



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx PTB 15.0010 issue No.:0 Certificate history:

Status: **Current**

Date of Issue: **2015-04-30** Page 1 of 3

Applicant: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
74683 Waldenburg
Germany

Electrical Apparatus: **Junction Box Type 8102/**.****
Optional accessory:

Type of Protection: **Increased Safety "e", Intrinsic Safety "ia/ib", Protection by Enclosure "tb"**

Marking: **Ex e IIC T6, T5 Gb**
Ex ia/ib IIC T6 Gb
Ex tb IIIC T80 °C, T90 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Uwe Klausmeyer

Position:

Head of Department Explosion Protection in Energy Technology

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany





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Manufacturer: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
74683 Waldenburg
Germany

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/PTB/ExTR12.0092/00

Quality Assessment Report:
DE/BVS/QAR10.0002/05



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description of equipment

The junction box, type 8102/**-**, consists of a plastics enclosure that accommodates four mantle terminals as well as a terminal for the protective conductor.

The box, type 8102/21-**, will only be used for non-intrinsically safe circuits, while type 8102/22-** will only be used for intrinsically safe circuits.

The mantle terminal consists of a slotted bolt with thread M7 x 0.75 as well as a closed terminal nut with a sprung thrust pad.

The junction box will be provided either with – separately certified – cable entries or integrated cable entries.

Further information see Annex.

CONDITIONS OF CERTIFICATION: NO

Annex: Annex IECEx PTB 15.0010 Issue 0.pdf



Applicant: R. STAHL Schaltgeräte GmbH
Am Bahnhof 30
74638 Waldenburg
Germany

Electrical Apparatus: Junction Box type 8102/**-**

Description

The junction box, type 8102/**-**, consists of a plastics enclosure that accommodates four mantle terminals as well as a terminal for the protective conductor.

The box, type 8102/21-**, will only be used for non-intrinsically safe circuits, while type 8102/22-** will only be used for intrinsically safe circuits.

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The junction box will be provided either with – separately certified – cable entries or integrated cable entries.

Nomenclature

8102	/	*	*	-	**
a	/	b	c	-	d

- a) Type series
- b) Number of terminals
2 = 5 terminals
- c) Design
1 = Increased Safety Ex e
2 = Intrinsic Safety Ex i
- d) Additional information without reference to explosion-protection



Technical data

Rated voltage:	up to... 690 V
Rated current:	max.... 25 A
Rated cross section:	max. 2 x 4 mm ² max. 3 x 2.5 mm ² min. 0.75 mm ²
Conductor diameter with integrated cable entries:	6.5 mm to 14 mm
Ingress protection:	IP66 according to IEC 60529
Ambient temperature:	The maximal ambient temperature shall adjust to the maximal conductor cross-section, the electrical current and the rating of the temperature class. $-50\text{ °C} \leq T_a \leq +70\text{ °C}$
Service temperature:	The maximal service temperature shall adjust to the maximal ambient temperature and the rating of the temperature class. T6: $-50\text{ °C} \leq T_s \leq +80\text{ °C}$ T5: $-50\text{ °C} \leq T_s \leq +90\text{ °C}$

Diameter in connection with the gasket

Gasket without removal of the subring	6.5 to 8.5 mm
Gasket after removal of the first inside subring	8.5 to 12.0 mm
Gasket after removal of the second inside subring	12.0 to 14.0 mm

Max. Power load in appendance of the cross section and the ambient temperature

Min. Cross section	Ambient temp. max. +40 °C	Ambient temp. max. +50 °C	Ambient temp. max. +60 °C	Ambient temp. max. +70 °C
0.75 mm ²	max. 10 A	max. 10 A	max. 6 A	max. 6 A
1.0 mm ²	max. 12 A	max. 12 A	max. 10 A	max. 6 A
1.5 mm ²	max. 16 A	max. 12 A	max. 10 A	max. 6 A
2.5 mm ²	max. 16 A max. 25 A (T5)	max. 16 A	max. 16 A	max. 10 A
4.0 mm ²	max. 25 A	max. 25 A	max. 16 A max. 25 A (T5)	max. 16 A

Under conditions marked T5 in the table above the temperatures of the terminals may exceed 80°C to a maximum of 90°C. Under this condition the electrical wires must be suitable for this operating temperature. See operating instructions.

It will be the manufacturer's responsibility to specify the characteristic values of the intrinsically safe circuits.

Notes for installation and use

By junction boxes with integrated cable glands only fixed installed cables and conductors are allowed to connect.

The junction box must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust.

The surface resistance of the material used for the enclosure is 10¹³ Ohm. Therefore the note "to be cleaned with moist cloth only" is to be given.

Routine tests

The compliance of the maximal allowed temperature for the respective temperature class under consideration of the maximal ambient temperature must be ensured by the routine test according to IEC 60079-0.