

Safety Instructions

Promass 300

EAC: Zone 1
Zone 0/1
Zone 21



Document: XA01660D
Safety instructions for electrical apparatus for explosion-hazardous areas →  3

Promass 300

Table of contents

| | |
|---|----|
| Associated documentation | 4 |
| Manufacturer's certificates | 5 |
| Manufacturer address | 5 |
| Extended order code | 5 |
| Safety instructions: General | 9 |
| Safety instructions: Installation | 10 |
| Safety instructions: Zone 0 | 12 |
| Safety instructions: Zone 21 | 12 |
| Temperature tables | 13 |
| Explosion hazards arising from gas and dust | 23 |
| Connection values: Signal circuits | 25 |

Associated documentation

All documentation is available:

- On the CD-ROM supplied (not included in the delivery for all device versions).
- Available for all device versions via:
 - Internet: www.endress.com/deviceviewer
 - Smart phone/tablet: *Endress+Hauser Operations App*
- In the Download Area of the Endress+Hauser web site: www.endress.com → Download.

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

| Measuring device | Documentation code | | | |
|----------------------|--------------------|---------------------|-------------|-------------|
| | HART | FOUNDATION Fieldbus | PROFIBUS PA | PROFIBUS DP |
| Promass A 300 (8A3B) | BA01482D | BA01515D | BA01504D | – |
| Promass E 300 | BA01484D | BA01517D | BA01506D | BA01855D |
| Promass F 300 | BA01485D | BA01518D | BA01507D | BA01850D |
| Promass H 300 | BA01486D | BA01519D | BA01508D | BA01858D |
| Promass I 300 | BA01487D | BA01520D | BA01509D | BA01859D |
| Promass O 300 | BA01488D | BA01521D | BA01510D | BA01860D |
| Promass P 300 | BA01489D | BA01522D | BA01511D | BA01861D |
| Promass Q 300 | BA01490D | BA01523D | BA01512D | BA01862D |
| Promass S 300 | BA01491D | BA01524D | BA01513D | BA01863D |
| Promass X 300 | BA01492D | BA01525D | BA01514D | BA01864D |

| Measuring device | Documentation code | | |
|----------------------|--------------------|-------------|----------|
| | Modbus RS485 | EtherNet/IP | PROFINET |
| Promass A 300 (8A3B) | BA01493D | BA01699D | BA01736D |
| Promass E 300 | BA01495D | BA01727D | BA01738D |
| Promass F 300 | BA01496D | BA01728D | BA01739D |
| Promass H 300 | BA01497D | BA01729D | BA01740D |
| Promass I 300 | BA01498D | BA01730D | BA01741D |
| Promass O 300 | BA01499D | BA01731D | BA01742D |
| Promass P 300 | BA01500D | BA01732D | BA01743D |
| Promass Q 300 | BA01501D | BA01733D | BA01744D |
| Promass S 300 | BA01502D | BA01734D | BA01745D |
| Promass X 300 | BA01503D | BA01735D | BA01746D |

Additional documentation

| Contents | Document type | Documentation code |
|--|--|--------------------|
| Remote display and operating module DKX001 | Special documentation | SD01763D |
| | Safety Instructions 1Ex ia IIC T6 Gb, Ex tb IIIC T115 °C Db | XA01664D |
| Explosion Protection | Brochure | CP00021Z/11 |

Please note the documentation associated with the device.

Manufacturer's certificates

Flowmeters 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

ООО "НАННО ЦСБЭ"

Certificate number

EAЭC RU C-CH.AA87.B.00253/19

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

- ГОСТ 31610.0-2014 (IEC 60079-0:2011)
- ГОСТ 31610.11-2014 (IEC 60079-11:2011)
- ГОСТ 31610.26-2012 (IEC 60079-26:2006)
- ГОСТ МЭК 60079-7-2012
- ГОСТ IEC 60079-1-2013
- ГОСТ IEC 60079-31-2013

Manufacturer address

Endress+Hauser Flowtec AG
Division Reinach
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> |
| <p>* = Placeholder</p> <p>At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders.</p> | | |

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

| Position | Order code for | Option selected | Description |
|----------|-------------------|------------------------------|--|
| 1 | Instrument family | 8 | Coriolis flowmeter |
| 2 | Sensor | A, E, F, H, I, O, P, Q, S, X | Sensor type |
| 3 | Transmitter | 3 | Transmitter type: 4-wire, compact version |

| Position | Order code for | Option selected | Description |
|----------|------------------|---|----------------------------|
| 4 | Generation index | B, C | Platform generation |
| 5, 6 | Nominal diameter | DN 1 ... 350 DN 1: 01 DN 2: 02 ... DN 350: 3E, 3F, 3R | Nominal diameter of sensor |

Basic specifications

| Position 1, 2 Order code for "Approval" Option selected | Position 4, 5 Order code for "Output, input 1" Option selected | Type of protection |
|---|--|---|
| GA, BA | BA, BB, GA, LA, MA, NA, RA, SA | Ga/Gb Ex db e ia IIC T6...T1 X ¹⁾ 1Ex db e ia IIC T6...T1 Gb X ¹⁾ Ex tb IIIC T** Db X |
| | CA, CB, CC, HA, TA | Ga/Gb Ex db e ia [ia Ga] IIC T6...T1 X ¹⁾ 1Ex db e ia [ia Ga] IIC T6...T1 Gb X ¹⁾ Ex tb [ia Da] IIIC T** Db X |
| GB, BB ²⁾ | BA, BB, GA, LA, MA, NA, RA, SA | Ga/Gb Ex db e ia IIC T6...T1 X ¹⁾ 1Ex db e ia IIC T6...T1 Gb X ¹⁾ Ex tb IIIC T** Db X |
| | CA, CB, CC, HA, TA | Ga/Gb Ex db e ia [ia Ga] IIC T6...T1 X ¹⁾ 1Ex db e ia [ia Ga] IIC T6...T1 Gb X ¹⁾ Ex tb [ia Da] IIIC T** Db X |
| GC, BC | BA, BB, GA, LA, MA, NA, RA, SA | Ga/Gb Ex db ia IIC T6...T1 X ¹⁾ 1Ex db ia IIC T6...T1 Gb X ¹⁾ Ex tb IIIC T** Db X |
| | CA, CB, CC, HA, TA | Ga/Gb Ex db ia [ia Ga] IIC T6...T1 X ¹⁾ 1Ex db ia [ia Ga] IIC T6...T1 Gb X ¹⁾ Ex tb [ia Da] IIIC T** Db X |
| GD, BD ³⁾ | BA, BB, GA, LA, MA, NA, RA, SA | Ga/Gb Ex db ia IIC T6...T1 X ¹⁾ 1Ex db ia IIC T6...T1 Gb X ¹⁾ Ex tb IIIC T** Db X |
| | CA, CB, CC, HA, TA | Ga/Gb Ex db ia [ia Ga] IIC T6...T1 X ¹⁾ 1Ex db ia [ia Ga] IIC T6...T1 Gb X ¹⁾ Ex tb [ia Da] IIIC T** Db X |

- 1) Sensors Promass A DN 1, Promass H DN 8-50 are only suitable for equipment protection level EPL Gb
- 2) Connection compartment of the transmitter Ex e
- 3) Connection compartment of the transmitter Ex d

| Position | Order code for | Option selected | Description |
|----------|-----------------|-----------------|--------------------------|
| 4, 5 | Output, input 1 | BA | 4-20mA HART |
| | | CA | 4-20mA HART Ex-i passive |

| Position | Order code for | Option selected | Description |
|----------|--------------------|-----------------|---|
| | | CC | 4-20mA HART Ex-i active |
| | | GA | PROFIBUS PA |
| | | HA | PROFIBUS PA Ex-i |
| | | LA | PROFIBUS DP |
| | | MA | Modbus RS485 |
| | | NA | EtherNet/IP 2-port switch integrated |
| | | RA | PROFINET IO 2-port switch integrated |
| | | SA | FOUNDATION Fieldbus |
| | | TA | FOUNDATION Fieldbus Ex-i |
| 6 | Output, input 2 | A | W/o |
| | | B | 4-20mA |
| | | C | 4-20mA Ex-i passive |
| | | D | Configurable I/O initial setting off |
| | | E | Pulse/frequency/switch output |
| | | F | Pulse output, phase-shifted |
| | | G | Pulse/frequency/switch output Ex-i passive |
| | | H | Relay |
| | | I | 4-20mA input |
| | | J | Status input |
| 7 | Output, input 3 | A | W/o |
| | | B | 4-20mA |
| | | C | 4-20mA Ex-i passive |
| | | D | Configurable I/O initial setting off |
| | | E | Pulse/frequency/switch output |
| | | F | Pulse output, phase-shifted |
| | | G | Pulse/frequency/switch output Ex-i passive |
| | | H | Relay |
| | | I | 4-20mA input |
| | | J | Status input |
| 8 | Display; Operation | A | W/o; via communication |
| | | F | 4-line, illuminated; touch control |
| | | G | 4-line, illuminated; touch control + WLAN |
| | | M | W/o; prepared for remote display DKX001 ¹⁾ |

| Position | Order code for | Option selected | Description |
|----------|--|-----------------|---|
| | | O | Separate, with remote display DKX001 ¹⁾ , 4-line, illuminated; 10 m / 30 ft cable; touch control |
| 9 | Housing | A | Alu, coated |
| | | L | Cast, stainless |
| 11, 12 | Meas. Tube Mat., Wetted Parts Surface | LA | Stainl. steel, cryogenic -196°C/-320°F |
| 17, 18 | Device Model | A1 | 1 |
| | | A2 | 2 |

1) DKX001 is approved according to TC RU C-CH.AA87.B.00570.

Optional specifications

| ID | Order code for | Option selected | Description |
|----|----------------------|-----------------|---|
| Jx | Test, certificate | JP | Ambient temperature, measuring device -50 °C |
| Px | Enclosed accessories | P8 | Wireless antenna, wide area (external WLAN antenna) ¹⁾ |

1) The external WLAN antenna is available with the order code for "Accessory Enclosed", option P8.

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)
- 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.
- Only use the device in media to which the wetted materials have sufficient durability.
- Refer to the temperature tables for the relationship between the permitted ambient temperature for the sensor and/or transmitter, depending on the range of application, and the temperature classes.
- Modifications 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.
- Open the housing cover of the transmitter housing in explosion protection Ex db only if one of the following conditions is met:
 - An explosive atmosphere is not present.
 - A waiting time of 10 minutes is observed after switching off the power supply.
The following warning notice is on the device:
WARNING – AFTER DE-ENERGIZING, DELAY 10 MINUTES BEFORE OPENING ENCLOSURE IN TYPE OF PROTECTION EX D
- Observe all the technical data of the device (see nameplate).

Safety instructions: Installation

- Continuous service temperature of the connecting cable: -40 to +80 °C (-50 to +80 °C for optional specifications, ID Jx (Test, Certificate) = JP); 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 ГОСТ IEC 60079-14-2013.
- The following applies when connecting the transmitter with a connection compartment in Ex db :
Only use separately certified cables and wire entries (Ex db IIC) which are suitable for operating temperatures up to 85 °C and for IP 66/67. If using conduit entries, the associated sealing mechanisms must be mounted directly on the housing.
Plastic sealing plugs act as transport protection and have to be replaced by suitable, individually approved installation material. The mounted metal thread extensions and dummy plugs are tested and certified as part of the housing for type of protection Ex db IIC . The thread extension or the dummy plug labeled as follows for identification purposes:
 - Md: M20 x 1.5
 - d: NPT 1/2"
 - Gd: G 1/2"

- The following applies when connecting the transmitter with a connection compartment in Ex eb :
Only use separately certified cable and wire entries and sealing plugs (Ex eb IIC) which are suitable for operating temperatures up to 85 °C and for IP 66/67. The cables must be routed such that they are securely seated, and sufficient strain relief must be ensured. The mounted metal thread extensions and dummy plugs supplied are tested and certified as part of the housing for type of protection Ex eb IIC. Plastic sealing plugs act as transport protection and have to be replaced by suitable, individually approved installation material. Supplied cable glands are separately certified and marked as components and meet device specification requirements.
- When the measuring device is connected, attention must be paid to explosion protection at the transmitter.
- Turning the transmitter housing
 - Loosen both hexagon socket screws until the transmitter housing can be turned.
 - Turn transmitter housing to desired position (mechanically limited); if necessary turn 270° in other direction.
 - Tighten both hexagon socket screws with a maximum of 7 Nm.
- In potentially explosive atmospheres:
 - Do not disconnect the electrical connection of the power supply circuit when energized.
 - Do not open the connection compartment cover when energized.
- When connecting through a conduit entry approved for this purpose, mount the associated sealing unit directly at 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 sealing plugs. The metal sealing plugs supplied meet this requirement.
- Transmitters with Ex db eb approval must not be connected via the service interface (CDI-RJ45)! Order code "Approval; Transmitter + Sensor", options (Ex de): GA, GB

Optional external WLAN antenna

- The external WLAN antenna can be used only in conjunction with an Ex eb connection compartment.
Use with an Ex db connection compartment is not permitted.
- Connect the antenna bushing H337 to the transmitter housing and tighten by hand.
- Use only external antennas supplied by Endress+Hauser.
- Connect antenna or antenna cable with plug-in connector type N (MIL-STD-348) to antenna bushing H337.

Intrinsic safety

- Observe the guidelines for interconnecting intrinsically safe circuits (e.g. GOCT IEC 60079-14-2013 , Proof of Intrinsic Safety).
- When the intrinsically safe Ex ia circuits of the device are connected to certified intrinsically safe circuits of Category Ex ib for Equipment Groups IIC or IIB, the type of protection changes to Ex ib IIC or Ex ib IIB.
- The device can be connected to the remote display DKX001 which has explosion protection: refer to the Special documentation and Ex documentation.



- When using the remote display and operating module DKX001 the internal display and operating module must be removed.
- When using the separate approved, remote display and operating module DKX001, only use the following variants: Basic specification of the remote display and operating module DKX001, order code "Approval", option GE

Potential equalization

- Integrate the device into the local potential equalization .
- If the ground connection has been established via the pipe as specified, it is also possible to integrate the sensor into the potential equalization system via the pipe.
- The antenna bushing H337 of the external antenna must be integrated into the local potential equalization system. This is the case if the sensor is connected in accordance with the regulations via the coupling.

Safety instructions: Zone 0

Install the transmitter electronics in Zone 1. For sensors with EPL Ga/Gb the zone 0 is permitted in the measuring tube.

Safety instructions: Zone 21

- To ensure dust-tightness, securely seal the transmitter and sensor housing, cable entries and sealing plugs.
- Only open the transmitter and sensor housing briefly, ensuring that no dust or moisture enters the housing.
- Only use certified cable entries. The metal cable entries, extensions and sealing plugs supplied meet this requirement.
- The metal extensions and blind plugs supplied are tested and certified as part of the enclosure for explosion protection Ex tb IIIC. Plastic sealing plugs in extensions act as transport protection and have to be replaced by suitable, individually approved installation material. Supplied cable glands are separately certified and marked as components and meet device specification requirements.

Temperature tables

Ambient temperature

Minimum ambient temperature

- $T_a = -40\text{ °C}$
- *Optional specification, ID Jx (Test, Certificate) = JP*
 $T_a = -50\text{ °C}$ depending on the selected device variant (see nameplate)

Maximum ambient temperature

$T_a = +60\text{ °C}$ depending on the medium temperature and temperature class.

Medium temperature

Minimum medium temperature

- Promass A, F, H, I, P, Q, S, X:
 $T_m = -50\text{ °C}$
- Promass E, O:
 $T_m = -40\text{ °C}$
- Promass F, Q with cryogenic temperature version (order code for "Measuring tube material", option LA):
 $T_m = -196\text{ °C}$

Maximum medium temperature

- T_m for T6...T1 depending on the maximum ambient temperature T_a
- () = The maximum permitted medium temperatures in brackets only apply if the sensor is installed in such a way that the transmitter is not mounted above the sensor and free convection can occur on all sides.

Compact version

NOTICE

In case of heating, risk of overheating.

- ▶ On devices with Heating jacket the corresponding temperature tables for isolated sensor, are to be observed.
- ▶ Make sure that the heating medium, may not exceeded the maximum specified medium temperature of the exact used temperature classes of the device.

*Maximum medium temperature without thermal insulation according to
Endress+Hauser specifications*

*Promass A (8A3B**-*..., 8A3C**-*...)*

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|-------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 1...4 | 50 | 205 | 50 | 95 | 130 | 150 | 205 | 205 |
| | 60 | | - | 95 | 130 | 150 | 205 | 205 |

Promass E

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|--------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8...50 | 50 | 150 | 50 | 100 | 130 | 130 | 150 | 150 |
| | 55 | | - | 80 | 100 | 130 | 150 | 150 |
| | 60 | | - | (80) | (100) | (130) | (150) | (150) |
| 80 | 50 | 150 | 50 | 75 | 110 | 150 | 150 | 150 |
| | 55 | | - | 75 | 110 | 150 | 150 | 150 |
| | 60 | | - | (75) | (110) | (150) | (150) | (150) |

Promass F

| DN | T _a [°C] | T _{m,max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|--|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 08...15 | 50 | 150 | 50 | 95 | 130 | 150 | 150 | 150 |
| | 60 | | - | 95 | 130 | 150 | 150 | 150 |
| | 50 | 150 ²⁾ | 50 | 95 | 100 | 150 | 150 | 150 |
| | 60 | | - | 95 | 100 | 150 | 150 | 150 |
| | 50 | 240 | 50 | 95 | 130 | 160 | 240 | 240 |
| | 60 | | - | 95 | 130 | 160 | (240) | (240) |
| 15...25 | 50 | 350 | 45 | 95 | 130 | 175 | 275 | 350 |
| | 60 | | - | 95 | 130 | 175 | 275 | 350 |
| 25...50 | 50 | 150 | 50 | 95 | 130 | 150 | 150 | 150 |
| | 60 | | - | 95 | 130 | 150 | 150 | 150 |
| | 50 | 150 ²⁾ | 50 | 95 | 100 | 150 | 150 | 150 |

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|----------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| | 60 | 240 | - | 95 | 100 | 150 | 150 | 150 |
| | 50 | | 50 | 95 | 130 | 160 | 240 | 240 |
| | 60 | | - | 95 | 130 | 160 | (240) | (240) |
| 80...250 | 50 | 150 | 50 | 75 | 110 | 150 | 150 | 150 |
| | 60 | | - | 75 | 110 | 150 | 150 | 150 |
| | 50 | 150 ²⁾ | 50 | 75 | 110 | 150 | 150 | 150 |
| | 60 | | - | 75 | 110 | 150 | 150 | 150 |
| | 50 | 240 | 50 | 75 | 110 | 170 | 240 | 240 |
| | 60 | | - | 75 | 110 | 170 | (240) | (240) |
| 50...250 | 50 | 350 | 45 | 85 | 120 | 175 | 275 | 350 |
| | 60 | | - | 85 | 120 | 175 | 275 | 350 |

- 1) Maximum temperature range, see nameplate
 2) Cryogenic temperature version: T_m = -196 to 150 °C

Promass H

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8 | 50 | 150 | 50 | 65 | 100 | 150 | 150 | 150 |
| | 60 | | - | 65 | 100 | 150 | 150 | 150 |
| 8 | 50 | 205 | 50 | 65 | 100 | 160 | 205 | 205 |
| | 60 | | - | 65 | 100 | 160 | 205 | 205 |
| 15...50 | 50 | 150 | 50 | 75 | 115 | 150 | 150 | 150 |
| | 60 | | - | 75 | 115 | 150 | 150 | 150 |
| 15...50 | 50 | 205 | 50 | 75 | 115 | 180 | 205 | 205 |
| | 60 | | - | 75 | 115 | 180 | 205 | 205 |

- 1) Maximum temperature range, see nameplate

Promass I

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|-----------------------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8, 15, 15FB, 25 | 50 | 150 | 50 | 95 | 130 | 150 | 150 | 150 |
| | 60 | | - | 95 | 120 | (150) | (150) | (150) |
| 25FB, 40, 40FB, 50 | 50 | 150 | 50 | 85 | 120 | 150 | 150 | 150 |
| | 60 | | - | 85 | 120 | (150) | (150) | (150) |
| 50FB, 80 | 50 | 150 | 50 | 85 | 120 | 150 | 150 | 150 |
| | 60 | | - | 85 | 120 | (150) | (150) | (150) |

FB = Full bore

Promass O

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|------------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 80 ... 250 | 50 | 205 | 50 | 75 | 110 | 170 | 205 | 205 |
| | 55 | | - | 75 | 110 | 170 | 205 | 205 |
| | 60 | | - | 75 | 110 | 170 | (205) | (205) |

Promass P

| DN | T _a [°C] | T _{m,max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|--|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8 | 45 | 150 | 45 | 65 | 100 | 150 | 150 | 150 |
| | 60 | | - | 65 | 100 | 150 | 150 | 150 |
| | 45 | 205 | 45 | 65 | 100 | 160 | 205 | 205 |
| | 60 | | - | 65 | 100 | 160 | 205 | 205 |
| 15...50 | 50 | 150 | 50 | 75 | 115 | 150 | 150 | 150 |
| | 60 | | - | 75 | 115 | 150 | 150 | 150 |
| | 50 | 205 | 50 | 75 | 115 | 180 | 205 | 205 |
| | 60 | | - | 75 | 115 | 180 | 205 | 205 |

1) Maximum temperature range, see nameplate

Promass Q

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|------------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 25 ... 100 | 50 | 205 | 50 | 75 | 110 | 160 | 205 | 205 |
| | 60 | | - | 75 | 110 | 160 | 205 | 205 |
| 25 ... 100 | 50 | 150 ²⁾ | 50 | 75 | 110 | 150 | 150 | 150 |
| | 60 | | - | 75 | 110 | 150 | 150 | 150 |

- 1) Maximum temperature range, see nameplate
 2) Cryogenic temperature version: T_m = -196 to 150 °C

Promass S

| DN | T _a [°C] | T _{m, max} [°C] | T _m [°C] | | | | | |
|---------|------------------------|-----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8 | 45 | 150 | 45 | 65 | 100 | 150 | 150 | 150 |
| | 60 | | - | 65 | 100 | 150 | 150 | 150 |
| 15...50 | 50 | 150 | 50 | 75 | 115 | 150 | 150 | 150 |
| | 60 | | - | 75 | 115 | 150 | 150 | 150 |

Promass X

| DN | T _a [°C] | T _{m, max} [°C] | T _m [°C] | | | | | |
|-----|------------------------|-----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 350 | 50 | 180 | 50 | 90 | 120 | 170 | 180 | 180 |
| | 55 | | - | 90 | 120 | 170 | 180 | 180 |
| | 60 | | - | (90) | (120) | (170) | (180) | (180) |

Maximum medium temperature with thermal insulation according to Endress+Hauser specifications



For information on the thermal insulation of the device, see the "Thermal insulation" section of the "Operating instructions" document.

Promass A (8A3B**-*..., 8A3C**-*...)

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|-------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 1...4 | 50 | 205 | 50 | 95 | 130 | 150 | 205 | 205 |
| | 55 | | - | (95) | (130) | (150) | (205) | (205) |

Promass E

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|--------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8...50 | 50 | 150 | 50 | 100 | 130 | 130 | 150 | 150 |
| | 55 | | - | (100) | (130) | (130) | (150) | (150) |
| 80 | 45 | 150 | 50 | 75 | 110 | 150 | 150 | 150 |
| | 50 | | - | 75 | 110 | 150 | 150 | 150 |
| | 55 | | - | (75) | (110) | (150) | (150) | (150) |

Promass F

| DN | T _a [°C] | T _{m,max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|--|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 08...15 | 50 | 150 | 50 | 95 | 130 | 150 | 150 | 150 |
| | 60 | | - | 95 | 110 | (150) | (150) | (150) |
| | 50 | 150 ²⁾ | 50 | 95 | 130 | 150 | 150 | 150 |
| | 55 | | - | 95 | (130) | (150) | (150) | (150) |
| | 60 | | - | 95 | 110 | 110 | 110 | 110 |
| | 50 | 240 | 50 | 95 | 130 | 160 | 240 | 240 |
| | 55 | | - | 95 | (130) | (160) | (240) | (240) |
| | 60 | | - | 95 | 110 | 110 | 110 | 110 |
| 15...25 | 50 | 350 | 45 | 95 | 130 | 175 | 275 | 350 |
| | 60 | | - | 95 | 130 | 175 | 275 | 350 |

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|----------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 25...50 | 50 | 150 | 50 | 95 | 130 | 150 | 150 | 150 |
| | 60 | | - | 95 | 110 | (150) | (150) | (150) |
| | 50 | 150 ²⁾ | 50 | 95 | 130 | 150 | 150 | 150 |
| | 55 | | - | 95 | (130) | (150) | (150) | (150) |
| | 60 | | - | 95 | 110 | 110 | 110 | 110 |
| | 50 | 240 | 50 | 95 | 130 | 160 | 240 | 240 |
| | 55 | | - | 95 | (130) | (160) | (240) | (240) |
| | 60 | | - | 95 | 110 | 110 | 110 | 110 |
| 80...250 | 50 | 150 | 50 | 75 | 110 | 150 | 150 | 150 |
| | 60 | | - | 75 | 110 | (150) | (150) | (150) |
| | 50 | 150 ²⁾ | 50 | 75 | 110 | 150 | 150 | 150 |
| | 55 | | - | 75 | 110 | 150 | 150 | 150 |
| | 60 | | - | 75 | 110 | 110 | 110 | 110 |
| | 50 | 240 | 50 | 75 | 110 | 170 | 240 | 240 |
| | 55 | | - | 75 | 110 | (170) | (240) | (240) |
| | 60 | | - | 75 | 110 | 110 | 110 | 110 |
| 50...250 | 50 | 350 | 45 | 85 | 120 | 175 | 275 | 350 |
| | 60 | | - | 85 | 120 | 175 | 275 | 350 |

- 1) Maximum temperature range, see nameplate
 2) Cryogenic temperature version: T_m = -196 to 150 °C

Promass H

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8 | 50 | 150 | 50 | 65 | 100 | 150 | 150 | 150 |
| | 55 | | - | 65 | 100 | (150) | (150) | (150) |
| | 60 | | - | 65 | 100 | 100 | 100 | 100 |
| 8 | 50 | 205 | 50 | 65 | 100 | 160 | 205 | 205 |
| | 55 | | - | 65 | 100 | (160) | (205) | (205) |
| | 60 | | - | 65 | 100 | 100 | 100 | 100 |
| 15...50 | 50 | 150 | 50 | 75 | 115 | 150 | 150 | 150 |

| DN | T _a [°C] | T _{m,max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|--|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| | 55 | | - | 75 | 115 | (150) | (150) | (150) |
| | 60 | | - | 75 | 115 | 115 | 115 | 115 |
| 15...50 | 50 | 205 | 50 | 75 | 115 | 180 | 205 | 205 |
| | 55 | | - | 75 | 115 | (180) | (205) | (205) |
| | 60 | | - | 75 | 115 | 115 | 115 | 115 |

1) Maximum temperature range, see nameplate

Promass I

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|-----------------------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8, 15, 15FB, 25 | 50 | 150 | 50 | 95 | 130 | 150 | 150 | 150 |
| | 60 | | - | 95 | 120 | (150) | (150) | (150) |
| 25FB, 40, 40FB, 50 | 50 | 150 | 50 | 85 | 120 | 150 | 150 | 150 |
| | 60 | | - | 85 | 120 | (150) | (150) | (150) |
| 50FB, 80 | 50 | 150 | 50 | 85 | 120 | 150 | 150 | 150 |
| | 60 | | - | 85 | 120 | (150) | (150) | (150) |

FB = Full bore

Promass O

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|----------|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 80...250 | 50 | 205 | 50 | 75 | 110 | 170 | 205 | 205 |
| | 55 | | - | (75) | (110) | (170) | (205) | (205) |

Promass P

| DN | T _a [°C] | T _{m,max} ¹⁾ [°C] | T _m [°C] | | | | | |
|----|------------------------|--|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8 | 45 | 150 | 45 | 65 | 100 | 150 | 150 | 150 |
| | 50 | | - | 65 | 100 | 150 | 150 | 150 |

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|---------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| | 60 | 205 | - | 65 | 100 | 125 | (150) | (150) |
| | 45 | | 45 | 65 | 100 | 160 | 205 | 205 |
| | 50 | | - | 65 | 100 | 160 | 205 | 205 |
| | 60 | | - | 65 | 100 | 115 | (205) | (205) |
| 15...50 | 50 | 150 | 50 | 75 | 115 | 150 | 150 | 150 |
| | 60 | | - | 75 | 115 | 125 | (150) | (150) |
| | 50 | 205 | 50 | 75 | 115 | 180 | 205 | 205 |
| | 60 | | - | 75 | 115 | (150) | (150) | (150) |

1) Maximum temperature range, see nameplate

Promass Q

| DN | T _a [°C] | T _{m, max} ¹⁾ [°C] | T _m [°C] | | | | | |
|----------|------------------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 25...100 | 50 | 205 | 50 | 75 | 110 | 160 | 205 | 205 |
| | 55 | | - | (75) | (110) | (160) | (205) | (205) |
| 25...100 | 50 | 150 ²⁾ | 50 | 75 | 110 | 150 | 150 | 150 |
| | 55 | | - | (75) | (110) | (150) | (150) | (150) |

1) Maximum temperature range, see nameplate

2) Cryogenic temperature version: T_m = -196 to 150 °C

Promass S

| DN | T _a [°C] | T _{m, max} [°C] | T _m [°C] | | | | | |
|---------|------------------------|-----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 8 | 45 | 150 | 45 | 65 | 100 | 150 | 150 | 150 |
| | 50 | | - | 65 | 100 | 150 | 150 | 150 |
| | 60 | | - | 65 | 100 | 125 | (150) | (150) |
| 15...50 | 50 | 150 | 50 | 75 | 115 | 150 | 150 | 150 |
| | 60 | | - | 75 | 115 | 125 | (150) | (150) |

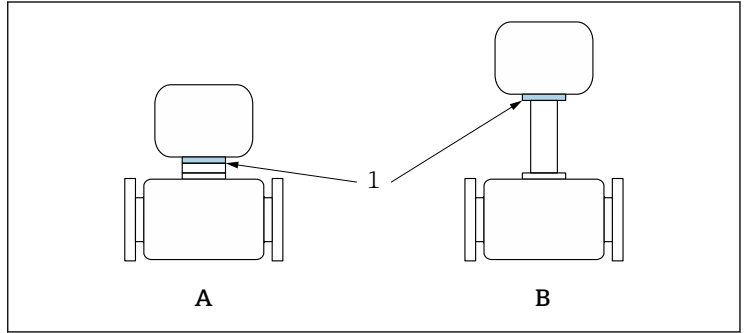
Promass X

| DN | T _a [°C] | T _{m,max} [°C] | T _m [°C] | | | | | |
|-----|------------------------|----------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|
| | | | T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
| 350 | 50 | 180 | 50 | 90 | 120 | 170 | 180 | 180 |
| | 55 | | - | (90) | (120) | (170) | (180) | (180) |


With thermal insulation without Endress+Hauser specifications

The specified reference temperature T_{ref} and the maximum medium temperature $T_{m,max}$ for each temperature class must not be exceeded.

→  18



A0031198

 1 Position of reference point for temperature measurement

A Standard version

B Extended temperature version, cryogenic temperature version, high-temperature version

1 Reference point (T_{ref})

Reference temperature T_{ref}

| T6 [85 °C] | T5 [100 °C] | T4 [135 °C] | T3 [200 °C] | T2 [300 °C] | T1 [450 °C] |
|---------------|----------------|----------------|----------------|----------------|----------------|
| 59 | 72 | 75 | 76 | 77 | 77 |

Explosion hazards arising from gas and dust

Determining the temperature class and surface temperature with the temperature table

- In the case of gas: Determine the temperature class as a function of the maximum ambient temperature T_a and the maximum medium temperature T_m .
- In the case of dust: Determine the maximum surface temperature as a function of the maximum ambient temperature T_a and the maximum medium temperature T_m .

Example

- Measured maximum ambient temperature: $T_{ma} = 47 °C$
- Measured maximum medium temperature: $T_{mm} = 108 °C$

| | Ta [°C] | T6 [85°C] | T5 [100°C] | T4 [135°C] | T3 [200°C] | T2 [300°C] | T1 [450°C] |
|--|------------|--------------|---------------|---------------|---------------|---------------|---------------|
| | 35 | 50 | 85 | 120 | 140 | 140 | 140 |
| | 50 | - | 85 | 120 | 140 | 140 | 140 |
| | 60 | - | - | 120 | 140 | 140 | 140 |
| | 35 | 50 | 85 | 120 | 140 | 140 | 140 |
| | 45 | - | 85 | 120 | 140 | 140 | 140 |
| | 50 | - | - | 120 | 140 | 140 | 140 |

4. (above T4 column)

1. (below T6 column)

2. (below T5 column)

3. (below T4 column)

A0091223

2 Procedure for determining the temperature class and surface temperature

1. Select device (optional).
2. In the column for the maximum ambient temperature T_a select the temperature that is immediately greater than or equal to the maximum ambient temperature T_{ma} that is present.
 - ↳ $T_a = 50\text{ °C}$.
The row showing the maximum medium temperature is determined.
3. Select the maximum medium temperature T_m of this row, which is immediately greater than or equal to the maximum medium temperature T_{mm} that is present.
 - ↳ The column with the temperature class for gas is determined:
 $108\text{ °C} \leq 120\text{ °C} \rightarrow T_4$.
4. The maximum temperature of the temperature class determined corresponds to the maximum surface temperature for dust: $T_4 = 135\text{ °C}$.

Connection values: Signal circuits

The following tables contain specifications which are dependent on the transmitter type and its input and output assignment. Compare the following specifications with those on the nameplate of the transmitter.

Terminal assignment

Transmitter: supply voltage, input/outputs

HART

| Supply voltage | | Input/output 1 | | Input/output 2 | | Input/output 3 | |
|--|-------|----------------|--------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | 26 (+) | 27 (-) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | | |

FOUNDATION Fieldbus

| Supply voltage | | Input/output 1 | | Input/output 2 | | Input/output 3 | |
|--|-------|----------------|--------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | 26 (A) | 27 (B) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | | |

PROFIBUS PA

| Supply voltage | | Input/output 1 | | Input/output 2 | | Input/output 3 | |
|--|-------|----------------|--------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | 26 (B) | 27 (A) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | | |

PROFIBUS DP

| Supply voltage | | Input/output 1 | | Input/output 2 | | Input/output 3 | |
|--|-------|----------------|--------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | 26 (B) | 27 (A) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | | |

Modbus RS485

| Supply voltage | | Input/output 1 | | Input/output 2 | | Input/output 3 | |
|--|-------|----------------|--------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | 26 (B) | 27 (A) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | | |

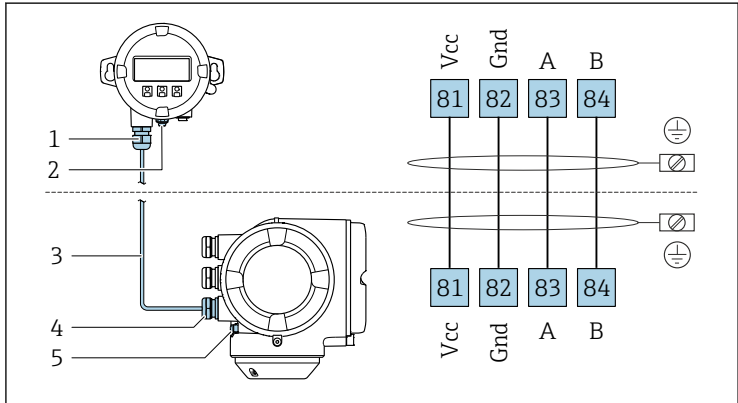
PROFINET

| Supply voltage | | Input/output 1 | Input/output 2 | | Input/output 3 | |
|---|-------|------------------------------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | PROFINET (RJ45 connector) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | |

EtherNet/IP

| Supply voltage | | Input/output 1 | Input/output 2 | | Input/output 3 | |
|---|-------|---------------------------------|----------------|--------|----------------|--------|
| 1 (+) | 2 (-) | EtherNet/IP (RJ45 connector) | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Device-specific terminal assignment: adhesive label in terminal cover. | | | | | | |

Remote display and operating module DKX001



A0027518

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

Safety-related values

| Order code for "Output; input 1" | Output type | Safety-related values "Output; input 1" | |
|-------------------------------------|--------------------------------|---|--------|
| | | 26 (+) | 27 (-) |
| Option BA | Current output 4 to 20 mA HART | $U_{nom} = 30 \text{ V}$ $U_{max} = 250 \text{ V}$ | |
| Option GA | PROFIBUS PA | $U_{nom} = 32 \text{ V}$ $U_{max} = 250 \text{ V}$ | |
| Option LA | PROFIBUS DP | $U_{nom} = 32 \text{ V}$ $U_{max} = 250 \text{ V}$ | |
| Option MA | Modbus RS485 | $U_{nom} = 30 \text{ V}$ $U_{max} = 250 \text{ V}$ | |
| Option SA | FOUNDATION Fieldbus | $U_{nom} = 32 \text{ V}$ $U_{max} = 250 \text{ V}$ | |
| Option NA | EtherNet/IP | $U_{nom} = 30 \text{ V}$ $U_{max} = 250 \text{ V}$ | |
| Option RA | PROFINET | $U_{nom} = 30 \text{ V}$ $U_{max} = 250 \text{ V}$ | |

| Order code for "Output; input 2"; "Output; input 3" | Output type | Safety-related values | | | |
|---|-----------------------------------|--|--------|-----------------|--------|
| | | Output; input 2 | | Output; input 3 | |
| | | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Option B | Current output 4 to 20 mA | $U_N = 30 \text{ V}_{DC}$ $U_M = 250 \text{ V}_{AC}$ | | | |
| Option D | User-configurable input/output | $U_N = 30 \text{ V}_{DC}$ $U_M = 250 \text{ V}_{AC}$ | | | |
| Option E | Pulse/frequency/ switch output | $U_N = 30 \text{ V}_{DC}$ $U_M = 250 \text{ V}_{AC}$ | | | |
| Option F | Double pulse output | $U_N = 30 \text{ V}_{DC}$ $U_M = 250 \text{ V}_{AC}$ | | | |
| Option H | Relay output | $U_N = 30 \text{ V}_{DC}$ $I_N = 100 \text{ mA}_{DC}/500 \text{ mA}_{AC}$ $U_M = 250 \text{ V}_{AC}$ | | | |
| Option I | Current input 4 to 20 mA | $U_N = 30 \text{ V}_{DC}$ $U_M = 250 \text{ V}_{AC}$ | | | |
| Option J | Status input | $U_N = 30 \text{ V}_{DC}$ $U_M = 250 \text{ V}_{AC}$ | | | |

Intrinsically safe values

| Order code for "Output; input 1" | Output type | Intrinsically safe values "Output; input 1" | |
|-------------------------------------|--|--|--------|
| | | 26 (+) | 27 (-) |
| Option CA | Current output 4-20mA HART Ex-i passive | $U_i = 30 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1.25 \text{ W}$ $L_i = 0 \text{ }\mu\text{H}$ $C_i = 6 \text{ nF}$ | |
| Option CC | Current output 4-20mA HART Ex-i active | Ex ia $U_0 = 21.8 \text{ V}$ $I_0 = 90 \text{ mA}$ $P_0 = 491 \text{ mW}$ $L_0 = 4.1 \text{ mH(IIC)}/$ 15 mH(IIB) $C_0 = 160 \text{ nF(IIC)}/$ 1160 nF(IIB) $U_i = 30 \text{ V}$ $I_i = 10 \text{ mA}$ $P_i = 0.3 \text{ W}$ $L_i = 4.1 \text{ }\mu\text{H}$ $C_i = 6 \text{ nF}$ | |
| Option HA | PROFIBUS PA Ex i (STANDARD + FISCO) | Ex ia $U_i = 30 \text{ V}$ $I_i = 570 \text{ mA}$ $P_i = 8.5 \text{ W}$ $L_i = 10 \text{ }\mu\text{H}$ $C_i = 5 \text{ nF}$ | |
| Option TA | FOUNDATION Fieldbus Ex i (STANDARD + FISCO) | Ex ia $U_i = 30 \text{ V}$ $I_i = 570 \text{ mA}$ $P_i = 8.5 \text{ W}$ $L_i = 10 \text{ }\mu\text{H}$ $C_i = 5 \text{ nF}$ | |

| Order code for "Output; input 2"; "Output; input 3" | Output type | Intrinsically safe values | | | |
|---|---|--|--------|-----------------|--------|
| | | Output; input 2 | | Output; input 3 | |
| | | 24 (+) | 25 (-) | 22 (+) | 23 (-) |
| Option C | Current output 4 to 20 mA Ex i passive | $U_i = 30 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1.25 \text{ W}$ $L_i = 0$ $C_i = 0$ | | | |
| Option G | Pulse/frequency/ switch output Ex i passive | $U_i = 30 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1.25 \text{ W}$ $L_i = 0$ $C_i = 0$ | | | |

Remote display DKX001

| Basic specification, position 1, 2 Approval | Terminal assignment | Basic specification, position 8 Display; Operation Option O |
|---|------------------------|---|
| Option GA, GB, GC, GD, BA, BB, BC, BD | 81, 82, 83, 84 | A connecting cable with the value $L/R \leq 24 \mu\text{H}/\Omega$ and $C_{\text{cable}} \leq 1000 \text{ nF}$ must be used for the version for connecting to the remote display DKX001 or ODKX001. The cable supplied meets this requirement. |



71507552

www.addresses.endress.com
