

Safety Instructions

Radiation Source Container

FQG61, FQG62

II 2 G Ex h IIB T4 Gb



Radiation Source Container FQG61, FQG62

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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:

TI00435F/00

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

EU Declaration of Conformity

Declaration Number:

EG09013

The EU Declaration of Conformity is available:

In the download area of the Endress+Hauser website:

www.endress.com -> Downloads -> Declaration ->

Type: EU Declaration -> Product Code: ...

EU type-examination certificate

Certificate number:

EG 09 013 X

List of applied standards: See EU Declaration of Conformity.

Manufacturer address Endress+Hauser SE+Co. KG
Hauptstraße 1
79689 Maulburg, Germany
Address of the manufacturing plant: See nameplate.

Other standards Among other things, the following standards shall be observed for proper installation:

- IEC/EN 60079-14: "Explosive atmospheres - Part 14: Electrical installations design, selection and erection"
- EN 60079-17: "Explosive atmospheres - Part 17: Electrical installations inspection and maintenance"
- EN 60079-19: "Explosive atmospheres - Part 19: Equipment repair, overhaul and reclamation"
- EN 1127-1: "Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology"

Extended order code The extended order code is indicated on the nameplate, which is affixed to the device in such a way that it is clearly visible. Additional information about the nameplate is provided in the associated Operating Instructions.

Structure of the extended order code

FQG6x	-	*****	+	A*B*C*D*E*F*G*..
<i>(Device type)</i>		<i>(Basic specifications)</i>		<i>(Optional specifications)</i>

* = Placeholder

At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders.

Basic specifications

The features that are absolutely essential for the device (mandatory features) are specified in the basic specifications. The number of positions depends on the number of features available.

The selected option of a feature can consist of several positions.

Optional specifications

The optional specifications describe additional features for the device (optional features). The number of positions depends on the number of features available. The features have a 2-digit structure to aid identification (e.g. JA). The first digit (ID) stands for the feature group and consists of a number or a letter (e.g. J = Test, Certificate). The

second digit constitutes the value that stands for the feature within the group (e.g. A = 3.1 material (wetted parts), inspection certificate).

More detailed information about the device is provided in the following tables. These tables describe the individual positions and IDs in the extended order code which are relevant to hazardous locations.

Extended order code: Radiation Source Container



The following specifications reproduce an extract from the product structure and are used to assign:

- This documentation to the device (using the extended order code on the nameplate).
- The device options cited in the document.

Device type

FQG61, FQG62

Basic specifications

Position 3 (Version)		
Selected option		Description
FQG6x	L	Pneumatic cutoff, ATEX + padlock fixation OFF ATEX II 2 G Ex h IIB T4 Gb
	N	Pneumatic cutoff, ATEX + O-ring seal double > higher protection dust/humidity + padlock fixation OFF + ATEX II 2 G Ex h IIB T4 Gb

Optional specifications

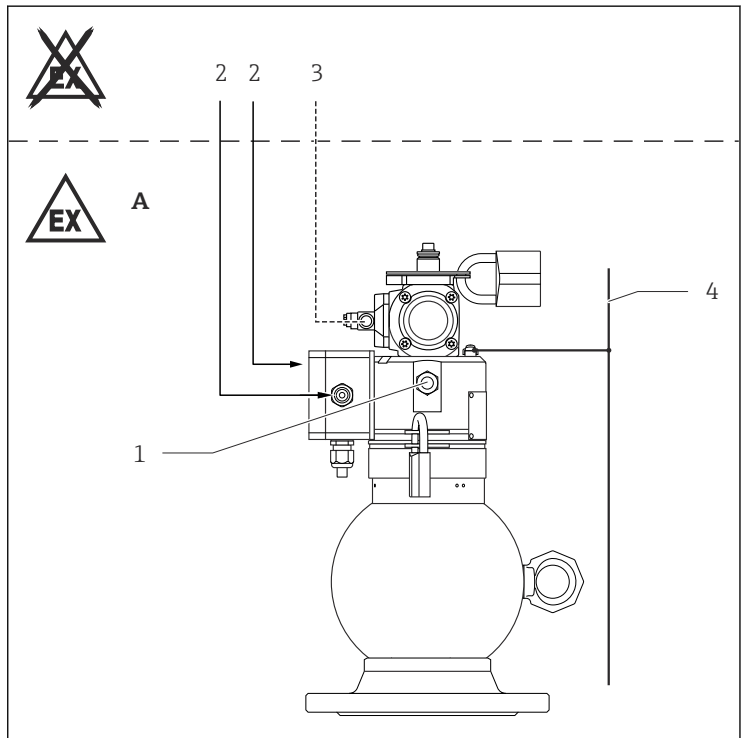
No options specific to hazardous locations are available.

Safety instructions: General

- Comply with the installation and safety instructions in the Operating Instructions.
- Staff must meet the following conditions for mounting, electrical installation, commissioning and maintenance of the device:
 - Be suitably qualified for their role and the tasks they perform
 - Be trained in explosion protection
 - Be familiar with national regulations
- Install the device according to the manufacturer's instructions and national regulations.
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Modifications to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Endress+Hauser.

Safety**instructions:****Special conditions**

- In the event of additional or alternative special varnishing on the housing or other metal parts:
 - Observe the danger of electrostatic charging and discharge.
 - Do not rub surfaces with a dry cloth.
- Avoid electrostatic charging:
 - Of plastic surfaces (e.g. housing, sensor element, special varnishing, attached additional plates, ..)
 - Of isolated capacities (e.g. isolated metallic plates)
- Do not use in media or environments which may generate electrostatic charges on the coated and plastic surfaces.
- Avoid sparks caused by impact and friction.

Safety**instructions:****Installation**

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 1

- A Zone 1, Zone 2
 1 Proximity switches Ex ia
 2 Certified associated apparatus
 3 Compressed air supply
 4 Potential equalization

- The suitability of the radiometric measurement method and of the device for applications in explosion hazardous areas has to be checked by the operator of the plant according to national regulations.
- Do not operate the device in environmental conditions that can result in the corrosion of the device or in the pneumatic actuator.
- In potentially explosive atmospheres: Do not disconnect the compressed air supply.
- Only use genuine spare parts from Endress+Hauser which are specified for the device.
- The pneumatic actuator must not be repaired but may only be replaced completely.
- To maintain explosion protection: Replace padlocks only with identical parts and materials (see genuine spare parts from Endress+Hauser).
- Avoid excessive vibrations on the device.

Potential equalization

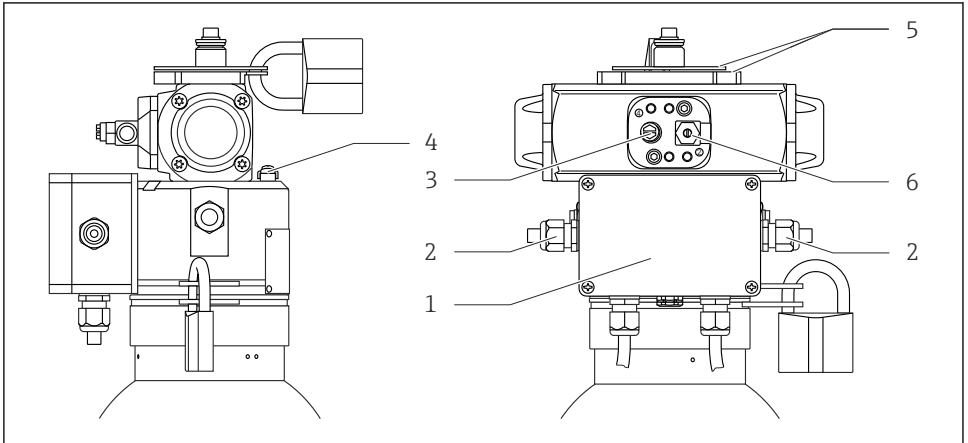
Integrate the device into the local potential equalization.

Pneumatic actuator and attachment parts

Evaluated according to type of protection: Protection by constructional safety "c"

- Operating medium: Only compressed air.
- Compressed air supply: 3.5 to 6 bar. The maximum process pressure of 6 bar may not be exceeded.
- Compressed air quality: ISO 8573-1 Class 3 or better. Maximum particle size: 40 µm. Pressure dewpoint: 10 K below operating temperature or a corresponding dewpoint of -20 °C.
- Check compressed air quality and occurrence of possible leaks at regular intervals.
- The maximum compressed air temperature must never exceed the maximum ambient temperature of +80 °C.
- Actuator operating life: maximum of 150,000 switching cycles. The actuator must be replaced at the end of the operating life.
- The housing of the pneumatic drive may not be opened.
- Maximum switching cycle frequency: 2 cycles per minute at a maximum of 10 cycles per hour.
- Pressurized containers with unlimited medium may not be connected to the pneumatic actuator.
- If required by the system, implement appropriate measures against adiabatic compression and shock waves in the compressed air installation.
- The throttle check valve is set at the factory and secured with locking paint. The setting may not be altered.

- Observe the maintenance and inspection instructions in the Operating Instructions.
- In potentially explosive atmospheres: Do not carry out mounting and dismounting work.
- Gap between indication plates:
 - Keep corrosive material and flammable particles away
 - Avoid friction caused by adhering materials



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- 1 Terminal box for connection of the proximity switches
- 2 Cable glands
- 3 Vent
- 4 Connector for potential equalization
- 5 Indication plates
- 6 Throttle check valve for compressed air connection

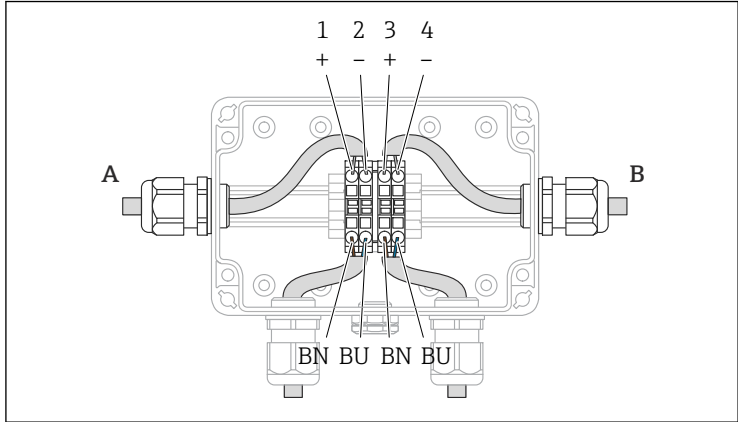
Proximity switches, terminal box

Type of protection: Equipment protection by intrinsic safety "ia"



- Proximity switch for "ON": Terminals 1, 2
- Proximity switch for "OFF": Terminals 3, 4
- The following connection data (Ex ia circuit) apply for each of the two intrinsically safe proximity switches: $U_i = 16 \text{ V}$, $I_i = 52 \text{ mA}$, $P_i = 169 \text{ mW}$, $C_i = 90 \text{ nF}$, $L_i = 100 \text{ } \mu\text{H}$.
- Observe the pertinent guidelines when interconnecting intrinsically safe circuits.
- When the proximity switches are connected to certified intrinsically safe circuits of Category Ex ib, the type of protection of the signal circuits changes to Ex ib.

- Wire the intrinsically safe circuits as specified in national applicable regulations and guidelines.
- Use a connecting cable for continuous duty temperature $\geq 85\text{ }^{\circ}\text{C}$. Wire cross-section $> 0.1\text{ mm}^2$.
- Do not remove or move terminal blocks, isolation plates or fastening elements.
- Do not build in additional components.
- To maintain the ingress protection of the housing IP65/67: Install the cover of the terminal box and cable glands correctly.



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- A Cable entry for circuit "ON"
- B Cable entry for circuit "OFF"

Temperature tables

Temperature class	Ambient temperature range
T4	$-20\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}^{1)}$

- 1) When using the optional RFID TAG: Observe restrictions (see separate documentation)



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