



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEx PTB 09.0048** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 3 [Issue 2 \(2012-10-22\)](#)
Date of Issue: 2021-03-19 [Issue 1 \(2011-03-15\)](#)
[Issue 0 \(2009-12-02\)](#)
Applicant: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
74638 Waldenburg
Germany
Equipment: **Terminal box type 8150/1-****-****-***-**** and 8150/2-****-****-***-******
Optional accessory:
Type of Protection: **"db", "eb", "ia", "mb", "op pr", "tb"**
Marking: 8150/1: Ex db eb ia mb op pr IIC, IIB, IIA T6, T5, T4, T3 Gb
Ex tb IIIC T80 °C, T95 °C, T130 °C, T135 °C Db
8150/2: Ex ia IIC T6, T5, T4, T3 Gb
Ex tb IIIC T80 °C, T95 °C, T130 °C, T135 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

Dr. -Ing. D. Markus

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 www.iecex.com or use of this QR Code.



Certificate issued by:

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





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

Additional
manufacturing
locations:

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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/ExTR09.0055/03](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/16](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description of equipment

The Terminal Box type 8150/1-****_****_****_**** and 8150/2-****_****_****_**** consists of enclosures out of steel or stainless steel in the type of protection Increased Safety "eb" and Protection by Enclosures "tb", which may be provided with Ex-type certified flanges. Several boxes can be combined with each other. The connection is made by Ex-cable entries. The Terminal Box is equipped with terminals for circuits in the type of protection Increased Safety "eb" or Intrinsic Safety "ia" or combinations of both. It may optionally be provided with isolating terminals and fuses. The components for intrinsically safe circuits are marked, e.g. in light blue. The empty enclosures as well as all mounted and attached components have been tested and certified under an IECEx examination certificate.

Electrical Datas, Nomenclature and Notes for manufacturing and operation: see Annex

SPECIFIC CONDITIONS OF USE: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- 1) Additional Ex components added to list of components.
- 2) Standard update to latest IEC standards.
- 3) New Certification Instruction.

Annex:

[COCA090048-03.pdf](#)



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

Electrical Apparatus: Terminal Box
Type 8150/1-****-****-***-**** and 8150/2-****-****-***-****

Description

The Terminal Box type 8150/1-****-****-***-**** and 8150/2-****-****-***-**** consists of enclosures out of steel or stainless steel in the type of protection Increased Safety "eb" and Protection by Enclosures "tb", which may be provided with Ex-type certified flanges. Several boxes can be combined with each other. The connection is made by Ex-cable entries. The Terminal Box is equipped with terminals for circuits in the type of protection Increased Safety "eb" or Intrinsic Safety "ia" or combinations of both. It may optionally be provided with isolating terminals and fuses. The components for intrinsically safe circuits are marked, e.g. in light blue. The empty enclosures as well as all mounted and attached components have been tested and certified under an IECEx examination certificate.

Nomenclature

8150	/	*	-	****	-	****	-	***	-	*	*	*	*
a		b		c		d		e		f	g	h	i

- a Type series
- b Design:
 - 1 – Terminal box Ex e
 - 2 – Terminal box Ex i
- c Enclosure size, width [mm]:
 - min. 0100
 - max. 1200
- d Enclosure size, height [mm]:
 - min. 0100
 - max. 2200
- e Enclosure size, depth [mm]:
 - min. 060
 - max. 900
- f Material:
 - 1 – 1.0330 (wall thickness 1.5...2 mm)
 - 2 – 1.4301, 304, 304 S17 (wall thickness ≤2 mm)
 - 3 – 1.4404, 316L, 316 S11 or 1.4571 316 Ti, 320 S18 (wall thickness ≤2 mm)
 - 4 - 1.0330 (wall thickness ≤3 mm)
 - 5 - 1.4301, 304, 304 S17 (wall thickness ≤3 mm)
 - 6 - 1.4404, 316L, 316 S11 or 1.4571, 316 Ti, 320 S18 (wall thickness ≤3 mm)



- g Surface:
 - 1 – Powder coated
 - 3 – Sanded, with grain 240
 - 4 – Electro polished
- h Design of Cover:
 - 1 – Screwed cover
 - 2 – with hinge and cam lock (rotary latches)
 - 3 – with hinge and screws
 - 4 – with continues hinge and cam lock (rotary latches)
 - 5 – with hinge and cam lock (rotary latches) – two door version
- i Ambient temperature range acc. to gaskets:
 - 1 – from -60 °C to 135 °C (Gasket 1 – D0067)
 - 2 – from -55 °C to 85 °C (Gasket 2 – D0068)
 - 3 – from -25 °C to 76 °C (Gasket 3 – D0069)

Technical data

Rated voltage*	max.	1100 V AC/DC
Rated current*	max.	630 A
Rated cross-section*	max.	300 mm ²

*) depending on the terminal type and Ex components used

Ambient temperature range

Ambient temperature range dependent on the gasket:

Gasket 1 (D0067)	-60 °C to +135 °C
Gasket 2 (D0068)	-55 °C to +85 °C
Gasket 3 (D0069)	-25 °C to +76 °C

Ingress protection according to IEC 60079-0, IEC 60079-7 and IEC 60079-31:
depends on the assembled Ex components or Ex equipments

The rated values are maximum values, the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility.

The maximum permissible ambient temperature range of the terminal enclosure can be limited by the maximum permissible service temperature ranges of the separately certified components.

The composition of the type of protection marking will be based on the types of protection of components actually used.



Notes for manufacturing and operation

The maximum number of conductors per enclosure size depending on the cross-section and the permissible continuous current can be found in the supplementary sheets.

The maximum number of terminal blocks is specified in the supplementary sheets using a calculation program.

In order to ensure the ingress protection IP, the cover of the empty enclosure, the flange enclosure, the sealing frame and other Ex-components must be properly installed and with the appropriate torque.

When additionally equipped with isolating terminals and fuses, the temperature class is determined depending on the self-heating at the rated thermal current and the ambient temperature.

Equipment of the type of protection intrinsic safety "i" is to be installed in such a way that the distances, creepage distances and clearances between intrinsically safe circuits and non-intrinsically safe circuits comply with the requirements of IEC 60079-11.

When more than one intrinsically safe circuit is used, the rules for interconnection are to be observed.

When components are installed into the empty enclosure, clearance and creepage distances specified in the standard IEC 60079-7 and IEC 60079-11 shall duly be complied with.

The Terminal box with a coating of polyester powder 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.