

## SC 3.81/12/90G 3.2SN BK BX

**Weidmüller Interface GmbH & Co. KG**

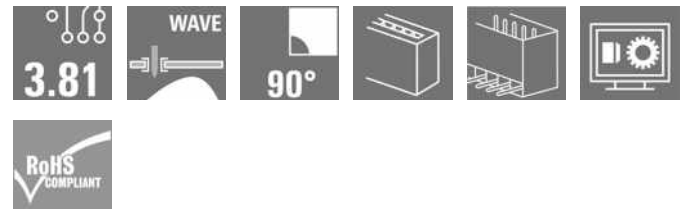
Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)

### Product image



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

Version	PCB plug-in connector, male header, closed side, THT solder connection, 3.81 mm, Number of poles: 12, 90°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	<a href="#">1793200000</a>
Type	SC 3.81/12/90G 3.2SN BK BX
GTIN (EAN)	4032248227693
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

Creation date October 11, 2023 11:07:34 AM CEST

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

Depth	9.2 mm	Depth (inches)	0.362 inch
Height	10.3 mm	Height (inches)	0.406 inch
Height of lowest version	7.1 mm	Width	47.12 mm
Width (inches)	1.855 inch	Net weight	3 g

**Temperatures**

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
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**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	90°
Number of poles	12	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	41.91 mm	L1 in inches	1.65 inch
Number of rows	1	Pin series quantity	1
Touch-safe protection acc. to DIN VDE 57 106	finger-safe unplugged/ back-of-hand-safe plugged	Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged
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)	17.5 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**

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.		

**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	104 mm
VPE width	74 mm	VPE height	52 mm

**Classifications**

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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	ECLASS 13.0	27460201

**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 variants on request</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 maximum humidity 70%, 36 months</li> </ul>

**Data sheet**

**SC 3.81/12/90G 3.2SN BK BX**

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 Germany

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**Technical data**

**Approvals**

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Product Change Notification	<a href="#">Change of packaging - DE</a> <a href="#">Change of packaging - EN</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</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> <a href="#">PO OMNIMATE EN</a>

**Data sheet**

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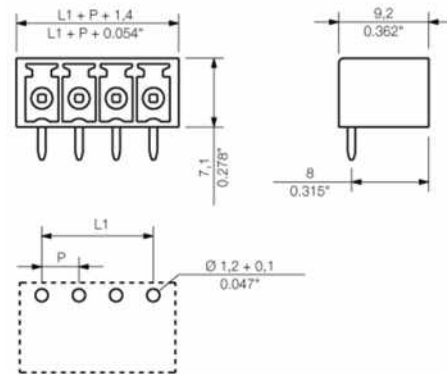
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**Drawings**

**Product image**



**Dimensional drawing**



## SC 3.81/12/90G 3.2SN BK BX

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## Accessories

### LED Light guides



#### Effective: the link between LED and front panel.

Floodlight indicators allow users to monitor the switching states without requiring a special design: optical plastic directs the light from standard LEDs around a bend into the connectors or through the front plate.

The fibre-optic elements are simply clipped behind the relevant 90° bend male connectors (90° outlet direction). Versions with different incoming light beam heights achieve maximum light efficiency for LEDs with different designs or heights.

The advantages compared to conventional solutions:

- No additional LED circuit board required behind the front panel
- No "long-legged" LEDs with separate mounting required
- Bent fibre-optic cable line for maximum light efficiency
- Uncomplicated front plate bore holes due to circular shape of outgoing light beam
- Easy to maintain correct clearance and creepage distance
- Can be partitioned for smaller pole numbers

The result: simplified manufacturing process, reduced costs and simplified design

### General ordering data

Type	SC 3.81 FLA 2.3/14.25	Version	Product data	Packaging
Order No.	<a href="#">1979750000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4032248752478	Number of poles: 8		
Qty.	50 pc(s).			
Type	SC 3.81 FLA 2.3/16	Version	Product data	Packaging
Order No.	<a href="#">1979740000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4032248752461	Number of poles: 8		
Qty.	50 pc(s).			
Type	SC 3.81 FLA 1.5/16	Version	Product data	Packaging
Order No.	<a href="#">1979720000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4032248752447	Number of poles: 8		
Qty.	50 pc(s).			
Type	SC 3.81 FLA 1.5/14.25	Version	Product data	Packaging
Order No.	<a href="#">1979730000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4032248752454	Number of poles: 8		
Qty.	50 pc(s).			

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# Accessories

## Coding elements



**Only connects what is supposed to be connected: the right connection at the right place.**

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase. The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

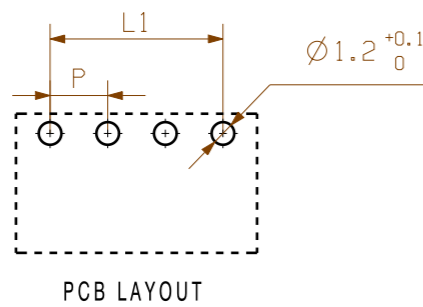
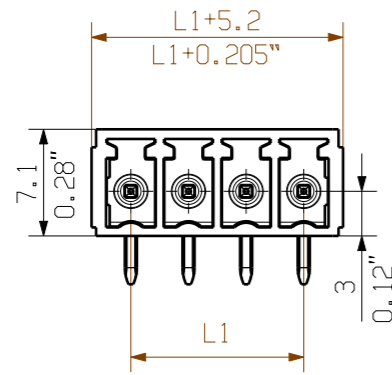
Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible. The advantage: no troubleshooting during manufacture and no operational errors by the user.

## General ordering data

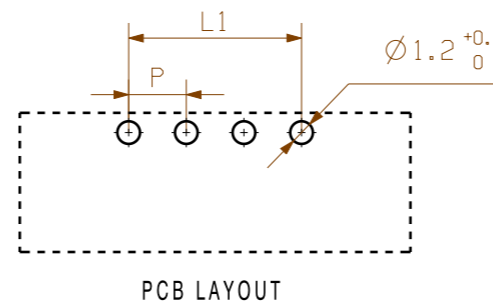
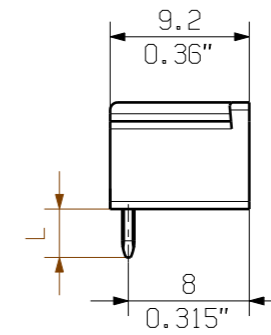
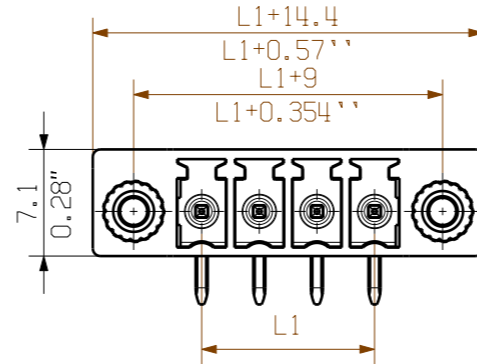
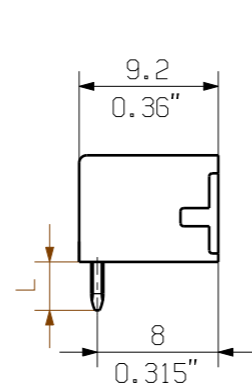
	Type	Version	Product data	Packaging
Type	SC-SMT 3.81 KO GY BX			
Order No.	<a href="#">1968900000</a>	PCB plug-in connector, Accessories, Coding element, grey, Number of		Box
GTIN (EAN)	4032248772865	poles: 6		
Qty.	100 pc(s).			

08

SC 3.81/.../90G 3.2....



SC 3.81/.../90F 3.2...



KUNDENZEICHUNG  
CUSTOMER DRAWING

P=3.81

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>		C 40384 08 Drawing no. Issue no.
Scale: 5/1 Supersedes:		Drawn: 09.02.2006 ZHANG_H Responsible: MA_J Checked: 13.09.2017 ZHOU_N Approved: XU_S	Name:		Sheet 01 of 02 sheets
SC 3.81/.../90...3.2... ANSCHLUSS STIFTLISTE PIN HEADER			Product file: SC 3.81		7069

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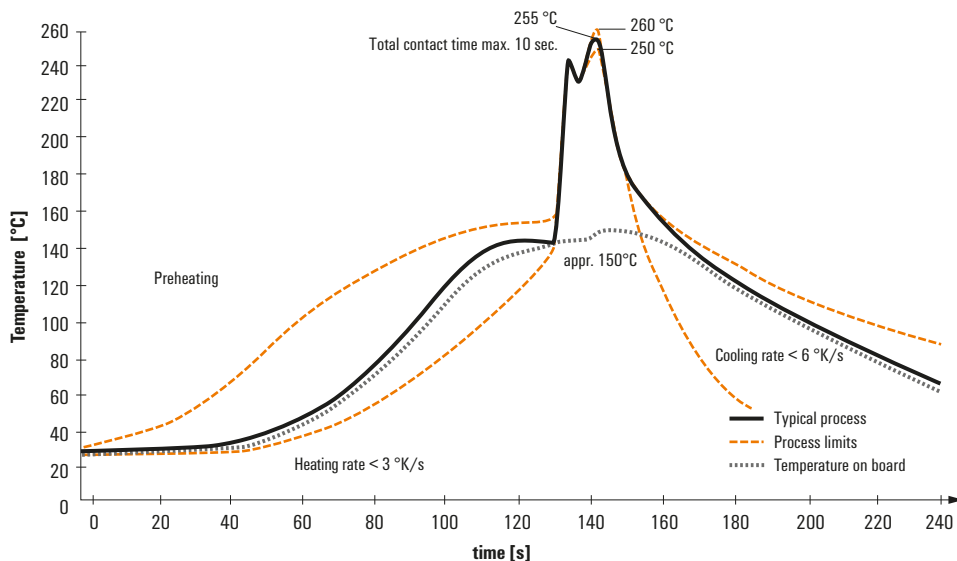
## Recommended wave soldering profiles

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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.