



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 06.0081U** issue No.:1

Status: **Current**

Certificate history:
Issue No. 1 (2012-1-27)
Issue No. 0 (2006-9-6)

Date of Issue: **2012-01-27** Page 1 of 4

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

Electrical Apparatus: **Conductor bushing type 8174/.....-.....-**
Optional accessory:

Type of Protection: **Flameproof Enclosure "d"**

Marking: Ex d II resp. Ex d I

*Approved for issue on behalf of the IECEx
Certification Body:*

Dr. Ing. Uwe Klausmeyer

Position:

Head of Section "Flameproof Enclosures"

*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
74638 Waldenburg
Germany

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 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition: 4.0

IEC 60079-1 : 2001 Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosures 'd'
Edition: 4

*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/ExTR06.0053/00

Quality Assessment Report:

DE/BVS/QAR10.0002/02



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description of equipment

The conductor bushing, type 8174/...-...-...-..., serves as electrical connection between flameproof enclosures or between flameproof enclosures and enclosures with another type of protection. Installation is by means of the threaded sleeve or a plug-type sleeve, optionally by means of a threaded bushing.

Nomenclature

Conductor bushing		Type	8174/abc-defg-hijk-lm
a	Design 1 = screwable 2 = plugable 8 = stopping plug		
b, c	Size of thread / bush-Ø 10 = M16 x 1.5 09 = M20 x 1.5 02 = M24 x 1.5 03 = M33 x 1.5 / Ø 34 mm 07 = M36 x 1.5 04 = M42 x 1.5 / Ø 41 mm 05 = M48 x 1.5 / Ø 48 mm 90 = special version		
d, e	Number of cores		
f, g	Rated cross section 13 = 0.5 mm ² 01 = 0.75 mm ² 12 = 1.0 mm ² 02 = 1.5 mm ² 03 = 2.5 mm ² 04 = 4.0 mm ² 05 = 6.0 mm ² 06 = 10 mm ² 07 = 16 mm ² 08 = 25 mm ² 09 = 35 mm ² 10 = 50 mm ² 11 = 70 mm ²		
h, i, j, k, l, m	Numerals or letters without influence to explosion-protection		

Electrical data

Rated voltage ^{*)} U ₀ /U	up to	300 V / 500 V 300 V / 600 V 450 V / 750 V 600 V / 1000 V 10 kV
Rated cross section		0.5 mm ² to 70 mm ²
Number of cores		1 ... 72
Type and size of thread		M16 x 1.5 to M48 x 1.5

		other types of thread and other thread sizes as marked
Sleeve diameter		34 – 48 mm -10 -60 µm
Sleeve gap width		≥ 25 mm
*) subject to cable used		

Max. local operating temperature of conductor bushing under normal operating conditions of the electrical apparatus		
	cast resin	-55 °C to +120 °C
	H07RN-F	-25 °C to +60 °C *)
	NSSHÖU	-40 °C to +90 °C
	NSGAFÖU	-25 °C to +80 °C *)
	S07G-K	-25 °C to +110 °C *)
	H07G-K	-25 °C to +110 °C *)
	S0-AZLK	-30 °C to +120 °C
	H05V-K	-5 °C to +70 °C flexible wiring -30 °C to +80 °C permanent wiring
	AWM UL1015 AWG 4 to AWM UL1015 AWG 20	-15 °C to +105 °C
	AWM UL1007 AWG 16 to AWM UL1007 AWG 20	-15 °C to +80 °C
		*) -40 °C for permanent wiring

The maximum current carrying capacity of cables shall be established on the basis of the self-heating rate and the heating rate of the installed electrical apparatus at maximum permissible ambient temperature; due consideration shall be given to the temperature of the cast resin under operating conditions and the cable quality.

Notes for installation and use

Threaded holes into which the conductor bushing will be screwed shall meet the requirements of IEC 60079-1, section 5.3 (table 3) as a minimum.

Holes accommodating the conductor bushing with cylindrical gap shall meet the requirements of IEC 60079-1, tables 1 or 2 (cylindrical gaps) as a minimum, the gap surface must not exceed an average peak-to-valley height of R_a 6.3 µm.

The conductor bushing with cylindrical gap shall be included in the type test according to IEC 60079-1, section 15, as required by the classification (I, IIA, IIB or IIC) of the electrical apparatus in question.

If the reference pressure exceeds 20 bar, the conductor bushing shall be included in the type test according to IEC 60079-1, section 15.1.3 (overpressure test), as required by the classification of the electrical apparatus in question (classes I, IIA, IIB or IIC).

The way in which temperature class will have to be associated with the temperature resistance of the conductor bushing shall be specified in the type test of the electrical apparatus in question.

The conductor bushing shall be fixed in the electrical apparatus in such a way that rotation and self-loosening will be prevented.

CONDITIONS OF CERTIFICATION: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

New QAR