

# Safety Instructions

## Proline Promass 500

ATEX: II3G

IECEX: Zone 2



- 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.  
**Declaração 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.  
**Declarația 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 použití 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 500

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**Associated documentation**

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

- *Device Viewer* ([www.endress.com/deviceviewer](http://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:

Measuring device	Documentation code			
	HART	FOUNDATION Fieldbus	PROFIBUS PA	PROFIBUS DP
Promass A 500 (8A5B)	BA01526D	BA01559D	BA01548D	–
Promass A 500 (8A5C)	BA01817D	BA01883D	BA01869D	BA01870D
Promass E 500	BA01528D	BA01561D	BA01550D	BA01872D
Promass F 500	BA01529D	BA01562D	BA01551D	BA01873D
Promass H 500	BA01530D	BA01563D	BA01552D	BA01874D
Promass I 500	BA01531D	BA01564D	BA01553D	BA01875D
Promass O 500	BA01532D	BA01565D	BA01554D	BA01876D
Promass P 500	BA01533D	BA01566D	BA01555D	BA01877D
Promass Q 500	BA01534D	BA01567D	BA01556D	BA01878D
Promass S 500	BA01535D	BA01568D	BA01557D	BA01879D
Promass X 500	BA01536D	BA01569D	BA01558D	BA01880D

Measuring device	Documentation code		
	Modbus RS485	EtherNet/IP	PROFINET
Promass A 500 (8A5B)	BA01537D	BA01747D	BA01758D
Promass A 500 (8A5C)	BA01884D	BA01885D	BA01886D
Promass E 500	BA01539D	BA01749D	BA01760D
Promass F 500	BA01540D	BA01750D	BA01761D
Promass H 500	BA01541D	BA01751D	BA01762D
Promass I 500	BA01542D	BA01752D	BA01763D
Promass O 500	BA01543D	BA01753D	BA01764D
Promass P 500	BA01544D	BA01754D	BA01765D
Promass Q 500	BA01545D	BA01755D	BA01766D
Promass S 500	BA01546D	BA01756D	BA01767D
Promass X 500	BA01547D	BA01757D	BA01768D

*Additional documentation*

Contents	Document type	Documentation code
Explosion Protection	Brochure	CP00021Z/11
Ethernet-APL Installation Drawing	Installation Drawing	HE_01622

Please note the documentation associated with the device.

**Manufacturer's certificates**

**EU Declaration of conformity**

Documentation code: EC\_00406

**IEC Certificate of Conformity**

Certificate number:

IECEX CSA 16.0034X

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: 2017
- IEC 60079-7: 2017
- IEC 60079-11: 2011
- IEC 60079-15: 2017
- IEC TS 60079-47: 2021

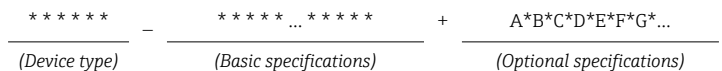
**Manufacturer address**

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**



\* = 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).

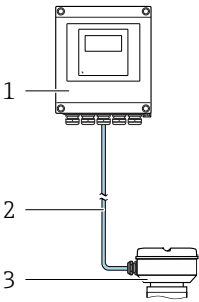
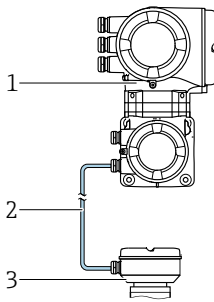
More detailed information about the device is provided in the following tables. These tables describe the individual positions and IDs in the extended order code which are relevant to hazardous locations.

## **Device type**

Position	Order code for	Option selected	Description
1	Instrument family	8	Coriolis flowmeter
2	Sensor	A, E, F, H, I, O, P, Q, S, X <sup>1)</sup>	Sensor type
3	Transmitter	5	Transmitter type: 4-wire, remote version
4	Generation index	B, C	Platform generation
5, 6	Nominal diameter	Examples: 02, 04, 40, 50, 1H, 3E <sup>2)</sup> 3)	Nominal diameter of sensor

- 1) For replacement transmitter only: X
- 2) For the exact specification of the nominal diameter, see nameplate
- 3) For replacement transmitter only: XX



Proline 500 – digital	Proline 500
Order code for "Integrated ISEM Electronic", option <b>A</b> "Sensor"	Order code for "Integrated ISEM Electronic", option <b>B</b> "Transmitter"
	
<p>1 Transmitter</p> <p>2 Connecting cable</p> <p>3 Sensor connection housing with integrated ISEM</p>	<p>1 Transmitter with integrated ISEM</p> <p>2 Connecting cable</p> <p>3 Sensor connection housing</p>

### Basic specifications

Position 1, 2 Order code for "Approval" Option selected	Position 10 Order code for "Integrated ISEM electronics" Option selected	Type of protection	
		Transmitter	Sensor
BL	A	(Non-Ex) <sup>1)</sup>	Ex ec IIC T5...T1 Gc or Ex ec nC IIC T5...T1 Gc <sup>2)</sup>
BS	A	Ex ec nC IIC T5...T4 Gc <sup>1) 3)</sup>	Ex ec IIC T5...T1 Gc or Ex ec nC IIC T5...T1 Gc <sup>2)</sup>
	B		Ex ec IIC T6...T1 Gc or Ex ec nC IIC T6...T1 Gc <sup>2)</sup>

- 1) The transmitter is in the safe area (non-hazardous area).
- 2) The marking Ex ec nC is only applicable for sensor versions without purge connection or rupture disk. (see "Optional specifications" ).
- 3) The marking changes with order code "Output; input 1", option HA, MC, RC or TA: Ex ec nC [ic] IIC T5...T4 Gc

Position	Order code for	Option selected	Description
4, 5	Output, input 1	BA	4-20mA HART
		GA	PROFIBUS PA
		HA	PROFIBUS PA Ex-i
		LA	PROFIBUS DP
		MA	Modbus RS485

Position	Order code for	Option selected	Description
		MB	Modbus TCP with Ethernet-APL
		MC	Modbus TCP with Ethernet-APL Ex i
		NA	EtherNet/IP 2-port switch integrated
		RA	PROFINET IO 2-port switch integrated
		RB	PROFINET with Ethernet-APL
		RC	PROFINET with Ethernet-APL Ex i
		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	Output; input 4 <sup>1)</sup>	A	W/o
		B	4-20mA
		C	4-20mA Ex-i passive
		D	Configurable I/O initial setting off
		E	Pulse/frequency/switch output

Position	Order code for	Option selected	Description
		G	Pulse/frequency/switch output Ex-i passive
		H	Relay
		I	4-20mA input
		J	Status input
9	Display; Operation	F	4-line, illuminated; touch control
		G	4-line, illuminated; touch control + WLAN
10	Integrated ISEM Electronic	A	Sensor
		B	Transmitter
11	Transmitter Housing	A	Alu, coated
		D	Polycarbonate
		L	Cast, stainless
12	Sensor junction Housing	A	Alu, coated
		B	Stainless
		C	Ultra compact hygienic, stainless
		L	Cast, stainless
15, 16	Meas. Tube Mat., Wetted Parts Surface	LA	Stainl. steel, cryogenic -196°C/-320°F
21, 22	Device Model	A1	1
		A2	2

1) The order code "Output; input 4" is only available for the Proline 500 – digital transmitter.

### Optional specifications

ID	Order code for	Option selected	Description
Cx	Sensor option	CA	Rupture disk
Cx	Sensor option	CH	Purge connection
Px	Enclosed accessories	P8	Wireless antenna, wide area (external WLAN antenna) <sup>1)</sup>

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. 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.
- Alterations 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).
- Avoid electrostatic charge (e.g. caused by friction, cleaning, maintenance, strong currents in the medium):  
On the attached stainless steel nameplate and on painted metallic housings that are not integrated into the local potential equalization system.

**Safety instructions:**  
**Installation**

- 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.
- 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.
- Basic specification, order code for "Sensor connection housing", option B:  
To protect the housing of stainless steel housings: Ensure that the housing gasket is flat and not bent when closing the housing cover. Replace bent gaskets.

### Ex ec type of protection

- 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.
- Only use certified cable entries or sealing plugs.
- Equipment in type of protection Ex ec, shall be installed using a transient protection not exceeding 140% of the peak rated voltage value at the power supply terminals and IO terminals.

### Optional external WLAN antenna

- 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.

### Optional RFID TAG

- In the case of high electromagnetic field intensities in accordance with IEC/EN 60079-14: Use is not permitted.
- Avoid electrostatic charging.

### Intrinsic safety

Observe the guidelines for interconnecting intrinsically safe circuits (e.g. IEC/EN 60079-14 , Proof of Intrinsic Safety).

### Potential equalization

- Integrate the device into the 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 potential equalization system. This is the case if the sensor is connected in accordance with the regulations via the coupling.

## Temperature tables

### 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.

## Ambient temperature

### Minimum ambient temperature

$T_a = -40$  °C depending on the selected device variant (see nameplate)

### Maximum ambient temperature

$T_a = +60$  °C depending on the temperature class

## Proline 500 – digital transmitter

### Non-hazardous area, Zone 2

Transmitter housing material	$T_a$ [°C]			
	Non-hazardous area	T6	T5	T4
Aluminum	60	-	45	60
Polycarbonate	60	-	-	-

## Proline 500 transmitter

### Zone 2

$T_a$ [°C]		
T6	T5	T4
-	45	60

## Medium temperature

### Minimum medium temperature

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

### Maximum medium temperature

- $T_m$  for T5...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 connection housing is not mounted above the sensor and free convection can occur on all sides.

**Proline 500 – digital**

Order code for "Integrated ISEM electronics", option A "Sensor"

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

**Promass A (8A5B\*\*-\*...)**

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

1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

**Promass A (8A5C\*\*-\*...)**

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	55	205	-	95	130	170 <sup>1)</sup>	205	205
	60		-	95	130	170 <sup>2)</sup>	190	190

1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 190 °C

**Promass E**

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...15	60	150	-	75 <sup>1)</sup>	115 <sup>2)</sup>	150	150	150
25...80	60	150	-	60 <sup>1)</sup>	95 <sup>2)</sup>	140 <sup>3)</sup>	150	150

1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C

2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 150 °C

**Promass F**

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
08...15	55	150	-	80 <sup>2)</sup>	115 <sup>3)</sup>	130	150	150
	60		-	80 <sup>2)</sup>	115 <sup>3)</sup>	130	130	130

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
	60	150 <sup>4)</sup>	–	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
	60	240	–	80 <sup>2)</sup>	115 <sup>3)</sup>	170 <sup>5)</sup>	240	240
25...80	55	150	–	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	60		–	60 <sup>2)</sup>	95 <sup>3)</sup>	130	130	130
	60	150 <sup>4)</sup>	–	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	60	240	–	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>5)</sup>	240	240
15, 25, 50... 250	50	350	–	85 <sup>2)</sup>	120 <sup>3)</sup>	185 <sup>5)</sup>	280 <sup>6)</sup>	350
	60		–	85 <sup>2)</sup>	120 <sup>3)</sup>	185 <sup>5)</sup>	240 (275)	240 (350)
100...250	55	150	–	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	60		–	60 <sup>2)</sup>	95 <sup>3)</sup>	130	130	130
	60	150 <sup>4)</sup>	–	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	60	240	–	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>5)</sup>	240	240

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) Cryogenic temperature version: T<sub>m</sub> = –196 to 150 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 6) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 290 °C

### Promass H

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	60	150	–	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
		205	–	80 <sup>2)</sup>	115 <sup>3)</sup>	165 <sup>4)</sup>	205	205
15...50	60	150	–	60 <sup>2)</sup>	95 <sup>3)</sup>	130 <sup>5)</sup>	150	150
		205	–	60 <sup>2)</sup>	95 <sup>3)</sup>	130 <sup>4)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 150 °C



*Promass I*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...80	55	150	-	60 <sup>1)</sup>	95 <sup>2)</sup>	150	150	150
	60		-	60 <sup>1)</sup>	95 <sup>2)</sup>	140	140	140

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

*Promass O*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
80 ... 250	60	205	-	60 <sup>1)</sup>	95 <sup>2)</sup>	160 <sup>3)</sup>	205	205

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass P*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	60	150	-	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
	60	205	-	80 <sup>2)</sup>	115 <sup>3)</sup>	170 <sup>4)</sup>	205	205
15...50	60	150	-	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	60	205	-	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass Q*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
25 ... 250	60	205	–	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	205	205
		150 <sup>5)</sup>	–	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 5) Cryogenic temperature version: T<sub>m</sub> = –196 to 150 °C

*Promass S*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	60	150	–	80 <sup>1)</sup>	115 <sup>2)</sup>	150	150	150
15...50	60	150	–	60 <sup>1)</sup>	95 <sup>2)</sup>	150	150	150

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

*Promass X*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
350	60	180	–	60 <sup>1)</sup>	95 <sup>2)</sup>	160 <sup>3)</sup>	180	180

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 180 °C

*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 (8A5B\*\*-\*..., 8A5C\*\*-\*...)*

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

*Promass E*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...50	50	150	-	75 <sup>1)</sup>	115 <sup>2)</sup>	150	150	150
80			-	60 <sup>1)</sup>	95 <sup>2)</sup>	140 <sup>3)</sup>	150	150

1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C

2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 150 °C

*Promass F*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
08...15	45	150	-	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
	50		-	80 <sup>2)</sup>	115 <sup>3)</sup>	130	130	130
	50	150 <sup>4)</sup>	-	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
	50	240	-	80 <sup>2)</sup>	115 <sup>3)</sup>	170 <sup>5)</sup>	240	240
25...80	45	150	-	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	50		-	60 <sup>2)</sup>	95 <sup>3)</sup>	130	130	130
	50	150 <sup>4)</sup>	-	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	50	240	-	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>5)</sup>	240	240
15, 25, 50... 250	50	350	-	85 <sup>2)</sup>	120 <sup>3)</sup>	185 <sup>5)</sup>	280	350
100...250	45	150 <sup>4)</sup>	-	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	50		-	60 <sup>2)</sup>	95 <sup>3)</sup>	130	130	130

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
	50	150 <sup>4)</sup>	–	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	50	240	–	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>5)</sup>	240	240

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) Cryogenic temperature version: T<sub>m</sub> = –196 to 150 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

### Promass H

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	55	150	–	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
		205	–	80 <sup>2)</sup>	115 <sup>3)</sup>	165 <sup>4)</sup>	205	205
15...50	55	150	–	60 <sup>2)</sup>	95 <sup>3)</sup>	130	150	150
		205	–	60 <sup>2)</sup>	95 <sup>3)</sup>	130 <sup>4)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

### Promass I

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...80	45	150	–	60 <sup>1)</sup>	95 <sup>2)</sup>	150	150	150
	50		–	60 <sup>1)</sup>	95 <sup>2)</sup>	130	130	130

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

*Promass O*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
80 ... 250	55	205	-	60 <sup>1)</sup>	95 <sup>2)</sup>	160 <sup>3)</sup>	205	205

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass P*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	45	150	-	80 <sup>2)</sup>	100 <sup>3)</sup>	150	150	150
	50		-	80 <sup>2)</sup>	100 <sup>3)</sup>	130	130	130
	55	205	-	80 <sup>2)</sup>	115 <sup>3)</sup>	170 <sup>4)</sup>	205	205
15...50	45	150	-	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150
	50		-	60 <sup>2)</sup>	95 <sup>3)</sup>	130	130	130
	55	205	-	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass Q*

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
25 ... 250	50	205	-	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	205	205
25 ... 250	50	150 <sup>5)</sup>	-	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 5) Cryogenic temperature version: T<sub>m</sub> = -196 to 150 °C

*Promass S*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	45	150	–	80 <sup>1)</sup>	100 <sup>2)</sup>	150	150	150
	50		–	80 <sup>1)</sup>	100 <sup>2)</sup>	130	130	130
15...50	45	150	–	60 <sup>1)</sup>	95 <sup>2)</sup>	150	150	150
	50		–	60 <sup>1)</sup>	95 <sup>2)</sup>	130	130	130

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C  
 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

*Promass X*

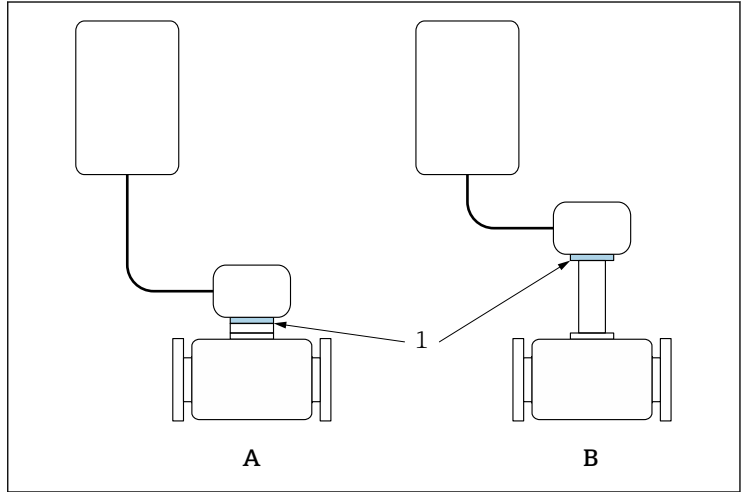
DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
350	55	180	–	60 <sup>1)</sup>	95 <sup>2)</sup>	160 <sup>3)</sup>	180	180

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C  
 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C  
 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 180 °C


*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.

→  19



A0031199

 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]
-	72	82	85	85	85

**Proline 500**

Order code for "Integrated ISEM electronics", option B "Transmitter"

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

*Promass A (8A5B\*\*-\*..., 8A5C\*\*-\*...)*

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

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass E*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...15	45	150	45 <sup>1)</sup>	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
	60		- <sup>1)</sup>	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
25...80	60	150	- <sup>1)</sup>	60 <sup>2)</sup>	95 <sup>3)</sup>	140 <sup>4)</sup>	150	150

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 150 °C

*Promass F*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
08...15	50	150	50	80	115	150	150	150
			- <sup>2)</sup>	- <sup>3)</sup>	115 <sup>4)</sup>	150	150	150
	50	150 <sup>5)</sup>	50	80	115	150	150	150
			- <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150
	50	240	50	80	115	170	240	240
			- <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	170 <sup>6)</sup>	240	240
25...80	45	150	60	60	95	150	150	150



DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
	60	150 <sup>5)</sup>	– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45		60	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	240	60	60	95	160	240	240
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>6)</sup>	240	240
15, 25, 50... 250	60	350	70 <sup>2)</sup>	85 <sup>3)</sup>	120 <sup>4)</sup>	185 <sup>6)</sup>	280 <sup>7)</sup>	350
100...250	45	150	60	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	150 <sup>5)</sup>	60	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	240	60	60	95	160	240	240
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>6)</sup>	240	240

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) Cryogenic temperature version: T<sub>m</sub> = -196 to 150 °C
- 6) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 7) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 290 °C

### Promass H

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	50	150	45	80	115	150	150	150
	60		– <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150
	50	205	45	80	115	165	205	205
	60		– <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	165 <sup>5)</sup>	205	205
15...50	60	150	– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	130	150	150
		205	– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	130 <sup>5)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass I*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...80	45	150	45	60	95	150	150	150
	60		- 1)	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

*Promass O*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
80 ... 250	45	205	45	60	95	160	205	205
	60		- 1)	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	205	205

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass P*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	45	150	45	80	115	150	150	150
	60		- 2)	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150
	45	205	45	80	115	170	205	205
	60		- 2)	80 <sup>3)</sup>	115 <sup>4)</sup>	170 <sup>5)</sup>	205	205
15...50	45	150	45	60	95	150	150	150
	60		- 2)	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	205	45	60	95	160	205	205
	60		- 2)	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>5)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

## Promass Q

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
25 ... 250	45	205	45	60	95	160	205	205
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>5)</sup>	205	205
	45	150 <sup>6)</sup>	45	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 6) Cryogenic temperature version: T<sub>m</sub> = -196 to 150 °C

## Promass S

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	45	150	45	80	115	150	150	150
	60		– <sup>1)</sup>	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
15...50	45	150	45	60	95	150	150	150
	60		– <sup>1)</sup>	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

## Promass X

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
350	45	180	45	60	95	160	180	180
	60		– <sup>1)</sup>	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	180	180

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 180 °C

*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 (8A5B\*\*-\*..., 8A5C\*\*-\*...)*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
1...4	50	205	50 <sup>1)</sup>	95	130	150	150 (180)	150 (180)
	60		-	95	130	150	150	150

1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C

*Promass E*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...15	45	150	45	80	115	150	150	150
	60		- <sup>1)</sup>	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
25...50	60		- <sup>1)</sup>	60 <sup>2)</sup>	95 <sup>3)</sup>	140 <sup>4)</sup>	150	150

1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C

2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C

3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 150 °C

*Promass F*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]						
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]	
08...15	50	150	50	80	115	150	150	150	
	60		- <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150	
	50	150 <sup>5)</sup>	50	80	115	150	150	150	
	60		- <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150	
	50		240	50	80	115	170	240	240
	60			- <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	170 <sup>6)</sup>	240	240
25...80	45	150	60	60	95	150	150	150	

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
	60	150 <sup>5)</sup>	– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45		60	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	240	60	60	95	160	240	240
	60		– <sup>2)</sup>	60 <sup>3)</sup>	130 <sup>3)</sup>	160 <sup>6)</sup>	240	240
15, 25, 50... 250	60	350	70 <sup>2)</sup>	85 <sup>3)</sup>	120 <sup>4)</sup>	185 <sup>6)</sup>	280 <sup>7)</sup>	350
100...250	45	150	60	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	150 <sup>5)</sup>	60	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	240	60	60	95	160 <sup>6)</sup>	240	240
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>6)</sup>	240	240

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) Cryogenic temperature version: T<sub>m</sub> = -196 to 150 °C
- 6) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 7) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 290 °C

### Promass H

DN	T <sub>a</sub> [°C]	T <sub>m, max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	50	150	45	80	115	150	150	150
	60		– <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150
	50	205	45	80	115	165	205	205
	60		– <sup>2)</sup>	80 <sup>3)</sup>	115 <sup>4)</sup>	165 <sup>5)</sup>	205	205
15...50	60	150	– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
		205	– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	130 <sup>5)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass I*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8...80	45	150	45	60	95	150	150	150
	60		- 1)	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

*Promass O*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
80...250	45	205	45	60	95	160	205	205
	60		- 1)	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	205	205

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

*Promass P*

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	45	150	45	80	115	150	150	150
	60		- 2)	80 <sup>3)</sup>	115 <sup>4)</sup>	150	150	150
	45	205	45	80	115	170	205	205
	60		- 2)	80 <sup>3)</sup>	115 <sup>4)</sup>	170 <sup>5)</sup>	205	205
15...50	45	150	45	60	95	150	150	150
	60		- 2)	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150
	45	205	45	60	95	160	205	205
	60		- 2)	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>5)</sup>	205	205

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C

## Promass Q

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> <sup>1)</sup> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
25...250	45	205	45	60	95	160	205	205
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	160 <sup>5)</sup>	205	205
	45	150 <sup>6)</sup>	45	60	95	150	150	150
	60		– <sup>2)</sup>	60 <sup>3)</sup>	95 <sup>4)</sup>	150	150	150

- 1) Maximum temperature range, see nameplate
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 5) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 195 °C
- 6) Cryogenic temperature version: T<sub>m</sub> = -196 to 150 °C

## Promass S

DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
8	45	150	45	80	115	150	150	150
	60		– <sup>1)</sup>	80 <sup>2)</sup>	115 <sup>3)</sup>	150	150	150
15...50	45	150	45	60	95	150	150	150
	60		– <sup>1)</sup>	60 <sup>2)</sup>	95 <sup>3)</sup>	150	150	150

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C

## Promass X

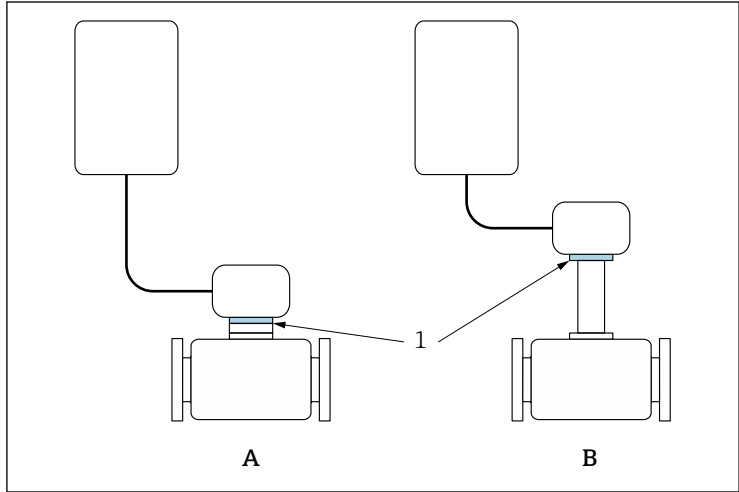
DN	T <sub>a</sub> [°C]	T <sub>m,max</sub> [°C]	T <sub>m</sub> [°C]					
			T6 [85 °C]	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
350	45	180	45	60	95	160	180	180
	60		– <sup>1)</sup>	60 <sup>2)</sup>	95 <sup>3)</sup>	160 <sup>4)</sup>	180	180

- 1) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 80 °C
- 2) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 95 °C
- 3) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 130 °C
- 4) The following applies for sensors with type of protection Ex ec nC: T<sub>m</sub> = 180 °C


*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.

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A0031199

 2 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]
69	72	84	91	91	91



## 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		Input/output 4	
1 (+)	2 (-)	26 (+)	27 (-)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

#### FOUNDATION Fieldbus

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	26 (A)	27 (B)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

#### PROFIBUS DP

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	26 (B)	27 (A)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

#### PROFIBUS PA

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	26 (B)	27 (A)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

#### Modbus RS485

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	26 (B)	27 (A)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

*Modbus TCP with Ethernet-APL*

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	26 (B)	27 (A)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

*EtherNet/IP*

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	EtherNet/IP (RJ45 connector)		24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

*PROFINET*

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	PROFINET (RJ45 connector)		24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

*PROFINET with Ethernet-APL*

Supply voltage		Input/output 1		Input/output 2		Input/output 3		Input/output 4	
1 (+)	2 (-)	26 (+)	27 (-)	24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Device-specific terminal assignment: adhesive label in terminal cover.									

**Safety-related values**

Order code for "Output; input 1"	Output type	Safety-related values "Output; input 1"	
		26 (+)	27 (-)
Option <b>BA</b>	Current output 4 to 20 mA HART	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>GA</b>	PROFIBUS PA	$U_N = 32 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>LA</b>	PROFIBUS DP	$U_N = 32 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>MA</b>	Modbus RS485	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$	

Order code for "Output; input 1"	Output type	Safety-related values "Output; input 1"	
		26 (+)	27 (-)
Option <b>MB</b>	Modbus TCP with Ethernet-APL	APL port profile SLAX SPE PoDL classes 10, 11, 12 $U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>SA</b>	FOUNDATION Fieldbus	$U_N = 32 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>NA</b>	EtherNet/IP	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>RA</b>	PROFINET	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$	
Option <b>RB</b>	PROFINET with Ethernet-APL	APL port profile SLAX SPE PoDL classes 10, 11, 12 $U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$	

Order code for "Output; input 2"; "Output; input 3"; "Output; input 4"	Output type	Safety-related values					
		Output; input 2		Output; input 3		Output; input 4 <sup>1)</sup>	
		24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
Option <b>B</b>	Current output 4 to 20 mA	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$					
Option <b>D</b>	User-configurable input/output	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$					
Option <b>E</b>	Pulse/frequency/ switch output	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$					
Option <b>F</b>	Double pulse output	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$					
Option <b>H</b>	Relay output	$U_N = 30 V_{DC}$ $I_N = 100 mA_{DC}/500 mA_{AC}$ $U_M = 250 V_{AC}$					
Option <b>I</b>	Current input 4 to 20 mA	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$					
Option <b>J</b>	Status input	$U_N = 30 V_{DC}$ $U_M = 250 V_{AC}$					

- 1) The order code "Output; input 4" is only available for the Proline 500 – digital transmitter.

## Intrinsically safe values

Order code for "Output; input 1"	Output type	Intrinsically safe values "Output; input 1"	
		26 (+)	27 (-)
Option HA	PROFIBUS PA Ex i (STANDARD + FISCO)	<b>Ex ic</b> $U_i = 32 \text{ V}$ $I_i = 570 \text{ mA}$ $P_i = 8.5 \text{ W}$ $L_i = 10 \text{ } \mu\text{H}$ $C_i = 5 \text{ nF}$	
Option MC	Modbus TCP with Ethernet-APL Ex i	<b>2-WISE power load, APL port profile SLAC<sup>1)</sup></b> <b>Ex ic</b> $U_i = 17.5 \text{ V}$ $I_i = 380 \text{ mA}$ $P_i = 5.32 \text{ W}$ $L_i = 10 \text{ } \mu\text{H}$ $C_i = 5 \text{ nF}$ <b>Cable specifications according to 2-WISE:</b> $R_c = 15 \text{ to } 150 \text{ } \Omega/\text{km}$ $L_c = 0.4 \text{ to } 1 \text{ mH}/\text{km}$ $C_c = 45 \text{ to } 200 \text{ nF}/\text{km}$ $C_c = C_c \text{ line}/\text{line} + 0.5 C_c \text{ line}/\text{screen}$ , if both lines are floating, or $C_c = C_c \text{ line}/\text{line} + C_c \text{ line}/\text{screen}$ , if the screen is connected to one line Length of cable (not including cable stubs): $\leq 200 \text{ m (656.2)}$ Length of cable stubs: $\leq 1 \text{ m (3.3 ft)}$	
Option RC	PROFINET with Ethernet-APL Ex i	<b>Ex ic</b> $U_i = 17.5 \text{ V}$ $I_i = 380 \text{ mA}$ $P_i = 5.32 \text{ W}$ $L_i = 10 \text{ } \mu\text{H}$ $C_i = 5 \text{ nF}$ <b>Cable specifications according to 2-WISE:</b> $R_c = 15 \text{ to } 150 \text{ } \Omega/\text{km}$ $L_c = 0.4 \text{ to } 1 \text{ mH}/\text{km}$ $C_c = 45 \text{ to } 200 \text{ nF}/\text{km}$ $C_c = C_c \text{ line}/\text{line} + 0.5 C_c \text{ line}/\text{screen}$ , if both lines are floating, or $C_c = C_c \text{ line}/\text{line} + C_c \text{ line}/\text{screen}$ , if the screen is connected to one line Length of cable (not including cable stubs): $\leq 200 \text{ m (656.2)}$ Length of cable stubs: $\leq 1 \text{ m (3.3 ft)}$	
Option TA	FOUNDATION Fieldbus Ex i (STANDARD + FISCO)	<b>Ex ic</b> $U_i = 32 \text{ V}$ $I_i = 570 \text{ mA}$ $P_i = 8.5 \text{ W}$ $L_i = 10 \text{ } \mu\text{H}$ $C_i = 5 \text{ nF}$	

1) For further options see Ethernet-APL Installation Drawing HE\_01622.

Order code for "Output; input 2"; "Output; input 3"; "Output; input 4"	Output type	Intrinsically safe values					
		Output; input 2		Output; input 3		Output; input 4 <sup>1)</sup>	
		24 (+)	25 (-)	22 (+)	23 (-)	20 (+)	21 (-)
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	$U_i = 30 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1.25 \text{ W}$ $L_i = 0$ $C_i = 0$					

- 1) The order code "Output; input 4" is only available for the Proline 500 – digital transmitter.







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