

## SCZ 3.81/09/180GZE SN OR BX

**Weidmüller Interface GmbH & Co. KG**

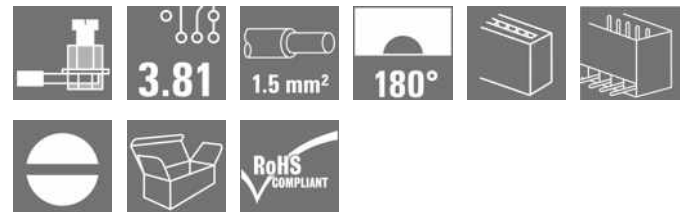
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

### Product image



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

|              |  |
|--------------|--|
| Version      | PCB plug-in connector, male plug, 3.81 mm, Number of poles: 9, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm <sup>2</sup> , Box |
| Order No.    | <a href="#">1237070000</a>   |
| Type         | SCZ 3.81/09/180GZE SN OR BX  |
| GTIN (EAN)   | 4050118022674  |
| Qty.         | 50 pc(s).  |
| Product data | IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16  |
| Packaging    | Box  |

Creation date May 3, 2023 9:25:00 AM CEST

## SCZ 3.81/09/180GZE SN OR BX

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technical data

### Dimensions and weights

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Depth      | 42.1 mm | Depth (inches)  | 1.657 inch |
| Height     | 12.5 mm | Height (inches) | 0.492 inch |
| Net weight | 8.88 g  |                 |            |

### Temperatures

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

### 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 | finger-safe plugged/ back-of-hand-safe unplugged |                   |                             |
| Touch-safe protection acc. to DIN VDE 0470   | IP20 plugged/ IP10 unplugged                     |                   |                             |
| 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.                    | 8 N  |                   |                             |
| Pulling force/pole, max.                     | 5 N  |                   |                             |
| Tightening torque                            | Torque type                                      | Wire connection   |                             |
|  | Usage information                                | Tightening torque | min. 0.2 Nm<br>max. 0.25 Nm |

### Material data

|                                       |              |                                       |        |
|---------------------------------------|--------------|---------------------------------------|--------|
| Insulating material                   | PA 66 GF 30  | Colour                                | orange |
| Colour chart (similar)                | RAL 2000     | Insulating material group             | II     |
| Comparative Tracking Index (CTI)      | ≥ 550        | UL 94 flammability rating             | V-0    |
| 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>  |

Creation date May 3, 2023 9:25:00 AM CEST

## SCZ 3.81/09/180GZE SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

www.weidmueller.com

## Technical data

|   |                          |
|---|--------------------------|
| 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, min. | 0.2 mm <sup>2</sup>      |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1.5 mm <sup>2</sup>      |
| 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.

### Rated data acc. to IEC

| tested acc. to standard   |                        | Rated current, min. number of poles (Tu=20°C)                         |                  |
|---|------------------------|---|------------------|
|   | IEC 60664-1, IEC 61984 |   | 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 |

**SCZ 3.81/09/180GZE SN OR BX**
**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Technical data**
**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) | 11 A   | Rated current (Use group C / CSA) | 11 A   |
| Wire cross-section, AWG, min.     | AWG 28 | Wire cross-section, AWG, max.     | AWG 16 |

**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 | 168 mm |
| VPE width | 122 mm | VPE height | 52 mm  |

**Type tests**

|  |            |   |
|--|------------|---|
| Test: Durability of markings                 | Standard   | DIN EN 6 1984 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) | Evaluation | passed  |
|  | Standard   | DIN EN 6 1984 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: Misengagement (Non-interchangeability) | Test       | visual examination  |
|  | Evaluation | passed  |

**SCZ 3.81/09/180GZE SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

www.weidmueller.com

**Technical data**

|   |   |  |                               |
|---|---|--|-------------------------------|
| 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  |  |                               |

**SCZ 3.81/09/180GZE SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

www.weidmueller.com

**Technical data**

|               |                |   |                               |  |
|---------------|----------------|---|-------------------------------|--|
| 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                     |  |
|               |                | 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  |                               |  |

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002638    | ETIM 7.0    | EC002638    |
| ETIM 8.0    | EC002638    | ECLASS 9.0  | 27-44-03-09 |
| ECLASS 9.1  | 27-44-03-09 | ECLASS 10.0 | 27-44-03-09 |
| ECLASS 11.0 | 27-46-02-02 | ECLASS 12.0 | 27-46-02-02 |

**Environmental Product Compliance**

|            |                                      |
|------------|--------------------------------------|
| REACH SVHC | Lead 7439-92-1                       |
| SCIP       | cec56c8c-fe86-40ec-b01a-efe288a878ac |

## SCZ 3.81/09/180GZE SN OR BX

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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

## Technical data

### 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>• 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> |

### 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>   |
| 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> |

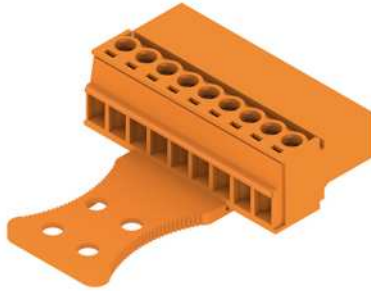
**SCZ 3.81/09/180GZE SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klängenbergstraße 26  
 D-32758 Detmold  
 Germany

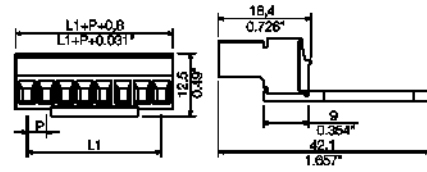
www.weidmueller.com

**Drawings**

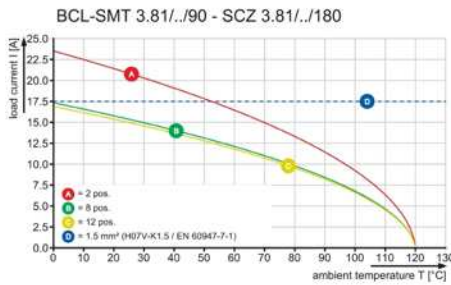
**Product image**



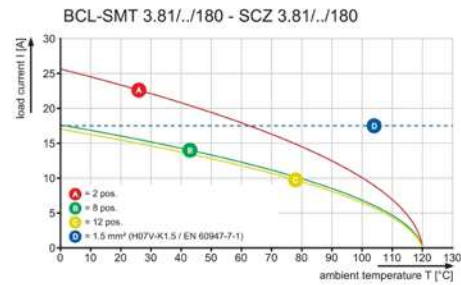
**Dimensional drawing**



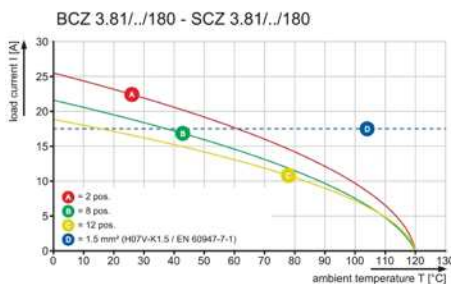
**Graph**



**Graph**



**Graph**



**Example of use**



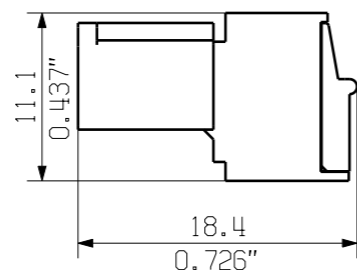
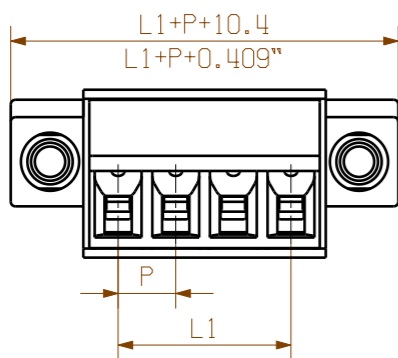
SCZ 3.81/.../180G ...



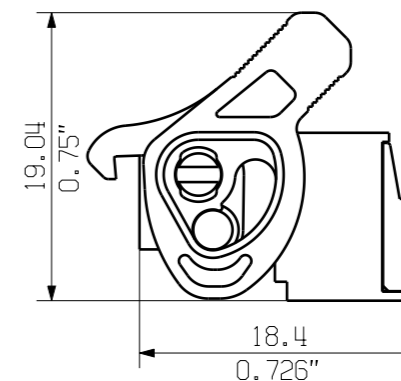
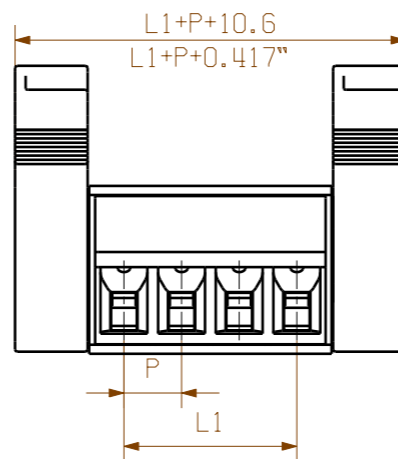
SCZ 3.81/.../180FI ...



SCZ 3.81/.../180F ...



SCZ 3.81/.../180LR ...



KUNDENZEICHNUNG  
CUSTOMER DRAWING

For the mounting of PCBs, it should be noted that the rated data stated here relates only to the PCB components alone.  
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

|    |         |           |
|----|---------|-----------|
| 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] |

|  |  |  |  |
|--|--|--|--|
| 55304/5<br>03.06.11 GE_G 00                    |  | CAT.NO.: . . . . .   |  |
| MODIFICATION                                   |  | <b>Weidmüller</b>  |  |
| DRAWN 09.10.2008 SHI_S                         |  | DRAWING NO. <b>2 40408</b> ISSUE NO. <b>05</b>   |  |
| RESPONSIBLE XU_S                               |  | SHEET . . . OF . . . SHEETS  |  |
| SUPERSEDES: . . . CHECKED 03.06.2011 RICHTER_G |  | <b>SCZ 3.81/.../180...</b><br>ZUGBUEGELANSCHLUSS STIFTLISTE<br>CLAMPING YOKE CONNECTION PIN HEADER |  |
| SUPERSEDED BY: . . . APPROVED XU_S             |  |  |  |
| SCALE: 2/1                                     |  | PRODUCT FILE: SCZ 3.81 7078  |  |

WEITERGABE SOWIE Vervielfältigung dieses Dokuments, Verwertung und Mitteilung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet.  
 ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENSERSATZ. ALLE RECHTE FUER DEN FALL DER PATENT-, GEBRAUCHSMUSTER-, ODER GESCHMACKSMUSTERREINTRAGUNG VORBEHALTEN.  
 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. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.