



Translation

EU-Type Examination Certificate

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 18 ATEX E 068 X**

Product: **Transmitter series RHE26 and RHE27**

Manufacturer: **Rheonik Messtechnik GmbH**

Address: **Rudolf-Diesel-Straße 5, 85235 Odelzhausen, Germany**

This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential Report No. BVS PP 18.2138 EU.

The Essential Health and Safety Requirements are assured in consideration of:

IEC 60079-0:2017
EN 60079-11:2012

General requirements
Intrinsic Safety "i"

Except in respect of those requirements listed under item 18 of the appendix.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

 **II (1)G [Ex ia Ga] IIC**

DEKRA EXAM GmbH
Bochum, 2018-08-21

Signed: Dr Franz Eickhoff

Certifier

Signed: Dr Michael Wittler

Approver

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15 Product description

15.1 Subject and type

Transmitter type: Eaa-EEPP-SSOO-HHCC-OOO
with

| | |
|-----|---|
| Eaa | RHE Version E26 = RHE26 E27 = RHE27 |
| EE | Housing Options E1 = Panel mount E2 = panel mount with plastic door H1 = DIN rail mount (RHE26 only) H2 = DIN rail mount with plastic door (RHE26 only) |
| PP | Power supply options D1 = 12 to 24 V DC A1 = 100 to 240 V AC U1 = DC plus AC |
| SS | Marking without influence to type of protection (SW Options) |
| OO | Marking without influence to type of protection (I/O Configuration Options) |
| HH | Hazardous areas approvals ATEX / IECEx, AS = RHE in safe area II (1)G [Ex ia Ga] IIC |
| CC | Marking without influence to type of protection (Measurement Certifications) |
| OOO | Marking without influence to type of protection (Special Options) |

15.2 Description

The transmitter in combination with a separately certified Coriolis mass flow meter is used for flow measurement (fluid / gas).
The transmitter is an associated apparatus installed outside the hazardous area and 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.

15.3 Parameters

15.3.1 Non intrinsically safe main power supply

15.3.1.1 For type RHE*****A1/U1*****, terminals 23 - 24

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

15.3.1.2 For type RHE*****D1/U1*****, terminals 20 - 21

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

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

15.3.2.1 terminals 31 - 34 (digital out)

| | | | | |
|-----------------|-------|----|-----|---|
| Nominal voltage | | DC | 24 | V |
| Maximum voltage | U_m | AC | 250 | V |

15.3.2.2 terminals 35 - 36 (digital in)

| | | | | |
|-----------------|-------|----|-----|---|
| Nominal voltage | | DC | 24 | V |
| Maximum voltage | U_m | AC | 250 | V |

| | | | | | |
|----------|--|-------|----|---------------------|----|
| 15.3.2.3 | terminals 51 - 56 (analog out) | | | | |
| | Nominal voltage | | DC | 24 | V |
| | Maximum voltage | U_m | AC | 250 | V |
| 15.3.2.4 | terminals 70 - 71 (RS 485) | | | | |
| | Nominal voltage | | | 5 | V |
| | Maximum voltage | U_m | AC | 250 | V |
| 15.3.2.5 | USB | | | | |
| | Nominal voltage | | | 5 | V |
| | Maximum voltage | U_m | AC | 250 | V |
| 15.3.2.6 | terminals 50 and 57 (24 V output) | | | | |
| | Nominal voltage | | DC | 24 | V |
| | Maximum voltage | U_m | AC | 250 | V |
| 15.3.3 | Intrinsically safe circuits (for all types) | | | | |
| 15.3.3.1 | 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 |
| 15.3.3.2 | Pickup circuits | | | | |
| | Circuit 1: terminals 6 - 7 | | | | |
| | Circuit 2: terminals 9 - 8 | | | | |
| | 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 |
| 15.3.3.3 | Temperature circuits | | | | |
| | 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 |
| 15.3.3.4 | 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 |
| 15.3.4 | Thermal Data | | | | |
| | Ambient temperature range | | | -20 °C up to +60 °C | |

16 **Report Number**

BVS PP 18.2138 EU, as of 2018-08-21

17 **Special Conditions for Use**

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

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

For this product is the standard IEC 60079-0:2017 in terms of safety equivalent to the harmonized standard EN 60079-0:2012 + A11:2013.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-08-21
BVS-Ben/Nu A 20161053

Certifier

Approver