

## OMNIMATE Signal - series BC/SC 3.81 BCZ 3.81/10/180ZE SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
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### Product image



Similar to illustration

Female socket connectors with clamping-yoke screw system for connecting wires.

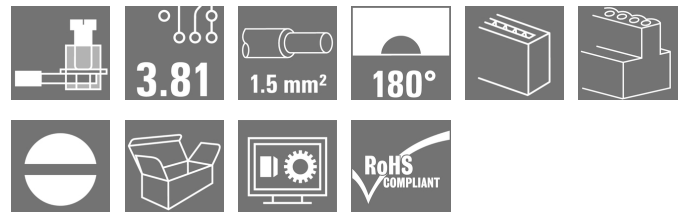
Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

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



### General ordering data

Type	BCZ 3.81/10/180ZE SN BK BX
Order No.	<a href="#">1072010000</a>
Version	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 10, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box
GTIN (EAN)	4032248830442
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

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

Width	38.19 mm	Width (inches)	1.504 inch
Height	12.5 mm	Height (inches)	0.492 inch
Depth	39.8 mm	Depth (inches)	1.567 inch
Net weight	0.02 g		

**Environmental Product Compliance**

REACH SVHC Lead 7439-92-1

**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	10	L1 in mm	34.29 mm
L1 in inches	1.35 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	≤ 5mΩ	Can be coded	Yes
Stripping length	7 mm	Tightening torque, min.	0.2 Nm
Tightening torque, max.	0.25 Nm	Clamping screw	M 2
Screwdriver blade	0.4 x 2.5	Screwdriver blade standard	DIN 5264
Plugging cycles	25	Plugging force/pole, max.	7 N
Pulling force/pole, max.	5 N		

**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	GWFI	960 °C
Contact material	Copper alloy	Contact surface	tinned
Layer structure of plug contact	0.5-1.5 μm Cu / 2-5 μm Sn	Storage temperature, min.	-25 °C
Storage temperature, max.	50 °C	Max. relative humidity during storage	70 %
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 <sup>2</sup>
Clamping range, max.	1.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 28
Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>
Solid, max. H05(07) V-U	1.5 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>
Flexible, max. H05(07) V-K	1.5 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm <sup>2</sup> min.	
w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm <sup>2</sup> max.	

Creation date May 1, 2020 4:06:28 PM CEST

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**Technical data**

w. wire end ferrule, DIN 46228 pt 1, min.	0.2 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 ; 2.4 mm			
Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H0.5/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.75 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H0.75/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H1.0/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	7 mm
		Recommended wire-end ferrule	<a href="#">H1.5/7</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.		
	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. 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 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

**Rated data acc. to CSA**

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	50 V
Rated current (Use group B / CSA)	8 A	Rated current (Use group C / CSA)	8 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 16

**Data sheet**

**OMNIMATE Signal - series BC/SC 3.81  
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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 current (Use group B / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 28
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, max.	AWG 16

**Packing**

Packaging	Box	VPE length	45 mm
VPE width	140 mm	VPE height	330 mm

**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		

**Notes**

Notes

- Additional colours on request
- 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.

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

**Data sheet****OMNIMATE Signal - series BC/SC 3.81  
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**Technical data****Downloads**

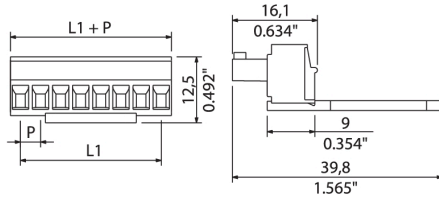
Approval/Certificate/Document of Conformity	<a href="#">CB Certificate</a> <a href="#">CB Testreport</a> <a href="#">Declaration of the Manufacturer</a>
Brochure/Catalogue	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">CAT 2 PORTFOLIOGUIDE EN</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>

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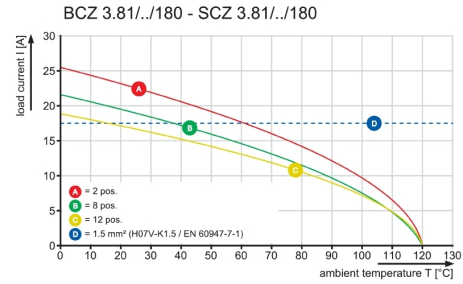
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**Drawings**

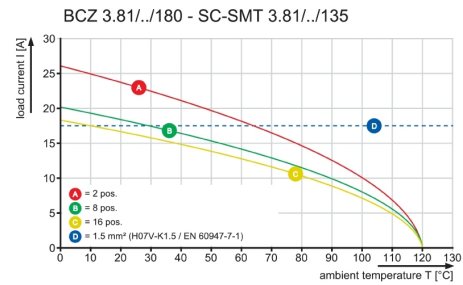
**Dimensional drawing**



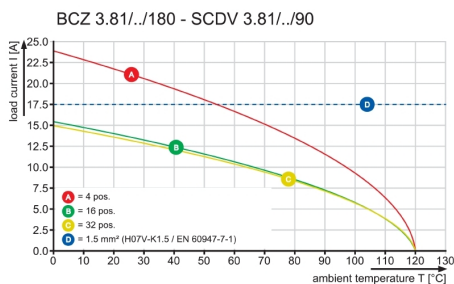
**Graph**



**Graph**



**Graph**



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**Mating connector (fully pluggable)**
**SC-SMT 3.81/180G Box**

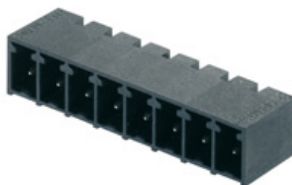

High-temperature-resistant pin header (SC-SMT 180G) in 3.81-mm pitch (0.15 inch)

- Plugging direction is perpendicular to PCB (standing)
- Closed (G) .
- Packed either in box (BX) or on anti-static roll (tape-on-reel, RL)
- Pin length of either 1.5 mm or 3.2 mm

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**

Type	SC-SMT 3.81/02/180G 1.5 ...	Version	Product data	Packaging
Order No.	<a href="#">1863720000</a>	PCB plug-in connector, male header, closed side, THT/THR solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248428793	connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l):	UL: 300 V / 11 A	
Qty.	50 pc(s).	1.5 mm, tinned, black, Box		
Type	SC-SMT 3.81/02/180G 3.2 ...	Version	Product data	Packaging
Order No.	<a href="#">1862920000</a>	PCB plug-in connector, male header, closed side, THT/THR solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248428113	connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l):	UL: 300 V / 11 A	
Qty.	50 pc(s).	3.2 mm, tinned, black, Box		

**SC-SMT 3.81/90G Box**


High-temperature-resistant pin header (SC-SMT 90G) in 3.81-mm pitch (0.15 inch)

- Plugging direction parallel to PCB (recumbent)
- Closed (G)
- Packed either in box (BX) or on anti-static roll (tape-on-reel, RL)
- Pin length of either 1.5 mm or 3.2 mm

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**

Type	SC-SMT 3.81/02/90G 1.5S ...	Version	Product data	Packaging
Order No.	<a href="#">1862960000</a>	PCB plug-in connector, male header, closed side, THT/THR solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248428069	connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l):	UL: 300 V / 11 A	
Qty.	50 pc(s).	1.5 mm, tinned, black, Box		
Type	SC-SMT 3.81/02/90G 3.2S ...	Version	Product data	Packaging
Order No.	<a href="#">1862460000</a>	PCB plug-in connector, male header, closed side, THT/THR solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248427611	connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l):	UL: 300 V / 11 A	
Qty.	50 pc(s).	3.2 mm, tinned, black, Box		

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**Mating connector (fully pluggable)****SC 3.81/90G**

The SC pin header has a parallel (recumbent) 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. They support a flood-light display and offer space for labelling and coding.

**General ordering data**

Type	SC 3.81/02/90G 3.2SN BK ...	Version	Product data	Packaging
Order No.	<a href="#">1793130000</a>	PCB plug-in connector, male header, closed side, THT solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248227624	connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	50 pc(s).	3.2 mm, tinned, black, Box		
Type	SC 3.81/02/90G 3.2SN GN ...	Version	Product data	Packaging
Order No.	<a href="#">1793240000</a>	PCB plug-in connector, male header, closed side, THT solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248227716	connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	50 pc(s).	3.2 mm, tinned, Pale green, Box		
Type	SC 3.81/02/90G 3.2SN OR ...	Version	Product data	Packaging
Order No.	<a href="#">1942020000</a>	PCB plug-in connector, male header, closed side, THT solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248655526	connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	50 pc(s).	3.2 mm, tinned, orange, Box		

**SC 3.81/180G**

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**

Type	SC 3.81/02/180G 3.2SN O ...	Version	Product data	Packaging
Order No.	<a href="#">1942840000</a>	PCB plug-in connector, male header, closed side, THT solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248654758	connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	50 pc(s).	3.2 mm, tinned, orange, Box		
Type	SC 3.81/02/180G 3.2SN B ...	Version	Product data	Packaging
Order No.	<a href="#">1793520000</a>	PCB plug-in connector, male header, closed side, THT solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248230433	connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	50 pc(s).	3.2 mm, tinned, black, Box		
Type	SC 3.81/02/180G 3.2SN G ...	Version	Product data	Packaging
Order No.	<a href="#">1793610000</a>	PCB plug-in connector, male header, closed side, THT solder	IEC: 320 V / 17.5 A	Box
GTIN (EAN)	4032248230730	connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	50 pc(s).	3.2 mm, tinned, Pale green, Box		



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### Mating connector (fully pluggable)

#### SC-SMT 3.81/180G Tape



High-temperature-resistant pin header (SC-SMT 180G) in 3.81-mm pitch (0.15 inch)

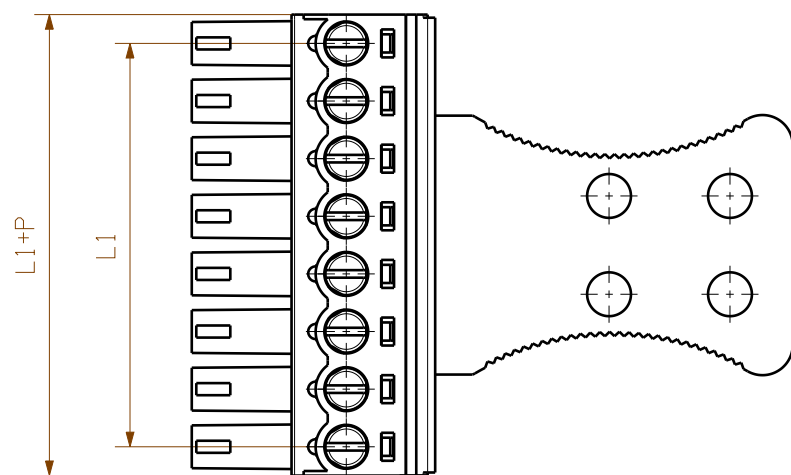
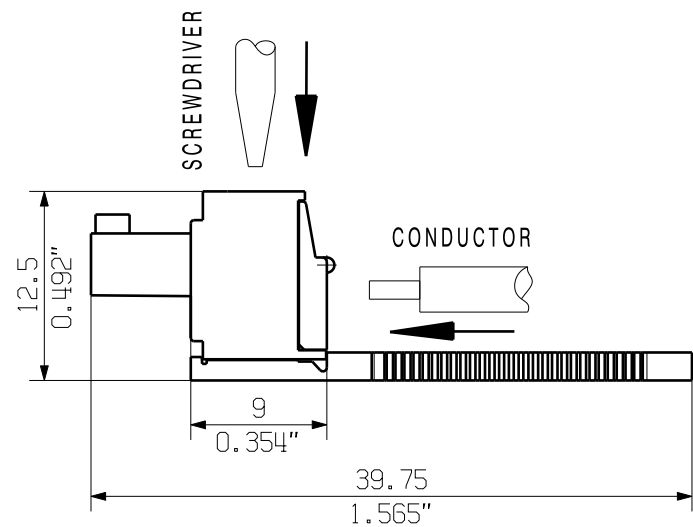
- Plugging direction is perpendicular to PCB (standing)
- Closed (G) .
- Packed either in box (BX) or on anti-static roll (tape-on-reel, RL)
- Pin length of either 1.5 mm or 3.2 mm

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.

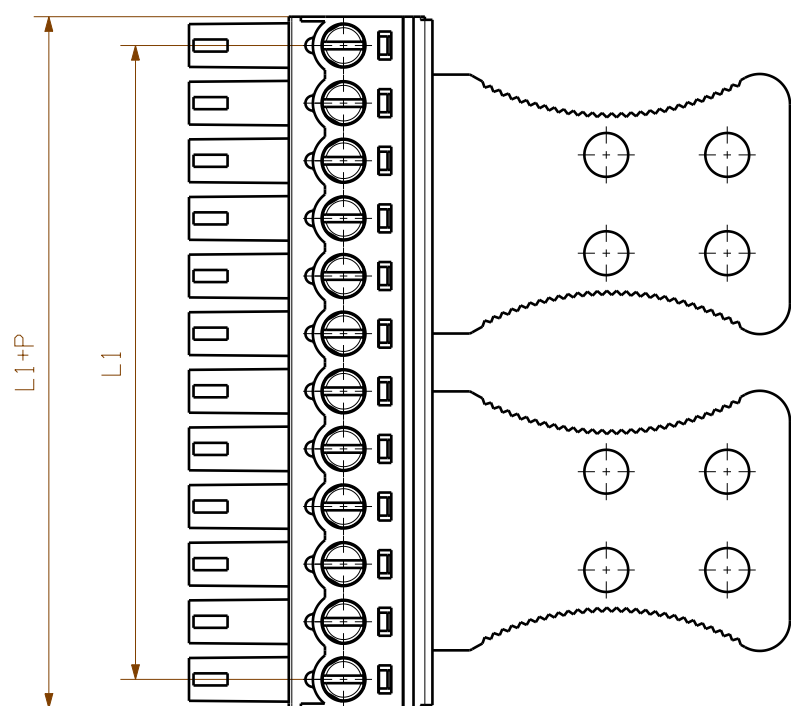
#### General ordering data

Type	SC-SMT 3.81/02/180G 3.2 ...	Version	Product data	Packaging
Order No.	<a href="#">1863450000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): 3.2 mm, tinned, black, Tape	IEC: 320 V / 17.5 A UL: 300 V / 11 A	Tape
GTIN (EAN)	4032248428557			
Qty.	300 pc(s).			
Type	SC-SMT 3.81/02/180G 1.5 ...	Version	Product data	Packaging
Order No.	<a href="#">1864050000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): 1.5 mm, tinned, black, Tape	IEC: 320 V / 17.5 A UL: 300 V / 11 A	Tape
GTIN (EAN)	4032248429172			
Qty.	300 pc(s).			

10



4-9 POLE



10-20 POLE

KUNDENZEICHNUNG  
CUSTOMER DRAWING

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		
2		
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		98178/5 16.10.17 MA_J 01		<b>Weidmüller</b>		Cat.no.: .	
	Max. nos.	Modification		<b>C 40383</b>		Drawing no. Issue no.	
		Date	Name	Sheet 03 of 06 sheets			
Scale: 2/1		Drawn	21.02.2006	GU_D		<b>BCZ 3.81/.../180ZE SN ...</b>	
Supersedes: .		Responsible		MA_J		BUCHSENLEISTE SOCKET BLOCK	
		Checked	16.10.2017	ZHOU_N		Product file: BCZ 3.81	
		Approved		XU_S		7070	

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