

SCZ 3.81/12/180G SN BK BX

Weidmüller Interface GmbH & Co. KG

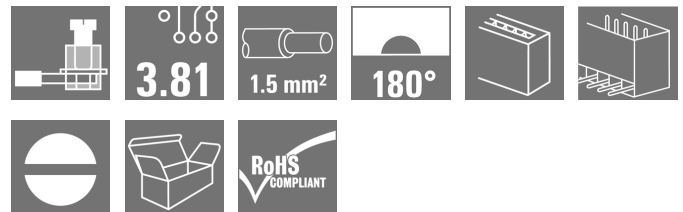
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



The inverted SCZ pin plug with clamping-yoke screw connection is designed for straight wire connections in 3.81-mm pitch. It can be used in two ways:

- for wire-to-wire connections together with the BCZ
- as a mating plug for the touch-safe BCL socket block on the PCB.

The SCZ is available in four different versions:

- Without flange ("G", closed)
- With standard flange ("F", with socket nut)
- With inverted flange ("FI", with screw)
- and with Weidmüller's patented release latch for a tool-free, no-strain disconnect

The SCZ provides space for labelling and can be coded.

General ordering data

Version	PCB plug-in connector, male plug, 3.81 mm, Number of poles: 12, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box
Order No.	1970120000
Type	SCZ 3.81/12/180G SN BK BX
GTIN (EAN)	4032248679638
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

Creation date March 26, 2021 4:14:07 PM CET

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Technical data

Dimensions and weights

Depth	18.4 mm	Depth (inches)	0.724 inch
Height	11.1 mm	Height (inches)	0.437 inch
Net weight	10.7 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	12			
L1 in mm	41.91 mm			
L1 in inches	1.65 inch			
Number of rows	1			
Pin series quantity	1			
Rated cross-section	1 mm ²			
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.	8 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	black
Colour chart (similar)	RAL 9011	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	4...8 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 ²
Clamping range, max.	1.5 mm ²

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Catalogue status 12.03.2021 / We reserve the right to make technical changes.

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Wire connection cross section AWG, min.	AWG 28			
Wire connection cross section AWG, max.	AWG 16			
Solid, min. H05(07) V-U	0.2 mm²			
Solid, max. H05(07) V-U	1.5 mm²			
Flexible, min. H05(07) V-K	0.2 mm²			
Flexible, max. H05(07) V-K	1.5 mm²			
w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm² min.				
w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm² max.				
w. wire end ferrule, DIN 46228 pt 1, min.	0.2 mm²			
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm²			
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm ; 2.4 mm			
Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm²	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	H0.5/6	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.75 mm²	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	H0.75/6	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1 mm²	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	H1.0/6	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1.5 mm²	
	wire end ferrule	Stripping length	nominal	7 mm
		Recommended wire-end ferrule	H1.5/7	
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)	17.1 A	Rated current, min. number of poles (Tu=40°C)	17.5 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 voltage (Use group C / CSA) 50 V

Rated current (Use group B / CSA) 11 A

Rated current (Use group C / CSA) 11 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

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

20 mm

VPE width

120 mm

VPE height

245 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, 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 ²
		Type of conductor and conductor cross-section	stranded 0.08 mm ²
		Type of conductor and conductor cross-section	solid 1.5 mm ²
		Type of conductor and conductor cross-section	stranded 1.5 mm ²
		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 ²
		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 ²
	Evaluation	passed	
	Requirement	0.4 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm ²
		Type of conductor and conductor cross-section	stranded 1.5 mm ²
		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 ²
		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
		passed	
		≥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

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 • Rated current related to rated cross-section & min. No. of poles. • 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
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UL File Number Search	E60693
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Downloads

Approval/Certificate/Document of
Conformity

[Declaration of the Manufacturer](#)

Engineering Data

[STEP](#)

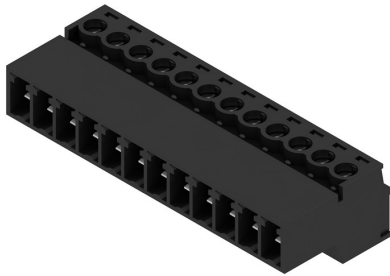
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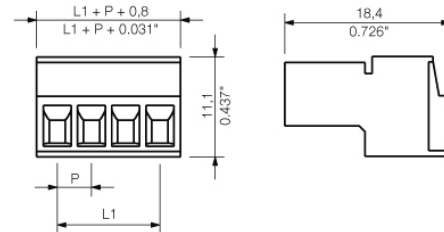
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Drawings

Product image



Dimensional drawing



Graph



Graph



Graph



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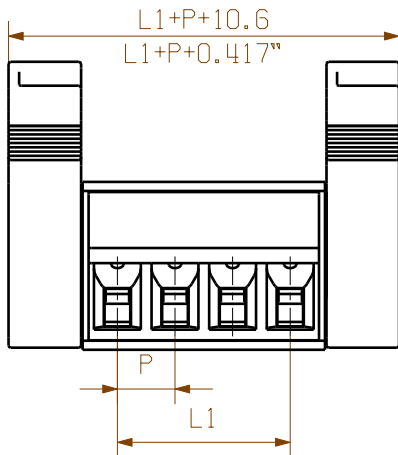
SCZ 3.81/.../180FI ...



SCZ 3.81/.../180F ...



SCZ 3.81/.../180LR ...



KUNDENZEICHNUNG
CUSTOMER DRAWING

For the mounting of PCBs, it should be noted that the rated data stated here relates only to the PCB components alone.
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.
The current- carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application.
Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

12	41.91	1.651
11	38.10	1.501
10	34.29	1.351
9	30.48	1.201
8	26.67	1.051
7	22.86	0.901
6	19.05	0.751
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]

		55304/5 03.06.11 GE_G		00	CAT.NO.: . . .	
MODIFICATION		Weidmüller 		2 40408 05		
DRAWN		DATE	NAME	DRAWING NO. SHEET . OF . SHEETS		
RESPONSIBLE		09.10.2008	SHI_S			
SUPERSEDES:		CHECKED	03.06.2011	ISSUE NO.		
SUPERSEDED BY:		APPROVED	XU_S	Richter_G		
SCALE: 2/1				SCZ 3.81/.../180... ZUGBUEGELANSCHLUSS STIFTELEISTE CLAMPING YOKE CONNECTION PIN HEADER		
				PRODUCT FILE: SCZ 3.81 7078		

