# Operating Instructions

CES

## Wall-mounting socket

**> 7581/11**

STAHL

# 1 Contents



# 2 General Information

## 2.1 Manufacturer

R. STAHL Schaltgeräte GmbH
Am Bahnhof 30
D-74638 Waldenburg

Telephone: +49 7942 943-0
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Internet: www.stahl.de

## 2.2 Information about the Operating Instructions

ID NO.: 7581601300
Publication Code: S-BA-7581/11-00-en-27/04/2007
We reserve the right to make technical changes without notice.

## 2.3 Purpose of these instructions

Working in hazardous areas, the safety of personnel and plant depends on complying with all relevant safety regulations.
Assembly and maintenance staff working on installations therefore have a particular responsibility. They require precise knowledge of the applicable standards and regulations.
These instructions give a brief summary of the most important safety measures. They supplement the corresponding regulations which the staff responsible must study.

# 3 Safety instructions

Use the socket only for its intended purpose.

Incorrect or impermissible use or non-compliance with these instructions invalidates our warranty provision.

No changes to the socket impairing its explosion protection are permitted.

Operate the socket only if it is clean and undamaged.

**Observe the following when setting up and using the socket:**

- National safety regulations
- National accident prevention regulations
- National installation regulations (e.g. IEC 60079-14)
- Generally recognized technical regulations
- Safety guidelines in these operating instructions
- Characteristic values and rated operating conditions on the rating and data plates
- Additional instruction plates on the socket

Any damage can invalidate the Ex-protection.

Sockets may only be used fully closed!

Before opening the socket, disconnect it from the supply!

Wall-mounting socket 7581/11 can only be energised if a plug is inserted.

Only type 7581/12 or 8581/12 plugs from R. STAHL may be used.

When the plug is pulled out, care should be taken to ensure that the hinged socket cover is in mesh with the interlocking latch.

The switch element must be replaced after each short-circuit in the switch main circuit. This is because the element is hermetically sealed and the state of the switching contacts cannot be checked.

# 4 Conformity to standards

The sockets comply with the following standards and regulations:

- Directive 94/9/EG
- EN 50014, EN 50021 (comparable with IEC 60079-0, and IEC 60079-15)
- IEC 60947-3 (VDE 0660 T107)
- IEC 60947-4-1 (VDE 0660 T102)
- IEC 60309, IEC 60529

Type 7581/11 wall-mounting socket is suitable for use in hazardous areas, zone 2.

Application for zone 22, non-conducting dust, available with manufacturer’s declaration upon request.

# 5 Function

The wall-mounting socket 7581/11 is an explosion-protected electrical device. It connects portable and fixed electrical equipment as well as cables and circuits in hazardous areas.

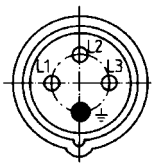
# 6 Technical Data

| | | |
|---|---|---|
| Socket | 7581/11 (125 A) | |
| Explosion protection | Ⓔx II 3 G EEx nAC IIC T6, T5 | |
| Certificates | ASEV 99.1 10215.05 | |
| Rated voltage | | |
| Main contacts | max. 690 V | |
| Auxiliary contacts | max. 400 V AC | |
| Rated current | | |
| Main contacts | 125 A<br>≥ 100 Hz: 100 A | |
| Auxiliary contacts | max. 6 A | |
| Switching capacity | AC 3: | 500 V<br>125 A |
| | AC 23: | 690 V<br>125 A |
| Rated isolation voltage | 750 V | |
| DC switching capacity | DC 23: 110 V, 80 A, 1-pole - acc. to IEC 60947-4-1 | |
| Back-up fuse | | |
| without therm. protection | 125 A gL/gG | |
| with therm. protection | 160 A gL/gG | |
| Ambient temperature | Standard: | -20°C ... +40°C |
| | Special: | -45°C ... +55°C |
| Ambient temperature at Temperature class | T6: | $T_a \leq 40°C$ |
| | T5: | $T_a \leq 55°C$ |
| Interlocked switch | 3 pole switch with isolating characteristics<br>1 auxiliary contact (ON - delayed, OFF - advanced) | |
| Handle | Actuator is lockable in 0 and I position | |
| Enclosure material | Polyester resin | |
| Degree of protection | IP 66 | |
| Connection cross section | Main contacts: | 1 x 120 $mm^2$ with additional terminal clip 2 x 120 $mm^2$ |
| | Auxiliary contacts: | 2.5 $mm^2$ |
| Terminal tightening torque | Main contacts: | max. 10 Nm with cable lug or clip 5 Nm |
| | Auxiliary contacts: | 3,5 Nm |
| Cable entries | | |
| Cable gland | 1 x M 63 x 1.5 | |
| | Cable entries are possible on the top or on the side wall (upon request) | |
| Stopping plug | 1 x M 25 x 1.5; 1 x M 63 x 1.5 | |

**Arrangement of contact sleeves and terminal references**

View from front of socket collar towards contact sleeves

**No. of poles** 3P + ⏚ 3P + N + ⏚




06556E00


06555E00

Examples illustrated show 6 o'clock position

Identification colour and position of earth contact sleeve relative to polarising slot for different voltages and frequencies to IEC 60309-2:

| No. of poles | Frequency [Hz] | Rated operating voltage [V] | Identification colour | Earth contact sleeve position |
|---|---|---|---|---|
| 7581/..-4..<br>3P + ⏚ | 50 - 60 | 100 - 130 | yellow | 4 o'clock |
| | | 200 - 250 | blue | 9 o'clock |
| | | 380 - 415 | red | 6 o'clock |
| | 60 | 440 - 460 [1)] | red | 11 o'clock |
| | 50 - 60 | 480 - 500 | black | 7 o'clock |
| | | 600 - 690 | black | 5 o'clock |
| | | After isolating transformer | [4)] | 12 o'clock |
| | 50<br>60 | 380<br>440 [2)] | red | 3 o'clock |
| | 100 - 300 | > 50 | green | 10 o'clock[3)] |
| | > 300 - 500 | > 50 | green | 2 o'clock |
| 7581/..-5..<br>3P + N + ⏚ | 50 - 60 | 57/100 - 75/130 | yellow | 4 o'clock |
| | | 120/208 - 144/250 | blue | 9 o'clock |
| | | 200/346 - 240/415 | red | 6 o'clock |
| | | 277/480 - 288/500 | black | 7 o'clock |
| | | 347/600 - 400/690 | black | 5 o'clock |
| | 60 | 250/440 - 265/460 [1)] | red | 11 o'clock |
| | 50<br>60 | 220/380<br>250/440 [2)] | red | 3 o'clock |
| | 100 - 300 | > 50 | green | 10 o'clock [3)] |
| | > 300 - 500 | > 50 | green | 2 o'clock |
| any no. of poles | all operating voltages and frequencies not listed above | | | 1 o'clock |

1) Mainly for installations on board ship

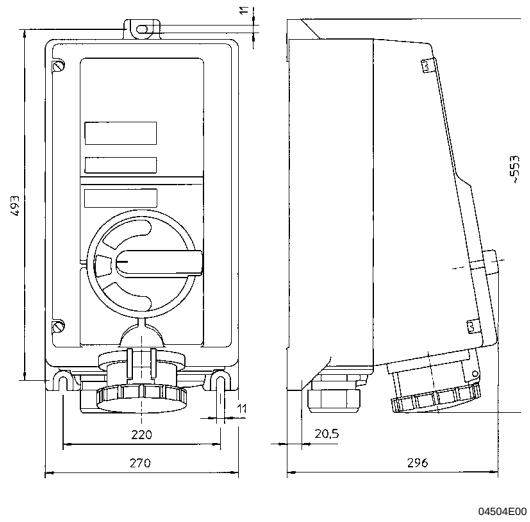
2) Only for refrigerated containers (to ISO standards)

3) Not standardised but recommended preferred position

4) Identification colour in accordance with voltage identification colour

# 7 Fitting

**Dimension drawings** (all dimensions in mm) - subject to alterations




**7581/11-...**
**125 A Wall-mounting socket**

The type 7581/11 wall-mounting socket must be fixed vertically with three screws on a flat wall (for fixing dimensions, see sketch above or back of socket itself). Flap cover facing downwards, connection area at top.

The fixing holes are elongated. This permits vertical and horizontal adjustment during mounting.

When a wall-mounting socket 7581/11 is installed in the open, it is advisable to provide a protective cover or wall.

Transport and storage are permitted only in the original packing.

# 8 Installation

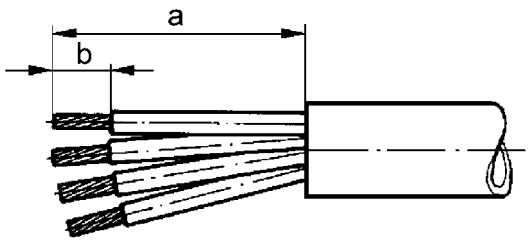
**Mains connection**:

- The conductors must be carefully connected.
- The conductor insulation must reach to the terminal. The conductor itself must not be damaged (nicked) when removing the insulation.
- Ensure that the maximum permissible conductor temperatures are not exceeded by suitable selection of cables and means of running them.

During installation, please observe the national standards as well as the recognized technical regulations (also the terminal information given under Technical data).

### Connections for wall-mounting socket 7581/11

- Open connection area cover.
- Push cable through cable gland and into connection area.
- Remove insulation from cable ends.




09290T00

| | a [mm] | b [mm] | max |
|---|---|---|---|
| Main contacts | 380 | 20 | 35 $mm^2$ |
| Auxiliary contact | 380 | 10 | 2.5 $mm^2$ |

- Fit stripped cable ends to appropriate terminal slot on the switch element and tighten clamp. When tightening clamp, ensure stripped ends of cable are fully underneath the clamp.
- Adjust cable so that terminals are not under tension. Fully tighten cable gland screw cap. Carefully replace connection area cover and tighten all screws.

| | |
|---|---|
| ☞ | When terminal sleeves are fitted, they must be gas-tight and applied with a suitable tool. |

### Earth connection

An earth connection must be made in all circumstances.

## 9 Commissioning

Before commissioning, ensure that

- the socket has been installed according to the directions
- the socket is not damaged
- there are no foreign bodies inside the socket
- the connection area is clean
- connections have been correctly made
- the cable has been brought in correctly
- all screws and nuts are fully tightened
- cable glands are securely tightened
- unused cable entries are sealed with plugs certified to Directive 94/9/EC and unused holes are sealed with stopping plugs certified to Directive 94/9/EC.

| ⚠ WARNING |
|---|
| Excessive tightening of the components referred to above can affect the degree of protection. |

# 10 Repairs and Maintenance

Repairs and maintenance work on the sockets may only be carried out by appropriately authorized and trained personnel.

Before any work commences, the sockets must be disconnected from the supply.

| ⚠ WARNING |
|---|
| Observe the relevant national standards in the country of use!<br>Before opening a socket, disconnect it from the supply. |

The following points must be checked during maintenance:

- clamping screw holding the cable is securely seated
- compliance with permitted temperatures (to EN 50014)
- cracks in plastic enclosures
- damage to the gaskets
- separate plugs and sockets at regular intervals to prevent contact corrosion

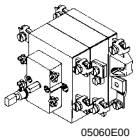
| ☞ | Clean the sockets with a damp cloth only. |
|---|---|

To avoid corrosion, do not allow cleaning fluids and water to penetrate the socket body.

The switch element must be replaced after each short-circuit in the switch main circuit. This is because the element is hermetically sealed and the state of the switching contacts cannot be checked.

# 11 Accessories and spare parts

| ⚠ WARNiNG |
|---|
| Use only original accessories and spare parts from R. STAHL Schaltgeräte GmbH. |

| Designation | Illustration | Description | | Ordering code | Weight kg |
|---|---|---|---|---|---|
| Switch element |  05060E00 | for socket: 7579/11 | | 8543016020 | 1,529 |
| Stopping plug |  04840E00 | 8290/3-M 25 x 1.5 | 1 piece | 8290009590 | 0,006 |
| Cable gland |  05864E00 | in moulded plastic, series 8161 | | | – – |
| | | 8161/5-M 25-17 | 1 piece | 8161078010 | 0,016 |
| | | 8161/5-M 50-1.5 | 1 piece | 8161081010 | 0,091 |

# 12 Disposal

Observe the national standards for refuse disposal.

# 13 Certificate of Conformity

Uncertified Translation

Schweizerischer Elektrotechnischer Verein
Association Suisse des Electriciens
Associazione Svizzera degli Elettrotecnici
Swiss Electrotechnical Association

**SEV**
ASE

## (1) Certificate of Conformity

(2) **Certificate of Conformity** Ref. No. Page 1 of 2

**ASEV 99.1 10215.05**

(3) Product **Plugs and sockets**

Trade mark, type **STAHL, 7581/..-...-.**

(4) Manufacturer, **R. Stahl Schaltgeräte GmbH**

(5) Address **D-74642 Künzelsau**

(6) Type of construction of this product as well as the various permissible versions are specified in the annex to this certificate

(7) Swiss Electrotechnical Association confirms as cerrtification body the compliance with the essential Health and Safety Requirements relating to the design and construction of equipment and protective systems for use in hazardous locations.

The results of the tests are determined in the confidential test reports:
Ref. No. **99.1 10215.05**

(8) Compliance with the essential Health and Safety Requirement has been assured by compliance with the following standards:

**EN 50021:1999**

(9) If the sign „X“ is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(10) This certificate of conformity relates only to the design and construction of the specified equipment. Further requirements of this directive apply to the manufacture and , together with additional requirements, to the supply of this equipment.

(11) The marking of the equipment shall include the following data:
**II 3 G EEx nAC IIC T6/T5**

**Swiss Electrotechnical Association**

**SCES 035, Sept. 1996**
**(EN 45011:1989)**

| | | |
|---|---|---|
| (signature) | (signature) | |
| Peter Bosshard | Heinz Berger | |
| Produktequalifizierung | Leiter Zertifizierung | Fehraltdorf, 09.08.1999 |

# 14 Declaration of conformity

## EG-Konformitätserklärung
EC-Declaration Of Conformity
CE-Déclaration De Conformité

## ASEV 99.1 10215.05

**Wir** (we; nous)

R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, D-74638 Waldenburg (Württ.)

| | |
|---|---|
| **erklären in alleiniger Verantwortung, dass das Produkt** | **Steckvorrichtung Typ 7581/..-...-.** |
| hereby declare in our sole responsibility, that the product | Plug and socket Type 7581/..-...-. |
| déclarons de notre seule responsabilité, que le produit | Prise de courant Type 7581/..-...-. |

**auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt**
which is the subject of this declaration, is in conformity with the following standard(s) or normative documents
auquel cette déclaration se rapporte, est conforme aux norme (s) ou aux documents normatifs suivants

| **Bestimmungen der Richtlinie** terms of the directive prescription de la directive | **Titel und/oder Nr. sowie Ausgabedatum der Norm** title and/or No. and date of issue of the standard titre et/ou No. ainsi que date d'émission des normes |
|---|---|
| **94/9/EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen** 94/9/EC: Equipment and protective systems intended for use in potentially explosive atmospheres 94/9/CE: Appareils et systèmes de protection destinés á être utilisés en atmosphères explosibles | EN 50021:1999 |
| **89/336/EWG: Elektromagnetische Verträglichkeit** 89/336/EEC: Electromagnetic compatibility 89/336/CEE: Compatibilité électromagnétique | EN 60947-3:1999<br>EN 60947-4-1:2000 |

| Waldenburg, 25.01.2005 | i.V. | i.V. |
|---|---|---|
| **Ort und Datum** Place and date Lieu et date | **Leiter Entwicklung** Head of Development Directeur Développement | **Leiter Qualitätsmanagement** Head of quality management dept. Chef du dept. assurance de qualité |

TXV 03/99 Papier chlorfrei

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