

## SC 3.81/18/180G 3.2SN BK BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

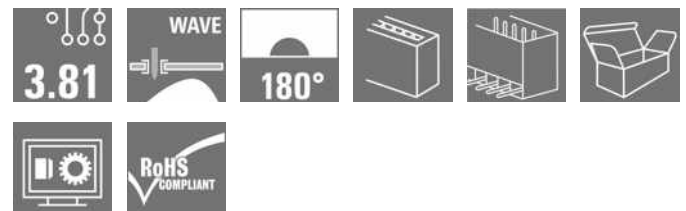
Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

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: 18, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box |
| Order No.    | <a href="#">1943150000</a>  |
| Type         | SC 3.81/18/180G 3.2SN BK BX   |
| GTIN (EAN)   | 4032248654444   |
| Qty.         | 24 pc(s).   |
| Product data | IEC: 320 V / 17.5 A<br>UL: 300 V / 10 A   |
| Packaging    | Box   |

## SC 3.81/18/180G 3.2SN BK BX

Weidmüller Interfaces GmbH &amp; Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmuller.com

www.weidmuller.com

## 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           | 69.98 mm   |
| Width (inches)           | 2.755 inch | Net weight      | 4.22 g     |

## Temperatures

|                             |        |                             |        |
|-----------------------------|--------|-----------------------------|--------|
| Operating temperature, min. | -50 °C | Operating temperature, max. | 120 °C |
|-----------------------------|--------|-----------------------------|--------|

## 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                              | 18  | 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                                     | 64.77 mm  | L1 in inches                               | 2.55 inch                    |
| Number of rows                               | 1   | Pin series quantity                        | 1                            |
| Touch-safe protection acc. to DIN VDE 57 106 | finger-safe unplugged/<br>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)                             | 17.1 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 |

**SC 3.81/18/180G 3.2SN BK BX**

**Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

www.weidmueller.com


200039-1121690

**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 | 65 mm |
| VPE width | 80 mm | VPE height | 90 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          | <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 average humidity 70%, 36 months</li> </ul> |

**SC 3.81/18/180G 3.2SN BK BX**

**Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

[info@weidmueller.com](mailto:info@weidmueller.com)

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

**Technical data**

**Approvals**

Approvals



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

**Downloads**

|   |   |
|---|---|
| Approval/Certificate/Document of Conformity | <a href="#">CB Certificate</a><br><a href="#">CB Testreport</a><br><a href="#">Declaration of the Manufacturer</a>  |
| Engineering Data                            | <a href="#">CAD data – STEP</a>   |
| Engineering Data                            | <a href="#">WSCAD</a>   |
| Product Change Notification                 | <a href="#">Change of packaging - DE</a><br><a href="#">Change of packaging - EN</a>  |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>  |
| Brochures                                   | <a href="#">FL DRIVES EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">FL BUILDING SAFETY EN</a><br><a href="#">FL APPL LED LIGHTING EN</a><br><a href="#">FLIndustr.CONTROLS EN</a><br><a href="#">FL MACHINE SAFETY EN</a><br><a href="#">FL HEATING ELECTR EN</a><br><a href="#">FL APPL INVERTER EN</a><br><a href="#">FL BASE STATION EN</a><br><a href="#">FL ELEVATOR EN</a><br><a href="#">FL POWER SUPPLY EN</a><br><a href="#">FL 72H SAMPLE SER EN</a><br><a href="#">PO OMNIMATE EN</a><br><a href="#">PO OMNIMATE EN</a> |

**Data sheet**

**SC 3.81/18/180G 3.2SN BK BX**

**Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

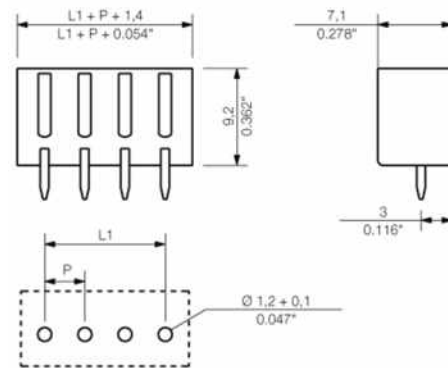
**Drawings**

info@weidmueller.com

**Product image**



**Dimensional drawing**



09

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><br>DIN ISO 2768-m |           | 97482/0<br>06.09.17 MA_J 01 |            | Cat.no.:   |  |
| RoHS COMPLIANT                              | Max. nos. | Modification                |            | <b>Weidmüller</b>  |  |
| Scale: 5/1                                  |           | Drawn                       | Date       | Name   | C 40385 09<br>Drawing no. Issue no.<br>Sheet 01 of 02 sheets |
| Supersedes:                                 |           | Responsible                 | 09.02.2006 | ZHANG_H  |  |
|   |           | Checked                     | 13.09.2017 | ZHOU_N   |  |
|   |           | Approved                    | XU_S       | SC 3.81/.../180...3.2...<br>ANSCHLUSS STIFTLISTE<br>PIN HEADER |  |
|   |           |                             |            | Product file: SC 3.81  | 7069   |

The reproduction, distribution and utilization of this document as well as the communication of its contents to others without explicit authorization is prohibited. Offenders will be held liable for the payment of damages. Weidmüller exclusively reserves the right to file for patents, utility models or designs. © Weidmüller Interface GmbH & Co. KG

## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 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.