

Safety Instructions

Remote display and operating module DKX001

EAC: 1Ex ia IIC T6...T4 Gb
Ex tb IIIIC T115 °C Db



Remote display and operating module DKX001

Table of contents

About this document	4
Associated documentation	4
Manufacturer's certificates	4
Manufacturer address	5
Extended order code	5
Safety instructions: General	6
Safety instructions: Installation	7
Safety instructions: Zone 21	8
Temperature tables	8
Connection data	9

About this document



The document number of these Safety Instructions (XA) must match the information on the nameplate.

Associated documentation

For an overview of the scope of the associated Technical Documentation, refer to the following:

- *Device Viewer* (www.endress.com/deviceviewer): Enter serial number from nameplate.
- *Endress+Hauser Operations app*: Enter serial number from nameplate or scan matrix code on nameplate.

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

Document type	Contents	Documentation code
Special Documentation	Remote display and operating module DKX001	SD01763D

Additional documentation:

Document type	Contents	Documentation code
Brochure	Explosion protection	CP00021Z/11

Please note the documentation associated with the device.

Manufacturer's certificates

Measuring instruments meet the fundamental health and safety requirements for the design and construction of devices and protective systems intended for use in potentially explosive atmospheres in accordance with TR CU 012/2011.

Certification body

LLP "T-Standard"

Certificate number

EAЭC KZ 7500525.01.01.01791

Affixing the certificate number certifies conformity with the standards (depending on the device version).

- ГОСТ 31610.0-2019 (IEC 60079-0:2017)
- ГОСТ 31610.11-2014 (IEC 60079-11:2011)
- ГОСТ IEC 60079-31-2013

Manufacturer address Endress+Hauser Flowtec AG
Kägenstrasse 7
4153 Reinach BL
Switzerland

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

* * * * *	–	* * * * * ... * * * * *	+	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.			

Device type

The device and the device design is defined in the "Device type" section (Product root).

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.

Device type

DKX001

Basic specifications

Position	Order code for	Option selected	Description
1, 2	Approval	GE, BE	1Ex ia IIC T6...T4 Gb Ex tb IIIC T115 °C Db
3	Display, Operation	A F	None, existing display used 4-line, illuminated; touch control
4	Housing	B C	Single-chamber; cast, stainless Single-chamber; aluminum, coated

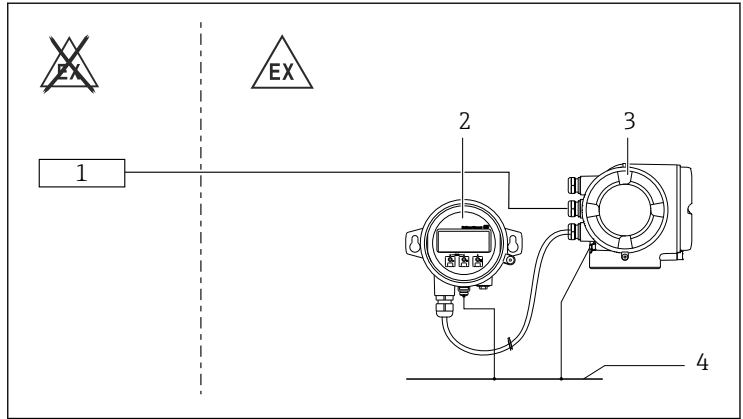
Optional specifications

ID	Order code for	Option selected	Description
Jx	Test, Certificate	JN	Ambient temperature transmitter -50 °C

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 or guidelines (e.g. GOCT IEC 60079-14-2013)
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Alterations to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Endress+Hauser.
- When using in hybrid mixtures (gas and dust occurring simultaneously), observe additional measures for explosion protection.
- Observe all the technical data of the device (see nameplate).

Safety instructions: Installation



A0031345

- 1 Power supply or certified associated apparatus (depending on the Endress+Hauser measuring device)
- 2 Remote display and operating module DKX001 in Zone 1, 2 or 21
- 3 Endress+Hauser measuring device
- 4 Local potential equalization

In the event of potentially explosive vapor/air mixtures, only operate the device under atmospheric conditions.

- Temperature: -20 to $+60$ °C
- Pressure: 80 to 110 kPa (0.8 to 1.1 bar)
- Air with normal oxygen content, usually 21 % (V/V)

If no potentially explosive mixtures are present, or if additional protective measures have been taken according to ГOCT 31438.1-2011, the device may also be operated under non-atmospheric conditions in accordance with the manufacturer's specifications.

- Continuous service temperature of the connecting cable: -40 to $+85$ °C (-50 to $+85$ °C for optional specifications, ID Jx (Test, Certificate) = JN); in accordance with the range of service temperature taking into account additional influences of the process conditions ($T_{a,min}$ and $T_{a,max} + 20$ K).
- Only use certified cable entries suitable for the application. Observe selection criteria as per ГOCT IEC 60079-14-2013.
- When the measuring device is connected, attention must be paid to explosion protection at the transmitter → 9.
- 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 use certified cable entries or sealing plugs. The metal sealing plugs supplied meet this requirement.

Intrinsic safety

- Observe the pertinent guidelines when interconnecting intrinsically safe circuits (e.g. GOCT IEC 60079-14-2013, Proof of Intrinsic Safety).
- The device can be connected to Endress+Hauser Proline 300 measuring devices. The cable supplied meets the requirements for interconnecting.

Potential equalization

Integrate the device into the local potential equalization.

Safety instructions: Zone 21

- To ensure dust-tightness, securely seal the transmitter housing and cable entries.
- Only open all housing briefly, ensuring that no dust or moisture enters the housing.
- 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 use certified cable entries and sealing plugs. The metal cable entries, extensions and sealing plugs supplied meet this requirement.

Temperature tables

Ambient temperature range

Minimum ambient temperature:

- $T_a = -40\text{ °C}$
- *Optional specification, ID Jx (Test, Certificate) = JN*
 $T_a = -50\text{ °C}$

Maximum ambient temperature:

The maximum ambient temperature is limited as listed in the following table, depending on the temperature class:

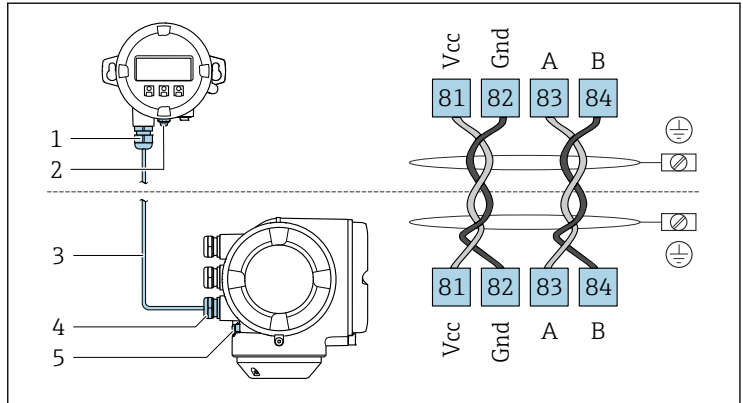
Zone 1

$T_{a, \max}$ [°C]		
T6	T5	T4
35	50	65

Zone 21

Maximum surface temperature at $T_a = 65\text{ °C}$	115 °C
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Connection data



A0027518

- 1 Remote display and operating module DKX001
- 2 Protective earth (PE)
- 3 Connecting cable
- 4 Measuring device
- 5 Protective earth (PE)

Power supply and signal circuit

- $U_i = 3.9 \text{ V}$
- $I_i = 1.5 \text{ A}$
- $P_i = 600 \text{ mW}$
- $L_i = 0 \text{ } \mu\text{H}$ (effective internal inductance)
- $C_i = 10 \text{ nF}$ (effective internal inductance)

Connectable cables

- Cables which are optionally available from Endress+Hauser: can be ordered up to a total length of 30 m.
- A customer's cable can be used if the following connection cable values are observed (only with Endress+Hauser Proline 300 measuring devices):
 - $L/R \leq 24 \text{ } \mu\text{H}/\Omega$
 - $C_{\text{cable}} \leq 1000 \text{ nF}$



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