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Safety Instructions
RN22, RN42

[Ex ia Ga] IIC X
[Ex ia Da] IIIC X
Ex ec IIC Gc U

Endress+Hauser
People for Process Automation

RN22, RN42

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About this document

The document number of these Safety Instructions (XA) must match the information on the nameplate.

Associated documentation

To commission the device, please observe the Operating Instructions pertaining to the device:
www.endress.com/<product code>, e.g. RN22

Supplementary documentation

Explosion protection brochure: CP00021Z

The explosion protection brochure is available on the Internet:
www.endress.com/Downloads

Certificates and declarations

EAC certificate

The device meet the fundamental health and safety requirements for the design and construction of devices and protective systems intended for use in potentially explosive atmospheres.

- Certification body: ТОО/ЖШС "Т-Стандарт"
- Certificate number: ЕАЭС KZ 7500525.01.01.01918

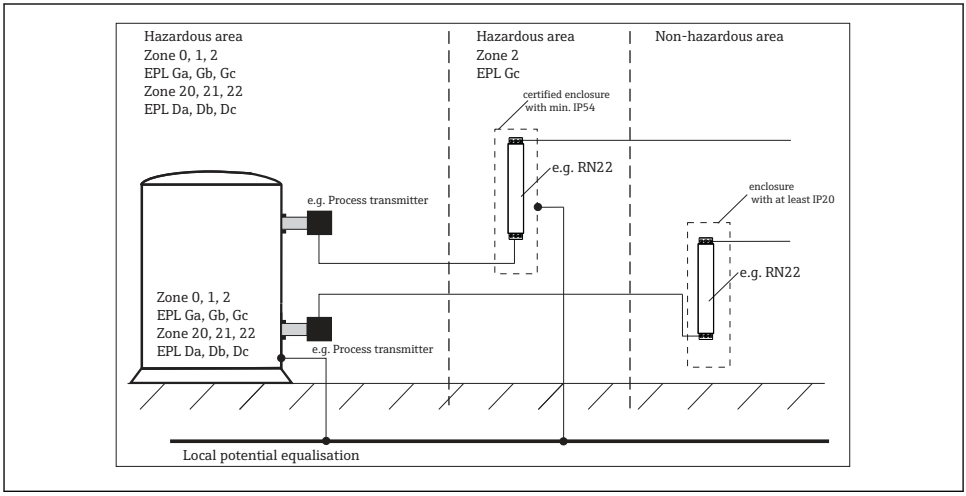
Affixing the certificate number certifies conformity with the following standards:

- GOST 31610.0-2019 (IEC 60079-0:2017)
- GOST 31610.11-2014 (IEC 60079-11:2011)
- GOST 31610.7-2017 (IEC 60079-7:2015)

Manufacturer address

Endress+Hauser Wetzer GmbH + Co. KG
Obere Wank 1
87484 Nesselwang, Germany

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. EN/IEC 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 device according to the manufacturer's instructions and any other valid standards and regulations (e.g. EN/IEC 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 device of 80 °C (176 °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.

Temperature tables

Ambient temperature	–40 to +60 °C

Electrical connection data

Type	Electrical data	
RN22, RN42	Supply RN22: terminals 1.1 (+), 1.2 (-)	U = 24 V_{DC} (-20%/+25%) Um = 250 V
	Supply RN42: terminals 1.1 (L/+), 1.2 (N/-)	U = 24 to 230 V AC/DC (-20 %/+10 %) 50/60 Hz Um = 250 V
	Output circuit: terminal 3.1 (+), 3.2 (-) terminal 2.1 (+), 2.2 (-)	U = 30 V_{DC} I = 0/4 to 20 mA Um = 30 V

Type	Electrical data			
	Input circuit: Connection 2-wire (active) RN22: terminal 4.1 (+), 4.2 (-) terminal 6.1 (+), 6.2 (-) RN42: terminal 4.1 (+), 4.2 (-)		Uo ≤ 27.3 V_{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 = 2 280 nF
	Combined values Lo/Co:	Ex ia IIC	1.3 mH/0.05 µF; 1 mH/0.052 µF; 0.5 mH/0.065 µF	
		Ex ia IIB	26 mH/0.39 µF; 2 mH/0.44 µF; 1 mH/0.53 µF; 0.5 mH/0.064 µF; 0.2 mH/0.683 µF	
		Ex ia IIA	49 mH/1.3 µF; 20 mH/1.6 µF; 1 mH/1.8 µF; 0.5 mH/2.2 µF; 0.2 mH/2.28 µF	
	Connection 4-wire (passive) RN22: terminal 4.2 (+), 5.1 (-) terminal 6.2 (+), 5.2 (-) RN42: terminal 4.2 (+), 4.3 (-)		Uo ≤ 27.3 V_{DC} Io ≤ 10 mA Po = 68 mW Ci = negligibly small Li = negligibly small	
	Maximum connection values Combined values Lo/Co:	Ex ia IIC	100 mH/0.065 µF; 2 mH/0.072 µF; 1 mH/0.081 µF; 0.5 mH/0.088 µF	
		Ex ia IIB	100 mH/0.48 µF; 2 mH/0.52 µF; 1 mH/0.59 µF; 0.5 mH/0.683 µF	
		Ex ia IIA	100 mH/1.7 µF; 1 mH/1.9 µF; 0.5 mH/2.28 µF	
	Connection 4-wire (passive) RN22: terminal 4.2 (+), 5.1 (-) terminal 6.2 (+), 5.2 (-) RN42: terminal 4.2 (+), 4.3 (-)		Ui ≤ 30 V_{DC} Ii = not applicable when keeping Ui Pi = not applicable when keeping Ui Ci = negligibly small Li = negligibly small	

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