

SC 3.81/20/180G 3.2SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

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, closed side, THT solder connection, 3.81 mm, Number of poles: 20, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	1943170000
Type	SC 3.81/20/180G 3.2SN BK BX
GTIN (EAN)	4032248654420
Qty.	18 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

Creation date September 16, 2022 10:41:29 PM CEST

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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	Width	77.6 mm
Width (inches)	3.055 inch	Net weight	4.58 g

System specifications

Product family	OMNIMATE Signal - series BC/SC 3.81	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	20	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	72.39 mm	L1 in inches	2.85 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

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

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

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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 current (Use group B / CSA)

8 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

Packaging

Box

VPE length

338 mm

VPE width

130 mm

VPE height

27 mm

Classifications

ETIM 6.0

EC002637

ETIM 7.0

EC002637

ETIM 8.0

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

ECLASS 12.0

27-46-02-01

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 variants on request
- Rated current related to rated cross-section & min. No. of poles.
- 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.
- P on drawing = pitch
- Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Approvals

Approvals



ROHS

Conform

UL File Number Search

UL Website

Certificate No. (cURus)

E60693

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Technical data

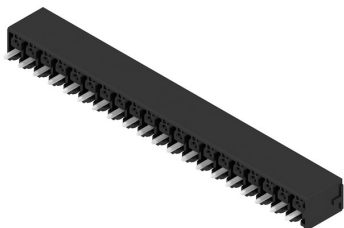
Downloads

Approval/Certificate/Document of Conformity	CB Certificate CB Testreport Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Engineering Data	EPLAN, WSCAD
Product Change Notification	Change of packaging - DE Change of packaging - EN
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.CONTROLS EN FL MACHINE SAFETY EN FL HEATING ELECTR EN FL APPL INVERTER EN FL_BASE_STATION_EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN PO OMNIMATE EN

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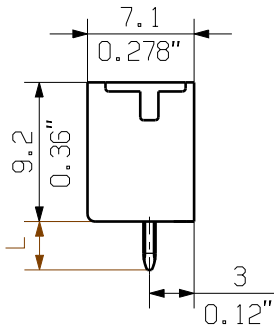
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Drawings**Product image****Dimensional drawing**

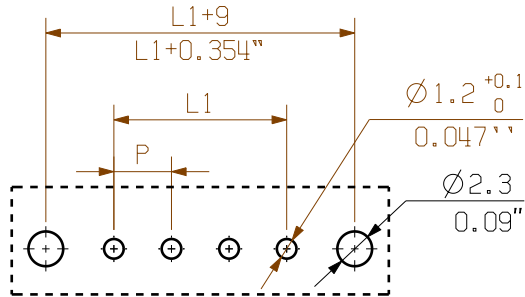
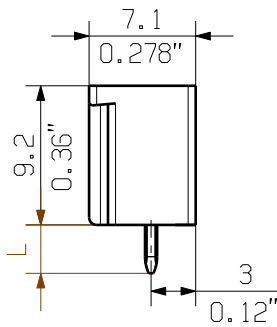
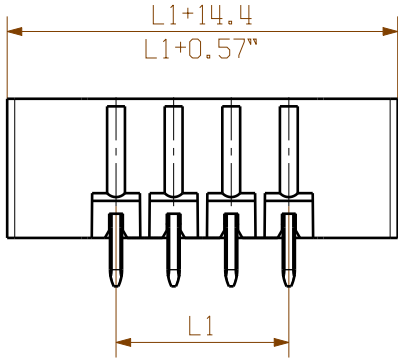
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SC 3.81/.../180G 3.2...



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.

GENERAL TOLERANCE: DIN ISO 2768-m		97482/0 06.09.17 MA_J		01	Weidmüller 		C 40385 09	
Max. nos.		Modification		Drawing no. Issue no.				
		Date	Name		SC 3.81/.../180...3.2... ANSCHLUSS STIFTHEISTE PIN HEADER			
		Drawn	09.02.2006 ZHANG_H					
Scale: 5/1		Responsible	MA_J					
Supersedes: .		Checked	13.09.2017 ZHOU_N		Product file: SC 3.81			
		Approved	XU_S		7069			

Recommended wave soldering profiles

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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.

We reserve the right to make technical changes.