

## SC 3.81/02/180F 3.2SN BK BX

**Weidmüller Interface GmbH & Co. KG**

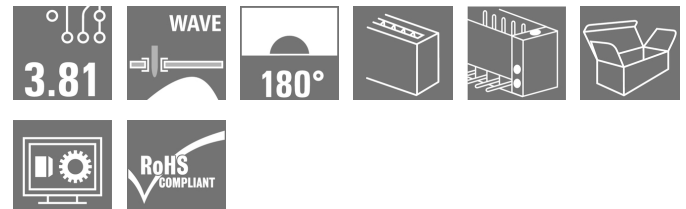
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

### Product image



Similar to illustration

The SC pin header has a perpendicular (standing) plugging direction in relation to the PCB. It is available in closed (G) and screw flange (F) versions.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of standard connectors and offer space for labelling and coding.

### General ordering data

Version	PCB plug-in connector, male header, Flange, THT solder connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	<a href="#">1793700000</a>
Type	SC 3.81/02/180F 3.2SN BK BX
GTIN (EAN)	4032248230822
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

Creation date March 25, 2021 9:21:04 AM CET

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

Depth	7.1 mm	Depth (inches)	0.28 inch
Height	12.4 mm	Height (inches)	0.488 inch
Height of lowest version	9.2 mm	Net weight	1.84 g
Width	14.41 mm	Width (inches)	0.567 inch

**Environmental Product Compliance**

REACH SVHC Lead 7439-92-1

**System specifications**

Product family	OMNIMATE Signal - series BC/SC 3.8 1		
Type of connection	Board connection		
Mounting onto the PCB	THT solder connection		
Pitch in mm (P)	3.81 mm		
Pitch in inches (P)	0.15 inch		
Outgoing elbow	180°		
Number of poles	2		
Number of solder pins per pole	1		
Solder pin length (l)	3.2 mm		
Solder pin length tolerance	0 / -0.2 mm		
Solder pin dimensions	d = 1.0 mm, Octagonal		
Solder pin dimensions = d tolerance	0 / -0.03 mm		
Solder eyelet hole diameter (D)	1.2 mm		
Solder eyelet hole diameter tolerance (D)+	0,1 mm		
L1 in mm	3.81 mm		
L1 in inches	0.15 inch		
Number of rows	1		
Pin series quantity	1		
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		
Plugging force/pole, max.	7 N		
Pulling force/pole, max.	5 N		
Tightening torque	Torque type	Mounting screw, PCB	
	Usage information	Tightening torque	min. 0.1 Nm max. 0.15 Nm
		Recommended screw	Part number <a href="#">PTSC KA 2.2X4.5 WN1412</a>

**Material data**

Insulating material	PA GF	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
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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Catalogue status 12.03.2021 / We reserve the right to make technical changes.

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**Technical data**
**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)	17.1 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**

Rated voltage (Use group B / CSA)	300 V	Rated current (Use group B / CSA)	8 A
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**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
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

Packaging	Box	VPE length	40 mm
VPE width	60 mm	VPE height	75 mm

**Classifications**

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ECLASS 9.0	27-44-04-02	ECLASS 9.1	27-44-04-02
ECLASS 10.0	27-44-04-02	ECLASS 11.0	27-46-02-01

## SC 3.81/02/180F 3.2SN BK BX

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 D-32758 Detmold  
 Germany

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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>• For additional mechanical support for male connectors with screw flange (...F), we recommend an additional cable gland with fastening screws (sheet metal screw ISO 1481-ST 2.2x4.5 C or ISO 7049-ST 2.2x4.5 C – see Accessories). Cable gland only permitted before soldering.</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</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>• P on drawing = pitch</li> <li>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul>

## Approvals

Approvals



ROHS	Conform
UL File Number Search	E60693

## Downloads

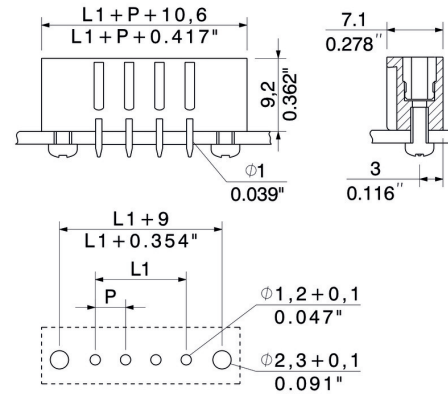
Approval/Certificate/Document of Conformity	<a href="#">CB Certificate</a> <a href="#">CB Testreport</a> <a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">STEP</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Product Change Notification	<a href="#">Change of packaging - DE</a> <a href="#">Change of packaging - EN</a>

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**Dimensional drawing**



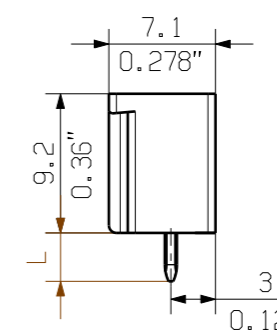
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SC 3.81/.../180G 3.2...



PCB LAYOUT

SC 3.81/.../180F 3.2...



PCB LAYOUT

KUNDENZEICHNUNG  
CUSTOMER DRAWING

P=3.81  
L=3.2

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]

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 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 occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

<b>GENERAL TOLERANCE:</b> DIN ISO 2768-m		97482/0 06.09.17 MA_J 01		Cat.no.:	
RoHS COMPLIANT	Max. nos.	Modification		<b>Weidmüller</b>	
Scale: 5/1		Drawn	Date	Name	SC 3.81/.../180...3.2... ANSCHLUSS STIFTLISTE PIN HEADER
Supersedes:		Responsible	Checked	Name	
		Approved	Date	Name	
				Sheet 01 of 02 sheets	
				Issue no.	
				C 40385 09	
				Product file: SC 3.81 7069	

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## Recommended wave soldering profiles

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

### Single Wave:



### Double Wave:



### Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.