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Safety Instructions
RN22, RN42

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

Safety instructions for electrical apparatus in explosion-hazardous areas

Endress+Hauser
People for Process Automation

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.

The document translated into EU languages is available:
- In the download area of the Endress+Hauser website: www.endress.com -> Downloads -> Manuals and Datasheets -> Type: Ex Safety Instruction (XA) -> Text Search: ...
- In the Device Viewer: www.endress.com -> Product tools -> Access device specific information -> Check device features

If not yet available, the document can be ordered.

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 -> Downloads -> Brochures and Catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

Manufacturer´s certificates

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

ATEX certificate

Certificate number: EPS 19ATEX1231 X

EU Declaration of Conformity

Declaration number: EC_00919, EC_00926 or EC_00901, EC_00927

UKCA certificate

Certificate number: CML 21UKEX2998X

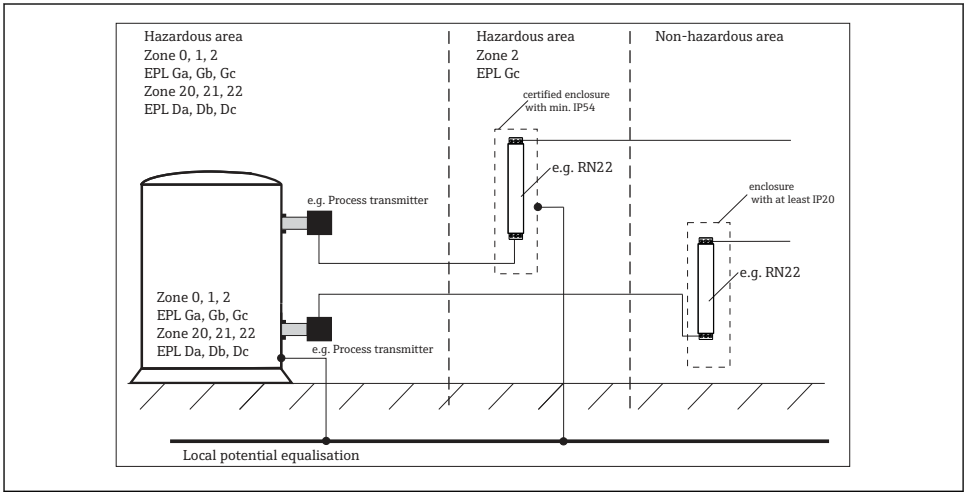
UKCA Declaration of Conformity

Declaration number: UK_00404, UK_00405 or UK_00414, UK_00415

Manufacturer address

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

Safety instructions: Intrinsic safety



- 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 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.

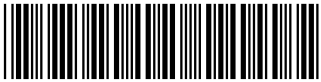
Category	Type of protection (ATEX)
II(1)G	[Ex ia Ga] IIC
II(1)D	[Ex ia Da] IIIC

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 = 30 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 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/0.64 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 ≤ 27.3V 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	

Type	Electrical data		
		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 Io not applicable when keeping Ui Po not applicable when keeping Ui Ci = negligibly small Li = negligibly small



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