



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

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx PTB 06.0044U**

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Certificate history:

Status: **Current**

Issue No: 4

Issue 3 (2021-06-01)

Issue 2 (2018-06-27)

Issue 1 (2011-11-25)

Issue 0 (2006-06-06)

Date of Issue: 2022-09-15

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

Ex Component: Empty enclosure type 8146/-***-**

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Increased Safety "eb", Protection by Enclosures "tb"**

Marking: Ex eb IIC Gb
Ex tb IIIC Db

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Detlev Markus

Position:

Head of Department "Explosion Protection in Energy Technology"

Signature:
(for printed version)

Date:
(for printed version)

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

Manufacturing locations: **R. Stahl Schaltgeräte GmbH**
Am Bahnhof 30
74638 Waldenburg
Germany

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 component 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 60079-31:2022-01](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

[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 component listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/PTB/ExTR06.0054/04](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/17](#)



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Ex Component(s) covered by this certificate is described below:

Description

The empty enclosure type 8146/-***-**, made from polyester, can be provided with flanges and may be connected in series. It is used in type of protection Increased Safety "eb" and Protection by Enclosure "tb".

For more information see annex.

SCHEDULE OF LIMITATIONS:

Schedule of Limitations

Service temperature:

-60 °C ≤ T_S ≤ +100 °C (for gasket D0075, D0187)

-50 °C ≤ T_S ≤ +100 °C (for earth assemblies with gasket D0187)

-20 °C ≤ T_S ≤ +60 °C (for gasket D0121)

The use of this component requires a further assessment by an ExCB.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- 1) New test according to IEC 60079-0:2017, IEC 60079-7:2017 and IEC 60079-31:2022
- 2) Addition of Earth Assemblies

Annex:

[COCA060044U-04.pdf](#)



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

Equipment: Empty enclosure type 8146/-***-**

Description:

The empty enclosure type 8146/-***-**, made from polyester, can be provided with flanges and may be connected in series. It is used in type of protection Increased Safety "eb" and Protection by Enclosure "tb".

Nomenclature:

8146/	-	**	*	-	**
a	b	c	d	-	e

a	Product type / Series
b	Empty enclosure
c	Enclosure size length x width [mm]: 00 = combination 03 = 112.5 x 112.5 04 = 170.0 x 112.5 24 = 227.0 x 112.5 05 = 170.0 x 170.0 06 = 227.0 x 170.0 07 = 340.5 x 170.0 B7 = 340.5 x 170.0 S7 = 340.5 x 17.0 08 = 340.5 x 340.5 09 = 681.5 x 340.5 M9 = 681.5 x 340.5
d	Enclosure height [mm]: 0 = combination 1 = 91 (cover height 15 mm) 2 = 131 (cover height 55 mm) 3 = 150 (cover height 15 mm) 4 = 171 (cover height 95 mm) 5 = 190 (cover height 55 mm) 6 = 230 (cover height 95 mm) 7 = 104 (cover height 28 mm)
e	Information not relevant for Ex-certification



Service temperature:

- 60 °C ≤ T_s ≤ +100 °C (for gasket D0075, D0187)
- 50 °C ≤ T_s ≤ +100 °C (for earth assemblies with gasket D0187)
- 20 °C ≤ T_s ≤ +60 °C (for gasket D0121)

Ingress protection according to IEC 60079-0 Annex F:

When cover of the enclosure, flange enclosure, sealing frame and Ex-components are properly installed: IP66 for sealing material D0075

IP64 for sealing material

D0121 and enclosure with hinges made of D0014 with O ring made of D0187 and with earth assemblies with gaskets D0097, D0187 and D0216.

Earthing:

Rail cross section [mm x mm]	Maximum conductor size for each terminal				Torque
	Solid wire	Flexible wire	Flexible wire with ferrule	Stranded wire	
10 x 3	1x 6 mm 2x 6 mm	1x 4 mm 2x 4 mm	1x 4 mm 2x 4 mm	-	1.2 Nm
10 x 3	1x 10 mm	1x 10 mm	1x 10 mm	-	1.2 Nm
12 x 4	1x 10 mm 2x 10 mm	1x 10 mm 2x 10 mm	1x 10 mm 2x 10 mm	-	2 Nm
12 x 4	-	1x 35 mm	1x 35 mm	1x 35 mm	2 Nm

Technical data:

- Tightening torque of the cover: 4.5 Nm
- Tightening torque for flange enclosure: 2.7 Nm
- Tightening torque for sealing frame: 2.7 Nm



Earth Assemblies:

Type	Tightening torque	Terminal cross-section
8171A0210-0 BG210	if cable is clamped under/cable plug: 2,5 Nm for nut: 20 Nm	up to 16 mm ²
8146A0238 BG238	for M10 without conductor connection: 4 Nm for M10 with conductor connection: 16 Nm for M33 mounting: 20 Nm	up to 4 to 120 mm ²

Notes for installation and operation:

1. If cable glands or other components made of metal are installed into the empty enclosure (bushings, cable entry fittings, connectors, blanking plugs, PE bushings), they have to have a separate certificate that complies with the requirements specified on the cover sheet and they must be earthed according to the section 15 of the standard IEC 60079-0:2017.
2. Openings that are not used must be closed in compliance with the specifications of the standards listed on the cover sheet.
3. 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.

This information must accompany each device in an adequate form.

Schedule of Limitations:

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The use of this component requires a further assessment by an ExCB.