

## BCZ 3.81/02/180 SN GN BX

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

### Product image



Similar to illustration

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

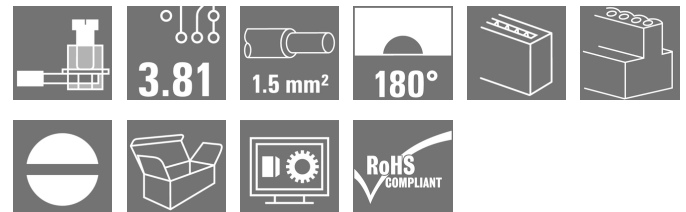
Three wire-outlet directions are available and provide flexible connection-level design options:

- 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

Version	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 2, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box
Order No.	<a href="#">1792860000</a>
Type	BCZ 3.81/02/180 SN GN BX
GTIN (EAN)	4032248226948
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm² UL: 300 V / 10 A / AWG 28 - AWG 16
Packaging	Box

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

Depth	16.1 mm	Depth (inches)	0.634 inch
Height	11.1 mm	Height (inches)	0.437 inch
Width	7.71 mm	Width (inches)	0.304 inch
Net weight	1.68 g		

**Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
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**System Parameters**

Product family	OMNIMATE Signal - series BC/SC 3.81		
Type of connection	Field connection		
Wire connection method	Clamping yoke connection		
Pitch in mm (P)	3.81 mm		
Pitch in inches (P)	0.15 inch		
Conductor outlet direction	180°		
Number of poles	2		
L1 in mm	3.81 mm		
L1 in inches	0.15 inch		
Number of rows	1		
Pin series quantity	1		
Rated cross-section	1 mm <sup>2</sup>		
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	≤5 mΩ		
Can be coded	Yes		
Stripping length	7 mm		
Clamping screw	M 2		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264		
Plugging cycles	25		
Plugging force/pole, max.	7 N		
Pulling force/pole, max.	5 N		
Tightening torque	Torque type	Wire connection	
	Usage information	Tightening torque	min. 0.2 Nm max. 0.25 Nm

**Material data**

Insulating material	PA 66 GF 30	Colour	green
Colour chart (similar)	RAL 6032	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 550	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Layer structure of plug contact	0.5...1.5 μm Cu / 2...5 μm Sn	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C		

**Conductors suitable for connection**

Clamping range, min.	0.08 mm <sup>2</sup>
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Creation date January 14, 2022 11:50:16 PM CET

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Clamping range, max.	1.5 mm <sup>2</sup>			
Wire connection cross section AWG, min.	AWG 28			
Wire connection cross section AWG, max.	AWG 16			
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>			
Solid, max. H05(07) V-U	1.5 mm <sup>2</sup>			
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>			
Flexible, max. H05(07) V-K	1.5 mm <sup>2</sup>			
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.2 mm <sup>2</sup>			
w. plastic collar ferrule, DIN 46228 pt 4, max.	1.5 mm <sup>2</sup>			
w. wire end ferrule, DIN 46228 pt 1, min.	0.2 mm <sup>2</sup>			
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm <sup>2</sup>			
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm			
Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H0.5/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.75 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H0.75/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H1.0/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	7 mm
		Recommended wire-end ferrule	<a href="#">H1.5/7</a>	

Reference text The outside diameter of the plastic collar should not be larger than the pitch (P), Length of ferrules is to be chosen depending on the product and the rated voltage.

**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 A
Rated current, max. number of poles (Tu=40°C)	15.2 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

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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 current (Use group B / CSA)	8 A
Wire cross-section, AWG, min.	AWG 28
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group C / CSA)	50 V
Rated current (Use group C / CSA)	8 A
Wire cross-section, AWG, max.	AWG 16

**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
Wire cross-section, AWG, min.	AWG 28
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
Wire cross-section, AWG, max.	AWG 16

**Packing**

Packaging	Box	VPE length	93 mm
VPE width	61 mm	VPE height	27 mm

**Type tests**

Test: Durability of markings	Standard	DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96
	Test	mark of origin, type identification, rated voltage, rated cross-section, pitch, type of material, approval marking UL, approval marking CSA
	Evaluation	available
	Test	durability
Test: Misengagement (Non-interchangeability)	Evaluation	passed
	Standard	DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN EN 60512-13-5 / 11.06
	Test	180° turned without coding elements
	Evaluation	passed
	Test	visual examination
	Evaluation	passed

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Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02	
	Conductor type	Type of conductor and conductor cross-section	solid 0.08 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 0.08 mm <sup>2</sup>
		Type of conductor and conductor cross-section	solid 1.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 1.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
		Type of conductor and conductor cross-section	AWG 16/1
		Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed		
Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 0.25 mm <sup>2</sup>
		Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm <sup>2</sup>
	Evaluation	passed	
	Requirement	0.4 kg	
Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm <sup>2</sup>	
	Type of conductor and conductor cross-section	stranded 1.5 mm <sup>2</sup>	
	Type of conductor and conductor cross-section	AWG 16/1	
	Type of conductor and conductor cross-section	AWG 16/19	
Evaluation	passed		

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Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00		
	Requirement	≥10 N		
	Conductor type	Type of conductor and conductor cross-section	stranded 0.25 mm <sup>2</sup>	
		Type of conductor and conductor cross-section	AWG 28/1	
		Type of conductor and conductor cross-section	AWG 28/19	
	Evaluation	passed		
	Requirement	≥20 N		
	Conductor type	Type of conductor and conductor cross-section	H05V-U0.5	
		Evaluation	passed	
	Requirement	≥40 N		
	Conductor type	Type of conductor and conductor cross-section	H07V-U1.5	
		Type of conductor and conductor cross-section	H07V-K1.5	
		Type of conductor and conductor cross-section	AWG 16/1	
		Type of conductor and conductor cross-section	AWG 16/19	
	Evaluation	passed		

### Classifications

ETIM 6.0	EC002638	ETIM 7.0	EC002638
ETIM 8.0	EC002638	ECLASS 9.0	27-44-03-09
ECLASS 9.1	27-44-03-09	ECLASS 10.0	27-44-03-09
ECLASS 11.0	27-46-02-02		

### Important note

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.

- Notes
- Additional colours on request
  - Wire end ferrule without plastic collar to DIN 46228/1
  - Wire end ferrule with plastic collar to DIN 46228/4
  - 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.
  - Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

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## Technical data

## Approvals

Approvals



ROHS	Conform
UL File Number Search	E60693

## Downloads

Approval/Certificate/Document of Conformity	<a href="#">CB Certificate</a> <a href="#">CB Testreport</a> <a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">WSCAD</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FLIndustr.CONTROLS EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL HEATING ELECTR EN</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL_BASE_STATION EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a>

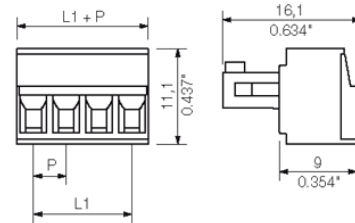
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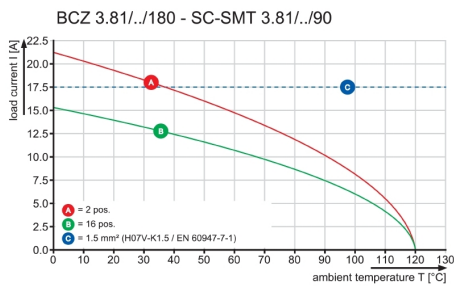
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**Drawings**

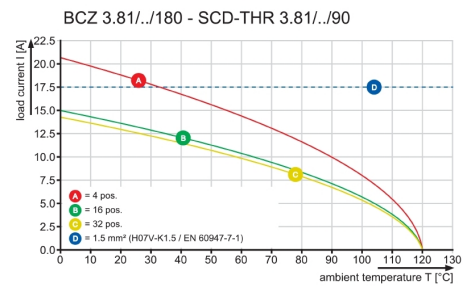
**Dimensional drawing**



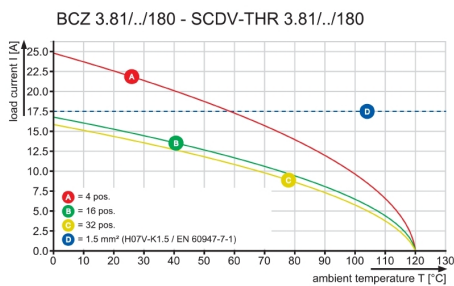
**Graph**



**Graph**



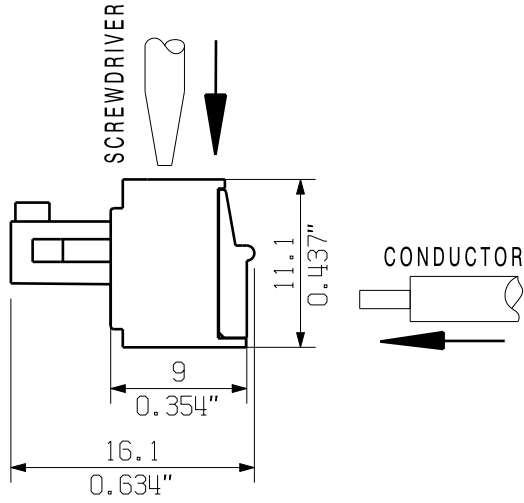
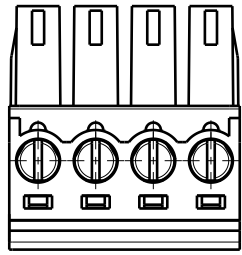
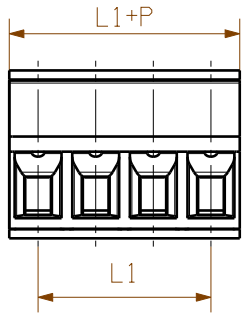
**Graph**



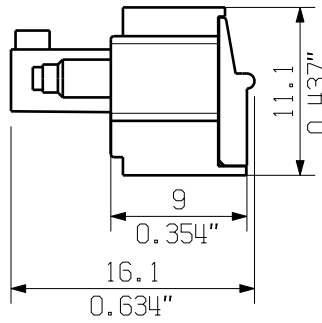
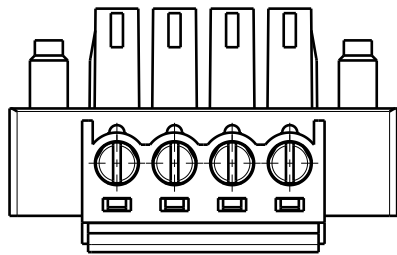
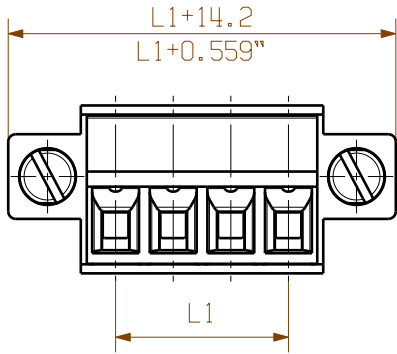


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BCZ 3.81/.../180 ...



BCZ 3.81/.../180F ...



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For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance with VDE 0101. The current-carrying capacity and pitch tolerance must be determined according to DIN IEC 326 part 3.

Weidmüller connectors are tested to the DIN VDE 0101 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 occurrence of electrical, mechanical, thermic and corrosive stress will be satisfied.

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