

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26 D-32758 Detmold Germany

www.weidmueller.com

### **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: 18, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box
Order No.	<u>1940900000</u>
Туре	BCZ 3.81/18/180 SN OR BX
GTIN (EAN)	4032248655946
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16
Packaging	Вох



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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
Net weight	13.388 g	Width	68.67 mm
Width (inches)	2.704 inch		

#### **Environmental Product Compliance**

REACH SVHC Lead 7439-92-1

#### **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	18			
L1 in mm	64.77 mm			
L1 in inches	2.55 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**

la sulation and sind	DA CC CE 20	Calaura	
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	0.51.5 μm Cu / 25 μm	Storage temperature, min.	
	Sn		-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>

Creation date March 26, 2021 11:00:16 AM CET



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CIi	1.5		
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 a min.	4, 0.2 mm <sup>2</sup>		
v. plastic collar ferrule, DIN 46228 pt on the max.	4, 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	Туре	fine-wired
		nominal	0.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 6 mm
		Recommended wire- end ferrule	H0,5/6
	Cross-section for conductor connection	Туре	fine-wired
		nominal	0.75 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 6 mm
		Recommended wire- end ferrule	H0,75/6
	Cross-section for conductor connection	Туре	fine-wired
		nominal	1 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 6 mm
		Recommended wire- end ferrule	H1,0/6
	Cross-section for conductor connection	Туре	fine-wired
		nominal	1.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 7 mm
		Recommended wire-	H1,5/7

Rated data acc. to IEC

tested acc. to standard		Rated current, min. number of poles	
	IEC 60664-1, IEC 61984	(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)	<b>€</b> P:	Certificate No. (CSA)	
			200039-1121690
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
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

#### Rated data acc. to UL 1059

Reference to approval values

	C TO US
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

Specifications are maximum values, details - see approval certificate.

Certificate No. (cURus)

	E60693
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**

Institute (cURus)

Packaging	Box	VPE length	62 mm
VPE width	93 mm	VPE height	178 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
	Evaluation	passed
Test: Misengagement (Non- interchangeability)	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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# **Technical data**

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



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## **Technical data**

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

#### Classifications

ETIM 6.0	EC002638	ETIM 7.0	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

- · Additional colours on request
- Rated current related to rated cross-section & min. No. of poles.
- 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

OF C SUS III

ROHS	Conform
UL File Number Search	E60693

#### **Downloads**

Approval/Certificate/Document of	CB Certificate
Conformity	CB Testreport
•	Declaration of the Manufacturer
Engineering Data	<u>STEP</u>
Engineering Data	EPLAN, WSCAD



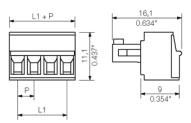
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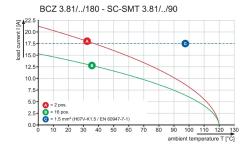
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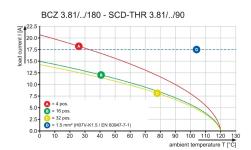
## **Drawings**

### **Dimensional drawing**

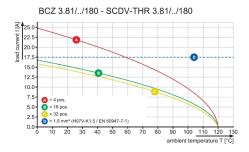


Graph Graph

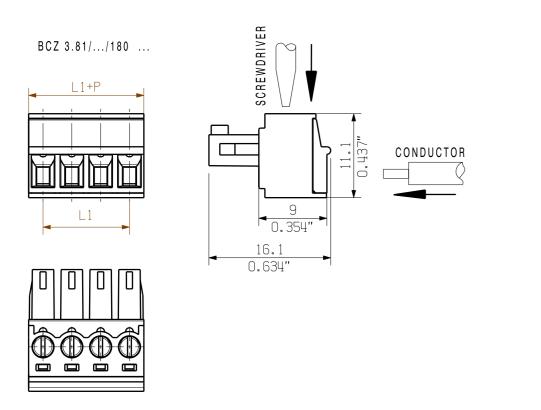




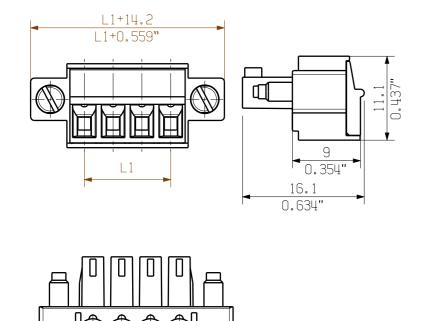
#### Graph



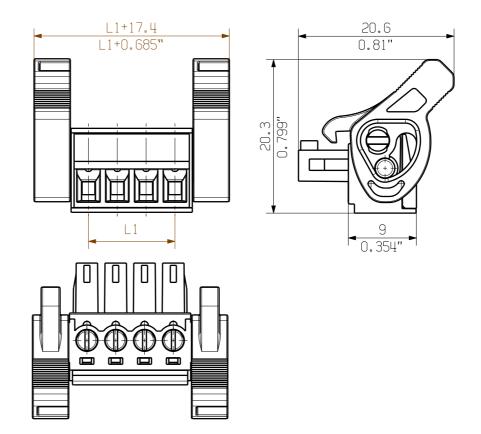
10



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



BCZ 3.81/.../180LR ...



KUNDENZEICHNUNG CUSTOMER DRAWING

16.10.2017 ZHOU N

XU\_S

Checked

Approved

15 53.34 2.100 14 49.53 1.950 45.72 1.800 41.91 1.650 38.10 1.500 34.29 1.350 30.48 1.200 26.67 1.050 22.86 0.900 19.05 0.750 15.24 0.600 11.43 0.450 7.62 0.300 3.81 0.150

7070

72.39

68.58

64.77

60.96

57.15

18

BUCHSENLEISTE

SOCKET BLOCK

2.850

2.700

2.550

2.400

2.250

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The neccessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller connectors are tested to the DIN VDE 0627 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 occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

Scale: 2/1

Supersedes:

CENEDAL TOLEDANCE				N   L1 [mm]   L1 [inch]
GENERAL TOLERANCE: DIN ISO 2768-m  Rohs Max. nos.	98178/5 16.10.17 MA	_J 01	147.	eidmüller S C 40383 10 Issue no.
	Modifi	cation	ANE	Drawing no. Issue no.  Sheet 01 of 06 sheets
		Date	Name	
	Drawn	21.02.2006	GU_D	BCZ 3.81//180 SN
	Responsible		MA_J	RUCHSENIEISTE

Product file: BCZ 3.81

