

# Safety Instructions

## Proline Promass 200

ATEX: II3G, II1/3G

IECEX: Zone 2, Zone 0/2



Document: XA00145D

Safety instructions for electrical apparatus for explosion-hazardous areas →  5

- BG - Правила за техниката на безопасност за електрически средства за производство във взривоопасни зони. Ако не разбирате езика на това ръководство има възможност да спорьчате при нас едно ръководство, преведено на езика на Вашата страна.  
**ЕС декларация за съответствие**  
Производителят Endress+Hauser декларира с това заявление за съответствие и с предявяването на сертификата CE, че този продукт отговаря на изискванията на съответните европейски директиви. Прилаганите директиви, норми и документи са указани в заявлението за съответствие.
- CS - Bezpečnostní pokyny pro elektrické přístroje v místech s nebezpečím výbuchu. Pokud nemáte možnost přečíst si tento návod, můžete si u nás objednat návod přeložený do svého jazyka.  
**EU prohlášení o shodě**  
Společnost Endress+Hauser prohlašuje prostřednictvím tohoto prohlášení a použitím značky CE, že tento výrobek vyhovuje příslušným evropským směrnícím. Zmíněné směrnice, normy a dokumenty jsou uvedeny v Prohlášení o shodě.
- DA - Sikkerhedsforskrifter for elektriske apparater certificeret til brug i eksplosionsfarlige områder. Hvis du ikke forstår denne manual, kan en oversat kopi af den på dit eget sprog bestilles fra os.  
**EU-overensstemmelseserklæring**  
Med denne overensstemmelseserklæring og tilføjelsen af CE-mærket sikrer producenten Endress+Hauser, at produktet er i overensstemmelse med relevante europæiske direktiver. Dokumentation for overensstemmelsen gives i de anførte direktiver, standarder og dokumenter.
- EL - Οδηγίες ασφαλείας ηλεκτρικών συσκευών για επικίνδυνες για έκρηξη περιοχές. Σε περίπτωση που δεν μπορείτε να διαβάσετε αυτές τις οδηγίες, τότε μπορείτε να παραγγείλετε ένα αντίτυπο μεταφρασμένο στη γλώσσα σας.  
**Δήλωση συμμόρφωσης ΕΕ**  
Με αυτή τη δήλωση πιστότητας και την τοποθέτηση του σήματος CE ο κατασκευαστής Endress+Hauser δηλώνει, ότι αυτό το προϊόν συμμορφώνεται με τις ευρωπαϊκές οδηγίες που πρέπει να εφαρμοστούν. Οι οδηγίες, τα πρότυπα και τα έγγραφα που εφαρμόστηκαν αναφέρονται στη δήλωση πιστότητας.
- ES - Instrucciones de seguridad de aparatos eléctricos homologados para su utilización en áreas expuestas a riesgos de deflagración. Si no entiende este manual, puede pedir un ejemplar en su idioma.  
**Declaración UE de conformidad**  
Por la presente declaración y la inclusión de la marca CE, el fabricante Endress+Hauser, declara que el producto cumple con las directivas europeas pertinentes. Las directivas, normas y documentos de aplicación se indican en la declaración de conformidad.
- ET - Ohutusjuhised plahvatusohtlikus keskkonnas kasutatavate elektriseadmete kohta. Kui Te ei saa käesolevast juhendist aru, võite meilt tellida Teie riigikeelde tõlgitud juhendi.  
**EL i vastavusdeklaratsioon**  
Tootja Endress+Hauser kinnitab juurdelisatud vastavusdeklaratsiooni esitamisega ja CE-märgise kandmisega tootele, et käesolev toode vastab kohaldatavale Euroopa Liidu direktiivide nõuetele. Kohaldatavad direktiivid, standardid ja dokumendid on ära toodud vastavusdeklaratsioonis.
- FI - Turvallisuusohjeita sähkölaitteille, jotka on vahvistettu käytettäväksi räjähdysvaarallisilla alueilla. Jos et ymmärrä tätä käsikirjaa, voit tilata meiltä käännöksen omalla kansallisella kielelläsi.  
**EU-vaatimustenmukaisuusvakuutus**  
Valmistaja Endress+Hauser vakuuttaa täällä vaatimustenmukaisuustodistuksella ja CE-merkin kiinnittämisellä, että tämä tuote täyttää sovellettavien EU-direktiivien määräykset. Sovellettavat direktiivit, normit ja dokumentit on merkitty vaatimustenmukaisuustodistukseen.
- HR - Sigurnosni naputci za elektromaterijal u sredini u kojoj prijete opasnost od eksplozije. Ako Vam nije moguće čitati ovaj naputak, onda imate mogućnost da kod nas naručite naputak sastavljen na Vašem materninskom jeziku.  
**EU izjava o sukladnosti**  
Dobavljajući Endress+Hauser jamči ovom izjavom i stavljanjem oznake CE da ovaj proizvod udovoljava zahtjevima europskih direktiva koje su na snazi. U izjavi o usuglašenosti se navode direktive, norme i dokumenti koji su na snazi.
- HU - Biztonsági információk robbanásveszélyes területre való elektromos eszközökhöz. Amennyiben nem tudja elolvasni ezt az útmutatót, akkor megrendelheti az Ön anyanyelvére lefordítva is.  
**EU-megfelelőségi nyilatkozat**  
Az Endress+Hauser mint gyártó jelen megfeleléségi nyilatkozattal és a CE-jelzés felhelyezésével kijelenti, hogy ez a termék megfelel az alkalmazandó európai irányelveknek. Az alkalmazott irányelvek, szabványok és dokumentumok a megfeleléségi nyilatkozatban fel vannak tüntetve.

- IT - Istruzioni di sicurezza per apparecchiature elettriche certificate per l'utilizzo in aree con pericolo di esplosione. Se il presente manuale non risulta comprensibile potete ordinarne una copia tradotta nella vostra lingua.  
**Dichiarazione di conformità UE**  
Con questa dichiarazione e con l'applicazione del marchio CE, il costruttore Endress+Hauser, assicura che il prodotto è conforme alle direttive europee vigenti. Prova della conformità è fornita dall'osservanza delle direttive, delle norme e dei documenti elencati.
- LT - Elektros įrenginio saugumo nurodymai, susiję su sprogimo zonomis. Jeigu negalite perskaityti šios instrukcijos, kreipkitės į mus, kad užsisakytumėte į jūsų gimtąją kalbą išverstą instrukciją.  
**ES atitikties deklaracija**  
Gamintojas Endress+Hauser šia atitikties deklaracija ir CE ženkliniu patvirtina, kad gaminys atitinka taikytinas ES direktyvas. Taikomos direktyvos, normos ir dokumentai yra pateikiami atitikties deklaracijoje.
- LV - Drošības norādījumi elektrisko darba instrumentu lietošanai apgabalos, kas pakļauti sprādzienbīstamībai. Ja Jums nav iespēju izlasīt šos norādījumus, Jūs varat pasūtīt pie mums tulkojumus Jūsu valsts valodā.  
**ES atbilstības deklarācija**  
Ražotājs Endress+Hauser ar šo atbilstības apliecinājumu un CE zīmola lietojumu apstiprina, ka produkts izgatavots saskaņā ar atbilstošajām Eiropas vadlīnijām. Piemērotās vadlīnijas, normas un dokumenti atrunāti atbilstības apliecinājumā.
- NL - Veiligheidsinstructies voor elektrisch materieel in explosiegevaarlijke omgeving. Wanneer u deze handleiding niet kunt lezen, kunt u een in uw landstaal vertaalde handleiding bij ons bestellen.  
**EU-conformiteitsverklaring**  
De leverancier Endress+Hauser waarborgt met deze verklaring en het aanbrengen van het CE-teken, dat dit product overeenstemt met de geldende Europese richtlijnen. De geldende richtlijnen, normen en documenten zijn aangegeven in de conformiteitsverklaring.
- PL - Wskazówki dot. bezpieczeństwa dla urządzeń elektrycznych stosowanych w obszarze zagrożonym wybuchem. Jeśli niniejsza instrukcja napisana jest w języku, którym się nie posługujesz, możesz zamówić u nas przetłumaczony dokument.  
**Deklaracja zgodności UE**  
Producent Endress+Hauser w niniejszej deklaracji zgodności wraz z nadaniem znaku CE oświadcza, że produkt ten jest zgodny z obowiązującą Europejską Dyrektywą. Zastosowane wytyczne, normy oraz dokumenty podane są w deklaracji zgodności.
- PT - Instruções de segurança para dispositivos eléctricos certificados para utilização em áreas de risco de incêndio. Se não compreender este manual, pode encomendar-nos directamente uma cópia na sua língua.  
**Dicharação UE de conformidade**  
Com esta declaração de conformidade e a aplicação da marca CE, o fabricante Endress+Hauser, garante que o produto obedece às directivas europeias a aplicar. As directivas, normas e documentos são apresentadas na declaração de conformidade.
- RO - Indicații de siguranță pentru mijloacele de producție electrice pentru zonele periclitare de explozie. Dacă nu puteți citi aceste instrucțiuni, atunci puteți comanda la noi instrucțiunile traduse în limba țării dumneavoastră.  
**Deklaracja UE de conformitate**  
Producătorul Endress+Hauser declară prin declarația de conformitate alăturată și prin aplicarea semnelui CE că acest produs corespunde directivelor europene aplicabile. Directivele, normele aplicate și documentele sunt menționate în declarația de conformitate.
- SK - Bezpečnostné pokyny pre elektrické zariadenie prevádzkované v priestoroch s nebezpečenstvom výbuchu. Ak nemáte možnosť 'prečítať' si tento návod, môžete si u nás objednať návod preložený do svojho jazyka.  
**EÚ vyhlásenie o zhode**  
Spoločnosť Endress+Hauser vyhlasuje prostredníctvom tohto vyhlásenia o konformite a použitím značky CE, že tento výrobok vyhovuje príslušným európskym smerniciam. Zmieňované smernice, normy a dokumenty sú uvedené vo Vyhlásení o konformite.
- SL - Varnostni napotki glede električne opreme, namenjene za uporabo v eksplozivnih območjih. Če teh navodil ne morete razumeti, lahko pri nas naročite prevod v vaš jezik.  
**Izjava EU o skladnosti**  
Proizvajalec Endress+Hauser s to izjavo o skladnosti in navedbo oznake CE izjavlja, da je ta izdelek skladen s predpisanimi evropskimi smernicami. Upoštewane smernice, standardi in dokumenti so navedeni v izjavi o skladnosti.
- SV - Säkerhetsföreskrifter för elektrisk utrustning certifierad för användning i explosionsfarliga områden. Om du inte förstår denna manual, kan en översatt kopia på ditt eget språk beställas från oss.  
**EU-försäkran om överensstämmelse**  
Endress+Hauser försäkras med vidstående försäkran om överensstämmelse och med CE-märkningen att denna produkt överensstämmer med de tillämpbara europeiska riktlinjerna. De tillämpade riktlinjerna, normerna och dokumenten anges i försäkran om överensstämmelse.



# Proline Promass 200

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**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](http://www.endress.com/deviceviewer)
  - Smart phone/tablet: *Endress+Hauser Operations App*
- In the Download Area of the Endress+Hauser web site: [www.endress.com](http://www.endress.com) → Download

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

Measuring device	Documentation code		
	HART	FOUNDATION Fieldbus	PROFIBUS PA
8A2B**-...	BA01821D	BA01827D	BA01828D
8E2B**-...	BA01027D	BA01314D	BA01133D
8E2C**-...	BA01638D	BA01637D	BA01639D
8F2B**-...	BA01112D	BA01315D	BA01113D

*Additional documentation*

Contents	Document type	Documentation code
Remote display FHX50	Special documentation	SD01007F
	Safety Instructions <ul style="list-style-type: none"> <li>■ II2G, II2D Ex ia</li> <li>■ II3G Ex ic</li> </ul>	XA01053F
Overtoltage Protection (OVP)	Special documentation	SD01090F
Explosion Protection	Brochure	CP00021Z/11

Please note the documentation associated with the device.

**Manufacturer's certificates**

**EU Declaration of Conformity**

Documentation code: EC\_00238, EC\_00236

**EU type-examination certificate**

Certificate number:

KEMA 10ATEX0072

**IEC Certificate of Conformity**

Certificate number:

IECEX KEM 10.0032

Affixing the certificate number certifies conformity with the standards under [www.IECEx.com](http://www.IECEx.com) (depending on the device version).

- IEC 60079-0: 2011
- IEC 60079-7: 2015
- IEC 60079-11: 2011
- IEC 60079-26: 2014

### 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

Position	Order code for	Option selected	Description
1	Instrument family	8	Coriolis flowmeter
2	Sensor	A, E, F	Sensor type
3	Transmitter	2	Transmitter type: 2-wire, compact version
4	Generation index	B, C	Platform generation
5, 6	Nominal diameter	01, 02, 04, 08, 15, 25, 40, 50, 80	Nominal diameter of sensor

### Basic specifications

Position	Order code for	Option selected	Device type		Description
			Position 2 Sensor	Position 5, 6 Nominal diameter	
1, 2	Approval	BD, ID	A, E, F	01, 02, 04, 08, 15, 25, 40, 50	Ex ic ia  IIC T6...T1 Ga/Gc
			F	80	Ex ic ia  IIB T6...T1 Ga/Gc
		BG, IG	A, E, F	01, 02, 04, 08, 15, 25, 40, 50	Ex ec IIC T6...T1 Gc <sup>1)</sup>
			F	80	Ex ec IIB T6...T1 Gc <sup>2)</sup>
		BH, IH	A, E, F	01, 02, 04, 08, 15, 25, 40, 50	Ex ic IIC T6...T1 Gc <sup>3)</sup>
			F	80	Ex ic IIB T6...T1 Gc <sup>4)</sup>

- 1) The labeling changes according to whether "Display; operation" = "L" or "M": Ex ec|ia Ga| IIC T6-T1 Gc.
- 2) The labeling changes according to whether "Display; operation" = "L" or "M": Ex ec|ia Ga| IIB T6-T1 Gc.
- 3) The labeling changes according to whether "Display; operation" = "L" or "M": Ex ic|ia Ga| IIC T6-T1 Gc.
- 4) The labeling changes according to whether "Display; operation" = "L" or "M": Ex ic|ia Ga| IIB T6-T1 Gc.



Position	Order code for	Option selected	Description
3	Output; Input	A	4-20mA HART
		B	4-20mA HART, Pulse/frequency/switch output
		C	4-20mA HART + 4-20mA analog
		E	FOUNDATION Fieldbus, Pulse/frequency/switch output
		G	PROFIBUS PA, Pulse/frequency/switch output
4	Display; Operation	A	W/o; via communication
		C	SD02 4-line; push buttons + data backup function
		E	SD03 4-line, illum.; touch control + data backup function
		L	Prepared for display FHX50 + M12 connection <sup>1)</sup>
		M	Prepared for display FHX50 + M12 custom connection <sup>1)</sup>
17, 18 <sup>2)</sup>	Device Model	A1	1

1) FHX50 is approved according to IECEx DEK12.0046X respectively DEKRA 12ATEX0151X .

2) Order code for "Device model" only for measuring devices with product code 8A2B\*\*, 8E2C\*\*

### Optional specifications

ID	Order code for	Option selected	Description
Nx	Accessory mounted	NA	Overvoltage Protection (OVP)

### 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/EN 60079-14 )
- 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.
- Observe all the technical data of the device (see nameplate).

## Safety instructions: Installation

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 EN 1127-1, 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 +80 °C; 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 IEC/EN 60079-14 .
- When the measuring device is connected, attention must be paid to explosion protection at the transmitter. →  24
- 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.

### *Type of protection Ex ec*

- In potentially explosive atmospheres: Do not disconnect the electrical connection of the power supply circuit when energized.
- 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.

### **Intrinsic safety**

- Observe the guidelines for interconnecting intrinsically safe circuits (e.g. IEC/EN 60079-14).
- The intrinsically safe input power circuit of the device is isolated from ground. If the device is only equipped with one input, the dielectric strength of the input is at least 500 V<sub>rms</sub>. If the device is equipped with more than one input, the dielectric strength of each individual input to ground is at least 500 V<sub>rms</sub>, and the dielectric strength of the inputs vis-à-vis one another is also at least 500 V<sub>rms</sub>.
- The device can be connected to the Endress+Hauser FXA291 service tool: refer to the Operating Instructions.
- The device can be connected to the remote display FHX50 with Ex ia explosion protection; refer to the Special Documentation and Ex documentation.

*Basic specification, position 3 (Output; input) = A, B, C, E, G:*

When the intrinsically safe Ex ic circuits of the device are connected to certified intrinsically safe circuits of Category Ex ic for Equipment Groups IIB, the type of protection changes from Ex ic IIC to Ex ic IIB.

### Potential equalization

- Integrate the device into the local potential equalization → 24.
- 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.

### Overvoltage protection

*Optional specification, ID Nx (Accessory Mounted) = NA*

- Minimum ambient temperature when using Overvoltage Protection (OVP):  $-40\text{ °C}$
- When using the internal overvoltage protection: Reduce the admissible ambient temperature at the housing by 2 K.
- For installations which require overvoltage protection to comply with national regulations or standards (e.g. IEC/EN 60079-14).
- Observe the safety instructions of the overvoltage protection.
- If an overvoltage protection according to IEC/EN 60079-14 against atmospheric over voltages is required: no other circuits may leave the housing during normal operation without additional measures.
- The intrinsically safe input power circuit of the device is isolated from ground. If the device is only equipped with one input, the dielectric strength of the input is at least  $290\text{ V}_{\text{rms}}$ . If the device is equipped with more than one input, the dielectric strength of each individual input to ground is at least  $290\text{ V}_{\text{rms}}$ , and the dielectric strength of the inputs vis-à-vis one another is also at least  $290\text{ V}_{\text{rms}}$ .

### Safety instructions: Zone 0

*Basic specification, position 1, 2 (Approval) = BD, ID*

Install the transmitter electronics in Zone 2. The intrinsically safe version of the device can, however, be used in the measuring pipe in Zone 0.

### Temperature tables

#### Ambient temperature

*Minimum ambient temperature*

*Basic specification, position 3 (Output; input) = A, B, C, E, G:*

$T_a = -40\text{ °C}$

Maximum ambient temperature:

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

## Medium temperature

### Minimum medium temperature

- Promass 8F2B\*\*-, Promass 8A2B\*\*-...  
 $T_m = -50\text{ °C}$
- Promass 8E2B\*\*-, Promass 8E2C\*\*-...:  
 $T_m = -40\text{ °C}$

### Maximum medium temperature

$T_m$  for T6...T1 depending on the maximum ambient temperature  $T_a$

## Compact version

Basic specification, position 3 (output; input) = A

Basic specification, positions 1, 2 (approval) =

- IEC: ID, IG, IH
- ATEX: BD, BG, BH

### Promass A

DN	$T_{m, max}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	205	40 <sup>1)</sup>	50	95	130	170	205	205
		60 <sup>1)</sup>	–	95	130	170	205	205

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_m - 2\text{ K}$

### Promass E (Promass 8E2B\*\*-, ...)

DN	$T_{m, max}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	140	50 <sup>1)</sup>	50	95	130	140	140	140
		60 <sup>1)</sup>	–	95	130	140	140	140

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_m - 2\text{ K}$

### Promass E (Promass 8E2C\*\*-, ...)

DN	$T_{m, max}$ <sup>1)</sup> [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2)</sup>	50	95	130	150	150	150
		60 <sup>2)</sup>	–	95	130	150	150	150

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
	205	40 <sup>2)</sup>	50	95	130	170	205	205
		60 <sup>2)</sup>	-	95	130	170	205	205

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2 \text{ K}$

### Promass F

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2)</sup>	50	95	130	150	150	150
		60 <sup>2)</sup>	-	95	130	150	150	150
	205	40 <sup>2)</sup>	50	95	130	170	205	205
		60 <sup>2)</sup>	-	95	130	170	205	205
80	150	40 <sup>2)</sup>	50	85	110	150	150	150
		60 <sup>2)</sup>	-	85	110	150	150	150
	205	40 <sup>2)</sup>	50	85	110	170	205	205
		60 <sup>2)</sup>	-	85	110	170	205	205

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2 \text{ K}$

Basic specification, position 3 (output; input) = B

Basic specification, positions 1, 2 (approval) =

- IEC: ID, IH
- ATEX: BD, BH

### Promass A

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	205	35 <sup>1) 2)</sup>	50	95	130	170	205	205
		50 <sup>1) 3)</sup>	–	95	130	170	205	205
		55	–	–	130	170	205	205
		60	–	–	130	170	205	200

- 1) For installation with overvoltage protection in connection with temperature class T5, T6: T<sub>a</sub> = T<sub>a</sub> - 2 K
- 2) T<sub>a</sub> = 40 °C for Impulse/Frequency/Switch output input P<sub>i</sub> ≤ 0,85 W
- 3) T<sub>a</sub> = 55 °C for Impulse/Frequency/Switch output input P<sub>i</sub> ≤ 0,85 W

### Promass E (Promass 8E2B\*\*–... )

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	35 <sup>1) 2)</sup>	50	95	130	140	140	140
		50 <sup>1) 3)</sup>	–	95	130	140	140	140
		60	–	–	130	140	140	140

- 1) For installation with overvoltage protection in connection with temperature class T5, T6: T<sub>a</sub> = T<sub>a</sub> - 2 K
- 2) T<sub>a</sub> = 40 °C for Impulse/Frequency/Switch output input P<sub>i</sub> ≤ 0,85 W
- 3) T<sub>a</sub> = 55 °C for Impulse/Frequency/Switch output input P<sub>i</sub> ≤ 0,85 W

### Promass E (Promass 8E2C\*\*–... )

DN	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	35 <sup>2) 3)</sup>	50	95	130	150	150	150
		50 <sup>2) 4)</sup>	–	95	130	150	150	150
		55	–	–	130	150	150	150
		60	–	–	130	150	150	150
	205	35 <sup>2) 3)</sup>	50	95	130	170	205	205
		50 <sup>2) 4)</sup>	–	95	130	170	205	205

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
		55	-	-	130	170	205	205
		60	-	-	130	170	205	200

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6:  $T_a = T_a - 2 K$
- 3)  $T_a = 40 °C$  for Impulse/Frequency/Switch output input  $P_i \leq 0,85 W$
- 4)  $T_a = 55 °C$  for Impulse/Frequency/Switch output input  $P_i \leq 0,85 W$

### Promass F

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	35 <sup>2) 3)</sup>	50	95	130	150	150	150
		50 <sup>2) 4)</sup>	-	95	130	150	150	150
		55	-	-	130	150	150	150
		60	-	-	130	150	150	150
	205	35 <sup>2) 3)</sup>	50	95	130	170	205	205
		50 <sup>2) 4)</sup>	-	95	130	170	205	205
		55	-	-	130	170	205	205
		60	-	-	130	170	205	200
80	150	35 <sup>2) 3)</sup>	50	85	110	150	150	150
		50 <sup>2) 4)</sup>	-	85	110	150	150	150
		55	-	-	110	150	150	150
		60	-	-	110	150	150	150
	205	35 <sup>2) 3)</sup>	50	85	110	170	205	205
		50 <sup>2) 4)</sup>	-	85	110	170	205	205
		55	-	-	110	170	205	205
		60	-	-	110	170	205	200

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6:  $T_a = T_a - 2 K$
- 3)  $T_a = 40 °C$  for Impulse/Frequency/Switch output input  $P_i \leq 0,85 W$
- 4)  $T_a = 55 °C$  for Impulse/Frequency/Switch output input  $P_i \leq 0,85 W$

Basic specification, position 3 (output; input) = B

Basic specification, positions 1, 2 (approval) =

- IEC: IG
- ATEX: BG

### Promass A

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	205	40	50	95	130	170	205	205
		50 <sup>1)</sup>	–	95	130	170	205	205
		55	–	–	130	170	205	205
		60	–	–	130	170	205	200

- 1) T<sub>a</sub> = 55 °C for Impulse/Frequency/Switch output input P<sub>1</sub> ≤ 0,85 W

### Promass E (Promass 8E2B\*\*–...)

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40	50	95	130	140	140	140
		50 <sup>1)</sup>	–	95	130	140	140	140
		60	–	–	130	140	140	140

- 1) T<sub>a</sub> = 55 °C for Impulse/Frequency/Switch output input P<sub>1</sub> ≤ 0,85 W

### Promass E (Promass 8E2C\*\*–...)

DN	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40	50	95	130	150	150	150
		50 <sup>2)</sup>	–	95	130	150	150	150
		55	–	–	130	150	150	150
		60	–	–	130	150	150	150
	205	40	50	95	130	170	205	205
		50 <sup>2)</sup>	–	95	130	170	205	205
		55	–	–	130	170	205	205
		60	–	–	130	170	205	200

- 1) Maximum temperature range, see nameplate  
 2) T<sub>a</sub> = 55 °C for Impulse/Frequency/Switch output input P<sub>1</sub> ≤ 0,85 W



*Promass F*

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40	50	95	130	150	150	150
		50 <sup>2)</sup>	-	95	130	150	150	150
		55	-	-	130	150	150	150
		60	-	-	130	150	150	150
	205	40	50	95	130	170	205	205
		50 <sup>2)</sup>	-	95	130	170	205	205
		55	-	-	130	170	205	205
		60	-	-	130	170	205	200
80	150	40	50	85	110	150	150	150
		50 <sup>2)</sup>	-	85	110	150	150	150
		55	-	-	110	150	150	150
		60	-	-	110	150	150	150
	205	40	50	85	110	170	205	205
		50 <sup>2)</sup>	-	85	110	170	205	205
		55	-	-	110	170	205	205
		60	-	-	110	170	205	200

1) Maximum temperature range, see nameplate

2)  $T_a = 55\text{ °C}$  for Impulse/Frequency/Switch output input  $P_1 \leq 0,85\text{ W}$

Basic specification, position 3 (output; input) = C

Basic specification, positions 1, 2 (approval) =

- IEC: ID, IG, IH
- ATEX: BD, BG, BH

### Promass A

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	205	40 <sup>1)</sup>	50	95	130	170	205	205
		55 <sup>1)</sup>	–	95	130	170	205	205
		60	–	–	130	170	205	200

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K

### Promass E (Promass 8E2B\*\*–...)

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>1)</sup>	50	95	130	140	140	140
		55 <sup>1)</sup>	–	95	130	140	140	140
		60	–	–	130	140	140	140

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K

### Promass E (Promass 8E2C\*\*–...)

DN	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2)</sup>	50	95	130	150	150	150
		55 <sup>2)</sup>	–	95	130	150	150	150
		60	–	–	130	150	150	150
	205	40 <sup>2)</sup>	50	95	130	170	205	205
		55 <sup>2)</sup>	–	95	130	170	205	205
		60	–	–	130	170	205	200

- 1) Maximum temperature range, see nameplate  
 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K

*Promass F*

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2)</sup>	50	95	130	150	150	150
		55 <sup>2)</sup>	-	95	130	150	150	150
		60	-	-	130	150	150	150
	205	40 <sup>2)</sup>	50	95	130	170	205	205
		55 <sup>2)</sup>	-	95	130	170	205	205
		60	-	-	130	170	205	200
80	150	40 <sup>2)</sup>	50	85	110	150	150	150
		55 <sup>2)</sup>	-	85	110	150	150	150
		60	-	-	110	150	150	150
	205	40 <sup>2)</sup>	50	85	110	170	205	205
		55 <sup>2)</sup>	-	-	110	170	205	205
		60	-	-	110	170	205	200

1) Maximum temperature range, see nameplate

2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2 \text{ K}$

Basic specification, position 3 (output; input) = E

Basic specification, positions 1, 2 (approval) =

- IEC: ID, IG, IH
- ATEX: BD, BG, BH

### Promass A

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	205	40 <sup>1) 2)</sup>	50	95	130	170	205	205
		55 <sup>1) 3)</sup>	–	95	130	170	205	205
		60	–	–	130	170	205	205

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K
- 2) T<sub>a</sub> = 50 °C for use without Impulse/Frequency/Switch output
- 3) T<sub>a</sub> = 60 °C for use without Impulse/Frequency/Switch output

### Promass E (Promass 8E2B\*\*–...)

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>1) 2)</sup>	50	95	130	140	140	140
		55 <sup>1) 3)</sup>	–	95	130	140	140	140
		60	–	–	130	140	140	140

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K
- 2) T<sub>a</sub> = 50 °C for use without Impulse/Frequency/Switch output
- 3) T<sub>a</sub> = 60 °C for use without Impulse/Frequency/Switch output

### Promass E (Promass 8E2C\*\*–...)

DN	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2) 3)</sup>	50	95	130	150	150	150
		55 <sup>2) 4)</sup>	–	95	130	150	150	150
		60	–	–	130	150	150	150
	205	40	50	95	130	170	205	205

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
		55	-	95	130	170	205	205
		60	-	-	130	170	205	205

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2$  K
- 3)  $T_a = 50$  °C for use without Impulse/Frequency/Switch output
- 4)  $T_a = 60$  °C for use without Impulse/Frequency/Switch output

### Promass F

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2) 3)</sup>	50	95	130	150	150	150
		55 <sup>2) 4)</sup>	-	95	130	150	150	150
		60	-	-	130	150	150	150
	205	40 <sup>2) 3)</sup>	50	95	130	170	205	205
		55 <sup>2) 4)</sup>	-	95	130	170	205	205
		60	-	-	130	170	205	205
80	150	40 <sup>2) 3)</sup>	50	85	110	150	150	150
		55 <sup>2) 4)</sup>	-	85	110	150	150	150
		60	-	-	110	150	150	150
	205	40 <sup>2) 3)</sup>	50	85	110	170	205	205
		55 <sup>2) 4)</sup>	-	85	110	170	205	205
		60	-	-	110	170	205	205

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2$  K
- 3)  $T_a = 50$  °C for use without Impulse/Frequency/Switch output
- 4)  $T_a = 60$  °C for use without Impulse/Frequency/Switch output

Basic specification, position 3 (output; input) = G

Basic specification, positions 1, 2 (approval) =

- IEC: ID, IG, IH
- ATEX: BD, BG, BH

### Promass A

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	205	40 <sup>1) 2)</sup>	50	95	130	170	205	205
		55 <sup>1) 3)</sup>	–	95	130	170	205	205
		60	–	–	130	170	205	205

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K
- 2) T<sub>a</sub> = 50 °C for use without Impulse/Frequency/Switch output
- 3) T<sub>a</sub> = 60 °C for use without Impulse/Frequency/Switch output

### Promass E (Promass 8E2B\*\*–...)

DN	T <sub>m, max</sub> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>1) 2)</sup>	50	95	130	140	140	140
		55 <sup>1) 3)</sup>	–	95	130	140	140	140
		60	–	–	130	140	140	140

- 1) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH : T<sub>a</sub> = T<sub>a</sub> - 2 K
- 2) T<sub>a</sub> = 50 °C for use without Impulse/Frequency/Switch output
- 3) T<sub>a</sub> = 60 °C for use without Impulse/Frequency/Switch output

### Promass E (Promass 8E2C\*\*–...)

DN	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>a</sub> [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2) 3)</sup>	50	95	130	150	150	150
		55 <sup>2) 4)</sup>	–	95	130	150	150	150
		60	–	–	130	150	150	150
	205	40	50	95	130	170	205	205

DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
		55	-	95	130	170	205	205
		60	-	-	130	170	205	205

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2 K$
- 3)  $T_a = 50 °C$  for use without Impulse/Frequency/Switch output
- 4)  $T_a = 60 °C$  for use without Impulse/Frequency/Switch output

### Promass F

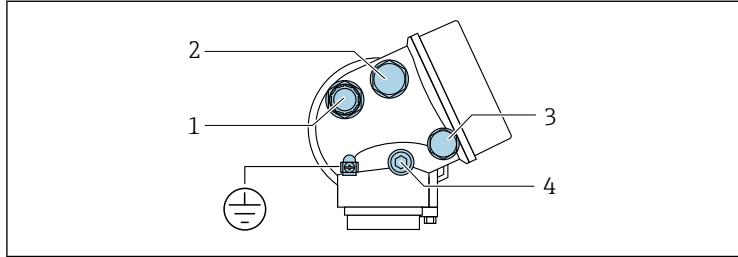
DN	$T_{m,max}^{1)}$ [°C]	$T_a$ [°C]	T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	150	40 <sup>2) 3)</sup>	50	95	130	150	150	150
		55 <sup>2) 4)</sup>	-	95	130	150	150	150
		60	-	-	130	150	150	150
	205	40 <sup>2) 3)</sup>	50	95	130	170	205	205
		55 <sup>2) 4)</sup>	-	95	130	170	205	205
		60	-	-	130	170	205	205
80	150	40 <sup>2) 3)</sup>	50	85	110	150	150	150
		55 <sup>2) 4)</sup>	-	85	110	150	150	150
		60	-	-	110	150	150	150
	205	40 <sup>2) 3)</sup>	50	85	110	170	205	205
		55 <sup>2) 4)</sup>	-	85	110	170	205	205
		60	-	-	110	170	205	205

- 1) Maximum temperature range, see nameplate
- 2) For installation with overvoltage protection in connection with temperature class T5, T6 and basic specification, position 1, 2 (Approval) = BD, BH, ID, IH :  $T_a = T_a - 2 K$
- 3)  $T_a = 50 °C$  for use without Impulse/Frequency/Switch output
- 4)  $T_a = 60 °C$  for use without Impulse/Frequency/Switch output

### 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.

## Connecting the transmitter



A0023831

Position		Basic specification, position 1, 2: Approval	Type of protection used for cable entry	Description
1	Cable entry for output 1	BG, IG BD, BH, ID, IH	Ex ec Ex ic	The following applies for devices with basic specification, position 1, 2 (approval) = BG, IG: In the case of device versions with a plastic transport sealing plug, this plug does not meet the explosion protection requirements and must be replaced during installation by a suitable entry that meets the approval specifications. In the case of device versions with a cable entry, this entry has a separate component approval and meets the requirements of the explosion protection indicated on the nameplate.
2	Cable entry for output 2	BG, IG BD, BH, ID, IH	Ex ec Ex ic	The following applies for devices with basic specification, position 1, 2 (approval) = BG, IG: In the case of device versions with metal extensions and sealing plugs, the latter are part of the device approval and meet the requirements of the explosion protection indicated on the nameplate. In the case of device versions with a cable entry, this entry has a separate component approval and meets the requirements of the explosion protection indicated on the nameplate.
3	Optional order code <sup>1)</sup> : Cable entry of the remote display and operating module FHX50	BG, IG BD, BH, ID, IH	Ex ec <sup>2)</sup> Ex ic <sup>3)</sup>	The following applies for devices with basic specification, position 1, 2 (approval) = BG, IG: In the case of device versions with metal extensions and sealing plugs, the latter are part of the device approval and meet the requirements of the explosion protection indicated on the nameplate. In the case of device versions with a cable entry, this entry has a separate component approval and meets the requirements of the explosion protection indicated on the nameplate.



Position		Basic specification, position 1, 2: Approval	Type of protection used for cable entry	Description
Position		Description		
4	Pressure compensation plug		<b>NOTICE</b>	<b>Housing degree of protection voided due to insufficient sealing of the housing.</b> ▶ Do not open - not a cable entry.
⊕	Potential equalization		<b>NOTICE</b>	<b>Terminal for connection to potential equalization.</b> ▶ Pay attention to the grounding concept of the facility.

- 1) Basic specification, position 4 (display; operation) = L, M
- 2) The labeling changes according to whether "Display; operation" = "L" or "M": Ex ec|ia Ga| IIC T6...T1 Gc.
- 3) For BH, IH: The labeling changes according to whether "Display; operation" = "L" or "M": Ex ic|ia Ga| IIC T6-T1 Gc or Ex ic|ia Ga| IIB T6-T1 Gc.

## Terminal assignment

### Transmitter



The order code is part of the extended order code. Detailed information on the features of the device and on the structure of the extended order code → 7.

### Connection versions

Order code for "Output"	Terminal numbers			
	Output 1		Output 2	
	1 (+)	2 (-)	3 (+)	4 (-)
Option <b>A</b>	4-20mA HART (passive)		-	
Option <b>B</b> <sup>1)</sup>	4-20mA HART (passive)		Pulse/frequency/switch output (passive)	
Option <b>C</b>	4-20mA HART (passive)		4-20mA analog (passive)	
Option <b>E</b> <sup>2)</sup>	FOUNDATION Fieldbus		Pulse/frequency/switch output (passive)	
Option <b>G</b> <sup>3)</sup>	PROFIBUS PA		Pulse/frequency/switch output (passive)	

- 1) Output 1 must always be used; output 2 is optional.
- 2) FOUNDATION Fieldbus with integrated reverse polarity protection.
- 3) PROFIBUS PA with integrated reverse polarity protection.

### Intrinsically safe values



The order code is part of the extended order code. Detailed information on the features of the device and on the structure of the extended order code → 7.

*Type of protection Ex ic*

Order code for "Output"	Output type	Intrinsically safe values	
Option A	4-20mA HART	$U_i = DC\ 35\ V$ $I_i = n.a.$ $P_i = 1\ W$ $L_i = 0\ \mu H$ $C_i = 5\ nF$	
Option B	4-20mA HART	$U_i = DC\ 35\ V$ $I_i = n.a.$ $P_i = 1\ W$ $L_i = 0\ \mu H$ $C_i = 5\ nF$	
	Pulse/frequency/switch output	$U_i = DC\ 35\ V$ $I_i = n.a.$ $P_i = 1\ W$ $L_i = 0\ \mu H$ $C_i = 6\ nF$	
Option C	4-20mA HART	$U_i = DC\ 30\ V$ $I_i = n.a.$ $P_i = 1\ W$ $L_i = 0\ \mu H$ $C_i = 30\ nF$	
	4-20mA analog		
Option E	FOUNDATION Fieldbus	STANDARD $U_i = 32\ V$ $I_i = 300\ mA$ $P_i = n.a.$ $L_i = 10\ \mu H$ $C_i = 5\ nF$	FISCO $U_i = 17.5\ V$ $I_i = n.a.$ $P_i = n.a.$ $L_i = 10\ \mu H$ $C_i = 5\ nF$
	Pulse/frequency/switch output	$U_i = 35\ V$ $I_i = 300\ mA$ $P_i = 1\ W$ $L_i = 0\ \mu H$ $C_i = 6\ nF$	
Option G	PROFIBUS PA	STANDARD $U_i = 32\ V$ $I_i = 300\ mA$ $P_i = n.a.$ $L_i = 10\ \mu H$ $C_i = 5\ nF$	FISCO $U_i = 17.5\ V$ $I_i = n.a.$ $P_i = n.a.$ $L_i = 10\ \mu H$ $C_i = 5\ nF$
	Pulse/frequency/switch output	$U_i = 35\ V$ $I_i = 300\ mA$ $P_i = 1\ W$ $L_i = 0\ \mu H$ $C_i = 6\ nF$	

## Safety-related values



The order code is part of the extended order code. Detailed information on the features of the device and on the structure of the extended order code → 7.

### Type of protection Ex ec

Order code for "Output"	Output type	Safety-related values
Option A	4-20mA HART	$U_{nom} = DC\ 35\ V$ $U_{max} = 250\ V$
Option B	4-20mA HART	$U_{nom} = DC\ 35\ V$ $U_{max} = 250\ V$
	Pulse/frequency/switch output	$U_{nom} = DC\ 35\ V$ $U_{max} = 250\ V$ $P_{max} = 1\ W^{1)}$
Option C	4-20mA HART	$U_{nom} = DC\ 30\ V$ $U_{max} = 250\ V$
	4-20mA analog	
Option E	FOUNDATION Fieldbus	$U_{nom} = DC\ 32\ V$ $U_{max} = 250\ V$ $P_{max} = 0.88\ W$
	Pulse/frequency/switch output	$U_{nom} = DC\ 35\ V$ $U_{max} = 250\ V$ $P_{max} = 1\ W^{1)}$
Option G	PROFIBUS PA	$U_{nom} = DC\ 32\ V$ $U_{max} = 250\ V$ $P_{max} = 0.88\ W$
	Pulse/frequency/switch output	$U_{nom} = DC\ 35\ V$ $U_{max} = 250\ V$ $P_{max} = 1\ W^{1)}$

1) Internal circuit limited by  $R_i = 760.5\ \Omega$

## Remote display FHX50

Basic specification, position 1, 2 Approval	Cable specification	Basic specification, position 4 Display; operation Option L, M
Option <b>BD, BG, BH, ID, IG, IH</b>	Max. cable length: 60 m (196.85 ft)	$U_o = 7.3 \text{ V}$
		$I_o = 327 \text{ mA}$
		$P_o = 362 \text{ mW}$
		$L_o = 149 \mu\text{H}$
		$C_o = 388 \text{ nF}$
		$C_c \leq 125 \text{ nF}$
$L_c \leq 149 \mu\text{H}$		





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