

BCZ 3.81/09/180 SN GN BX

Weidmüller Interface GmbH & Co. KG

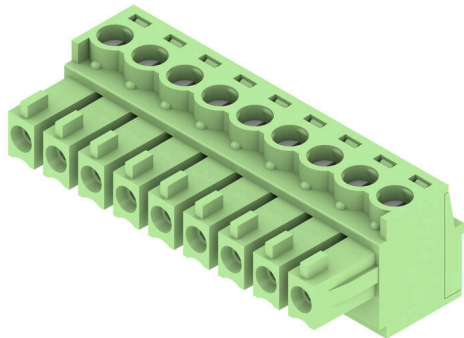
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



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

| | |
|--------------|--|
| Version | PCB plug-in connector, female plug, 3.81 mm, Number of poles: 9, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box |
| Order No. | 1871380000 |
| Type | BCZ 3.81/09/180 SN GN BX |
| GTIN (EAN) | 4032248449989 |
| Qty. | 50 items |
| 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

Approvals

Approvals



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

Dimensions and weights

| | | | |
|------------|----------|-----------------|-------------|
| Depth | 16.1 mm | Depth (inches) | 0.6339 inch |
| Height | 11.1 mm | Height (inches) | 0.437 inch |
| Width | 34.38 mm | Width (inches) | 1.3535 inch |
| Net weight | 7.14 g | | |

Environmental Product Compliance

RoHS Compliance Status Compliant with exemption
 RoHS Exemption (if applicable/known) 6c
 REACH SVHC Lead 7439-92-1
 SCIP ea9dd4b8-c51f-409c-885a-41700372be61

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) | 0.150 " | | |
| Conductor outlet direction | 180° | | |
| Number of poles | 9 | | |
| L1 in mm | 30.48 mm | | |
| L1 in inches | 1.200 " | | |
| Number of rows | 1 | | |
| Pin series quantity | 1 | | |
| Rated cross-section | 1 mm ² | | |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch | | |
| Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged | | |
| Protection degree | IP20 | | |
| Volume resistance | ≤5 mΩ | | |
| Can be coded | Yes | | |
| Stripping length | 7 mm | | |
| 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 | | |
| Tightening torque | Torque type | Wire connection | |
| | Usage information | Tightening torque | min. 0.2 Nm max. 0.25 Nm |

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Material data

| | | | |
|---------------------------------------|-------------|---------------------------------------|-------------------------------|
| Insulating material | PA 66 GF 30 | Colour | green |
| Colour chart (similar) | RAL 6032 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 550 | Moisture Level (MSL) | |
| UL 94 flammability rating | V-0 | Contact material | Cu-alloy |
| Contact surface | tinned | Layer structure of plug contact | 0.5...1.5 µm Cu / 2...5 µm Sn |
| 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 |

Conductors suitable for connection

| | |
|---|----------------------|
| Clamping range, min. | 0.08 mm ² |
| Clamping range, max. | 1.5 mm ² |
| 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 ² |
| Solid, max. H05(07) V-U | 1.5 mm ² |
| Flexible, min. H05(07) V-K | 0.2 mm ² |
| Flexible, max. H05(07) V-K | 1.5 mm ² |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.2 mm ² |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1.5 mm ² |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.2 mm ² |
| w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm ² |
| Plug gauge in accordance with EN 60999 a x b; ø | 2.4 mm x 1.5 mm |

| | | | |
|---------------------|--|------------------|-------------------------|
| Clampable conductor | Cross-section for conductor connection | Type | fine-wired |
| | | nominal | 0.5 mm ² |
| | | wire end ferrule | Stripping length |
| | Recommended wire-end ferrule | | H0,5/6 |
| | Cross-section for conductor connection | | Type |
| | | nominal | 0.75 mm ² |
| | | wire end ferrule | Stripping length |
| | Recommended wire-end ferrule | | H0,75/6 |
| | Cross-section for conductor connection | | Type |
| | | nominal | 1 mm ² |
| | | wire end ferrule | Stripping length |
| | Recommended wire-end ferrule | | H1,0/6 |
| | Cross-section for conductor connection | | Type |
| | | nominal | 1.5 mm ² |
| | | wire end ferrule | Stripping length |
| | Recommended wire-end ferrule | | H1,5/7 |

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.

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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) | 17.5 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

| | | | |
|-----------------------------------|--|-----------------------------------|----------------|
| Institute (CSA) | CSA | Certificate No. (CSA) | 200039-1121690 |
| 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 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

Rated data acc. to UL 1059

| | | | |
|---------------------------------------|--|---------------------------------------|--------|
| Institute (cURus) | 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 |
| Wire cross-section, AWG, min. | AWG 28 | Wire cross-section, AWG, max. | AWG 16 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

Packing

| | | | |
|-----------|----------|------------|-----------|
| Packaging | Box | VPE length | 40.00 mm |
| VPE width | 95.00 mm | VPE height | 140.00 mm |

Type tests

| | | |
|--|------------|---|
| Test: Durability of markings | Standard | DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96 |
| | Test | mark of origin, type identification, rated voltage, rated cross-section, pitch, type of material, approval marking UL, approval marking CSA |
| | Evaluation | available |
| | Test | durability |
| Test: Misengagement (Non-interchangeability) | Standard | DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN EN 60512-13-5 / 11.06 |
| | Test | 180° turned without coding elements |
| | Evaluation | passed |
| | Test | visual examination |
| Test: Clampable cross section | Standard | DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02 |

Technical data

| | | | | |
|---|----------------|---|-------------------------------|--------|
| | Conductor type | Type of conductor and conductor cross-section | solid 0.08 mm ² | |
| | | Type of conductor and conductor cross-section | stranded 0.08 mm ² | |
| | | Type of conductor and conductor cross-section | solid 1.5 mm ² | |
| | | Type of conductor and conductor cross-section | stranded 1.5 mm ² | |
| | | Type of conductor and conductor cross-section | AWG 28/1 | |
| | | Type of conductor and conductor cross-section | AWG 28/19 | |
| | | Type of conductor and conductor cross-section | AWG 16/1 | |
| | | Type of conductor and conductor cross-section | AWG 16/19 | |
| Test for damage to and accidental loosening of conductors | Evaluation | passed | | |
| | Standard | DIN EN 60999-1 section 9.4 / 12.00 | | |
| | Requirement | 0.2 kg | | |
| | Conductor type | Type of conductor and conductor cross-section | stranded 0.25 mm ² | |
| | | Type of conductor and conductor cross-section | AWG 28/1 | |
| | | Type of conductor and conductor cross-section | AWG 28/19 | |
| | | Evaluation | | passed |
| | | Requirement | | 0.3 kg |
| | Conductor type | Type of conductor and conductor cross-section | solid 0.5 mm ² | |
| | | Evaluation | | passed |
| | | Requirement | | 0.4 kg |
| | Conductor type | Type of conductor and conductor cross-section | solid 1.5 mm ² | |
| | | Type of conductor and conductor cross-section | stranded 1.5 mm ² | |
| | | Type of conductor and conductor cross-section | AWG 16/1 | |
| | | Type of conductor and conductor cross-section | AWG 16/19 | |
| | | Evaluation | | passed |
| Pull-out test | Standard | DIN EN 60999-1 section 9.5 / 12.00 | | |
| | Requirement | ≥10 N | | |
| | Conductor type | Type of conductor and conductor cross-section | stranded 0.25 mm ² | |
| | | Type of conductor and conductor cross-section | AWG 28/1 | |

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| | | |
|----------------|---|-----------|
| | Type of conductor and conductor cross-section | AWG 28/19 |
| Evaluation | passed | |
| Requirement | ≥20 N | |
| Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
| Evaluation | passed | |
| Requirement | ≥40 N | |
| Conductor type | Type of conductor and conductor cross-section | H07V-U1.5 |
| | Type of conductor and conductor cross-section | H07V-K1.5 |
| | Type of conductor and conductor cross-section | AWG 16/1 |
| | Type of conductor and conductor cross-section | AWG 16/19 |
| Evaluation | passed | |

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.
 - 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.
 - In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load
 - Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC002638 | ETIM 9.0 | EC002638 |
| ETIM 10.0 | EC002638 | ECLASS 14.0 | 27-46-02-02 |
| ECLASS 15.0 | 27-46-02-02 | | |

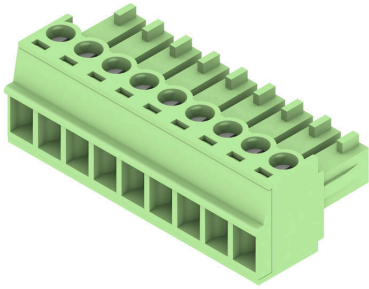
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Drawings

Product image



Dimensional drawing



Graph

BCZ 3.81/./180 - SC-SMT 3.81/./90



Graph

BCZ 3.81/./180 - SCD-THR 3.81/./90



Graph

BCZ 3.81/./180 - SCDV-THR 3.81/./180



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Counterpart

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 OR... | Version |
| Order No. | 1942020000 | PCB plug-in connector, male header, closed side, THT solder |
| GTIN (EAN) | 4032248655526 | connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l): |
| Qty. | 198 ST | 3.2 mm, tinned, orange, Box |

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 1.5... | Version |
| Order No. | 1864050000 | PCB plug-in connector, male header, closed side, THT/THR solder |
| GTIN (EAN) | 4032248429172 | connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): |
| Qty. | 300 ST | 1.5 mm, tinned, black, Tape |

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 |
| Order No. | 1863720000 | PCB plug-in connector, male header, closed side, THT/THR solder |
| GTIN (EAN) | 4032248428793 | connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): |
| Qty. | 50 ST | 1.5 mm, tinned, black, Box |

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Counterpart

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 3.2S... | Version |
| Order No. | 1862460000 | PCB plug-in connector, male header, closed side, THT/THR solder |
| GTIN (EAN) | 4032248427611 | connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l): |
| Qty. | 50 ST | 3.2 mm, tinned, black, Box |

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 3.2... | Version |
| Order No. | 1862920000 | PCB plug-in connector, male header, closed side, THT/THR solder |
| GTIN (EAN) | 4032248428113 | connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): |
| Qty. | 50 ST | 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 |
| Order No. | 1862960000 | PCB plug-in connector, male header, closed side, THT/THR solder |
| GTIN (EAN) | 4032248428069 | connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l): |
| Qty. | 50 ST | 1.5 mm, tinned, black, Box |

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SC 3.81/180G

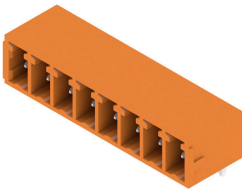


The SC pin header has a perpendicular (standing) plugging direction in relation to the PCB. It is available in closed (G) and screw flange (F) versions. Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of standard connectors and offer space for labelling and coding.

General ordering data

| | | |
|------------|----------------------------|---|
| Type | SC 3.81/02/180G 3.2SN B... | Version |
| Order No. | 1793520000 | PCB plug-in connector, male header, closed side, THT solder |
| GTIN (EAN) | 4032248230433 | connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): |
| Qty. | 50 ST | 3.2 mm, tinned, black, Box |

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 |
| Order No. | 1793130000 | PCB plug-in connector, male header, closed side, THT solder |
| GTIN (EAN) | 4032248227624 | connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l): |
| Qty. | 198 ST | 3.2 mm, tinned, black, Box |

SC 3.81/180G



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General ordering data

| | | |
|------------|----------------------------|---|
| Type | SC 3.81/02/180G 3.2SN G... | Version |
| Order No. | 1793610000 | PCB plug-in connector, male header, closed side, THT solder |
| GTIN (EAN) | 4032248230730 | connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): |
| Qty. | 198 ST | 3.2 mm, tinned, Pale green, Box |

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General ordering data

| | | |
|------------|----------------------------|--|
| Type | SC 3.81/02/90G 3.2SN GN... | Version |
| Order No. | 1793240000 | PCB plug-in connector, male header, closed side, THT solder |
| GTIN (EAN) | 4032248227716 | connection, 3.81 mm, Number of poles: 2, 90°, Solder pin length (l): |
| Qty. | 198 ST | 3.2 mm, tinned, Pale green, 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 |
| Order No. | 1942840000 | PCB plug-in connector, male header, closed side, THT solder |
| GTIN (EAN) | 4032248654758 | connection, 3.81 mm, Number of poles: 2, 180°, Solder pin length (l): |
| Qty. | 198 ST | 3.2 mm, tinned, orange, Box |