



Level



Pressure



Flow



Temperature



Liquid  
Analysis



Registration



Systems  
Components



Services



Solutions

Safety Instructions

# Soliwave

## FQR56, FDR56

Ex ta/tb IIIC T102°C Da/Db IP66

Ex tb IIIC T102°C Db IP66

IECE<sub>x</sub> BVS 11.0035

**XA00543F-B/97/EN**

Safety instructions for electrical apparatus for explosion-hazardous areas  
according to IEC standards



# Soliwave FQR56, FDR56

**Associated  
Documentation**

This document is an integral part of the following Operating Instructions:  
KA00291F/97

The Operating Instructions which are supplied and correspond to the device type apply.

**Supplementary  
Documentation**

Explosion-protection brochure:  
CP021Z/00

**Designation**

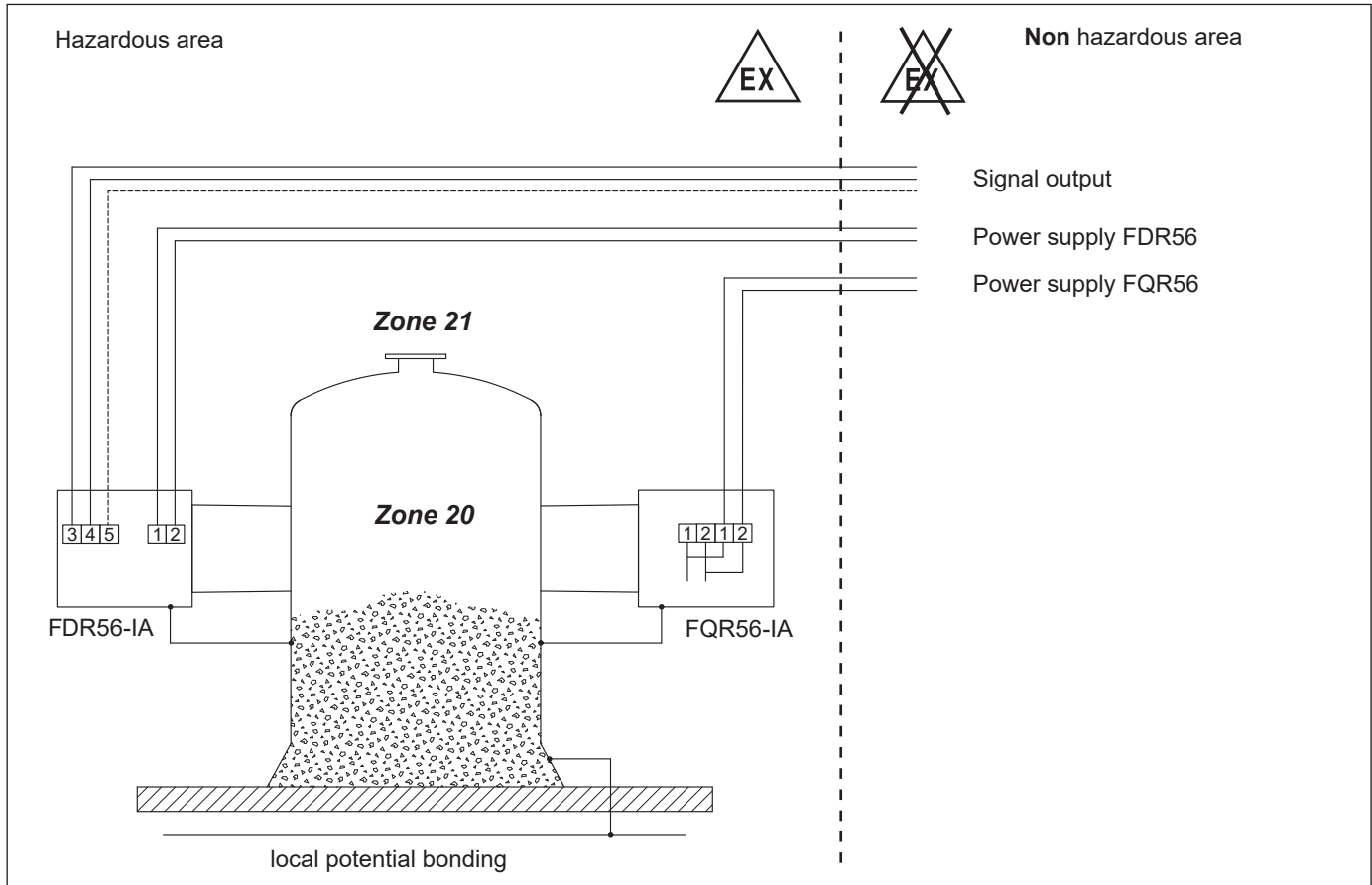
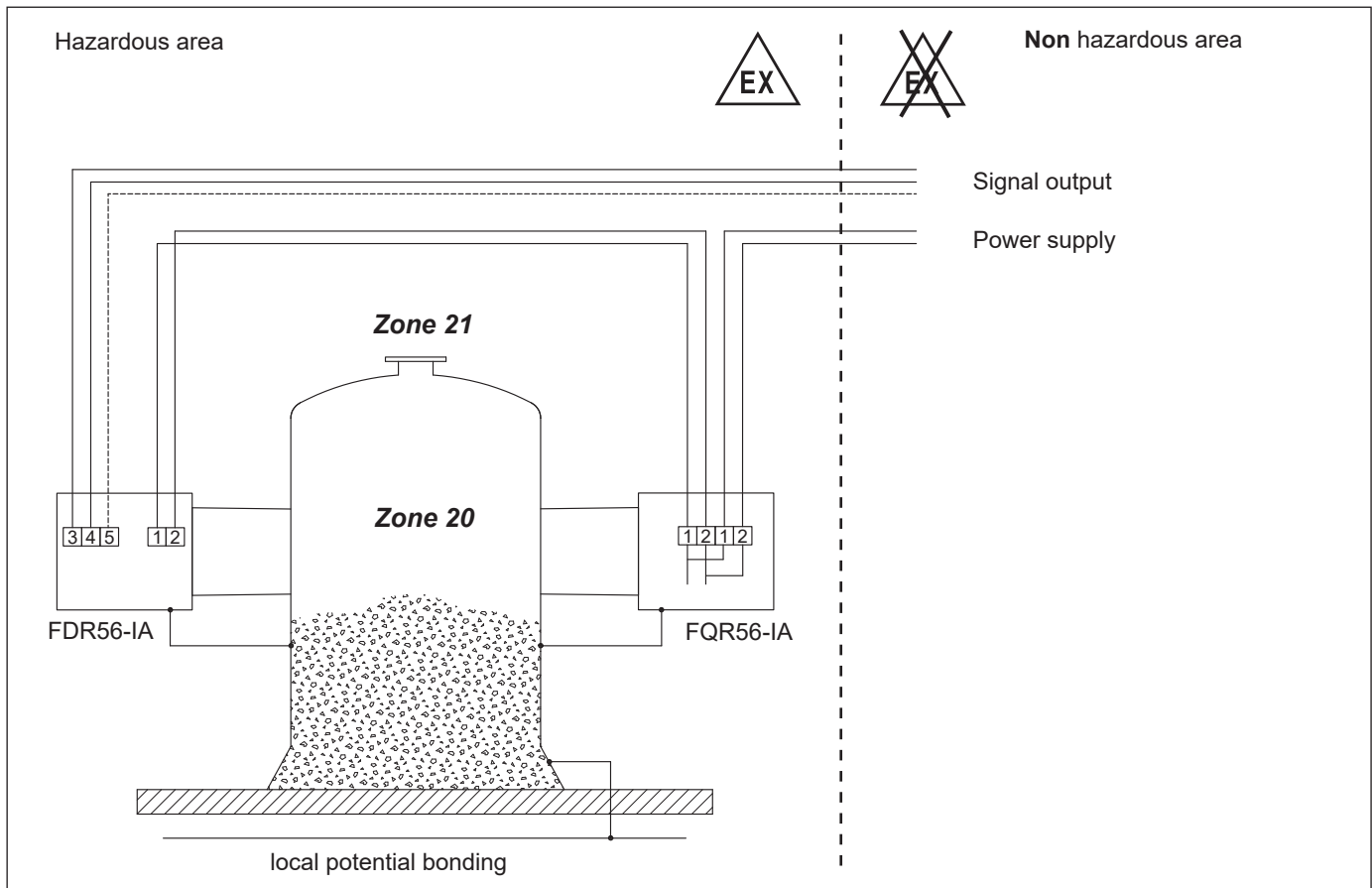
Explanation of the labelling and type of protection can be found in the explosion protection brochure.

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**Designation of explosion protection**      **Ex ta/tb IIIC T102°C Da/Db IP66**

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**Designation of explosion protection**      **Ex tb IIIC T102°C Db IP66**



**Safety instructions:  
General**

- 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 (e.g. IEC 60079-14)
- Install the device according to the manufacturer's instructions and any other valid standards and regulations.
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Only install the devices in media for which the wetted materials have sufficient durability.
- 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**

- Permitted ambient temperature range at the electronics housing:  
 $-40^{\circ}\text{C} (-40^{\circ}\text{F}) \leq T_a \leq +70^{\circ}\text{C} (+158^{\circ}\text{F})$

**Safety instructions:  
Installation**

- 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 60079-14).
- Pay attention to the maximum process conditions according to the manufacturer's Operating Instructions.
- To maintain the ingress protection of the housing IP66, install the housing cover and cable glands correctly.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection. The plastic transport sealing plug does not meet this requirement and must therefore be replaced during installation.
- Only rigidly laid lines and cables may be inserted. The operator must ensure corresponding strain relief.
- The maximum thermal load of the inserted lines and cables is to be observed.
- Signal output for connection to uncertified circuits with the following maximum values:
  - Potential-free relay contact (FDR56-IA1\*):  
 $U_{\sim} \text{max. } 250 \text{ VAC}, I_{\sim} \text{max. } 4 \text{ A}$  or  
 $U_{=} \text{max. } 125 \text{ VDC}, I_{=} \text{max. } 0.4 \text{ A}$  or  
 $U_{=} \text{max. } 30 \text{ VDC}, I_{=} \text{max. } 4 \text{ A}$
  - Current (FDR56-IA2\*):  
 $I = 4 - 20 \text{ mA}, R_L \leq 600 \Omega$
  - Solid-State-Relay (FDR56-IA3\*):  
 $U_{\sim} \text{max. } 30 \text{ VAC}, I_{\sim} \text{max. } 0.4 \text{ A}$  bzw.  
 $U_{=} \text{max. } 40 \text{ VDC}, I_{=} \text{max. } 0.4 \text{ A}$
- During operation, the cover must be screwed all the way in and the cover's safety catch must be fastened.

**Safety instructions:  
Zone 20**

- Only operate devices in potentially explosive vapour/air mixtures under atmospheric conditions:
  - Temperature:  $-40^{\circ}\text{C} (-40^{\circ}\text{F})$  to  $+70^{\circ}\text{C} (+158^{\circ}\text{F})$
  - Pressure: 50 kPa (0.5 bar) to 680 kPa (6.8 bar)
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, according to EN 1127-1, the transmitters may be operated under other atmospheric conditions in accordance with the manufacturer's specifications
- Only install the devices in media for which the wetted materials have sufficient durability (e.g. process connection seal).

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**Endress + Hauser**   
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