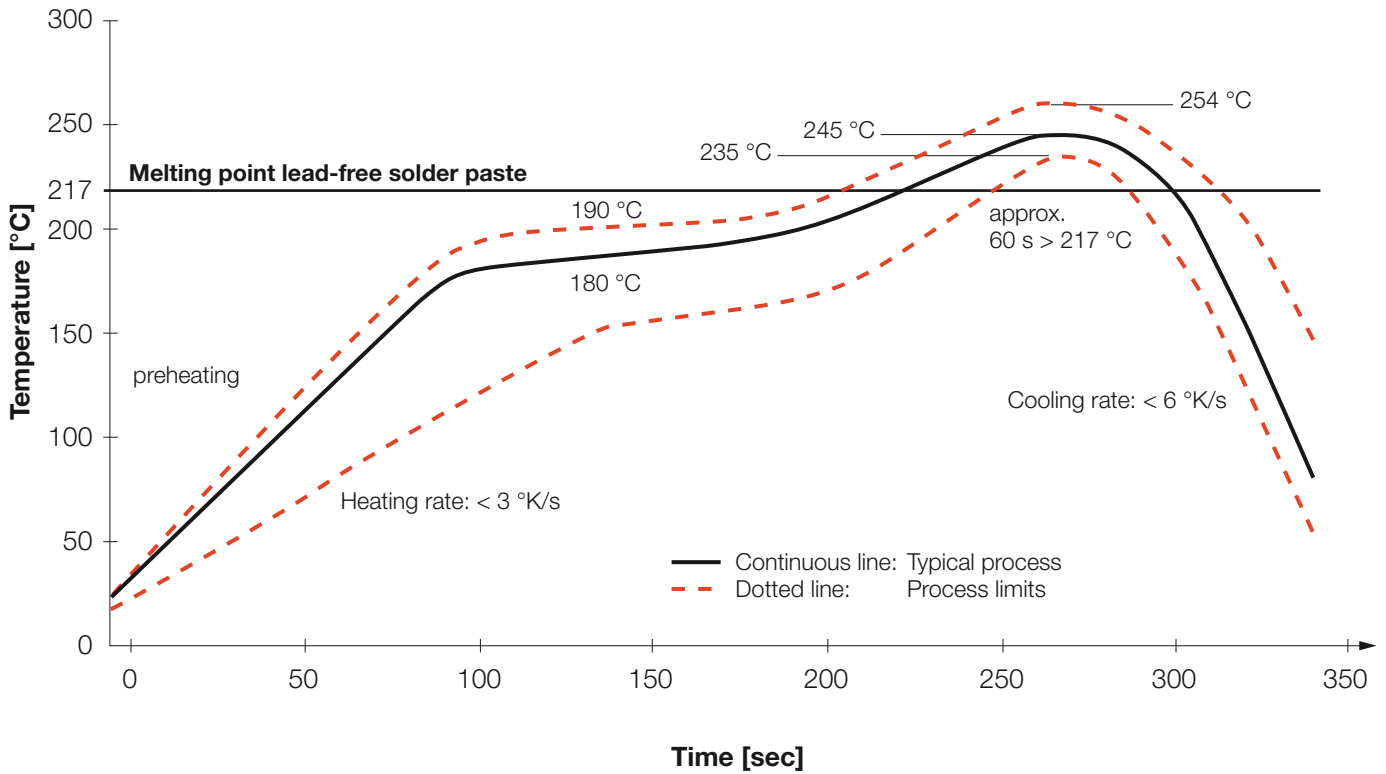
#### General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BCZ 3.81/04/180F SN BK BX	<a href="#">1792970000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248227051	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/180F SN GN BX	<a href="#">1793060000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248227143	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box
BCZ 3.81/04/180F SN OR BX	<a href="#">1941030000</a>	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 4, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4032248655816	50 pc(s).	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16	Box



## 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.

