

Operating Instructions

Junction box

> 8102/2



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2 General Information

2.1 Manufacturer







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

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 Fax: +49 7942 943-4333
 Internet: www.stahl.de

2.2 Information regarding the Operating Instructions

ID NO.: 8102604300
 Publication Code: S-BA-8102-03-en-16/04/2008
 We reserve the right to make technical changes without notice.

2.3 Symbols Used

	Action request: Describes actions to be carried out by the user.
	Reaction sign: Describes the results or the reactions to the actions taken.
	Bullet
	Commentary sign: describes the notes and recommendations.
	Warning sign: Danger from energised parts!
	Warning sign: Danger due to an explosive atmosphere!

3 General Safety Information

3.1 Safety Instructions for Assembly and Operating Personnel

The operating instructions contain basic safety instructions which are to be observed during installation, operation and maintenance. Non-observance can lead to endangerment of persons, plant and the environment.

 **WARNING**

Risk due to unauthorised work being performed on the device!

- ▷ Risk of injury and damage to equipment.
- ▶ Mounting, installation, commissioning and servicing work must only be performed by personnel who are both authorised and suitably trained for this purpose.

Before assembly/commissioning:

- ▶ Read through the operating instructions.
- ▶ Give adequate training to the assembly and operating personnel.
- ▶ Ensure that the contents of the operating instructions are fully understood by the personnel in charge.
- ▶ The national installation and assembly regulations (e.g. IEC/EN 60079-14) apply.

If you have questions:

- ▶ Contact the manufacturer.

When operating the device:

- ▶ Ensure the operating instructions are made available on location at all times.
- ▶ Observe safety instructions.
- ▶ Observe national safety and accident prevention regulations.
- ▶ Only run the device according to its performance data.
- ▶ Servicing/maintenance work or repairs which are not described in the operating instructions must not be performed without prior agreement with the manufacturer.
- ▶ Any damage may render explosion protection null and void.
- ▶ No changes to the device impairing their explosion protection are permitted.
- ▶ Install and use the device only if it is undamaged, dry and clean.

3.2 Warnings

Warnings are sub-divided in these operating instructions according to the following scheme:

 **WARNING**

Type and source of the danger!

- ▷ Possible consequences.
- ▶ Measures to avoid danger.

They are always identified by the signalling word “WARNING” and sometimes also have a symbol which is specific to the danger involved.

3.3 Conformity to Standards

The junction boxes comply with the following standards and directives:

- X Directive 94/9/EC
- X EN 50014, EN 50019, EN 50020, EN 60947-1/A1, EN 50281-1-1

4 Designated Use

The junction boxes series 8102 are used to transport and distribute electrical energy in areas subject to explosion hazards.

The devices are approved for use in areas subject to explosion hazards of zones 1, 2, 21 and 22.




With ambient temperatures $< -20\text{ °C}$, cable entries "suitable for low temperatures" must be used, or the station must be so positioned that the cable entries are mechanically protected.

WARNING

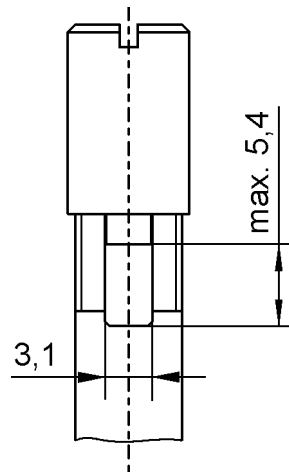
Only use the device for its intended purpose!

- ▷ Otherwise, the manufacturer's liability and warranty expire.
- ▶ The device may only be used under the operating conditions described in these operating instructions.
- ▶ The device must only be used in areas subject to explosion hazards according to these operating instructions.

5 Technical Data

Explosion protection	
Gas explosion protection	EEx e:  II 2 G EEx e II T6 EEx i:  II 2 G EEx ia/ib II T6
Dust explosion protection	 II 2 D IP 66 T80 °C, T95 °C
Certificates	
Gas explosion protection	PTB 01 ATEX 1136
Dust explosion protection	PTB 01 ATEX 1136
Enclosure material	Glass fibre reinforced polyester resin
Cover fixing	M 4, cheese head screws
Rated operational voltage	690 V
Rated operational current	max. 27 A
Terminals	4 terminals and 1 PE connection, for 2 x 4 mm ² , single-wire
Type of terminals	Sheath terminal

Layout of available connection area of the sheath terminal



09250E00

Cable entry

Semi glands M20 x 1.5
 Cable entries M 20 x 1.5
 M 25 x 1.5

Terminal sizes of the semi glands:

For conductor diameter [mm]

	From	to
Gasket complete	8.5	8.5
One gasket inner ring removed	10.5	12.5
Both gasket inner rings removed	13.0	14.0

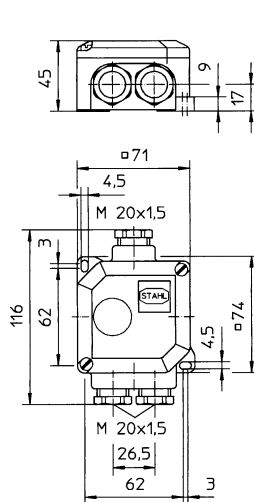
Operating temperature range

Ex e version with semi glands:
 - 50 °C ... + 40 °C
 Ex i version with semi glands:
 - 50 °C ... + 75 °C
 Ex e version with full glands:
 - 40 °C ... + 40 °C
 Ex i version with full glands:
 - 40 °C ... + 75 °C

Ingress Protection

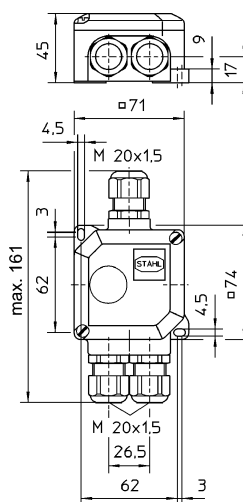
IP 66

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

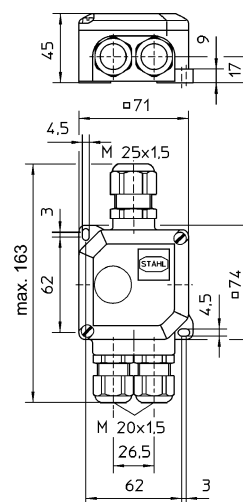


8102/2.-3

04465E00



8102/21-3-C1104



8102/21-4-C1151

09452E00

09249E00

6 Transport, Storage and Disposal

Transport

- ▶ Shock-free in its original carton, do not drop, handle carefully.



Storage

- ▶ Store in a dry place in its original packaging





Disposal

- ▶ Ensure environmentally friendly disposal of all components according to legal regulations.

7 Assembly


	Install a protective roof or wall if the explosion-protected electrical device is mounted outdoors.
	Assembly and maintenance may only be carried out in ambient temperatures between - 20 °C and + 40 °C.

8 Installation

 WARNING	
	<p>Incorrectly installed components!</p> <ul style="list-style-type: none"> ▶ Explosion protection cannot be guaranteed any more if the components are incorrectly installed. ▶ When terminal sleeves are fitted, they must be gas-tight and applied with a suitable tool.
 WARNING	
	<p>Use of cable entries without strain-relief!</p> <ul style="list-style-type: none"> ▶ Explosion protection cannot be guaranteed any more if cable entries are installed without cable strain-relief in the vicinity of loosely laid cables and leads. ▶ Securely lay cabling and leads. ▶ If the cables are laid loosely, only use cable entries approved for this application.

Mains Connection

- ▶ Be especially careful when connecting the cable.
- ▶ The conductor insulation must reach to the terminal.
- ▶ The conductor itself must not be damaged when removing the insulation.
- ▶ Select the cables and the mode of running them in a way that the maximum permitted cable temperature is not exceeded.
- ▶ Observe the terminal specifications (see technical data).





	Internal earth connection is provided.
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9 Commissioning

Before commissioning

- ▶ Make sure that the device is installed correctly.
- ▶ Check if cables and lines are clamped properly.
- ▶ Inspect cable entry for damage.
- ▶ Check torques.
- ▶ Check whether the contact surface for the seal is flat.
- ▶ Make sure that unused cable glands are sealed with plugs certified according to Directive 94/9/EC, and unused holes are sealed by stopping plugs certified according to Directive 94/9/EC.

10 Maintenance

 WARNING	
	<p>Danger from energised parts!</p> <ul style="list-style-type: none"> ▷ Risk of severe injuries. ▶ Before any maintenance work commences, disconnect the device from the power supply. ▶ Secure the device against unauthorised activation.
 WARNING	
<p>Risk due to unauthorised work being performed on the device!</p> <ul style="list-style-type: none"> ▷ Risk of injury and damage to equipment. ▶ Mounting, installation, commissioning and servicing work must only be performed by personnel who are both authorised and suitably trained for this purpose. 	
	<p>Assembly and maintenance may only be carried out in ambient temperatures between - 20 °C and + 40 °C.</p>

10.1 Regular Maintenance Work

- ▶ Consult the relevant regulations (e.g. IEC/EN 60079-17) to determine the type and extent of inspections.
- ▶ Plan the intervals so that any defects in the equipment which may be anticipated are promptly detected.

To check as part of the maintenance schedule:

- × Check that cables and lines are clamped properly.
- × Inspect device for visible damage.
- × Compliance with the permitted temperatures in accordance with IEC/EN 60079-0.
- × Make sure that the device is used according to its designated use

10.2 Cleaning




- × Clean with a cloth, brush, vacuum cleaner or similar items.
- × When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- × Never use aggressive cleaning agents or solvents.

11 Accessories and Spare Parts

⚠ WARNING

Use of non-approved accessories and spare parts.

- ▶ The manufacturer's liability and warranty expire.
- ▶ Use only original accessories and original spare parts manufactured by R. STAHL.

Designation	Illustration	Description		Order number	Weight kg
Semi glands	 <small>04838E00</small>	8194/5-3-3 x M 20 x 1.5	3 pieces	8194808370	0,019
Cable entries	 <small>05864E00</small>	8161/5-M 20-13	1 piece	8161077010	0,012
		8161/5-M 25-17	1 piece	8161078010	0,016
Stopping plugs	 <small>04840E00</small>	8290/3-M 20 x 1.5	1 piece	8290008590	0,004
		8290/3-M 25 x 1.5	1 piece	8290009590	0,006

12 Type Examination Certificate (Page 1)

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB

(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 1136

(4) Equipment: Junction box, type 8102/2.-.

(5) Manufacturer: R. STAHL Schaltgeräte GmbH

(6) Address: Am Bahnhof 30, D-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 01-11271.

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

EN 50014:1997 + A1 + A2 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 e ia/ib II/IIA/IIIB/IIC T6 or T5

Zertifizierungsstelle Explosionsschutz

Braunschweig, December 17, 2001

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 Declaration of Conformity



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

PTB 01 ATEX 1136

<p>Wir (we; nous)</p> <p>R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, D-74638 Waldenburg (Württ.)</p>		
<p>erklären in alleiniger Verantwortung, dass das Produkt</p> <p>hereby declare in our sole responsibility, that the product</p> <p>déclarons de notre seule responsabilité, que le produit</p>	<p>Abzweigdose Typ 8102/2.-. Junction Box Type 8102/2.-. Boîte de Dérivation Type 8102/2.-.</p>	
<p>auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt</p> <p>which is the subject of this declaration, is in conformity with the following standard(s) or normative documents</p> <p>auquel cette déclaration se rapporte, est conforme aux norme (s) ou aux documents normatifs suivants</p>		
<p>Bestimmungen der Richtlinie terms of the directive prescription de la directive</p>	<p>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</p>	
<p>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 à être utilisés en atmosphères explosibles</p>	<p>EN 50014: 1997 + A1 + A2 EN 50019: 2000 EN 50020: 1994 EN 50281-1-1: 1998</p>	
<p>89/336/EWG: Elektromagnetische Verträglichkeit 89/336/EEC: Electromagnetic compatibility 89/336/CEE: Compatibilité électromagnétique</p>	<p>EN 60947-1: 1999</p>	
<p>Waldenburg, 26.07.2005</p>	<p>i. V. </p>	<p></p>
<p>Ort und Datum Place and date Lieu et date</p>	<p>Leiter Entwicklung Head of Development Directeur Développement</p>	<p>Leiter Qualitätsmanagement Head of quality management dept. Chef du dept. assurance de qualité</p>

TV 03/99 Papier chlorfrei



