

Operating Instructions

Junction Box

> 8118



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2 General Information

2.1 Manufacturer

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2.2 Operating Instructions Information

ID-No.: 133275 / 8118605300
Publication Code: 2011-01-10·BA00·III·en·05
Subject to alterations.

3 Intended Use

The devices are used for the transfer and distribution of electrical energy.
They are certified for use in hazardous areas of Zones 1, 2 and 21, 22.

4 General Safety Instructions

Use the device only for its permitted purpose. Incorrect or impermissible use or noncompliance with these instructions invalidates our warranty provision. Any alterations and modifications to the device impairing its explosion protection are not permitted. Use the device only if it is undamaged and clean.

WARNING

Installation, maintenance, overhaul and repair may only be carried out by appropriately authorised and trained personnel.

Observe the following information during installation and operation:

- ▶ Any damage can invalidate the explosion protection
- ▶ National safety regulations
- ▶ National accident prevention regulations
- ▶ National installation regulations (e.g. IEC/EN 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 fixed directly to the device

5 Conformity to Standards

Please see the EC Declaration of Conformity for the relevant standards.

Type	8118/11	8118/21	8118/31	8118/113	8118/123	8118/133
Versions	junction box without miniature fuse			junction box with miniature fuse		
Explosion Protection						
Gas explosion protection						
ATEX	Ex e	Ex e II 2 G Ex e II T6, T5, T4		Ex e	Ex e II 2 G Ex em II T *	
	Ex i	Ex i II 2 G Ex ia/ib IIA, IIB, IIC T6, T5			* depending on miniature fuse used	
IECEX	Ex e	Ex e II T6, T5, T4		Ex em II T *		
	Ex i	Ex ia/ib IIA, IIB, IIC T6, T5		* depending on miniature fuse used		
Dust explosion protection						
ATEX	Ex tD	Ex tD A21 IP66 T80 °C, T95 °C, T130 °C		Ex tD	Ex tD A21 IP66 T80 °C, T95 °C, T130 °C	
IECEX	Ex tD	Ex tD A21 IP66 T80 °C, T95 °C, T130 °C		Ex tD	Ex tD A21 IP66 T80 °C, T95 °C, T130 °C	
Certificates						
ATEX	PTB 99 ATEX 3103					
IECEX	IECEX PTB 06.0026					
Ambient temperature						
	Ex e:	- 20 ... + 55 °C - 50 ... + 55 °C with special cable glands				
	Ex i:	- 20 ... + 75 °C - 50 ... + 75 °C with special cable glands				
Type	8118/11	8118/21	8118/31	8118/113	8118/123	8118/133
Rated operational voltage	550 V	750 V	750 V	250 or 500 V	250 or 500 V	250 or 500 V
	--	--	--	depending on miniature fuse used		
Max. number of miniature fuses	--	--	--	1 x 8560	2 x 8560	2 x 8560
Connection terminals						
Type of terminals	mantle terminals			mantle terminals		
Max. number	4 or 5	5 or 8	8	3 when using 1 miniature fuse	7 when using 1 miniature fuse, 6 when using 2 miniature fuses	7 when using 1 miniature fuse, 6 when using 2 miniature fuses
Current carrying capacity at conductor cross-section of	max. 24 A 4 mm ²	max. 32 A 6 mm ²	max. 44 A 10 mm ²	max. 24 A 4 mm ²	max. 32 A 6 mm ²	max. 44 A 10 mm ²
Max. conductor cross-section	4 mm ² solid	6 mm ² solid	10 mm ² solid	4 mm ² solid	6 mm ² solid	10 mm ² solid
Material						
Enclosure	glass fibre reinforced polyester resin, dark grey similar to RAL 7012, impact resistance > 7 J, flame retardant acc. to IEC/EN 60695, UL 94, ASTM D635					
Sealing gasket	Polyurethane, foamed					
Degree of protection	IP66					

Equipping the junction boxes

Maximum permissible continuous current of the terminal depending on the conductor cross-section and the number of terminals under load for temperature class T6 with $T_a \leq 40\text{ °C}$ or T5 with $T_a \leq 55\text{ °C}$:

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Number of loaded terminals	Permissible rated operational current [A] at conductor size		
	1.5 mm ²	2.5 mm ²	4 mm ²
5	13 A	18 A	24 A
4	15 A	19 A	25 A
≤ 3	16 A	20 A	25 A

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Number of loaded terminals	Permissible rated operational current [A] at conductor size			
	1.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²
7	13 A	17 A	24 A	32 A
6	14 A	18 A	25 A	33 A
5	14 A	20 A	25 A	35 A
≤ 4	16 A	20 A	25 A	35 A

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Number of loaded terminals	Permissible rated operational current [A] at conductor size				
	1.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²	10 mm ²
7	13 A	17 A	24 A	32 A	44 A
6	14 A	18 A	25 A	33 A	46 A
5	14 A	20 A	25 A	35 A	49 A
≤ 4	16 A	20 A	25 A	35 A	50 A

Installation of fuses (8118/1.3 and 8118/1.4)

Fuse	Temperature class	T _a	Max. permissible surface temperature
≤ 2 A	T6	40 °C	T80 °C
> 2 A ... ≤ 4 A	T5	55 °C	T95 °C
> 4 A ... ≤ 5 A	T5	40 °C	T95 °C
> 5 A ... < 6.3 A	T4	55 °C	T130 °C

7 Transport and Storage

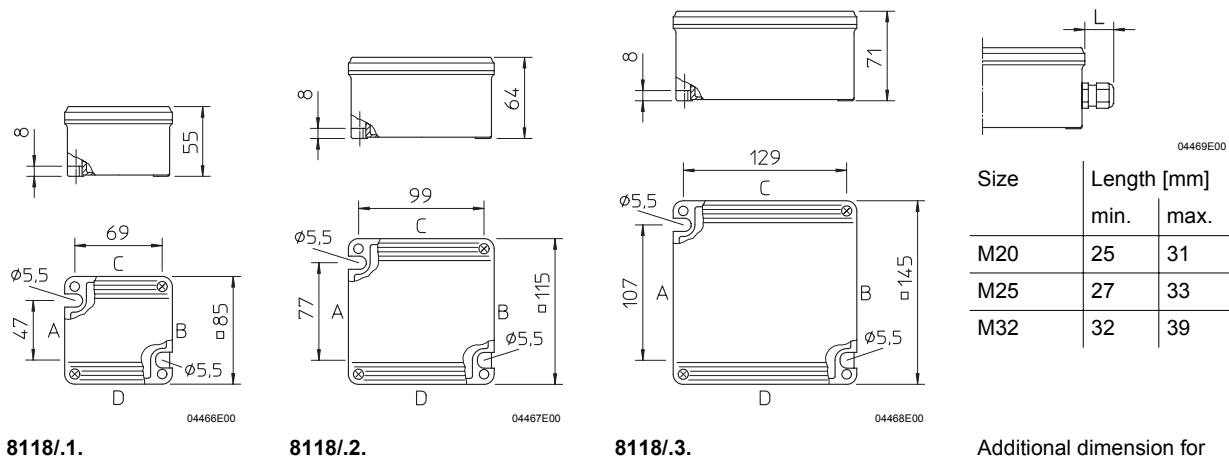
- Transport and storage are only permitted in the original packing.

8 Assembling and Dismantling

When explosion protected equipment is exposed to the weather it is advisable to provide a protective cover or wall.

9 Dimensions

Dimensional Drawings (All Dimensions in mm) - Subject to Alterations




10 Installation

Electrical connection

- The conductor must be carefully connected.
- The conductor insulation must reach to the terminal.
- When stripping the insulation the conductor must not be damaged (nicked).
- By suitable selection and laying of cables it has to be ensured that the maximum permissible conductor temperatures are not exceeded.
- Please refer to the manufacturer's terminal data.

Protective conductor

- A protective conductor is always required.
- All blank, non-live metal parts have to be included into the protective conductor system, regardless of the rated operational voltage.
- Neutral conductors are considered to be live conductors. They have to be installed accordingly.

	Please take details regarding the potential equalization (PA), potential earth (PE) and intrinsically safe circuits from the documentation of the respective equipment.
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11 Putting into Service

Before putting into service

- ▶ Make sure that the device is not damaged.
- ▶ Make sure that the device is installed correctly.
- ▶ Remove any foreign objects from the device.
- ▶ Check if cable glands and stopping plugs are tight.
- ▶ Check if screws and nuts are tightly fitted.
- ▶ Inspect the cable glands for signs of damage.
- ▶ Check the tightening torques.

WARNING

When sealing unused holes with stopping plugs make sure that these components have an “EC Type Examination Certificate”, respectively an “IECEx Certificate of Conformity”.

12 Maintenance, Overhaul and Repair

WARNING

- ▶ Installation, maintenance, overhaul and repair may only be carried out by appropriately authorised and trained personnel.
- ▶ Observe the relevant national standards in the country of use!
- ▶ Do not open when live!

The following details must be checked during maintenance:

- ▶ Cables are held securely in place by the terminals
- ▶ Compliance with the permitted temperatures (acc. to IEC/EN 60079)
- ▶ Damage to the enclosure
- ▶ Damage to the sealing gaskets

WARNING

The device may only be cleaned with a damp cloth!

13 Accessories and Spare Parts

WARNING

- ▶ Use only R. STAHL accessories and spare parts.
- ▶ The fuses fitted may only be replaced by fuses with matching characteristics. Any infringements can change the **temperature class** of the whole box.

14 Disposal

Observe the national waste disposal regulations.

15 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

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erklären in alleiniger Verantwortung, dass das Produkt
hereby declare in our sole responsibility, that the product
déclarons, sous notre seule responsabilité, que le produit

Abzweigdose und Klemmenkasten
Junction box and terminal box
Boîte de dérivation et de raccordement

mit der EG-Baumusterprüfbescheinigung:
under EC-Type Examination Certificate:
avec Attestation d'examen CE de type:

PTB 99 ATEX 3103
(Physikalisch-Technische Bundesanstalt
Bundesallee 100, 38116 Braunschweig)

auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmt
which is the subject of this declaration, is in conformity with the following standards or normative documents
auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants

Bestimmungen der Richtlinie Terms of the directive Prescription de la directive	Nummer sowie Ausgabedatum der Norm Number and date of issue of the standard Numéro ainsi que date d'émission de la norme
94/9/EG: ATEX-Richtlinie 94/9/EC: ATEX Directive 94/9/CE: Directive ATEX	EN 60079-0: 2006 EN 60079-7: 2007 EN 60079-11: 2007 EN 60079-18: 2004 EN 61241-0: 2006 EN 61241-1: 2004
2004/108/EG: EMV-Richtlinie 2004/108/EC: EMC Directive 2004/108/CE: Directive CEM	

Waldenburg, 20. Sept. 2010

Ort und Datum
Place and date
Lieu et date

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F-4174-601 11/2009 STMZ

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