

## BCZ 3.81/13/180LR SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

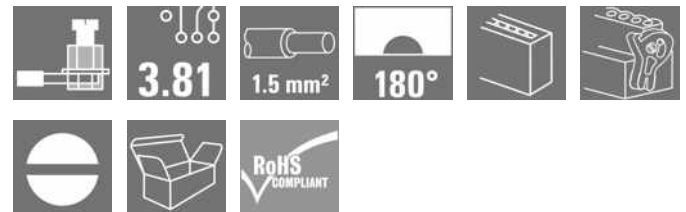
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### Product image



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: 13, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box
Order No.	<a href="#">2442460000</a>
Type	BCZ 3.81/13/180LR SN OR BX
GTIN (EAN)	4050118543438
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	28.45 mm	Depth (inches)	1.12 inch
Height	16.48 mm	Height (inches)	0.649 inch
Width	60.12 mm	Width (inches)	2.367 inch
Net weight	12.61 g		

**Temperatures**

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
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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	13		
L1 in mm	45.72 mm		
L1 in inches	1.8 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	IP20 plugged/ IP10 unplugged		
Protection degree	IP20		
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	orange
Colour chart (similar)	RAL 2000	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		

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**Conductors suitable for connection**

Clamping range, min.	0.08 mm <sup>2</sup>
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, 0.2 mm <sup>2</sup> min.	
w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm <sup>2</sup> max.	
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	wire end ferrule	Stripping length	nominal 6 mm
		Recommended wire-end ferrule	<a href="#">H0.5/6</a>
		Type	fine-wired
Cross-section for conductor connection	wire end ferrule	nominal	0.75 mm <sup>2</sup>
		Stripping length	nominal 6 mm
wire end ferrule	wire end ferrule	Recommended wire-end ferrule	<a href="#">H0.75/6</a>
		Type	fine-wired
		nominal	1 mm <sup>2</sup>
Cross-section for conductor connection	wire end ferrule	Stripping length	nominal 6 mm
		Recommended wire-end ferrule	<a href="#">H1.0/6</a>
wire end ferrule	wire end ferrule	Type	fine-wired
		nominal	1.5 mm <sup>2</sup>
		Stripping length	nominal 7 mm
Cross-section for conductor connection	wire end ferrule	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

Creation date May 17, 2023 10:11:04 AM CEST

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**Technical data****Rated data acc. to CSA**

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	50 V
Rated current (Use group B / CSA)	8 A	Rated current (Use group C / CSA)	8 A
Wire cross-section, AWG, min.	AWG 28	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 voltage (Use group D / UL 1059)	300 V
Rated current (Use group B / UL 1059)	10 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 16

Reference to approval values  
Specifications are maximum values, details - see approval certificate.

**Packing**

Packaging	Box	VPE length	151 mm
VPE width	142 mm	VPE height	68 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	Test	visual examination
	Evaluation	passed

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DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 2.4.5

**Technical data**

Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 2.4.5	
	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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DIN EN 60999-1 section 9.5 / 12.00

≥10 N info@weidmueller.com

## Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00		
	Requirement	≥10 N info@weidmueller.com		
	Conductor type	Type of conductor and conductor cross-section	stranded 0.25 mm <sup>2</sup> and conductor cross-section	
		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	ECLASS 12.0	27-46-02-02

## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	ea9dd4b8-c51f-409c-885a-41700372be61

## 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	• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

## Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

Creation date May 17, 2023 10:11:04 AM CEST

Catalogue status 12.05.2023 / We reserve the right to make technical changes.

**Data sheet****BCZ 3.81/13/180LR SN OR BX****Weidmüller Interfaces GmbH & Co. KG**

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[info@weidmueller.com](mailto:info@weidmueller.com)**Technical data**[www.weidmueller.com](http://www.weidmueller.com)**Downloads**Approval/Certificate/Document of  
Conformity[CB Certificate](#)[CB Testreport](#)

Engineering Data

[CAD data – STEP](#)

Product Change Notification

[PCN\\_2017\\_190\\_PL30X\\_BL\\_381\\_Lock\\_Release\\_lever\\_EN](#)[PCN\\_2017\\_190\\_PL30X\\_BL\\_381\\_Löseriegel\\_DE](#)

Catalogues

[Catalogues in PDF-format](#)

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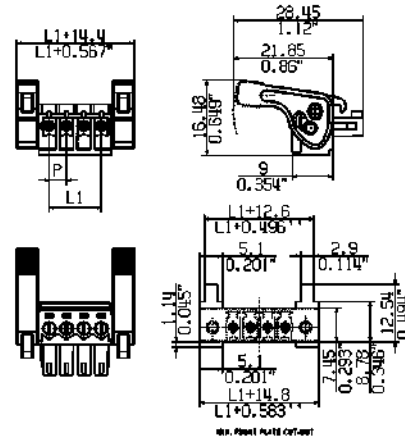
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Drawings

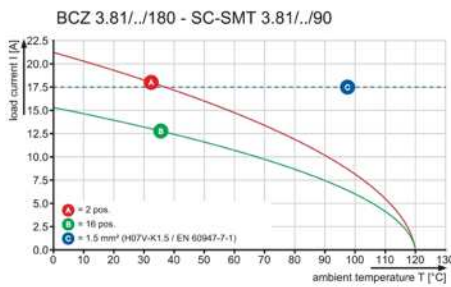
Product image



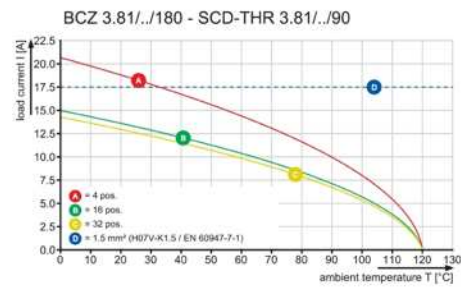
Dimensional drawing [info@weidmueller.com](mailto:info@weidmueller.com)



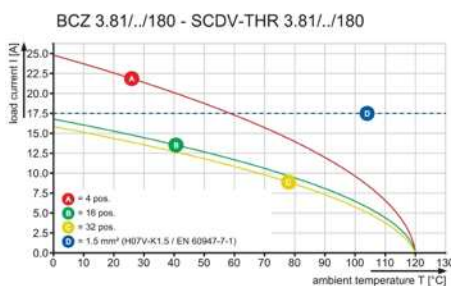
Graph



Graph



Graph



Product benefits

Product benefits

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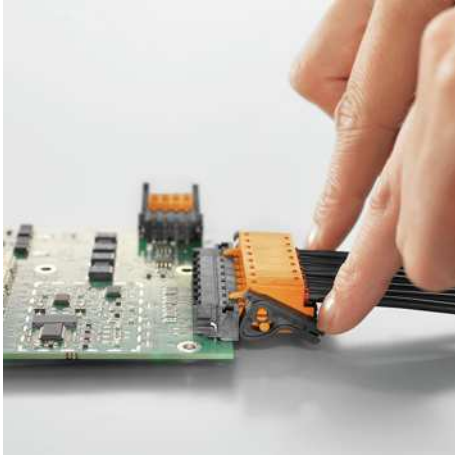
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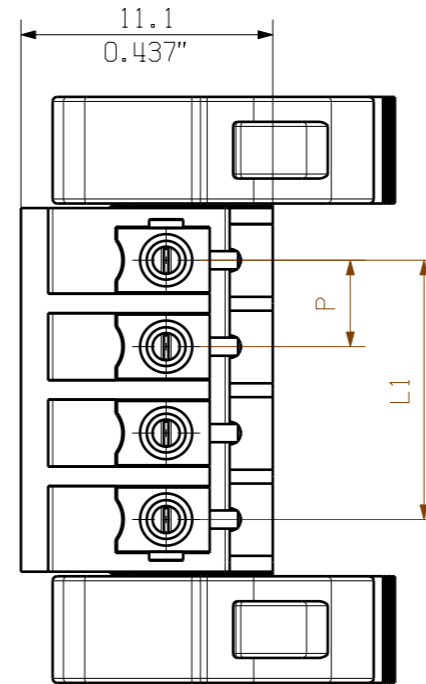
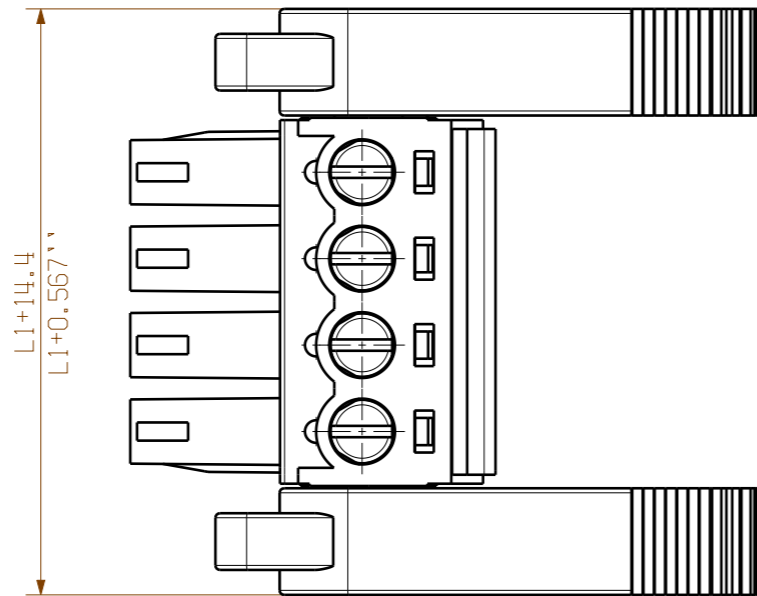
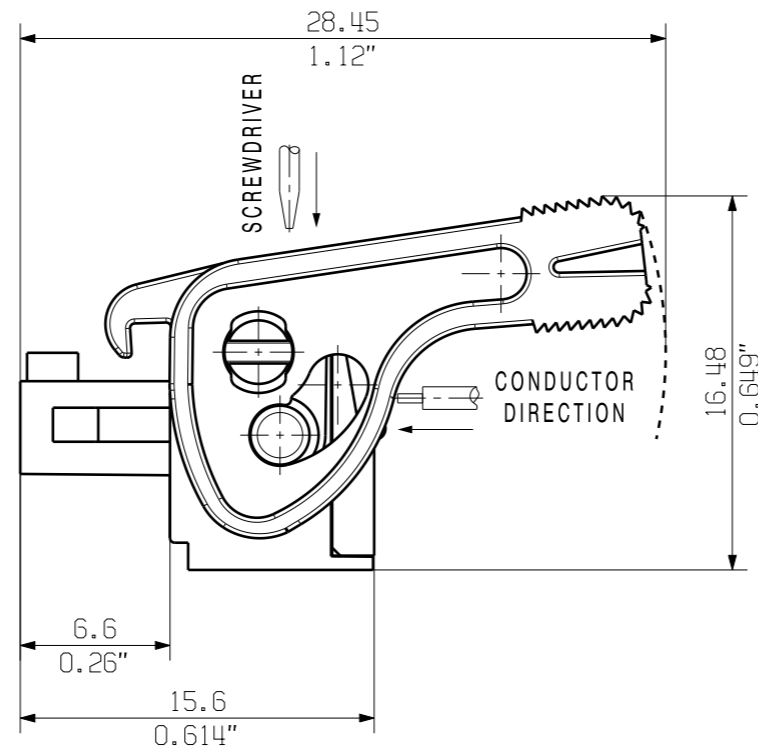
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**Drawings**





20	72.39	2.850
19	68.58	2.700
18	64.77	2.550
17	60.96	2.400
16	57.15	2.250
15	53.34	2.100
14	49.53	1.950
13	45.72	1.800
12	41.91	1.650
11	38.10	1.500
10	34.29	1.350
9	30.48	1.200
8	26.67	1.050
7	22.86	0.900
6	19.05	0.750
5	15.24	0.600
4	11.43	0.450
3	7.62	0.300
2	3.81	0.150
N	L1 [mm]	L1 [inch]

P = 3.81 RASTER  
0.15" PITCH

KUNDENZEICHUNG  
CUSTOMER DRAWING

<b>GENERAL TOLERANCE:</b> DIN ISO 2768-m 		86251/0 26.05.16 XIANG_K 00 Modification	Cat.no.: <b>C 63183</b> 00 Drawing no. Issue no. Sheet 00 of 00 sheets
Max. nos. 	Date 17.02.2016 Name XIANG_K	Drawn 17.02.2016 Responsible XIANG_K	Product file: BCZ 3.81 7070
Scale: 3/1 Supersedes: .	Date 26.05.2016 Name ZHOU_N	Checked 26.05.2016 Approved XU_S	

**BCZ 3.81...180LR...**  
BUCHSENLEISTE  
CONNECTOR SOCKET

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