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 BVS 18.0069X

Issue No: 0

Certificate history:
Issue No. 0 (2018-11-05)

Status: **Current**

Date of Issue: **2018-11-05**

Applicant: **Rheonik Messtechnik GmbH**
Rudolf-Diesel-Straße 5
85235 Odelzhausen
Germany

Equipment: **Transmitter series RHE28 type E28-****-****-****-*****

Optional accessory:

Type of Protection: **Equipment protection by intrinsic safety "i", Equipment protection by type of protection "n"**

Marking:

Ex nA [ia Ga] IIC T4 Gc or
Ex nA [ia Ga] IIB T4 Gc or
[Ex ia Ga] IIC

Approved for issue on behalf of the IECEx Certification Body: Dr Franz Eickhoff

Position: Deputy Head of Certification Body

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:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

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Manufacturer:	**Rheonik Messtechnik GmbH** Rudolf-Diesel-Straße 5 85235 Odelzhausen **Germany**	

Additional 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 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 : 2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*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/BVS/ExTR18.0076/00

Quality Assessment Report:

DE/TUN/QAR08.0005/06

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Subject and Type

Transmitter series RHE28 typ E28-****-****-****-***
with

E28	RHE28
1. + 2. Asterisk	Housing Options
	E1 = IP65 / Type 4, -20 °C up to +60 °C
	E2 = IP67 / Type 4, -40 °C up to +60 °C
3. + 4. Asterisk	Power supply options
	D1 = 12 to 24 V DC
	A1 = 100 to 240 V AC
	U1 = DC plus AC
5. + 6. Asterisk	Marking without influence to type of protection (SW Options)
7. + 8. Asterisk	Marking without influence to type of protection (I/O Configuration Options)
9. + 10. Asterisk	Hazardous areas approvals
	ATEX, IECEx:
	A2 = II 3(1)G Ex nA [ia Ga] IIC T4 Gc
	AB = II 3(1)G Ex nA [ia Ga] IIB T4 Gc
	AS = II (1)G [Ex ia Ga] IIC RHE28 in safe area
11. + 12. Asterisk	Marking without influence to type of protection (Measurement Certifications)
13. + 14. Asterisk	Marking without influence to type of protection (Special Options)

Note: Not all combinations are possible. For available combinations see instructions.

Description

The transmitter is made in type of protection nA. The electrical connection is made by separately certified cable glands in type of protection Increased Safety.
The transmitter in combination with a separately certified Coriolis mass flow meter is used for flow measurement (fluid / gas).
The transmitter generates an intrinsically safe circuit for connecting the Coriolis mass flow meter.
It measures the rough data from the sensor, calculates flow, density and temperature and gives out the values via analog or frequency signals or via interface and display.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The intrinsically safe circuits are connected to earth; along the intrinsically safe circuits potential equalization must exist.

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Annex:

BVS_18_0069X_Rheonik_Annex.pdf

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Parameters

Non intrinsically safe main power supply

For type RHE21**A1/U1**********, terminals 23 - 24

Nominal voltage		AC	90 – 250	V
Maximum voltage	U_m	AC	250	V

For Type RHE21**D1/U1**********, terminals 20 - 21

Nominal voltage		DC	10 – 28	V
Maximum voltage	U_m	AC	250	V

Non-intrinsically safe input/ output circuits (for all types)

terminals 31 - 34 (digital out) Ex-Code AS (in safe area)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	250	V

terminals 31 - 34 (digital out) Ex-Code A2 / AB (EPL Gc)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	30	V

terminals 35 - 36 (digital in) Ex-Code AS (in safe area)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	250	V

terminals 35 - 36 (digital in) Ex-Code A2 / AB (EPL Gc)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	30	V

terminals 51-54 (analog out) Ex-Code AS (in safe area)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	250	V

terminals 51-54 (analog out) Ex-Code A2 / AB (EPL Gc)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	30	V

terminals 70 - 71 (RS 485) Ex-Code AS (in safe area)

Nominal voltage			5	V
Maximum voltage	U_m	AC	250	V

terminals 70 - 71 (RS 485) Ex-Code A2 / AB (EPL Gc)

Nominal voltage			5	V
Maximum voltage	U_m	AC	30	V

terminals 50 and 57 (24 V output) Ex-Code AS (in safe area)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	250	V

terminals 50 and 57 (24 V output) Ex-Code A2 / AB (EPL Gc)

Nominal voltage		DC	24	V
Maximum voltage	U_m	AC	30	V

USB

Nominal voltage			5	V
Maximum voltage	U_m	AC	250	V

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Intrinsically safe circuits (for all types)

Drive circuit (terminals 1 - 2)

Maximum output voltage	U_o	DC	8.1	V
Maximum output current	I_o		136	mA
Maximum output Power	P_o		275	mW
Maximum external capacitance	C_o		2000	nF
For Group IIC				
Maximum external inductance	L_o		1.9	mH
For Group IIB				
Maximum external inductance	L_o		7.5	mH

Pickup circuits

Circuit 1: terminals 6 - 7
Circuit 2: terminals 8 - 9
Output values per circuit

Maximum output voltage	U_o	DC	2.4	V
Maximum output current	I_o		9	mA
Maximum output Power	P_o		5.4	mW
Maximum external capacitance	C_o		2000	nF
Maximum external inductance	L_o		100	mH

Temperature circuits (terminals 3 - 4 and 5 – 4)

Circuit 1: terminals 3 - 4
Circuit 2: terminals 5 - 4
Only for connecting temperature sensors. Output values per circuit

Maximum output voltage	U_o	DC	6.1	V
Maximum output current	I_o		45.7	mA
(Total current via GND (terminal 4)			91.4	mA
Maximum output Power	P_o		69.7	mW
Maximum external capacitance	C_o		2000	nF
Maximum external inductance	L_o		1	mH

Analog 4-20 mA Signal (terminals 60 - 61)

Maximum output voltage	U_o	DC	24.7	V
Maximum output current	I_o		91.5	mA
Maximum output Power	P_o		565	mW
Maximum external capacitance	C_o		100	nF
Maximum external inductance	L_o		4	mH

Thermal Data

Ambient temperature range: -20 °C (-40 °C) up to +60 °C (depending on type)