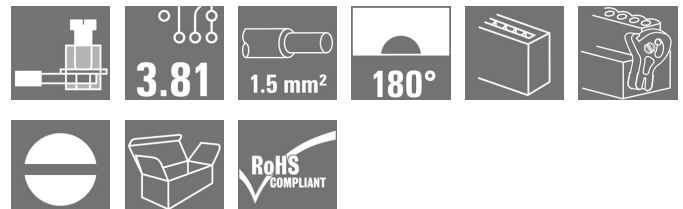


## OMNIMATE Signal - series BC/SC 3.81 SCZ 3.81/09/180LR SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
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www.weidmueller.com

### Product image



Similar to illustration

The inverted SCZ pin plug with clamping-yoke screw connection is designed for straight wire connections in 3.81-mm pitch. It can be used in two ways:

- for wire-to-wire connections together with the BCZ
- as a mating plug for the touch-safe BCL socket block on the PCB.

The SCZ is available in four different versions:

- Without flange ("G", closed)
- With standard flange ("F", with socket nut)
- With inverted flange ("FI", with screw)
- and with Weidmüller's patented release latch for a tool-free, no-strain disconnect

The SCZ provides space for labelling and can be coded.

### General ordering data

|                 |                                                                                                                                   |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Delivery status | Discontinued                                                                                                                      |
| Available until | 2014-05-20                                                                                                                        |
| Type            | SCZ 3.81/09/180LR SN BK BX                                                                                                        |
| Order No.       | <a href="#">1972080000</a>                                                                                                        |
| Version         | PCB plug-in connector, male plug, 3.81 mm, Number of poles: 9, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box |
| GTIN (EAN)      | 4032248682058                                                                                                                     |
| Qty.            | 50 pc(s).                                                                                                                         |
| Product data    | IEC: 320 V / 17.5 A / 0.2 - 1.5 mm²<br>UL: 300 V / 10 A / AWG 28 - AWG 16                                                         |

Creation date August 04, 2020 9:36:38 AM CEST

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## Technical data

### Dimensions and weights

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Height     | 15.2 mm | Height (inches) | 0.598 inch |
| Depth      | 21.9 mm | Depth (inches)  | 0.862 inch |
| Net weight | 11.35 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                              | 9                                   | L1 in mm                                   | 30.48 mm          |
| L1 in inches                                 | 1.2 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.                  | 8 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       | 4...8 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 <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. |                      |
| w. wire end ferrule, DIN 46228 pt 1, 0.2 mm <sup>2</sup> min.       |                      |

Creation date August 4, 2020 9:36:38 AM CEST

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**Technical data**

|                                                 |                                                                                                                                                                        |                              |                         |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------|
| 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)                             | 17.1 A                 | Rated current, min. number of poles (Tu=40°C)                         | 17.5 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)                   |  | 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) | 11 A                                                                                | Rated current (Use group C / CSA) | 11 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.              |                                   |                |

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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 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 0

VPE width 0

VPE height 0

**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

Evaluation

passed

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

Evaluation

passed

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|                                                           |                |                                                                                    |                               |
|-----------------------------------------------------------|----------------|------------------------------------------------------------------------------------|-------------------------------|
| 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 |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                                      | solid 0.08 mm <sup>2</sup>    |
|                                                           |                | Type of conductor and conductor cross-section                                      | stranded 0.08 mm <sup>2</sup> |
|                                                           |                | Type of conductor and conductor cross-section                                      | solid 1.5 mm <sup>2</sup>     |
|                                                           |                | Type of conductor and conductor cross-section                                      | stranded 1.5 mm <sup>2</sup>  |
|                                                           |                | 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                     |
|                                                           | Evaluation     | passed                                                                             |                               |
| Test for damage to and accidental loosening of conductors | 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 <sup>2</sup> |
|                                                           |                | 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 <sup>2</sup>     |
|                                                           |                |                                                                                    |                               |
|                                                           | Evaluation     | passed                                                                             |                               |
|                                                           | Requirement    | 0.4 kg                                                                             |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                                      | solid 1.5 mm <sup>2</sup>     |
|                                                           |                | Type of conductor and conductor cross-section                                      | stranded 1.5 mm <sup>2</sup>  |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 16/1                      |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 16/19                     |
|                                                           | Evaluation     | passed                                                                             |                               |

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|               |                |                                               |                               |
|---------------|----------------|-----------------------------------------------|-------------------------------|
| 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 <sup>2</sup> |
|               |                | Type of conductor and conductor cross-section | AWG 28/1                      |
|               |                | 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                     |
|               |                | passed                                        |                               |
|               |                | ≥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                                        |                               |

**Classifications**

UNSPSC 30-21-18-01

**Notes**

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes | <ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• P on drawing = pitch</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>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul> |
|       | <p>IPC conformity</p> <p>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.</p>                                                                                                                                                                                                                      |

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## Technical data

### Approvals

Approvals



ROHS

Conform

### Downloads

Approval/Certificate/Document of  
Conformity

[Declaration of the Manufacturer](#)

Brochure/Catalogue

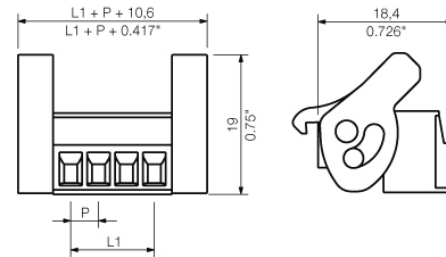
[CAT 2 PORTFOLIOGUIDE EN](#)

## OMNIMATE Signal - series BC/SC 3.81 SCZ 3.81/09/180LR SN BK BX

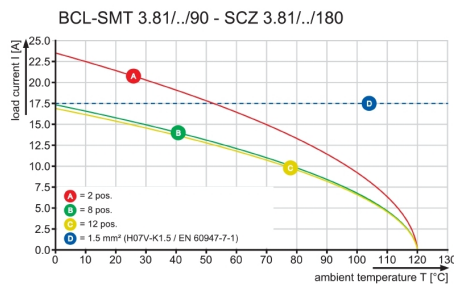
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# Drawings

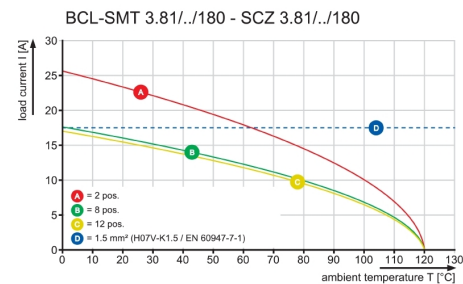
## Dimensional drawing



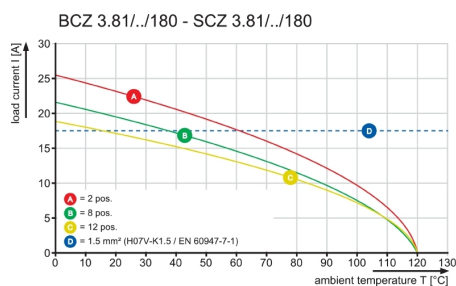
## Graph



## Graph



## Graph



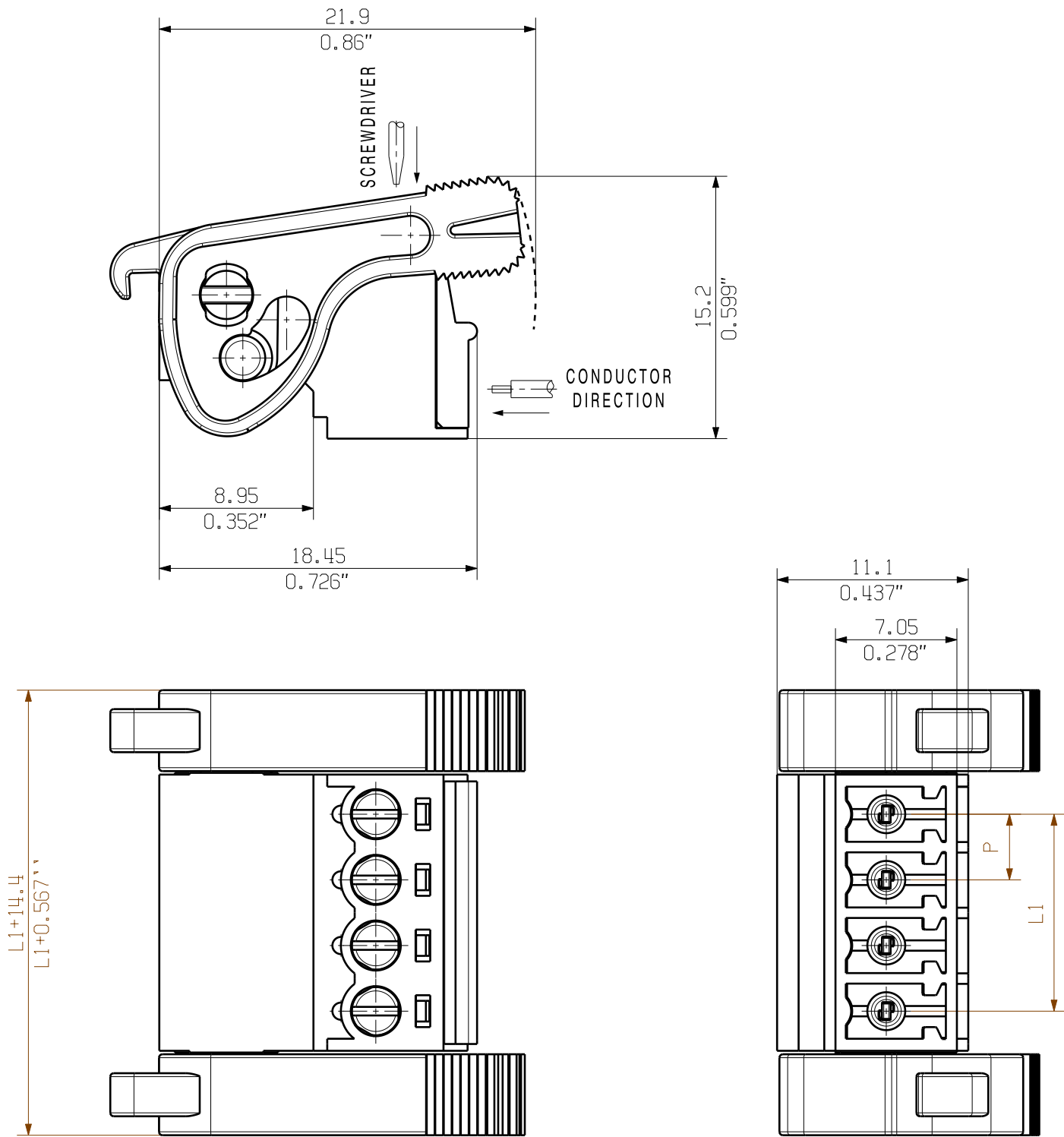


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Dimensions without tolerances are no check dimensions

The English version is binding



KUNDENZEICHNUNG  
CUSTOMER DRAWING

P = 3.81 RASTER  
0.15" PITCH

|    |         |           |
|----|---------|-----------|
| 12 | 41.91   | 1.651     |
| 11 | 38.10   | 1.501     |
| 10 | 34.29   | 1.351     |
| 9  | 30.48   | 1.201     |
| 8  | 26.67   | 1.051     |
| 7  | 22.86   | 0.901     |
| 6  | 19.05   | 0.751     |
| 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] |

GENERAL TOLERANCE:  
DIN ISO 2768-m

RoHS  
COMPLIANT

Max. nos.

Scale: 3/1

Supersedes: .

86251/0  
26.05.16 XIANG\_K

00

Modification

Date

17.02.2016

Name

XIANG\_K

Responsible

XIANG\_K

Checked

26.05.2016

ZHOU\_N

Approved

XU\_S

Cat.no.: .

C 63184

00

Drawing no.

Issue no.

Sheet 00

of 00

sheets

SCZ 3.81...180LR...

ZUGBUEGELANSCHLUSS STIFTSLEISTE

CLAMPING YOKE CONNECTION PIN HEADER

Product file: SCZ 3.81

7078