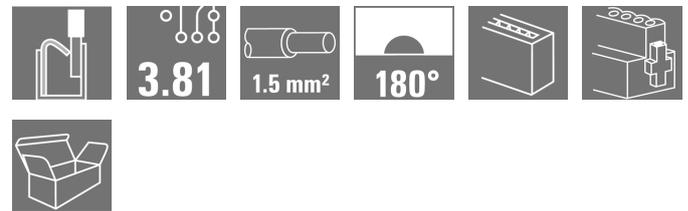


## BCF 3.81/20/180F AU BK BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

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

Version	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 20, 180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm², Box
Order No.	<a href="#">2542070000</a>
Type	BCF 3.81/20/180F AU BK BX
GTIN (EAN)	4050118774122
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

Depth	22 mm	Depth (inches)	0.866 inch
Height	7.9 mm	Height (inches)	0.311 inch
Net weight	14.2 g	Width	86.59 mm
Width (inches)	3.409 inch		

## System Parameters

Product family	OMNIMATE Signal - series BC/SC 3.81		
Type of connection	Field connection		
Wire connection method	PUSH IN, Spring connection		
Pitch in mm (P)	3.81 mm		
Pitch in inches (P)	0.15 inch		
Conductor outlet direction	180°		
Number of poles	20		
L1 in mm	72.39 mm		
L1 in inches	2.85 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	9 mm		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264		
Plugging cycles	≥ 200		
Plugging force/pole, max.	8 N		
Pulling force/pole, max.	7 N		
Tightening torque	Torque type	Screw flange	
	Usage information	Tightening torque	min. 0.15 Nm max. 0.2 Nm

## Material data

Insulating material	PA 66 GF 30	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 550	Insulation strength	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	Contact material	Copper alloy
Contact surface	Gold-plated	Layer structure of plug contact	2.5...4 μm NiP / 4...8 μm Sn / 0.12...0.27 μm Au
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.	0.14 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

Creation date April 16, 2021 1:01:29 AM CEST

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## Technical data

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, min.	0.25 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, max.	1 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 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; 1.9mm

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 12 mm
		Recommended wire-end ferrule	<a href="#">H0.5/16 OR</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.5/10</a>
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	<a href="#">H0.75/16 W</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.75/10</a>
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	1 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	<a href="#">H1.0/16D R</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H1.0/10</a>
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.34/12 TK</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)	17.5 A
Rated current, max. number 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

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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 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

## Rated data acc. to UL 1059

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

## Packing

Packaging	Box	VPE length	85 mm
VPE width	85 mm	VPE height	35 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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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 0.14 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 0.14 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 26/1
		Type of conductor and conductor cross-section	AWG 26/19
		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 26/1
		Type of conductor and conductor cross-section	AWG 16/19
	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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**Technical data**

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 26/1	
		Type of conductor and conductor cross-section	AWG 26/19	
	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
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

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## Technical data

### 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	<ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• P on drawing = pitch</li> <li>• 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</li> <li>• 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.</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• 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.</li> <li>• The test point can only be used as potential-pickup point.</li> <li>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul>

### Downloads

Approval/Certificate/Document of Conformity	<a href="#">CB Certificate</a> <a href="#">CB Testreport</a>
Brochure/Catalogue	<a href="#">Catalogues in PDF-format</a>

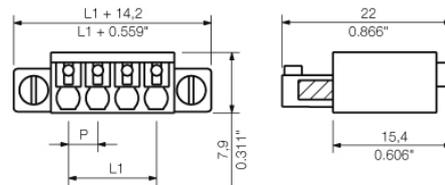
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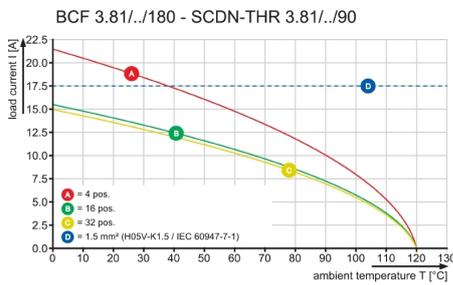
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Drawings

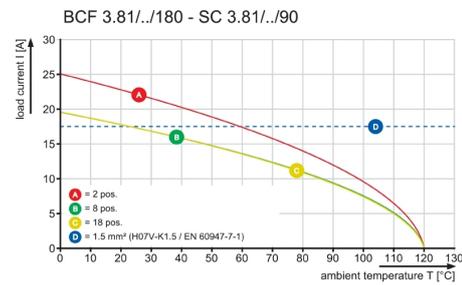
Dimensional drawing



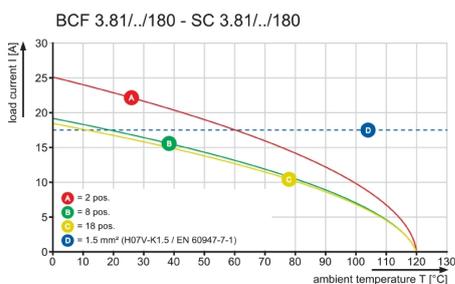
Graph



Graph



Graph



Product benefits



**Solid PUSH IN contact**  
 Safe and durable

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**Drawings**

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**Example of use**

