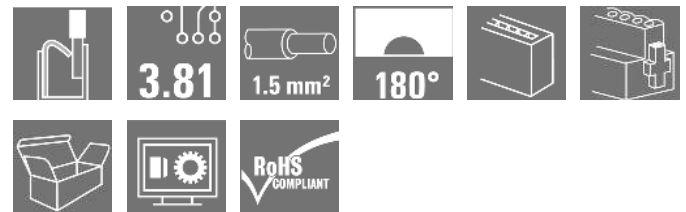


## OMNIMATE Signal - series BC/SC 3.81 BCF 3.81/13/180F SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

### Product image



Similar to illustration

PUSH IN - Weidmüller's innovative connection system simplifies the wire connection process.

The benefits for users and applications:

- High packaging density due to very low component height. Simply insert the prepared wire - finished
- High component density with the compact SCDN / SCDN-THR two-tier pin header
- Simplified processing due to integrated push buttons for opening the clamping unit
- Intuitive handling – since the wire-entry area and handling area are clearly separated
- tool-free locking and releasing when using Weidmüller's patented release latch (LR)

The Weidmüller plug-in connectors, pitch 3.81 mm (0.15 inch), are compatible with the layout of customary plug-in connectors, can be coded and provide space for printing.

### General ordering data

Type	BCF 3.81/13/180F SN OR BX
Order No.	<a href="#">1970690000</a>
Version	PCB plug-in connector, female plug, 3.81 mm, No. of poles: 13, 180°, PUSH IN, Tension-clamp connection, Clamping range, max.: 1.5 mm², Box
GTIN (EAN)	4032248680122
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm² UL: 300 V / 10 A / AWG 26 - AWG 16
Packaging	Box

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

Width	59.92 mm	Width (inches)	2.359 inch
Height	7.9 mm	Height (inches)	0.311 inch
Depth	22 mm	Depth (inches)	0.866 inch
Net weight	9.3 g		

**system parameters**

Product family	OMNIMATE Signal - series BC/SC 3.81	Type of connection	Field connection
Wire connection method	PUSH IN, Tension-clamp connection	Pitch in mm (P)	3.81 mm
Pitch in inches (P)	0.15 inch	Conductor outlet direction	180°
No. 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	IP 20
Volume resistance	6.00 mΩ	Can be coded	Yes
Stripping length	9 mm	Tightening torque for screw flange, min.	0.2 Nm
Tightening torque for screw flange, max.	0.3 Nm	Actuating force actuating element, max.	40 N
Screwdriver blade	0.4 x 2.5	Screwdriver blade standard	DIN 5264
Plugging cycles	25	Plugging force/pole, max.	8 N
Pulling force/pole, max.	7 N		

**Material data**

Insulating material	PA 66 GF 30	Colour code	orange
Colour of operational elements	black	Material of operational elements	PPA GF
Colour chart (similar)	RAL 2000	Insulating material group	II
CTI	≥ 550	Insulation strength	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	Copper alloy	Contact surface	tinned
Layer structure of plug contact	4-8 μm Sn matt	Storage temperature, min.	-25 °C
Storage temperature, max.	55 °C	Max. relative humidity during storage	80 %
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.	0.14 mm <sup>2</sup>
Clamping range, max.	1.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 26
Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.14 mm <sup>2</sup>
Solid, max. H05(07) V-U	1.5 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.14 mm <sup>2</sup>
Flexible, max. H05(07) V-K	1.5 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm <sup>2</sup> min.	
w. plastic collar ferrule, DIN 46228 pt 4, 1 mm <sup>2</sup> max.	
w. wire end ferrule, DIN 46228 pt 1, min. 0.25 mm <sup>2</sup>	
w. wire end ferrule, DIN 46228 pt 1, 1.5 mm <sup>2</sup> max.	

Creation date April 19, 2019 10:45:12 PM CEST

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### Technical data

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm; 1.9mm


Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm <sup>2</sup>
AEH	Cross-section for conductor connection	Stripping length	nominal 12 mm
		Stripping length	nominal 10 mm
AEH	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm <sup>2</sup>
AEH	Cross-section for conductor connection	Stripping length	nominal 12 mm
		Stripping length	nominal 10 mm
AEH	Cross-section for conductor connection	Type	fine-wired
		nominal	1 mm <sup>2</sup>
AEH	Cross-section for conductor connection	Stripping length	nominal 12 mm
		Stripping length	nominal 10 mm
AEH	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm <sup>2</sup>
AEH	Cross-section for conductor connection	Stripping length	nominal 10 mm

Max. clamping range 1.5 mm<sup>2</sup>

### Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	17.5 A
Rated current, max. no. of poles (Tu=20°C)	17.5 A	Rated current, min. no. of poles (Tu=40°C)	17.5 A
Rated current, max. no. of poles (Tu=40°C)	16.3 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

### Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1121690
Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	50 V
Rated voltage (Use group D / CSA)	300 V	Rated current (Use group B / CSA)	11 A
Rated current (Use group C / CSA)	11 A	Rated current (Use group D / CSA)	11 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

# Data sheet

## OMNIMATE Signal - series BC/SC 3.81 BCF 3.81/13/180F SN OR BX

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# Technical data

### 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 26	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

### Packing

Packaging	Box	VPE length	495 mm
VPE width	355 mm	VPE height	182 mm

### Classifications

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
- Additional colours on request
  - Crimp shape A for wire-end ferrules with crimping tools PZ 1,5 (order no. 9005990000) or PZ 6/5 (order no. 9011460000) for larger wire cross-sections recommended.
  - 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.
  - Conductors suitable for connection: 1.5 mm<sup>2</sup> with wire-end ferrule with plastic collar, DIN 46 228/1, with a rated voltage of 125V/2.5 kV with III/3 or 250 V/2.5 kV with II/2

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.

### Approvals

Approvals



ROHS      Conform

Creation date April 19, 2019 10:45:12 PM CEST

Catalogue status 12.04.2019 / We reserve the right to make technical changes.

## Data sheet

### OMNIMATE Signal - series BC/SC 3.81 BCF 3.81/13/180F SN OR BX

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## Technical data

### Downloads

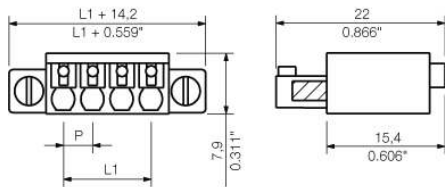
Approval/Certificate/Document of Conformity	<a href="#">CB Certificate</a> <a href="#">CB Testreport</a> <a href="#">Declaration of the Manufacturer</a>
Brochure/Catalogue	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">CAT 2 PORTFOLIOGUIDE EN</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>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Engineering Data	<a href="#">STEP</a>
User Documentation	<a href="#">BPZL_PUSH_IN_Connectors_BCF_3_81_EN</a>
White Paper wire connection	<a href="#">Download Whitepaper</a>

**OMNIMATE Signal - series BC/SC 3.81  
BCF 3.81/13/180F SN OR BX**

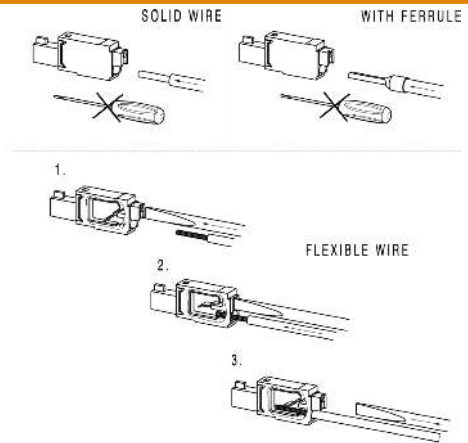
**Weidmüller Interface GmbH & Co. KG**  
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**Drawings**

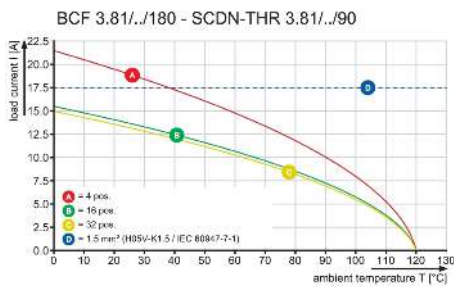
**Dimensional drawing**



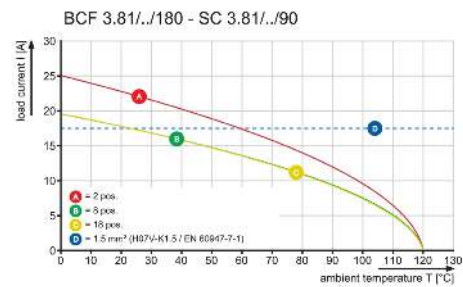
**Example of use**



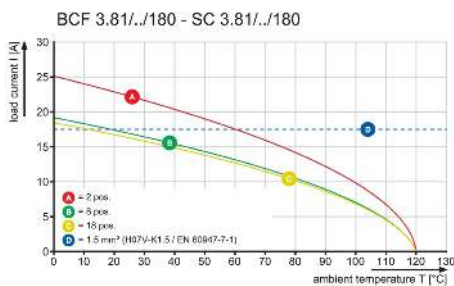
**Graph**



**Graph**



**Graph**



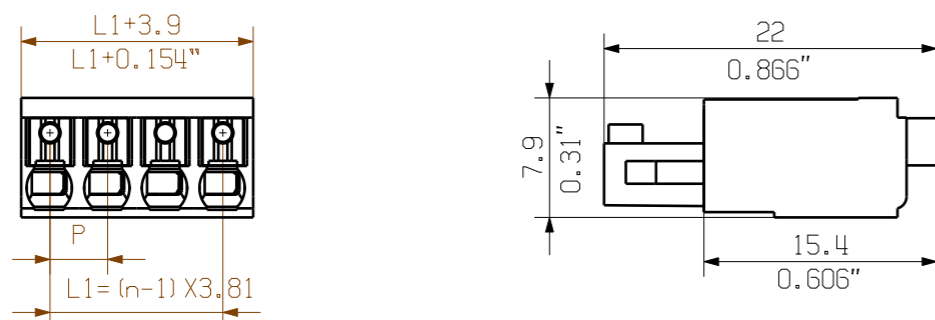
**Product benefits**



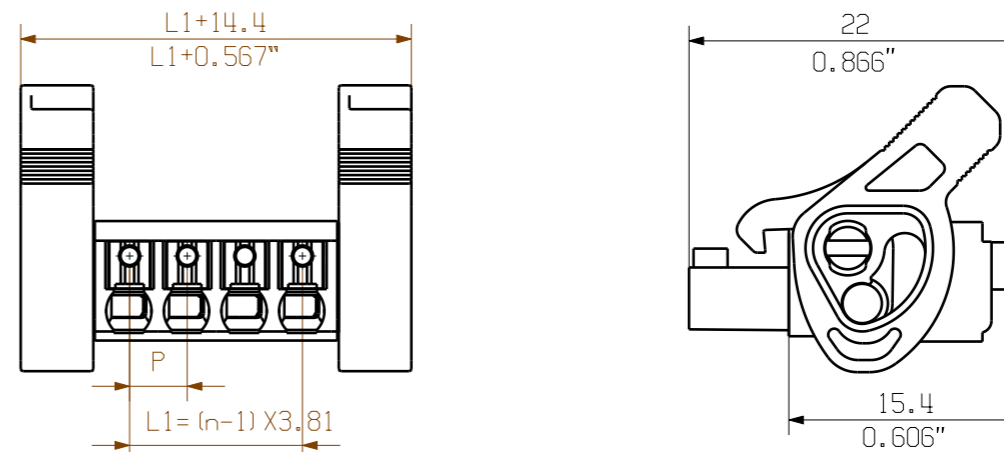
**Solid PUSH IN contact**  
Safe and durable

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
 DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

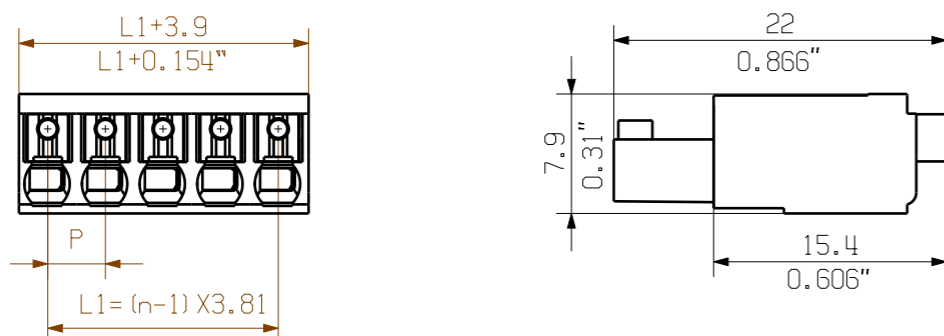
BCF 3.81/.../180 ... (2,3,4 POLE)



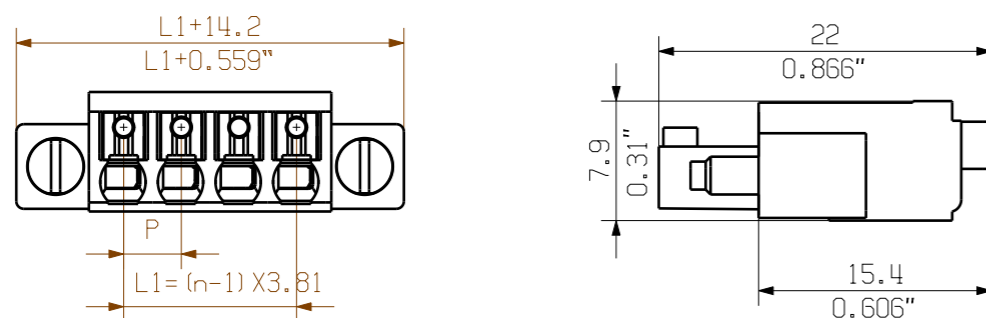
BCF 3.81/.../180LR ...



BCF 3.81/.../180 ... (5-18 POLE)



BCF 3.81/.../180F ...



NOTE:

n=NO OF POLES  
 P=PITCH

KUNDENZEICHUNG  
 CUSTOMER DRAWING

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]

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance with 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 occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

MAX. NRN./NOS. ?		55304/5 18.05.11 GE_G 00		CAT.NO.: .	
MODIFICATION		Weidmüller		C 40414 07	
DRAWN		DATE	NAME	DRAWING NO. SHEET 01 OF 08 SHEETS	
RESPONSIBLE		27.12.2006	XU_S	ISSUE NO.	
CHECKED		03.06.2011	ZHOU_N	BCF 3.81/.../180... SN	
APPROVED			XU_S	BUCHSENLEISTE SOCKET BLOCK	
SCALE: 2/1		PRODUCT FILE: BCF 3.81		7072	
SUPERSEDES: .					

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