



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 09.0025

issue No.:0

Certificate history:

Status:

Current

Date of Issue:

2009-04-28

Page 1 of 3

Applicant:

KROHNE Messtechnik GmbH & Co. KG
Ludwig-Krohne Straße 5
47058 Duisburg
Germany

Electrical Apparatus:

Variable-area flow meter, types DK3./.../A-Ex

Optional accessory:

Type of Protection:

Intrinsic Safety

Marking:

Ex ia IIC T6

Approved for issue on behalf of the IECEx
Certification Body:

Dr.- Ing. U. Johannsmeyer

Position:

Department head "Intrinsic Safety and Safety of Systems"

Signature:
(for printed version)

Date:

2009-05-26

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](http://www.iecex.com).

Certificate issued by:

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





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Page 2 of 3

Manufacturer: **KROHNE Messtechnik GmbH & Co. KG**
Ludwig-Krohne Straße 5
47058 Duisburg
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 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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/ExTR09.0028/00](#)

Quality Assessment Report:

[DE/PTB/QAR06.0002/01](#)



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Date of Issue: 2009-04-28

Issue No.: 0

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The variable-area flow meters of types DK3./.././../A-Ex are intended for the measurement and control of the flow rate of gases, vapours and liquids in hazardous areas. Different process connections are available, e.g. flange or pipe connections. The flow rate can be controlled by two adjustable limit switches of types: SC2-N0, certified under IECEx TUN 04.0016X and/or I7S2002-N****, certified under IECEx BVS 09.0016. Maximum two separate limit switches (NAMUR) are possible. The circuits for the limit switches are designed in type of protection Intrinsic Safety, category ia, gasgroup IIC. Electrical connections of limit switches are available as plug connection or with a preassembled cable. The circuits of the limit switches are electrically isolated up to 30 V DC according to IEC 60079-11. The tests and assessments are based on the aforementioned standards.

CONDITIONS OF CERTIFICATION: NO

Annexe: [Annex to IECEx PTB 09.0025.pdf](#)

Annex to IECEx PTB 09.0025

DK3./.././../A-Ex

Table 1 Permissible medium and ambient temperatures

Temperature class	T _{amb} [°C]	T _m [°C] Version with plug (S) or connection cable (L)	
		DK32	DK34
T6	-20 ... +40	75	80
	-20 ... +50	70	70
	-20 ... +60	60	60
T5	-20 ... +40	100	100
	-20 ... +50	95	100
	-20 ... +60	85	90
T4	-20 ... +40	135	135
	-20 ... +50	130	135
	-20 ... +60	120	130
	-20 ... +90	90	90
T3 ... T1	-20 ... +40	135	150
	-20 ... +50	130	140
	-20 ... +60	120	130
	-20 ... +90	90	90

Electrical data:

Built-in limit switches (up to 2), intrinsically safe, types SC2-N0 or I7S2002-N***

Limit sensor circuits
(plug connector or preassembled cable)

type of protection Intrinsic Safety Ex ia IIC/IIB or
Ex ib IIC/IIB

only for connection to certified intrinsically safe
circuits

Maximum values for each circuit

U_I = 16 V

I_I = 25 mA

P_I = 64 mW

C_I = 150 nF

L_I = 150µH