

Safety Instructions

RN22, RN42

II(1)G [Ex ia Ga] IIC
II(1)D [Ex ia Da] IIIC
II3G Ex ec IIC Gc



RN22, RN42

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About this document

This document has been translated into several languages. Legally determined is solely the English source text.

Associated documentation

This document is an integral part of the following Operating Instructions:

- Operating instructions: BA02004K
- Brief operating instructions: KA01449K
- Technical information: TI01515K

Supplementary documentation

Explosion-protection brochure: CP00021Z/11

The Explosion-protection brochure is available: In the download area of the Endress+Hauser website: www.endress.com → Download → Advanced → Documentation code: CP00021Z

Certificates**Declaration of Conformity**

Declaration number: EC_00919, EC_00901

ATEX certificate

Certificate number: EPS 19 ATEX 1 231 X

Affixing the certificate number certifies conformity with the following standards (depending on the device version)

- EN IEC 60079-0 : 2018
- EN 60079-11 : 2012
- EN 60079-7 : 2015

IECEX certificate

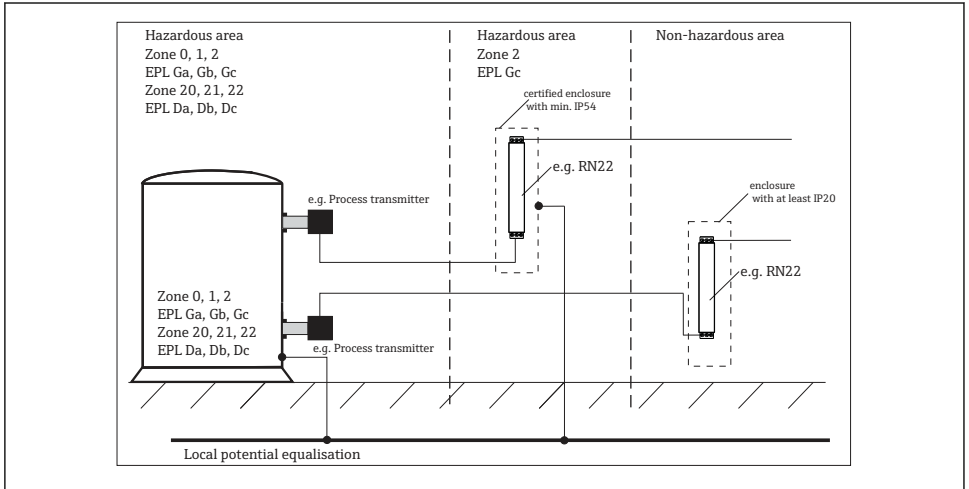
Certificate number: IECEX EPS 19.0100X, IECEX EPS 21.0016U

Affixing the certificate number certifies conformity with the following standards (depending on the device version)

- IEC 60079-0 : 2017
- IEC 60079-11 : 2011
- IEC 60079-7 : 2015

Safety instructions:

Intrinsic safety



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- Comply with the installation and safety instructions in the Operating Instructions.
- Install the device according to the manufacturer's instructions and any other valid standards and regulations (e.g. IEC/EN 60079-14).
- The unit is an associated electrical apparatus and can only be installed outside the hazardous area.
- The unit must be installed in such way that a minimum ingress protection of IP 20 is achieved.
- When installing the unit care must be taken that there must be a spacing of at least 50 mm (zone radius) to the intrinsically safe terminals
- Screw tight the unused terminals for keeping the required distances between intrinsically safe circuits/terminals.

**Safety instructions:
Installation in Zone 2 (EPL Gc)**

These instructions concern the required enclosure, accessories and supply cables in final application.

- Comply with the installation and safety instructions in the Operating Instructions.
- Install the component according to the manufacturer's instructions and any other valid standards and regulations (e.g. IEC/EN 60079-14).
- Seal the cable entries tight with certified cable glands which have at least type of protection Ex ec suitable for Group IIC (degree of protection IP54).

**Safety instructions:
Specific conditions of use**

- If several devices are installed side by side, it is important to ensure that the maximum side wall temperature of the individual devices of 85 °C (185 °F) is not exceeded. If this cannot be guaranteed, mount the devices at a distance from one another or ensure sufficient cooling.
- When install the unit in EPL Gc a certified enclosure shall be used providing a degree of protection of at least IP54 and compliance with the enclosure requirements to IEC/EN 60079-0.
- In an explosive atmosphere, do not open the certified enclosure when voltage is supplied (ensure that at least IP 54 is maintained during operation).
- For full certification as an electrical equipment for use in EPL Gc the tests according to IEC 60079-0:2017 section 5.2 and 5.3 have to be carried out. Based on the test results a temperature class shall be assigned.

Category	Type of protection (ATEX)
II(1)G	Ex ia Ga IIC
II(1)D	Ex ia Da IIIC

Type of protection (IEC)
Ex ia Ga IIC
Ex ia Da IIIC
Ex ec IIC Gc

Ambient temperature: -40 to +60 °C

Type	Electrical data			
RN22, RN42	Supply RN22: terminals 1.1 (+), 1.2 (-)	U = 24V DC (-20%/+25%) Um = 250 V		
	Supply RN42: terminals 1.1 (L/+), 1.2 (N/-)	U = 24 to 230 V AC/DC (-20 %/+10 %) 50/60Hz Um = 250 V		
	Output circuit: terminal 3.1 (+), 3.2 (-) terminal 2.1 (+), 2.2 (-)	U = 30V DC I = 0/4 - 20 mA Um = 250 V		
	Input circuit: Connection 2-wire (active) RN22: terminal 4.1 (+), 4.2 (-) terminal 6.1 (+), 6.2 (-) RN42: terminal 4.1 (+), 4.2 (-)	Uo ≤ 27.3V DC Io ≤ 87.6 mA Po = 597 mW Ci = negligibly small Li = negligibly small		
	Maximum connection values Single values:	Ex ia IIC Ex ia IIB Ex ia IIA	Lo = 5.2 mH Lo = 20.8 mH Lo = 44.8 mH	Co = 88 nF Co = 683 nF Co = 2280 nF
	Combined values:	Ex ia IIC Ex ia IIB Ex ia IIA	Lo = 0.5 mH Lo = 2 mH Lo = 20 mH	Co = 0.065 µF Co = 0.440 µF Co = Co = 1,6 µF
	Connection 4-wire (passive) RN22: terminal 4.2 (+), 5.1 (-) terminal 6.2 (+), 5.2 (-) RN42: terminal 4.1 (+), 4.3 (-)	Uo ≤ 27.3V DC Io ≤ 10 mA Po = 68 mW Ci = negligibly small Li = negligibly small		
	Maximum connection values Combined values:	Ex ia IIC Ex ia IIB Ex ia IIA	Lo = 0.5 mH Lo = 100 mH Lo = 100 mH	Co = 0.088µF Co = 0.48µF Co = 1.7µF
Connection 4-wire (passive) RN22: terminal 4.2 (+), 5.1 (-) terminal 6.2 (+), 5.2 (-) RN42: terminal 4.1 (+), 4.3 (-)	Ui ≤ 30 V DC Io not applicable when keeping Ui Po not applicable when keeping Ui Ci = negligibly small Li = negligibly small			



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