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Safety Instructions
Display FHX40

4-20 mA HART, PROFIBUS PA, FOUNDATION Fieldbus

EAC: 1Ex ia IIC T6...T5 Gb
Ex ia IIIC T80°C Db

Document: XA01842F-A
Safety instructions for electrical apparatus for explosion-hazardous areas → 3

Endress+Hauser
People for Process Automation

Display FHX40

4-20 mA HART, PROFIBUS PA, FOUNDATION Fieldbus

Table of contents

Associated documentation

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

KA00202F/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 -> Media Type: Documentation -> Documentation Type: Brochures and catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

Manufacturer's certificates

Certificate of Conformity TP TC 012/2011

Inspection authority:
LLC NANIO CCVE (ООО «НАНИО ЦСВЭ»)

Certificate number:
ЕАЭС RU C-DE.AA87.B.00087/19

Affixing the certificate number certifies conformity with the following standards (depending on the device version):
- GOST 31610.0-2014 (IEC 60079-0:2011)
- GOST 31610.11-2014 (IEC 60079-11:2011)

Manufacturer address

Endress+Hauser SE+Co. KG
Hauptstraße 1
79689 Maulburg, Germany

Address of the manufacturing plant: See nameplate.

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

FHX40	–	**********	+	A*B*C*D*E*F*G*..
(Device type)		*(Basic specifications)*		*(Optional specifications)*

* = 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: Display FHX40

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

FHX40

Basic specifications

Position 1 (Approval)		
Selected option		**Description**
FHX40	Q	EAC 1Ex ia IIC T6...T5 Gb
	R	EAC Ex ia IIIC T80°C Db

Position 2 (Cable)		
Selected option		**Description**
FHX40	1	20m/65ft (> HART)
	5	20m/65ft (> PROFIBUS PA / FOUNDATION Fieldbus)

Optional specifications

No options specific to hazardous locations are available.

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
- Install the device according to the manufacturer's instructions and national regulations.
- Avoid electrostatic charging of isolated capacities (e.g. isolated metallic plates).
- Refer to the temperature tables for the relationship between the permitted ambient temperature for the electronics housing, depending on the range of application and the temperature class.

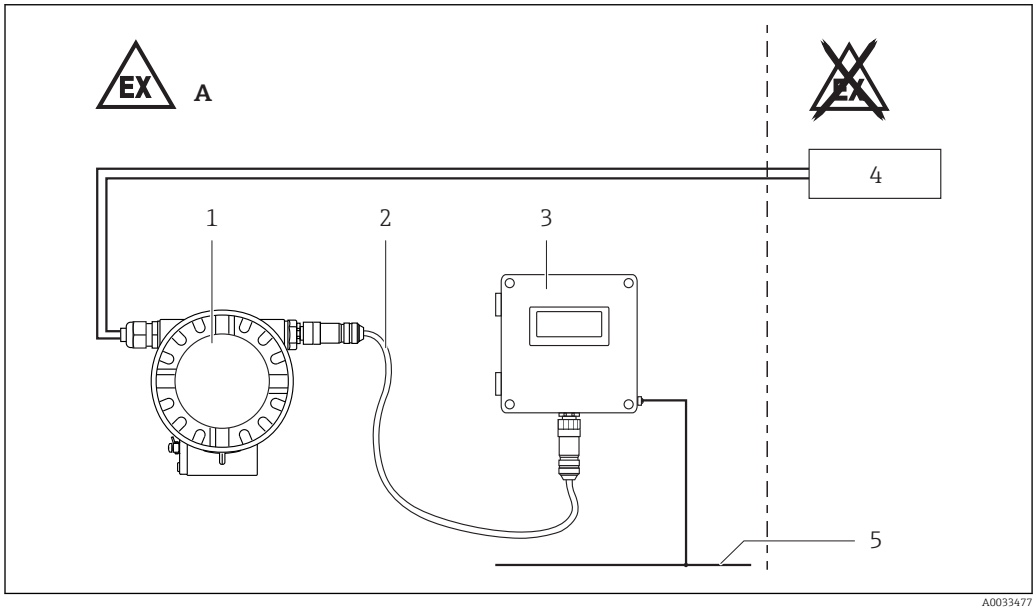
Safety instructions: Special conditions

Permitted ambient temperature range:
$-40\ °C \leq T_a \leq +75\ °C$

- Observe the information in the temperature tables.
- 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.

Safety instructions: Installation

For connection to Endress+Hauser devices with intrinsically safe display only.



1

A Zone 1, Zone 2, Zone 21 or Zone 22
1 Endress+Hauser measuring device
2 Supplied connection cable
3 Display FHX40
4 Power supply or certified associated apparatus (dependent on Endress+Hauser measuring device)
5 Local potential equalization

- The supplied connection cable may not be changed.
- Maximum cable length: 40 m.

Intrinsic safety

The intrinsically safe input power circuit of the device is isolated from ground. The dielectric strength is at least 500 V_{rms}.

Potential equalization

Integrate the device into the local potential equalization.

Safety instructions: Zone 21, Zone 22

- The inspection window corresponds to the "low" strain level.
- During operation: Ensure that no dust enters the housing.
- To ensure dust-tightness, securely seal the housing.

Temperature tables

Application in gas:

Temperature class	Permitted ambient temperature range at the housing
T6	–40 to +60 °C
T5	–40 to +75 °C

Application in dust:

Max. surface temperature at the housing	Permitted ambient temperature range at the housing
+80 °C	–10 to +75 °C

Connection data

Power supply circuit with protection type: intrinsic safety Ex ia IIC, Ex ia IIIC.

For connection to a certified intrinsically safe circuit only.

Maximum values
U_i = 5.6 V I_i = 47 mA P_i = 66 mW effective inner inductance $L_i = L_i + L_{cable}$ = 30 µH effective inner capacitance $C_i = C_i + C_{cable}$ = 11 µF

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