



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 10.0053U** Page 1 of 4 [Certificate history:](#)
Issue 0 (2010-09-13)

Status: **Current** Issue No: 1

Date of Issue: 2022-11-23

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

Ex Component: Load- and motor switch, type 8549/*-*(-*)

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: **Flameproof enclosure "db ", Increased Safety "eb"**

Marking: Ex db eb IIC Gb
Ex db eb I Mb

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)

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Certificate issued by:

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





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Am Bahnhof 30
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Manufacturing locations: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
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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 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[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/ExTR10.0052/01](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/18](#)



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

The load and motor switch, type 8549/*-*(-*) is a flameproof modular electric element used for actuating or interrupting electric circuits in potentially explosive areas.

For more technical information see annex.

SCHEDULE OF LIMITATIONS:

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 60079-1:2014 and IEC 60079-7:2017.
- 2) Update of Ts_min = -60 °C
- 3) Adding an alternative material D0305-02 the cover of the switch chamber

Annex:

[COCA100053U-01_1.pdf](#)



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

Equipment: Load- and motor switch type 8549/*-*(-*)

Description:

The load and motor switch, type 8549/*-*(-*) is a flameproof modular electric element used for actuating or interrupting electric circuits in potentially explosive areas.

Nomenclature:

8549/	*	-	*	(-*)
a	b	-	c	d

- a Type series
- b Generation
1 = 1. Generation
- c Number of pole
3 = 3 pole
4 = 3 pole + N
- d Additional parameters that do not affect the explosion protection of the equipment.
(-*) May contain additional digits or characters, including “-”, “/” or “.”.

Dimensions and volume:

Length	ca. 206 mm
Width (3-pole)	ca. 147 mm
Width per additional PE/N chamber	ca. 49 mm
Height	ca. 123 mm
Volume per switching chamber	ca. 99.7 cm ³

Rated Data:

Rated insulation voltage:	800 V
Rated voltage: main contacts	up to 690 V
auxiliary contacts	up to 500 V
Rated current: main contacts	up to 180 A
auxiliary contacts	up to 6 A

The switch for auxiliary contacts is also suitable for connecting intrinsically safe circuits.



Rated tolerance limits:

Rated voltage, up to	400 V	500 V	690 V	690 V	220 V	220 V
Rated current, up to Main contacts	180 A	150 A	125 A	180 A	180 A	180 A
Rated current, up to Auxiliary contacts	6 A	6 A	---		6 A	
Utilization category	AC 3	AC 3	AC 3	AC 1	DC 1	DC 23

Rated conductor size:

Main contacts		Tightening torque
Connection using one conductor		25 ... 30 Nm
stranded	35 ... 150 mm ² (AWG 2 ... 300 kcmil)	
finely stranded	50 ... 150 mm ² (AWG 1/0 ... 300 kcmil)	
one conductor, finely stranded	6 ... 10 m ² (AWG 10 ... AWG 2) with insertion prism	
with cable lug	max. 150 mm ² (max. 300 kcmil) with clamping plate and insertion prism	
Connection using several conductors		
stranded	2x 25 mm ² ... 2 x 50 mm ² (2 x AWG 4 ... 2 x AWG 1/0)	
finely stranded	2x 35 mm ² ... 2 x 50 mm ² (2 x AWG 2... 2 x AWG 1/0)	
finely stranded, with end covering sleeve	2x 25 mm ² ... 2 x 50 mm ² (2 x AWG 4 ... 2 x AWG 1/0)	
with cable lug	max. 2x 150 mm ² (max. 2x AWG 300 kcmil) with clamping plate and insertion prism	
Pick-off terminal block		1.5 ... 1.8 Nm
one conductor, finely stranded	0.5 ... 10 mm ² (AWG 20 ... AWG 8)	
Auxiliary contacts		0.4 Nm
one conductor, finely stranded	1.5 ... 2.5 mm ² (AWG 16 ... AWG 14)	



Service temperature range:

-60 °C ... +100 °C *) for D0005-01 and D0305-02

-50 °C ... +100 °C *) for D0005-00

*) includes self-heating, max. ambient temperature and where applicable external thermal sources

Notes for manufacturing and operation:

- 1) The load and motor switch, type 8549/*-*(-*) has to be mounted in an enclosure that meets the requirements of an approved type of protection as specified in IEC 60079-0:2017, section 1.
- 2) When installing the load and motor switch, type 8549/*-*(-*) in an enclosure designed to Increased Safety "e" type of protection in compliance with IEC 60079-7:2017, the clearance and creepage distances have to be specified in section 4.3 and 4.4.
- 3) The connecting cables of the load and motor switch, type 8549/*-*(-*) shall be fixed and routed so that it will be adequately protected against mechanical damage.

This information must accompany each device in an adequate form.

Schedule of Limitations:

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