



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



Solutions

Safety Instructions

Soliwave

FQR50, FDR50

Ex ia IIC T4 Ga/Gb

Ex ia IIIC T98°C Da/Db

IECEX BVS 09.0007X

Nivotester

FTR325

[Ex ia Ga] IIC

[Ex ia Da] IIIC

IECEX BVS 09.0007X

XA00484F-B/97/EN

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

Soliwave FQR50, FDR50

Nivotester FTR325

Associated Documentation

This document is an integral part of the following Operating Instructions:
KA00206F/97, KA00205F/97

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

Supplementary Documentation

Explosion-protection brochure:
CP021Z/00

Designation

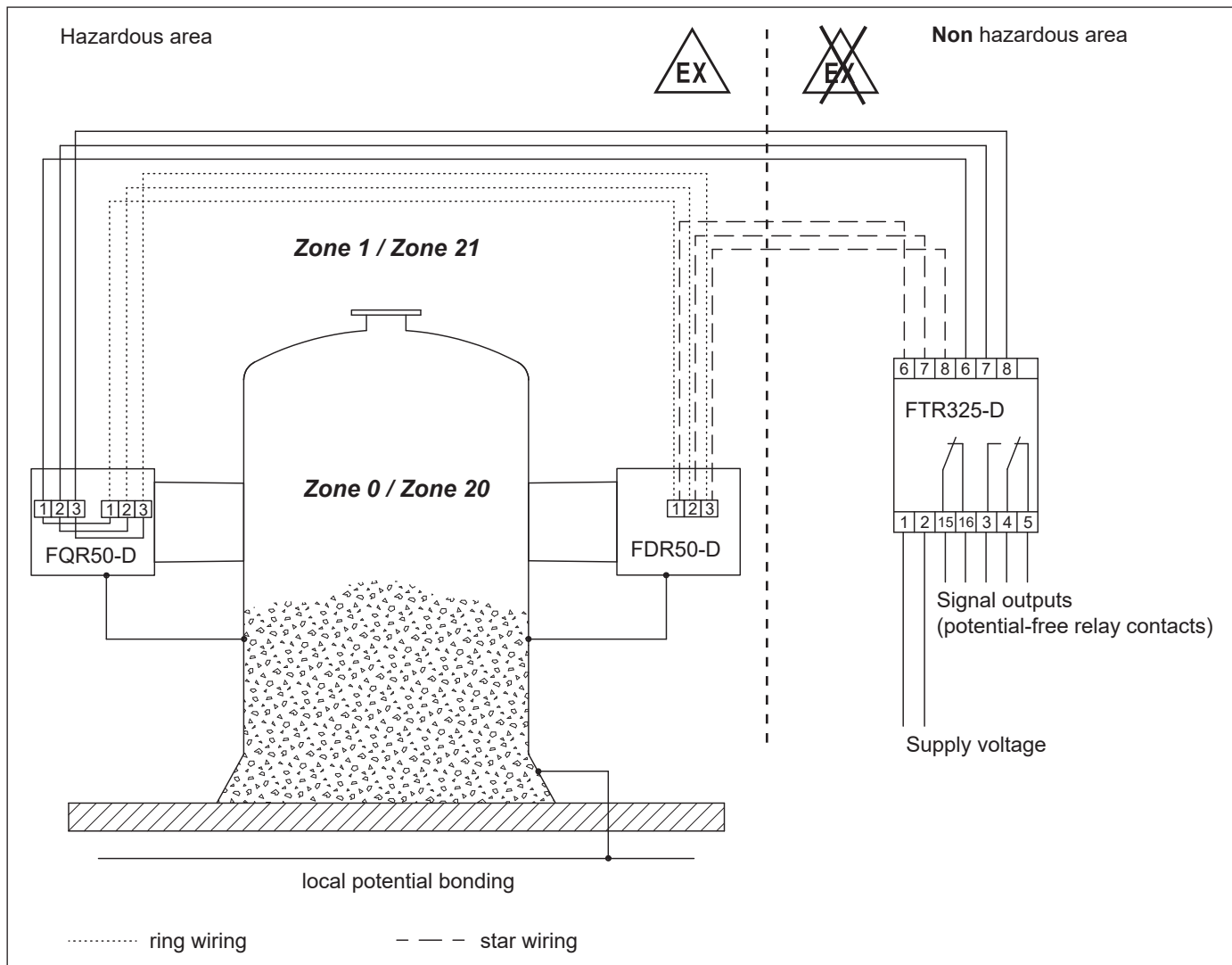
Explanation of the labelling and type of protection can be found in the explosion protection brochure.

**Designation of explosion protection
(Soliwave FQR50, FDR50)**

**Ex ia IIC T4 Ga/Gb
Ex ia IIIC T98°C Da/Db**

**Designation of explosion protection
(Nivotester FTR325)**

**[Ex ia Ga] IIC
[Ex ia Da] IIIC**

**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: $-20^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

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.
- The user shall guarantee suitable damping with an adequate torque. The cable glands and the relevant cables, shall be used where a protection against risk of mechanical damage is provided.
- The maximum thermal load of the inserted lines and cables is to be observed.
- Only use the microwave barrier in the following combinations:
 - FQR50-D and FDR50-D with the Nivotester FTR325-D

All other combinations are not allowed and will lead to the loss of the certification!

- Signal outputs (potential-free relay contacts) for connection to uncertified circuits with the following maximum values:
 - U~ max. 253 VAC, I~ max. 2 A, P~ max. 500 VA, $\cos \varphi \geq 0,7$
 - U= max. 40 VDC, I= max. 2 A, P= max. 80 W
- 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: -20 to +70°C
 - Pressure: 80 to 110 kPa (0.8 to 1.1 bar)
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, according to IEC 60079-14, 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).

Special conditions:**(X marking)**

- The installation of the microwave emitter FQR50-D and microwave receiver FDR50-D in the wall to areas requiring Zone 0 equipment shall provide a degree of protection IP67 according to IEC 60529.
- The installation of the microwave emitter FQR50-D and microwave receiver FDR50-D in the wall to areas requiring Zone 20 equipment shall provide a degree of protection IP6X according to IEC 60529.
- The installation in the boundary wall between Zone 0 / Zone 1, Zone 20 / Zone 21 areas shall be carried out in such a way, that all metallic parts are in conductive contact with the boundary wall, or, in case of a wall made of plastics material, all isolated metallic parts are integrated in the local equipotential bonding.
- Manufacturer's technical information related to use of the microwave emitter FQR50-D and receiver FDR50-D in contact with aggressive / corrosive media shall be observed.

www.endress.com/worldwide

Endress + Hauser 
People for Process Automation