



Operating Instructions

Wall-mounting socket

> 8581/11



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2 General Information

2.1 Manufacturer

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

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 Internet: www.stahl.de

2.2 Information regarding the Operating Instructions

ID NO.: 153703 / 8581604300
 Publication Code: S-BA-8581/11-04-en-08/05/2009
 We reserve the right to make technical changes without notice.

2.3 Purpose of these instructions

When working in areas subject to explosion hazards, 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. A precise knowledge of the applicable standards and regulations is required. These introductions give a brief summary of the most important safety measures. They supplement the corresponding regulations which the personnel in charge 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 during setting-up and operation:

- ▶ National safety regulations
- ▶ National accident prevention regulations
- ▶ National assembly and installation regulations (e.g. IEC/EN 60079-14)
- ▶ Generally recognised technical regulations
- ▶ Safety instructions in these operating instructions
- ▶ Characteristic values and rated operating conditions on the rating and data plates
- ▶ Additional instruction plates on the device

Any damage can invalidate the Ex-protection.

Sockets may only be used fully closed!

Before opening the device, disconnect it from the supply!

The wall-mounting socket 8581/11 can only be energised if a plug is inserted.

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

Make sure that the bayonet lock of the socket is closed when the plug is pulled out.

Replace the switch after each short circuit in the main circuit (the element is hermetically sealed and the state of the switching contacts cannot be checked).

4 Conformity to Standards

The devices comply with the following standards and directives:

- ▶ Directive 94/9/EC
- ▶ IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-11
- ▶ IEC/EN 61241-0, IEC/EN 61241-1
- ▶ IEC/EN 60947-3 (VDE 0660-107)
- ▶ IEC/EN 60947-4-1 (VDE 0660-102)
- ▶ IEC/EN 60309
- ▶ IEC/EN 60529

The type 8581/11 wall-mounting socket is suitable for use in areas subject to explosion hazards of zone 1, 2, 21 and 22.

5 Function

The wall-mounting socket 8581/11 is an explosion-protected electrical device. It connects portable and fixed electrical equipment as well as cables and circuits in areas subject to explosion hazards.

6 Technical Data

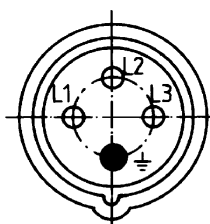
Explosion protection	
Gas explosion protection	
ATEX	Ⓢ II 2 G Ex de IIC T6 (Ta = -45°C...+40 °C) Ⓢ II 2 G Ex de IIC T5 (Ta = -45°C...+55°C) Special version with intrinsically safe auxiliary contacts Ⓢ II 2 G Ex de [ib] IIC T6 (Ta = -45°C...+40°C) Ⓢ II 2 G Ex de [ib] IIC T5 (Ta = -45°C...+55°C)
IECEX	Ex de IIC T6 (Ta = -45°C...+40°C) Ex de IIC T5 (Ta = -45°C...+55°C)
Dust explosion protection	
ATEX	Ⓢ II 2 D Ex tD A21 IP66 T95 °C (Ta = -45°C...+55°C) Ⓢ II 2 D Ex tD A21 IP66 T80 °C (Ta = -45°C...+40°C)
IECEX	Ex tD A21 IP66 T95 °C (Ta = -45°C...+55°C) Ex tD A21 IP66 T80 °C (Ta = -45°C...+40°C)
Ambient temperature	see explosion protection data
Certificates	
Gas explosion protection	
ATEX	PTB 01 ATEX 1161
IECEX	IECEX PTB 06.0034
Dust explosion protection	
ATEX	PTB 01 ATEX 1161
IECEX	IECEX PTB 06.0034
Rated operational voltage	
Main contacts	max. 690 V
Auxiliary contacts	max. 415 V
Rated operational current	
Main contacts	max. 125 A
Auxiliary contacts	max. 6 A
Rated operational power	AC 3: 500 V, 125 A AC 23: 690 V, 125 A
Short circuit protection	
without thermal protection	125 A gL/gG
with thermal protection	160 A gL/gG
Terminal cross sections	
Main contacts	1 x 120 mm ² with additional terminal clip 2 x 120 mm ²
Auxiliary contacts	4 mm ²
Tightening torque	
Mains contact	max. 10 Nm, with cable lug and clamp 5 Nm
Auxiliary contacts	3.5 Nm
Interlocked switch	3-pole switch 1 auxiliary contact (ON - delayed, OFF - advanced)
Operating handle	Actuator is lockable in 0 and I position
Enclosure material	Polyester
Type of protection	IP66
Terminals	1 x 120 mm ² with additional terminal clip 2 x 120 mm ²
Cable glands	8161/5-M 63-48 (positioning on the top or at the side, depending on the order)
Stopping plug	1 x M 25 x 1.5; 1 x M 63 x 1.5

Arrangement of contact pins and terminal references

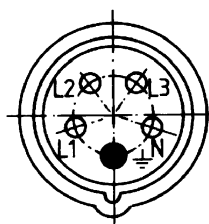
Front view of the contact pin positions

No. of poles

 4P (3P + \perp)

 5P (3P + N + \perp)


06556E00



06555E00

The examples show the 6 o'clock position.

Identification colour and position of earth pin relative to polarising key for different voltages and frequencies to IEC/EN 60309-2:

No. of poles	Frequency [Hz]	Rated operational voltage [V]	Identification colour	Earth contact pin position
8581/...-4.. 4P (3P + \perp)	50 - 60	100 - 130	yellow	4 h
		200 - 250	blue	9 h
		380 - 415	red	6 h
	60	440 - 460 ¹⁾	red	11 h
	50 - 60	480 - 500	black	7 h
		600 - 690	black	5 h
		After isolating transformer	4)	12 h
	50 60	380 440 ²⁾	red	3 h
	100 - 300	> 50	green	10 h ³⁾
> 300 - 500	> 50	green	2 h	
8581/...-5.. 5P (3P + N + \perp)	50 - 60	57/100 - 75/130	yellow	4 h
		120/208 - 144/250	blue	9 h
		200/346 - 240/415	red	6 h
		277/480 - 288/500	black	7 h
		347/600 - 400/690	black	5 h
	60	250/440 - 265/460 ¹⁾	red	11 h
	50 60	220/380 250/440 ²⁾	red	3 h
	100 - 300	> 50	green	10 h ³⁾
	> 300 - 500	> 50	green	2 h
Any no. of poles	All operating voltages and frequencies not listed above			1 h

1) Mainly for installations on board ship

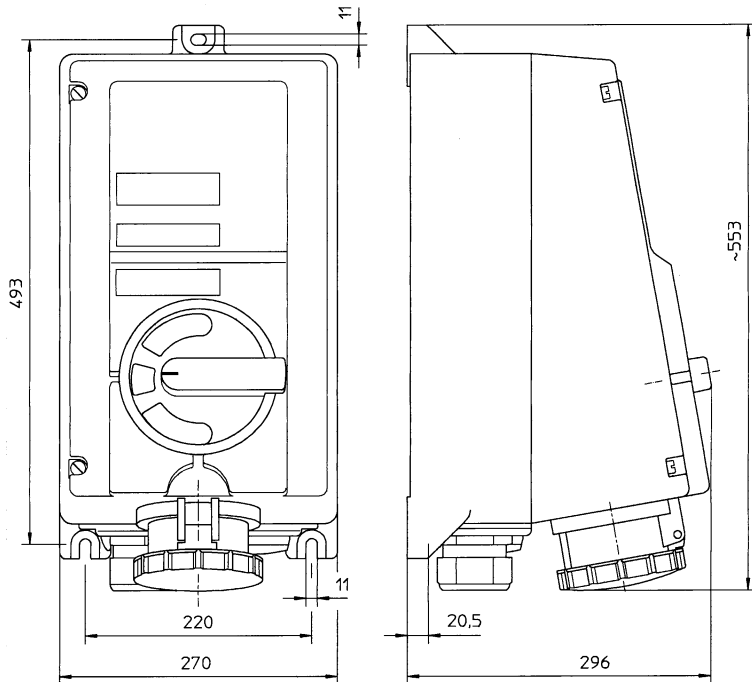
2) Only for refrigerated containers (according to ISO standards)

3) Not standardised but recommended preferred position

4) Identification colour in accordance with voltage identification colour

7 Assembly

Dimensional drawings (all dimensions in mm) - subject to alterations



04118E00

8581/11-...
125 A Switch socket

The type 8581/11 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, terminal compartment at top.

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

When a wall-mounting socket 8581/11 is installed in the open, it is advisable to provide a protective cover or wall.

Transport and storage are only permitted in the original packing.

8 Installation

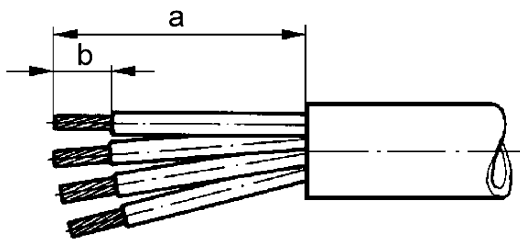
Mains connection:

- ▶ 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.

Please observe the national standards as well as the generally recognised technical regulations for installation (also the terminal information given under Technical data).

Connections for wall-mounting socket 8581/11


- ▶ Open the cover of the terminal compartment.
- ▶ Push the cable through the cable entry into the terminal compartment.
- ▶ Remove the insulation from the cable ends.



09290T00

	a [mm]	b [mm]	max
Main contacts	180 + 10	25	120 mm ²
Auxiliary contacts	200 + 10	10	4 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.
- ▶ Align the cable, the terminals must not be under tension. Tighten the union nut of the cable entry, put the cover of the terminal compartment carefully on top and screw it down.

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

The earth connection must be made in all circumstances.

Version 8581/11 with auxiliary contacts for intrinsically safe circuits:

Auxiliary contact connections are located under the plastic cover. To connect Ex i cables, the plastic cover must first be removed (loosen screws behind PE terminal). It is particularly important to check that the plastic cover is properly replaced after the connections have been made, to ensure that the 50-mm separation between Ex i connections and non-Ex i connections (to IEC/EN 60079-14) is maintained.

9 Commissioning

Before commissioning, ensure that

- ▶ it has been installed according to the directions
- ▶ it is not damaged
- ▶ it contains no foreign bodies
- ▶ the terminal compartment is clean
- ▶ the connection has been made correctly
- ▶ the cables have been connected correctly
- ▶ all screws and nuts are fully tightened
- ▶ the cable entries are securely tightened
- ▶ unused cable entries are sealed with plugs certified to Directive 94/9/EC, and unused holes are sealed by stopping plugs certified to Directive 94/9/EC.

 WARNING
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Excessive tightening of the components referred to above can affect the ingress protection!

10 Repairs and Maintenance

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

Before work commences the devices must be disconnected from the mains.

 WARNING
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Observe the relevant national regulations in the country of use! Before opening the socket, disconnect it from the supply!

The following points must be checked during maintenance:

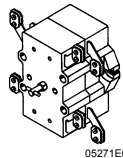


- ▶ Clamping screw holding the cables is securely seated
- ▶ Compliance with the permitted temperatures (in accordance with IEC/EN 60079-0)
- ▶ Cracks in plastic enclosures
- ▶ Damage to the gaskets
- ▶ Separate plugs and sockets at regular intervals to prevent contact corrosion



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


Replace the switch after each short circuit in the main circuit (the element is hermetically sealed and the state of the switching contacts cannot be checked).

11 Accessories and Spare Parts

Designation	Illustration	Description	Order number	Weight kg	
Switch	 05271E00	for socket: 8581/11	148922	4.101	
Stopping plugs	 04840E00	8290/3-M 25 x 1.5	1 piece	143524	0.006
		8290/3-M 63 x 1.5	1 piece	143548	0.030
Cable glands	 05864E00	8161/5-M 25-17	1 piece	138520	0.016
		8161/5-M 63-48	1 piece	138529	0.120

12 Disposal

Observe the national standard for refuse disposal.

	We are pleased to answer any special questions you may have. Please contact your nearest R. STAHL representative.
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13 EC Type Examination Certificate

13.1 EC Type Examination Certificate (Page 1)

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin



(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment and Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 01 ATEX 1161



(4) Equipment: Plug-and-socket device, type 8581/.....-

(5) Manufacturer: R. STAHL Schaltgeräte GmbH

(6) Address: 74638 Waldenburg (Württ.), Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 02-11329.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1 + A2 **EN 50018:2000** **EN 50019:2000**
EN 50020:1994

(10) 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.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

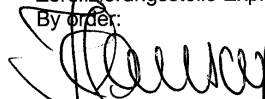
(12) The marking of the equipment shall include the following:

 **II 2 G EEx ed[ib] IIC T6 or T5**

Zertifizierungsstelle Explosionsschutz

Braunschweig, July 30, 2002

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



sheet 1/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig



13.2 EC Type Examination Certificate (current supplement)

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin



1st SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1161
(Translation)

Equipment: Plug-and-socket device, type 8581/...-...-



Marking:  II 2 G EEx ed[ib] IIC T6 resp. T5

Manufacturer: R. STAHL Schaltgeräte GmbH

Address: Am Bahnhof 30
74638 Waldenburg (Württ.), Germany

Description of supplements and modifications


The plug-and-socket device, type 8581/...-...-, may also be used in areas in which explosive atmospheres produced by dust/air mixtures may occasionally occur.
The marking will thus change to:


 II 2 G EEx ed[ib] IIC T6 resp.. T5
 II 2 D IP 66 T 80 °C resp.. T 95 °C

Test report: PTB Ex 05-14001

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, August 04, 2005


Dr.-Ing. M. Theden



Sheet 1/1

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Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig, Germany

14 EC-Declaration of Conformity

EG-Konformitätserklärung
EC-Declaration of Conformity
Déclaration de Conformité CE



Wir (we; nous)	
R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, 74638 Waldenburg, Germany	8581/..
erklären in alleiniger Verantwortung, dass das Produkt <i>hereby declare in our sole responsibility, that the product</i> <i>déclarons, sous notre seule responsabilité, que le produit</i>	Steckvorrichtung <i>Plug and Socket</i> <i>Prise de courant</i>
mit der EG-Baumusterprüfbescheinigung: <i>(under; EC-Type Examination Certificate:</i> <i>avec) Attestation d'examen CE de type:</i>	PTB 01 ATEX 1161
auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmt <i>which is the subject of this declaration, is in conformity with the following standards or normative documents</i> <i>auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants</i>	
Bestimmungen der Richtlinie <i>terms of the directive</i> <i>prescriptions de la directive</i>	Nummer sowie Ausgabedatum der Norm <i>Number and date of issue of the standard</i> <i>Numéro ainsi que date d'émission de la norme</i>
94/9/EG: ATEX-Richtlinie <i>94/9/EC: ATEX Directive</i> <i>94/9/CE: Directive ATEX</i>	EN 60079-0:2006 EN 60079-1:2007 EN 60079-7:2007 EN 60079-11:2007 EN 61241-0:2006 EN 61241-1:2004
2004/108/EG: EMV-Richtlinie <i>2004/108/EC: EMC Directive</i> <i>2004/108/CE: Directive CEM</i>	EN 60947-3 EN 60947-4-1
Qualitätssicherung Produktion: <i>Production Quality Assessment:</i> <i>Assurance Qualité Production:</i>	
PTB 96 ATEX Q006-4	
Kenn-Nr. der benannten Stelle / Notified Body number / N° de l'organisme de certification: 0102	
Waldenburg, 24. Okt. 2008	i.V.
Ort und Datum <i>Place and date</i> <i>Lieu et date</i>	B. Limbacher Leiter Entwicklung <i>Head of Development</i> <i>Directeur Développement</i>
	i.V.
	Dr. S. Jung Leiter Qualitätsmanagement <i>Director Quality Management Dept.</i> <i>Directeur Dept. Assurance de Qualité</i>

TXV 03/99 Papier chloré

