



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

Certificate No.: **IECEX BVS 21.0029X** Page 1 of 3 [Certificate history](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-07-06
Applicant: **Endress+Hauser Wetzler GmbH+Co. KG**
Obere Wank 1
87484 Nesselwang
Germany
Equipment: **Output amplifier types RNO22-xx-1A, RNO22-xx-1B, RNO22-xx-2A, RNO22-xx-2B**
Optional accessory:
Type of Protection: **Intrinsic Safety "i", Increased Safety "e"**
Marking: **[Ex ia Ga] IIC, [Ex ia Da] IIIC, Ex ec [ia Ga] IIC T4 Gc**

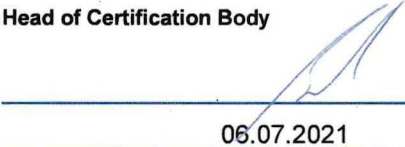
Approved for issue on behalf of the IECEx
Certification Body:

Jörg Koch

Position:

Head of Certification Body

Signature:
(for printed version)


06.07.2021

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 www.iecex.com or use of this QR Code.



Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
On the safe side.



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Manufacturer: **Endress+Hauser Wetzler GmbH+Co. KG**
Obere Wank 1
87484 Nesselwang
Germany

Additional
manufacturing
locations:

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 equipment 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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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 equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/BVS/ExTR21.0039/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0009/09](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Subject and Type

Output amplifier

Type RNO22-xx-1A (1- channel, with screw terminals)

Type RNO22-xx-1B (1- channel, with spring pressure terminals)

Type RNO22-xx-2A (2- channel, with screw terminals)

Type RNO22-xx-2B (2- channel, with spring pressure terminals)

xx = non ex relevant

Description

The output amplifier is constructed in a housing, which can be mounted on 35 mm DIN rails. The protection category for the housing is IP20.

The output amplifier can be supplied either via the lateral terminal interfaces or via the separately tested pluggable bus system type ME 6,2 TBUS, which is mounted in the 35 mm top hat rail.

The output amplifier, which has to be installed outside the hazardous area or in an enclosure which is in accordance with IEC 60079-0, is used for transmission of 4...20 mA signals between intrinsically safe and non-intrinsically safe signal circuits. Additionally, digital communication signals (HART) can be modulated and bi-directional transmitted.

The intrinsically safe circuits type of protection Ex ia can be led into areas which require EPL Ga or EPL Da equipment.

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

For the installation of the output amplifier in areas, where Category 3 (EPL Gc) equipment is required, they have to be installed in an enclosure with a minimum degree of protection of IP54 according to IEC 60079-0.

The ambient temperature range specified here refers to the inner temperature at mounting location (enclosure).

Ambient temperature range $-40\text{ °C} \leq T_a \leq +70\text{ °C}$

For type RNO22-xx-1A and type RNO22-xx-1B:

The setting of the DIP-switches has to be done, when the output amplifier is not energized.

Annex:

[BVS_21_0029X_E+H_W_Annex.pdf](#)

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Annex
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Ratings:

- 1 Non-intrinsically safe circuits
 - 1.1 Power supply circuit
 Terminal 1.1 – 1.2 and TBUS

Rated voltage	DC	24	V
Maximum current 1.1 - 1.2 to TBUS (Bus supply via terminals 1.1 - 1.2 of the device)		400	mA
Current consumption (1-channel)		45	mA
Current consumption (2- channel)		85	mA
Power consumption (1- channel)		1.1	W
Power consumption (2- channel)		2	W
 - 1.2 Signal circuits
 Terminal 3.1 – 3.2 (1- channel)
 Terminal 2.1 – 2.2 and 3.1 – 3.2 (2- channel)

Rated voltage	DC	24	V
Nominal signal		0(4) ... 20	mA
 - 1.3 Maximum voltage U_m of the non intrinsically safe circuits AC 253 V, DC 125 V

- 2 Intrinsically safe output circuits, Ex ia IIC Ga
 Terminal 4.1 – 4.2 (1- channel)
 Terminal 4.1 – 4.2 and 5.1 – 5.2 (2- channel), connection values for each channel

Maximum output voltage	U_o	DC	25.2	V
Maximum output current	I_o		93	mA
Maximum output power	P_o		586	mW

Maximum external inductivity and capacity with separated connection of C_o or L_o , see table

	Group IIA	Group IIB	Group IIC
C_o	2.9 μ F	817 nF	104 nF
L_o	10 mH	4 mH	2 mH

Maximum external inductivity and capacity if concentrated C_o and L_o are connected, see tables

For Group IIA

C_o	587nF	627 nF	717 nF	907 nF	1.1 μ F
L_o	10 mH	1 mH	500 μ H	200 μ H	100 μ H

For Group IIB

C_o	367 nF	427 nF	507 nF	657 nF	817 nF
L_o	4 mH	1 mH	500 μ H	200 μ H	100 μ H



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For Group IIC

C _o	46 nF	60 nF	77 nF	104 nF
L _o	2 mH	1 mH	500 μH	200 μH

The values of Group IIB can be used for areas with combustible dust.

The intrinsically safe output circuits are safely galvanically isolated from the non-intrinsically safe circuits.

The intrinsically safe output circuits of the RNO22-xx-2A and RNO22-xx-2B type (2-channel) are electrically isolated among themselves up to a sum of the peak values of the nominal voltages of 60 V.

3 Ambient temperature range $-40\text{ °C} \leq T_a \leq +70\text{ °C}$