



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX BVS 06.0019X** Page 1 of 5 Certificate history:  
Status: **Current** Issue No: 5 [Issue 4 \(2018-01-15\)](#)  
Date of Issue: 2024-03-21 [Issue 3 \(2011-09-05\)](#)  
[Issue 2 \(2010-02-11\)](#)  
[Issue 1 \(2008-02-19\)](#)  
[Issue 0 \(2006-12-05\)](#)  
Applicant: **Endress+Hauser Flowtec AG**  
Kägenstrasse 7  
4153 Reinach BL 1  
Switzerland  
Equipment: **Measuring systems type Promass \*\*\* \*\*\_\*\*\*\*\*+###, CNGmass DCI 8°F\*\*\_\*\*\*\*\*+### and Cubemass DCI 8C\*\*\*\_\*\*\*\*\*+###**  
Optional accessory:  
Type of Protection: **Flameproof Enclosures "d", Intrinsic Safety "i", Equipment Protection Level (EPL) Ga, Protection by Enclosure "t", Increased Safety "e"**  
Marking: See Annex

Approved for issue on behalf of the IECEx  
Certification Body:

**Dr Franz Eickhoff**

Position:

**Senior Lead Auditor, Certification Manager and officially  
recognised expert**

Signature:  
(for printed version)

  
2024-03-21

Date:  
(for printed version)

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Certificate issued by:

**DEKRA Testing and Certification GmbH**  
Certification Body  
Dinnendahlstrasse 9  
44809 Bochum  
Germany





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Date of issue: 2024-03-21

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Manufacturer: **Endress+Hauser Flowtec AG**  
Kägenstrasse 7  
4153 Reinach BL 1  
Switzerland

Manufacturing locations:

<b>Endress+Hauser Flowtec (Brasil)</b> <b>Fluxômetros Ltda.</b> Estrada Municipal Antônio Sesti 600-A - Recreio Costa Verde – Itatiba / SP, CEP 13254-085 <b>Brazil</b>	<b>Endress+Hauser Flowtec (China)</b> <b>Co. Ltd.</b> Su-Hong-Zhong-Lu No. 465 China-Singapore-Suzhou Industrial Park (SIP), 215021 <b>China</b>	<b>Endress+Hauser Flowtec (India) Pvt.</b> <b>Ltd.</b> M-171-176, MIDC, Waluj Aurangabad 431 136 Maharashtra State <b>India</b>
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**See following pages for more locations**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

<a href="#">IEC 60079-0:2017</a> Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
<a href="#">IEC 60079-1:2014</a> Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<a href="#">IEC 60079-11:2011</a> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<a href="#">IEC 60079-26:2014</a> Edition:3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
<a href="#">IEC 60079-31:2022</a> Edition:3.0	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
<a href="#">IEC 60079-7:2017</a> Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/BVS/ExTR06.0054/05](#)

Quality Assessment Report:

[DE/TUN/QAR06.0004/10](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

### Subject and Type:

See Annex

### Description:

See Annex

### Parameters

See Annex

### SPECIFIC CONDITIONS OF USE: YES as shown below:

- 1 The equipment of the measuring system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalisation must exist.
- 2 For equipment with an "Ex db" rated connection compartment:  
Only separately approved (Ex db IIC) cable glands, cable entry devices or plugs that are suitable for the operating temperature range from the minimum specified  $T_a$  to the maximum specified  $T_a + 20$  °C may be used. When using conduit entries, the sealing mechanism must be fitted directly next to the housing.
- 3 For equipment with an "Ex eb" rated connection compartment:  
Only separately approved (Ex eb IIC) cable glands, cable entry devices or plugs that are suitable for an operating temperature range from the minimum specified  $T_a$  to the maximum specified  $T_a + 20$  °C and are rated at least IP67 may be used.
- 4 For equipment with an "Ex tb" rated connection compartment:  
Only separately approved (Ex tb IIIC) cable glands, cable entry devices or plugs that are suitable for an operating temperature range from the minimum specified  $T_a$  to the maximum specified  $T_a + 20$  °C and are rated at least IP67 may be used.
- 5 All openings that are not used must be sealed with suitable, certified plugs.
- 6 The sensors may be employed only for those media, for which the wetted parts are known to be suitable (for EPL Ga).
- 7 Some of the dimensions of the flameproof joints exceed the permissible minimum values or go below the permissible maximum values which are given by IEC 60079-1:2014. For information concerning these dimensions contact the manufacturer.
- 8 For equipment using the sensor type Promass M: the equipment must be installed in such a way that ignition due to impact or friction is avoided.
- 9 For Group II: The equipment must be installed in such a way that intensive charging processes cannot occur.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- Replacement of the component certificate IECEx BVS 10.0007U for the Coriolis sensors by the component certificate IECEx CSA 15.0003U
- Update the standard versions
- Introduce a new manufacturing location (China)
- Update schedule drawings and supporting documents further to the above changes



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Additional manufacturing locations:

**Endress+Hauser Flowtec AG**  
35, rue de l'Europe  
68700 Cernay  
France

**Endress+Hauser Flowtec AG**  
Division U.S.A., 2330 Endress Place  
Greenwood, Indiana 46143  
United States of America

**Endress+Hauser Flowtec (China) Co. Ltd.**  
Suzhou Industrial Park (SIP)  
Jiang-Tian-Li-Lu No. 31  
Suzhou 215021  
China

**Annex:**

[BVS\\_06\\_0019X\\_Endress+Hauser\\_Annex\\_issue5.pdf](#)



# IECEX Certificate of Conformity



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**Annex**  
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**General product information:**  
**Subject and Type**

Measuring system type Promass \*\*\* \*\_\*\*\*\*\*\_+##  
Instead of the \*\*\* in the complete denomination letters and numerals will be inserted which characterize the following modifications:

Promass	*** *_*****_+##	
	aa b cc- d e e e f g h i k l m n	+##
		+##
		<u>n</u> <u>Signal output</u>
		A, B, C, D, E, H, J, K, L, M, N, P, Q, V, W, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 = non-intrinsically safe outputs F = Ex ia PROFIBUS PA G = Ex ia Foundation Fieldbus R = Ex ia HART current output, active S = Ex ia HART current output, frequency output, active T = Ex ia HART current output, frequency output, passive U = Ex ia HART current output, passive
		<u>m</u> <u>Software, any single number or letter</u>
		<u>l</u> <u>Version</u>
		A, C, E, G, P, R, T, 0, 2, 4, 7 = 85 - 253 VAC B, D, F, H, Q, S, U, 1, 3, 5, 8 = 20 - 55 VAC / 16 - 62 VDC K, M = 85 - 253 VAC, Tmed ≥ -200 °C L, N = 20 - 55 VAC / 16 - 62 VAC, Tmed ≥ -200 °C
		<u>k</u> <u>Cable entry, any single number or letter</u>
		<u>i</u> <u>Housing</u>
		A = Compact version 1 = Compact version, Ta -40 °C E, F, J, K = Remote version L = Compact version, stainless steel M = Compact version, stainless steel, Ta -40 °C N = Compact version, stainless steel, Ta -40 °C, harsh environment U = Remote version, stainless steel V = Remote version, stainless steel, Ta -40 °C W = Remote version, stainless steel, Ta -40 °C, harsh environment 4 = Compact version, harsh environment, Ta -40 °C 7 = Remote version, Ta -40 °C 8 = Remote version, harsh environment, Ta -40 °C
		<u>h</u> <u>Approvals</u>
		B, F, K, M, N, O, U = Ex db ia IIC Gb, Ex tb IIIC Db C, L, P, W = Ex db ia IIB Gb, Ex tb IIIC Db D, G, Q, S = Ex db eb ia IIC Gb, Ex tb IIIC Db E, T = Ex db eb ia IIB Gb, Ex tb IIIC Db 1, 3 = Ex db ia IIC Ga/Gb, Ex tb IIIC Db 4 = Ex db ia IIB Ga/Gb, Ex tb IIIC Db 2, 5 = Ex db eb ia IIC Ga/Gb, Ex tb IIIC Db 6 = Ex db eb ia IIB Ga/Gb, Ex tb IIIC Db
		<u>g</u> <u>Calibration, any single number or letter</u>
		<u>f</u> <u>Certificate, any single number or letter</u>
		<u>eee</u> <u>Process connection, any triple number or letter</u>
		<u>d</u> <u>Material of measuring tube, any single number or letter</u>
		<u>cc</u> <u>Nominal diameter</u>
		<u>b</u> <u>Type of sensor A, F, I, M, H, P, S, E, O, S or X</u>
		<u>aa</u> <u>Transmitter electronic 40, 80, 83 or 84</u>



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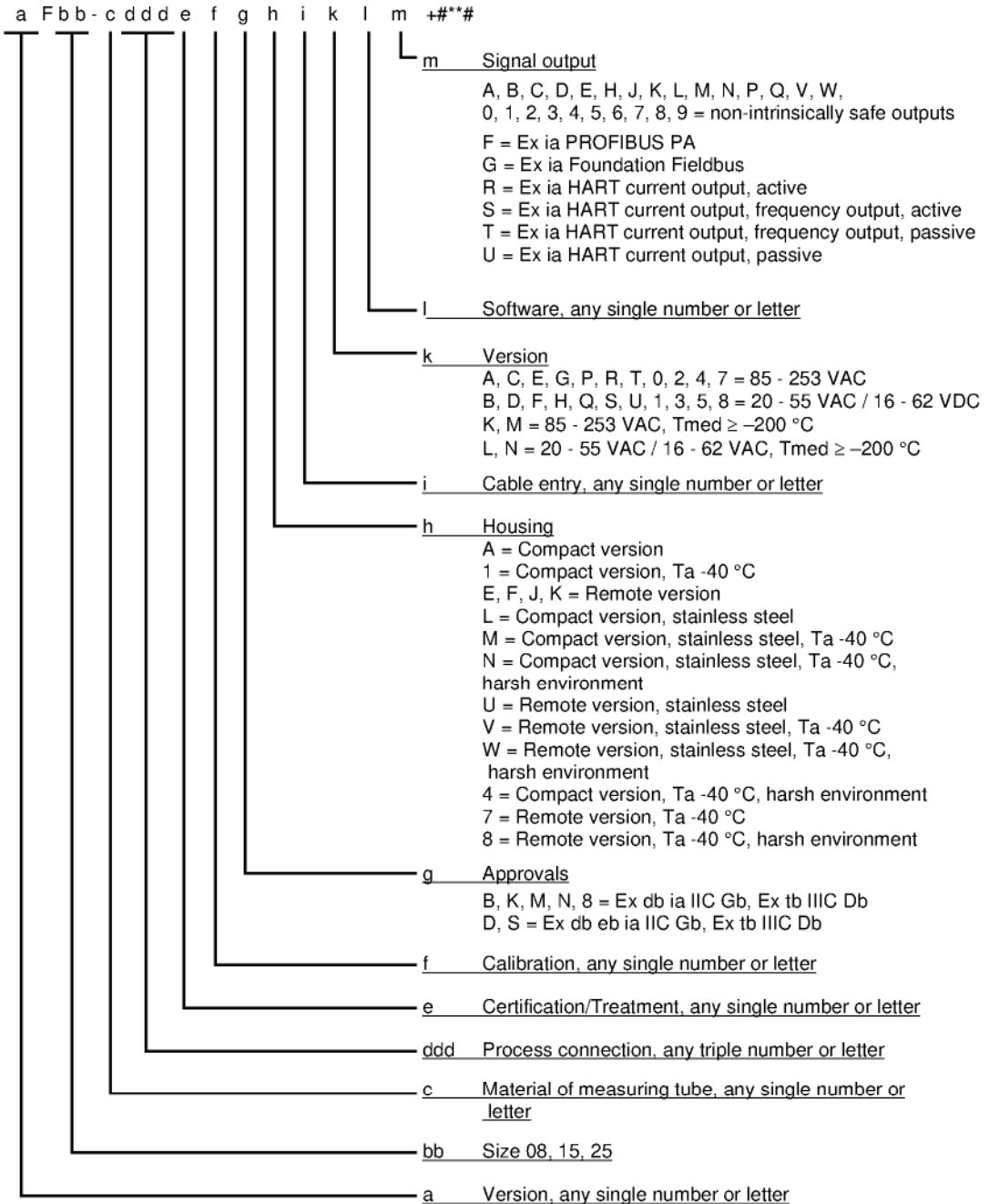


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Measuring system type CNGmass DCI 8\*F \*\*-\*\*\*\*\*+##

Instead of the \*\*\* in the complete denomination letters and numerals will be inserted which characterize the following modifications:

CNGmass DCI 8 \* F \* \* - \* \* \* \* \* \* \* \* \* \* \* \* \* \* +##





# IECEX Certificate of Conformity



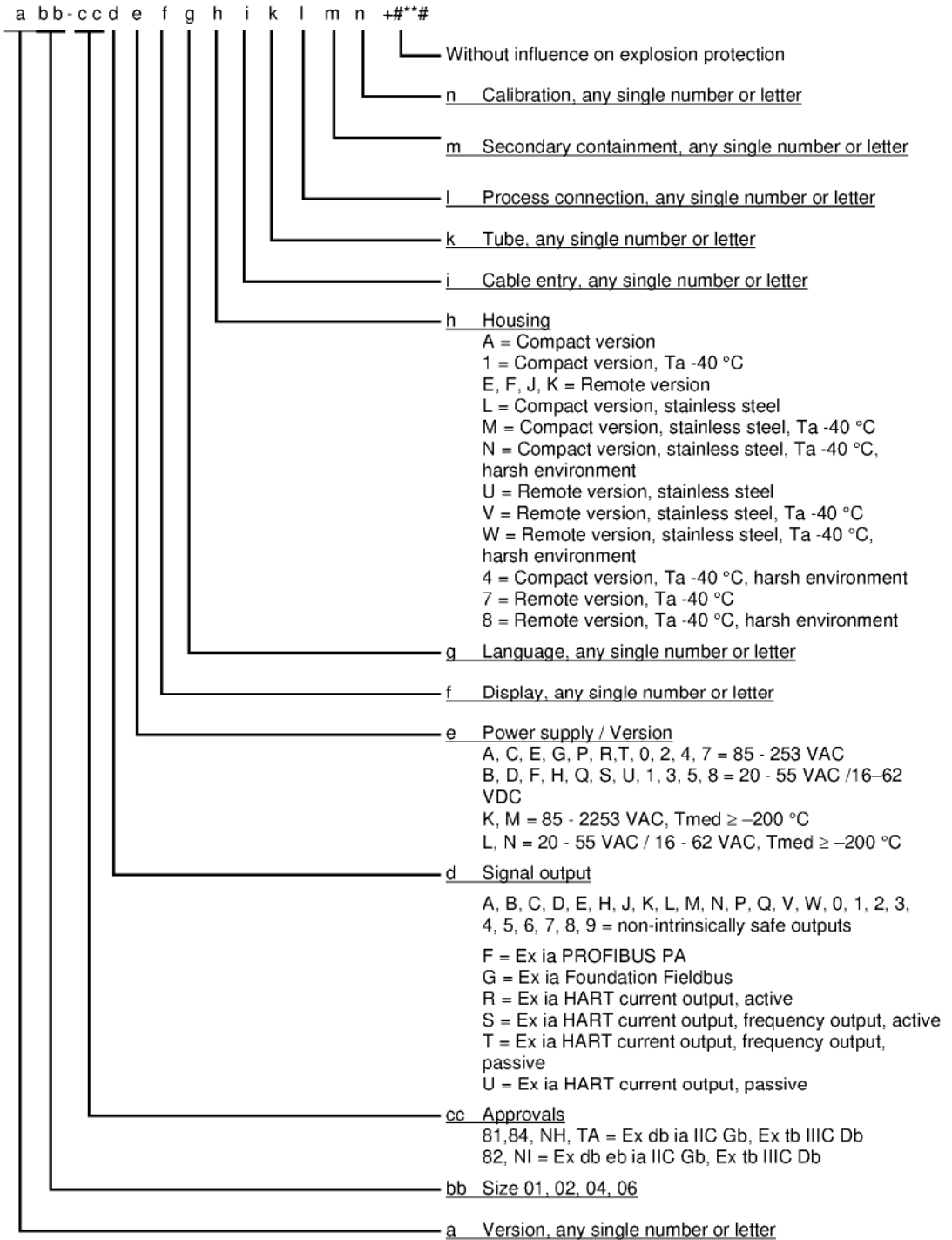
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Measuring system type Cubemass DCI 8C\*\*\*-\*\*\*\*\*+###

Instead of the \*\*\* in the complete denomination letters and numerals will be inserted which characterize modifications:

Cubemass DCI 8C \* \* \*- \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* +###







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## **Description:**

The measuring system Promass 40/80/83/84, CNGmass DCI and Cubemass DCI is a platform designed for mass measurement using the Coriolis principle. It consists of a transmitter which is fitted directly to a Coriolis sensor by flange (compact version) or connected to a separate Coriolis sensor by a cable (Remote version).

The measuring system is constructed from components such as transmitter electronics, transmitter enclosures and Coriolis sensors which are separately certified within their respective IECEx component certificates.

### **Transmitter enclosures:**

The transmitter enclosures type Proline G02 (aluminium) or G12 (stainless steel) including the sensor connection enclosure / box, connection boards, PCB feedthroughs, sensor neck adapters, blanking elements and thread adapters are certified under IECEx BVS 06.0012U.

- The transmitter enclosures have two separate compartments, an "Ex db" electronic compartment and an "Ex db" or "Ex eb" connection compartment, interconnected by an opening which is optionally equipped with an "Ex db" PCB feedthrough.
- The electronic compartment, closed by a threaded cover (blind or window), is equipped with an "Ex db" threaded sensor neck adapter that can be mounted directly to a Coriolis sensor (in Compact version) or to a sensor connection enclosure / box (in Remote version). These sensor connection enclosures / box, certified as "Ex eb", are equipped with 1 or 2 cable entries for connection to the Coriolis sensor by a cable.
- The connection compartment, closed by a threaded blind cover, is equipped with 3 cable entries and a terminal connection board for the external connection of intrinsically safe and non-intrinsically safe circuits if the compartment is "Ex d. The terminals, depending on their use, are protected by plastic internal covers.
- The transmitter enclosures are certified as "Ex tb" for dust atmospheres.

### **Transmitter electronics:**

The electronics type Promass 40/80/83/84 are certified under IECEx BVS 06.0006U. It covers intrinsically safe evaluation "Ex ia" of suitable electronic boards for connection to a Coriolis sensor such as power supply board, amplifier board, different comodules and bus board. These boards which are certified as associated apparatus are mounted inside the electronic compartment of the transmitter housing.

### **Coriolis sensors:**

The sensors type Promass A/E/F/FP/H/I/M/P/S/O/X and type Sensor C / Cubemass C (Cubemass C is an alternative name of Sensor C) are certified under IECEx CSA 15.0003U. The sensors consist of exciter coil circuits, sensor coil circuits and temperature circuits with up to four measuring tubes mounted inside a metallic enclosure. These circuits are certified as "Ex ia". The measuring tube represents the partition wall between Zone 0 / EPL Ga (inside the measuring tube) and Zone 1 / EPL Gb (outside the measuring tube). The sensors are certified as "Ex tb" for dust atmospheres.



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Listing of all used components

Subject and type	Certificate	Standards
Transmitter enclosure type Proline G02 and G12	IECEX BVS 06.0012 U (DE/BVS/06/2091)	IEC 60079- 0:2017, Ed. 7.0 IEC 60079- 1:2014, Ed. 7.0 IEC 60079- 7:2017, Ed. 5.1 IEC 60079-31:2022, Ed. 3.0
Coriolis Sensors type Promass A, E, F, FP, H, I, M, P, S, O, X, Sensor C / Cubemass C	IECEX CSA 15.0003U (CA/CSA/ExTR15.0004)	IEC 60079- 0:2017, Ed. 7.0 IEC 60079- 7:2015 Ed. 5.0 <sup>1</sup> IEC 60079-11:2011 Ed. 6.0 IEC 60079-26:2014 Ed. 3.0 IEC 60079-31:2013 Ed. 2.0 <sup>2</sup>
Transmitter electronics type Promass 40/80/83/84	IECEX BVS 06.0006 U (DE/BVS/06/2074)	IEC 60079-0:2011, Ed. 7.0 IEC 60079-11:2011, Ed. 6.0

<sup>1</sup>No applicable technical differences

<sup>2</sup>Technical differences evaluated and found satisfactory

## Parameter

1 Electrical parameter

1.1 Power supply

(terminals no. 1 (L/+) and 2 (N/-))

Nominal voltage

$U_n$

Pure AC version

AC

85 to 253

V

DC/AC version

DC

16 to 62

V

or

AC

20 to 55

V

Power consumption

$P_n$

15 VA / 15 W

Maximum voltage

$U_m$

AC

253

V

1.2 Non-intrinsically signal circuits (I/O)

(terminals no. 20...27)

For types:

Promass \*\*\* \*\*\_\*\*\*\*\*1)+###, CNGmass DCI 8\*F\*\*\_\*\*\*\*\*1)+### and

Cubemass DCI 8C\*\*\*\_\*\*1)\*\*\*\*\*+###

with <sup>1</sup>) = A, B, C, D, E, H, J, K, L, M, N, P, Q, V, W, 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9

Nominal voltage

$U_n$

AC

30

V

DC

60

V

Nominal current

$I_{n,max}$

500

mA

Maximum voltage

$U_m$

AC

253

V



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1.3 Intrinsically safe signal circuits (I/O)

Type	Terminal No.	Safety parameter	
		Ex ia IIC	Ex ia IIB
Promass *** **_*****1)_+### CNGmass DCI 8°F **_*****1)_+### Cubemass DCI 8C***_*1)*****+### with <sup>1)</sup> = F or G	26 and 27	$U_i = 30 \text{ V}$ $I_i = 600 \text{ mA}$ $P_i = 8.5 \text{ W}$ $C_i \leq 5 \text{ nF}$ $L_i \leq 10 \mu\text{H}$ FISCO Field Device	
Promass *** **_*****R+### CNGmass DCI 8°F**_*****R+### Cubemass DCI 8C***_*R*****+###	24 and 25 26 and 27	$U_o = 21.8 \text{ V}$ $I_o = 90 \text{ mA}$ $P_o = 491 \text{ mW}$	
		$C_o = 0.16 \mu\text{F}$ $L_o = 4.1 \text{ mH}$	$C_o = 1160 \text{ nF}$ $L_o = 15 \text{ mH}$
		$U_i = 30 \text{ V}$ $I_i = 10 \text{ mA}$ $P_i = 300 \text{ mW}$ $C_i \leq 6 \text{ nF}$ $L_i = \text{negligible}$	
Promass *** **_*****S+### CNGmass DCI 8°F**_*****S+### Cubemass DCI 8C***_*S*****+###	24 and 25	$U_i = 30 \text{ V}$ $I_i = 500 \text{ mA}$ $P_i = 600 \text{ mW}$ $C_i \leq 6 \text{ nF}$ $L_i = \text{negligible}$	
	26 and 27	$U_o = 21.8 \text{ V}$ $I_o = 90 \text{ mA}$ $P_o = 491 \text{ mW}$	
		$C_o = 0.16 \mu\text{F}$ $L_o = 4.1 \text{ mH}$	$C_o = 1160 \text{ nF}$ $L_o = 15 \text{ mH}$
		$U_i = 30 \text{ V}$ $I_i = 10 \text{ mA}$ $P_i = 300 \text{ mW}$ $C_i \leq 6 \text{ nF}$ $L_i = \text{negligible}$	
Promass *** **_*****T+### CNGmass DCI 8°F **_*****T+### Cubemass DCI 8C***_*T*****+###	24 and 25	$U_i = 30 \text{ V}$ $I_i = 500 \text{ mA}$ $P_i = 600 \text{ mW}$ $C_i \leq 6 \text{ nF}$ $L_i = \text{negligible}$	
	26 and 27	$U_i = 30 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1.25 \text{ W}$ $C_i \leq 6 \text{ nF}$ $L_i = \text{negligible}$	
Promass *** **_*****U+### CNGmass DCI 8°F**_*****U+### Cubemass DCI 8C***_*U*****+###	24 and 25 26 and 27	$U_i = 30 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1.25 \text{ W}$ $C_i \leq 6 \text{ nF}$ $L_i = \text{negligible}$	



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2 Thermal parameter  
 2.1 Medium temperature

Type	Medium temperature $T_{Med}$
Promass **E**-*****+###	-40 °C ≤ $T_{Med}$ ≤ 140 °C or -50 °C ≤ $T_{Med}$ ≤ 200 °C (only for Promass E DN80)
Promass **I**-*****+### Promass **M**-*****+###	-50 °C ≤ $T_{Med}$ ≤ 150 °C
Promass **A**-*****+### Promass **F**-*****+### Promass **O**-*****+### Promass **H**-*****+### Promass **P**-*****+### Promass **S**-*****+### Promass **X**-*****+###	-50 °C ≤ $T_{Med}$ ≤ 200 °C or -50 °C ≤ $T_{Med}$ ≤ 350 °C (only for Promass F(HT))
Promass **A**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **F**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **O**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **H**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **P**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **S**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **E80**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +### Promass **X**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +###	-200 °C ≤ $T_{Med}$ ≤ 200 °C
CNGmass DCI 8°F**-*****+###	-50 °C ≤ $T_{Med}$ ≤ 150 °C
CNGmass DCI 8°F**-***** $(E/F/J/K/U/V/W/7/8)^*(K/L/M/N)^{**}$ +###	-200 °C ≤ $T_{Med}$ ≤ 150 °C
Cubemass DCI 8C***-*****+###	-50 °C ≤ $T_{Med}$ ≤ 200 °C
Cubemass DCI 8C***-**** $(K/L/M/N)^{**}$ $(E/F/J/K/U/V/W/7/8)^{*****}$ +###	-200 °C ≤ $T_{Med}$ ≤ 200 °C

2.2 Ambient temperature range

Type	Ambient temperature $T_a$
<b>Compact version</b>	
Promass *****(A/L)****+### CNGmass DCI 8°F**-***** $(A/L)^{****}$ +### Cubemass DCI 8C***-***** $(A/L)^{****}$ +###	-20 °C ≤ $T_a$ ≤ 60 °C
Promass *****(1/4/M/N)****+### CNGmass DCI 8°F**-***** $(1/4/M/N)^{****}$ +### Cubemass DCI 8C***-***** $(1/4/M/N)^{****}$ +###	-40 °C ≤ $T_a$ ≤ 60 °C
<b>Remote version, transmitter and sensor</b>	
Promass *****(U/E/F/J/K)****+### CNGmass DCI 8°F**-***** $(E/F/J/K/U)^{****}$ +### Cubemass DCI 8C***-***** $(E/F/J/K/U)^{****}$ +###	-20 °C ≤ $T_a$ ≤ 60 °C
Promass *****(7/8/V/W)****+### CNGmass DCI 8°F**-***** $(7/8/V/W)^{****}$ +### Cubemass DCI 8C***-***** $(7/8/V/W)^{****}$ +###	-40 °C ≤ $T_a$ ≤ 60 °C



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2.3 Maximum surface temperatures

2.3.1 Compact version

Promass 40/80/83/84

Temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, T <sub>med</sub> [°C]					
	T6 85 °C	T5 100 °C	T4 135 °C	T3 200 °C	T2 300 °C	T1 450 °C
<b>T<sub>a</sub> = 45 °C:</b>						
Promass E DN8/15/25/40/50	45	95	130	140	140	140
Promass P/S DN8	45	65	100	160	200	200
<b>T<sub>a</sub> = 50 °C:</b>						
Promass M DN8/15	55	95	130	150	150	150
Promass M DN25/40	60	95	130	150	150	150
Promass M DN50	65	95	130	150	150	150
Promass M DN80	65	80	110	150	150	150
Promass F DN8/15/25/40	55	95	130	150 / 170*)	200*)	200*)
Promass F DN50	60	95	130	150 / 170*)	200*)	200*)
Promass F DN80/100/150/250	60	75	110	150 / 170*)	200*)	200*)
Promass I DN8/15/16/25	60	95	130	150	150	150
Promass I DN26/40/41/50/51/80	70	85	120	150	150	150
Promass H DN8	50	65	100	160	200	200
Promass H DN15/25/40/50	60	75	115	180	200	200
Promass E DN25/40/50	50	95	130	140	140	140
Promass P/S DN8	–	65	100	160	200	200
Promass P/S DN15/25	50	75	115	180	200	200
Promass P/S DN40	55	75	115	180	200	200
Promass P/S DN50	60	75	110	180	200	200
Promass O DN80/100/150/250	60	75	110	150 / 170*)	200*)	200*)
Promass X DN350	60	75	110	150 / 170*)	200*)	200*)
<b>T<sub>a</sub> = 60 °C:</b>						
Promass A DN1/2/4	60	95	130	150	200	200
Promass M DN8/15	55	95	100	100	100	100
Promass M DN25/40	60	95	100	100	100	100
Promass M DN50	65	95	100	100	100	100
Promass M DN80	65	80	100	100	100	100
Promass F DN8/15/25/40	55	95	100	100	100	100
Promass F DN50	60	95	100	100	100	100
Promass F DN80/100/150/250	60	75	100	100	100	100
Promass I DN8/15/16/25	60	95	130	150*)	150*)	150*)
Promass I DN26/40/41/50/51/80	70	85	120	150*)	150*)	150*)
Promass H DN8	50	65	100	160	200*)	200*)
Promass H DN15/25/40/50	60	75	115	160 / 180*)	200*)	200*)
Promass E DN8/15/25/40/50	–	95	130	140	140	140
Promass E DN80	60	75	110	150 / 170*)	200*)	200*)
Promass F(HT) DN25/50/80	65	80	110*)	175*)	265*)	350*)
Promass P/S DN8	–	65	100	160	200*)	200*)
Promass P/S DN15/25/40	–	75	115	160 / 180*)	200*)	200*)
Promass P/S DN50	60	75	110	160 / 180*)	200*)	200*)
Promass O DN80/100/150/250	60	75	100	100	100	100
Promass X DN350	60	75	100	100	100	100



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\*)For the listed medium temperature, the measuring unit shall not be installed such a way that the transmitter enclosure is located above the sensor.

CNGmass DCI with sensor Promass FP

Temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, $T_{med}$ [°C]					
	T6 85 °C	T5 100 °C	T4 135 °C	T3 200 °C	T2 300 °C	T1 450 °C
<b><math>T_a = 60</math> °C</b> Promass FP DN8/15 Promass FP DN25	--	80	130	130	150	150
	--	95	130	150	150	150

Cubemass DCI with Sensor C / Cubemass C

Temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, $T_{med}$ [°C]					
	T6 85 °C	T5 100 °C	T4 135 °C	T3 200 °C	T2 300 °C	T1 450 °C
<b><math>T_a = 50</math> °C</b> Sensor C / Cubemass C DN1/2/4/6	50	95	130	150	200	200
<b><math>T_a = 60</math> °C</b> Sensor C / Cubemass C DN1/2/4/6	--	95	130	150	200	200

## 2.3.2 Remote version

Transmitter:

At an ambient temperature of 60 °C the interior temperature and therefore the surface temperature is  $\leq 80$  °C. The remote version transmitter therefore has temperature class T6.

Sensor:

The relation between the maximum ambient temperature ( $T_a$ ), the medium temperature ( $T_{med}$ ) and the temperature class (Group II) / the maximum surface temperature (Group III) are determined as follows:

Promass 40/80/83/84 Temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, $T_{med}$ [°C]					
	T6 85 °C	T5 100 °C	T4 135 °C	T3 200 °C	T2 300 °C	T1 450 °C
<b><math>T_a = 45</math> °C</b> Promass E DN8/15/25/40/50 Promass P/S DN8	45	95	130	140	140	140
	45	65	100	160	200	200
<b><math>T_a = 50</math> °C</b> Promass E DN25/40/50 Promass P/S DN8 Promass P/S DN15/25 Promass P/S DN40	50	95	130	140	140	140
	--	65	100	160	200	200
	50	75	115	180	200	200
	55	75	115	180	200	200
<b><math>T_a = 60</math> °C</b> Promass A DN1/2/4 Promass F DN8/15/25/40/50 Promass F DN80/100/150/250 Promass M DN8/15	60	95	130	150	200	200
	55	95	130	160	200	200
	60	75	110	170	200	200
	55	95	130	150	150	150



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Promass 40/80/83/84 temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, $T_{med}$ [°C]					
	T6	T5	T4	T3	T2	T1
	85 °C	100 °C	135 °C	200 °C	300 °C	450 °C
Promass M DN25/40	60	95	130	150	150	150
Promass M DN50	65	95	130	150	150	150
Promass M DN80	65	80	110	150	150	150
Promass I DN8/15/16/25	60	95	130	150	150	150
Promass I DN26/40/41/50/51/80	70	85	120	150	150	150
Promass H DN8	50	65	100	160	200	200
Promass H DN15/25/40/50	60	75	115	180	200	200
Promass E DN8/15/25/40/50	-	95	130	140	140	140
Promass E DN80	60	75	110	170	200	200
Promass F(HT) DN25/50/80	65	80	110	175	265	350
Promass P/S DN8	-	65	100	160	200	200
Promass P/S DN15/25/40	-	75	115	180	200	200
Promass P/S DN50	60	75	110	180	200	200
Promass O DN80/100/150/250	60	75	110	170	200	200
Promass X DN350	60	75	110	170	200	200

CNGmass DCI with sensor Promass FP

Temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, $T_{med}$ [°C]					
	T6	T5	T4	T3	T2	T1
	85 °C	100 °C	135 °C	200 °C	300 °C	450 °C
$T_a = 60$ °C						
Promass FP DN8/15	--	80	130	130	150	150
Promass FP DN25	--	95	130	150	150	150

Cubemass DCI with Sensor C / Cubemass C

Temperature table Temperature class, Group II Maximum surface temperature, Group III	Maximum medium temperature, $T_{med}$ [°C]					
	T6	T5	T4	T3	T2	T1
	85 °C	100 °C	135 °C	200 °C	300 °C	450 °C
$T_a = 50$ °C						
Sensor C / Cubemass C DN1/2/4/6	50	95	130	150	200	200
$T_a = 60$ °C						
Sensor C / Cubemass C DN1/2/4/6	--	95	130	150	200	200



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**Marking**

Compact versions

Type/Order code	Marking
Promass **M DN8...80-*****2)1)***F) +##*# Promass **I DN8...80-*****2)1)***F) +##*# Promass **3) DN8...50-*****2)1)***F) +##*# Promass **A DN1...4-*****2)1)***F) +##*# Promass **F DN8...250-*****2)1)***F) +##*# Promass **O DN80...250-*****2)1)***F) +##*# Promass **E DN8...80-*****2)1)***F) +##*# Promass **X DN350-*****2)1)***F) +##*# Cubemass DCI 8C***_D)F)*** 1)***** +##*#	Ex db ia IIC T6...T1 Gb Ex tb IIIC T** °C Db
Promass **M DN8...80-*****2)1)***E) +##*# Promass **I DN8...80-*****2)1)***E) +##*# Promass **3) DN8...50-*****2)1)***E) +##*# Promass **A DN1...4-*****2)1)***E) +##*# Promass **F DN8...250-*****2)1)***E) +##*# Promass **O DN80...250-*****2)1)***E) +##*# Promass **E DN8...80-*****2)1)***E) +##*# Promass **X DN350-*****2)1)***E) +##*# Cubemass DCI 8C***_D)E)*** 1)***** +##*#	Ex db ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass **M DN80-*****4)1)***F) +##*# Promass **I DN41/50/51/80-*****4)1)***F) +##*# Promass **F DN80...250-*****4)1)***F) +##*# Promass **O DN80...250-*****4)1)***F) +##*# Promass **3) DN50-*****4)1)***F) +##*# Promass **E DN80-*****4)1)***F) +##*# Promass **X DN350-*****4)1)***F) +##*#	Ex db ia IIB T6...T1 Gb Ex tb IIIC T** °C Db
Promass **M DN80-*****4)1)***E) +##*# Promass **I DN41/50/51/80-*****4)1)***E) +##*# Promass **F DN80...250-*****4)1)***E) +##*# Promass **O DN80...250-*****4)1)***E) +##*# Promass **3) DN50-*****4)1)***E) +##*# Promass **E DN80-*****4)1)***E) +##*# Promass **X DN350-*****4)1)***E) +##*#	Ex db ia [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass **M DN8...80-*****5)1)***F) +##*# Promass **I DN8...80-*****5)1)***F) +##*# Promass **3) DN8...50-*****5)1)***F) +##*# Promass **A DN1...4-*****5)1)***F) +##*# Promass **F DN8...250-*****5)1)***F) +##*# Promass **O DN80...250-*****5)1)***F) +##*# Promass **E DN8...80-*****5)1)***F) +##*# Promass **X DN350-*****5)1)***F) +##*# Cubemass DCI 8C***_B)F)*** 1)***** +##*#	Ex db eb ia IIC T6...T1 Gb Ex tb IIIC T** °C Db
Promass **M DN8...80-*****5)1)***E) +##*# Promass **I DN8...80-*****5)1)***E) +##*# Promass **3) DN8...50-*****5)1)***E) +##*# Promass **A DN1...4-*****5)1)***E) +##*# Promass **F DN8...250-*****5)1)***E) +##*# Promass **O DN80...250-*****5)1)***E) +##*# Promass **E DN8...80-*****5)1)***E) +##*# Promass **X DN350-*****5)1)***E) +##*# Cubemass DCI 8C***_B)E)*** 1)***** +##*#	Ex db eb ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db





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Type/Order code	Marking
Promass **M DN80-*****6)1)***F) +##**# Promass **I DN41/50/51/80-*****6)1)***F) +##**# Promass **F DN80...250-*****6)1)***F) +##**# Promass **O DN80...250-*****6)1)***F) +##**# Promass **3) DN50-*****6)1)***F) +##**# Promass **E DN80-*****6)1)***F) +##**# Promass **X DN350-*****6)1)***F) +##**#	Ex db eb ia IIB T6...T1 Gb Ex tb IIIC T** °C Db
Promass **M DN80-*****6)1)***E) +##**# Promass **I DN41/50/51/80-*****6)1)***E) +##**# Promass **F DN80...250-*****6)1)***E) +##**# Promass **O DN80...250-*****6)1)***E) +##**# Promass **3) DN50-*****6)1)***E) +##**# Promass **E DN80-*****6)1)***E) +##**# Promass **X DN350-*****6)1)***E) +##**#	Ex db eb ia [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass **F DN8...250-*****7)1)***F) +##**# Promass **O DN80...250-*****7)1)***F) +##**# Promass **X DN350-*****7)1)***F) +##**#	Ex db ia IIC T6...T1 Ga/Gb <sup>9)</sup> Ex tb IIIC T** °C Db
Promass **F DN8...250-*****7)1)***E) +##**# Promass **O DN80...250-*****7)1)***E) +##**# Promass **X DN350-*****7)1)***E) +##**#	Ex db ia [ia Ga] IIC T6...T1 Ga/Gb <sup>9)</sup> Ex tb [ia Da] IIIC T** °C Db
Promass **F DN80...250-*****4)***F) +##**# Promass **O DN80...250-*****4)***F) +##**# Promass **X DN350-*****4)***F) +##**#	Ex db ia IIB T6...T1 Ga/Gb <sup>9)</sup> Ex tb IIIC T** °C Db
Promass **F DN80...250-*****4)***E) +##**# Promass **O DN80...250-*****4)***E) +##**# Promass **X DN350-*****4)***E) +##**#	Ex db ia [ia Ga] IIB T6...T1 Ga/Gb <sup>9)</sup> Ex tb [ia Da] IIIC T** °C Db
Promass **F DN8...250-*****8)1)***F) +##**# Promass **O DN80...250-*****8)1)***F) +##**# Promass **X DN350-*****8)1)***F) +##**#	Ex db eb ia IIC T6...T1 Ga/Gb <sup>9)</sup> Ex tb IIIC T** °C Db
Promass **F DN8...250-*****8)1)***E) +##**# Promass **O DN80...250-*****8)1)***E) +##**# Promass **X DN350-*****8)1)***E) +##**#	Ex db eb ia [ia Ga] IIC T6...T1 Ga/Gb <sup>9)</sup> Ex tb [ia Da] IIIC T** °C Db
Promass **F DN80...250-*****6)1)***F) +##**# Promass **O DN80...250-*****6)1)***F) +##**# Promass **X DN350-*****6)1)***F) +##**#	Ex db eb ia IIB T6...T1 Ga/Gb <sup>9)</sup> Ex tb IIIC T** °C Db
Promass **F DN80...250-*****6)1)***E) +##**# Promass **O DN80...250-*****6)1)***E) +##**# Promass **X DN350-*****6)1)***E) +##**#	Ex db eb ia [ia Ga] IIB T6...T1 Ga/Gb <sup>9)</sup> Ex tb [ia Da] IIIC T** °C Db
CNGmass DCI 8°F **-*****A)1)***F) +##**#	Ex db ia IIC T5...T1 Gb Ex tb IIIC T** °C Db
CNGmass DCI 8°F **-*****A)1)***E) +##**#	Ex db ia [ia Ga] IIC T5...T1 Gb Ex tb [ia Da] IIIC T** °C Db
CNGmass DCI 8°F **-*****C)1)***F) +##**#	Ex db eb ia IIC T5...T1 Gb Ex tb IIIC T** °C Db
CNGmass DCI 8°F **-*****C)1)***E) +##**#	Ex db eb ia [ia Ga] IIC T5...T1 Gb Ex tb [ia Da] IIIC T** °C Db

- 1) At this place A, L, M, N, 1 or 4 will be inserted.
- 2) At this place B, F, K, M, N, O or U will be inserted.
- 3) At this place H, P or S will be inserted.
- 4) At this place C, L, P or W will be inserted.
- 5) At this place D, G, Q or S will be inserted.
- 6) At this place E or T will be inserted.
- 7) At this place 1 or 3 will be inserted.
- 8) At this place 2 or 5 will be inserted.
- 9) Comment: Zone 0 inside measuring tube.
- A) At this place B, K, M, N or 8 will be inserted.
- B) At this place 82 or NI will be inserted.
- C) At this place D or S will be inserted.



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- D) At this place 81, 84, NH or TA will be inserted.
- E) At this place F, G, R, S, T or U will be inserted.
- F) At this place A, B, C, D, E, H, J, K, L, M, N, P, Q, V, W, 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9 will be inserted.

Remote versions

Transmitter

Type/Order code	Marking
Promass *** **_*****2)1)***F) +### Promass *** **_*****7)1)***F) +### Cubemass DCI 8C***_D)F)*** 1)***** +###	Ex db [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****2)1)***E) +### Promass *** **_*****7)1)***E) +### Cubemass DCI 8C***_D)E)*** 1)***** +###	Ex db [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****4)1)***F) +### Promass *** **_*****4)1)***F) +###	Ex db [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****4)1)***E) +### Promass *** **_*****4)1)***E) +###	Ex db [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****5)1)***F) +### Promass *** **_*****8)1)***F) +### Cubemass DCI 8C***_B)F)*** 1)***** +###	Ex db eb [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****5)1)***E) +### Promass *** **_*****8)1)***E) +### Cubemass DCI 8C***_B)E)*** 1)***** +###	Ex db eb [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****6)1)***F) +### Promass *** **_*****6)1)***F) +###	Ex db eb [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
Promass *** **_*****6)1)***E) +### Promass *** **_*****6)1)***E) +###	Ex db eb [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
CNGmass DCI 8°F **_*****A)1)***F) +###	Ex db [ia Ga] IIC T5...T1 Gb Ex tb [ia Da] IIIC T** °C Db
CNGmass DCI 8°F **_*****A)1)***E) +###	Ex db [ia Ga] IIC T5...T1 Gb Ex tb [ia Da] IIIC T** °C Db
CNGmass DCI 8°F **_*****C)1)***F) +###	Ex db eb [ia Ga] IIC T5...T1 Gb Ex tb [ia Da] IIIC T** °C Db
CNGmass DCI 8°F **_*****C)1)***E) +###	Ex db eb [ia Ga] IIC T5...T1 Gb Ex tb [ia Da] IIIC T** °C Db

- 1) At this place E, F, J, K, U, V, W, 7 or 8 will be inserted.
- 2) At this place B, F, K, M, N, O or U will be inserted.
- 4) At this place C, L, P or W will be inserted.
- 5) At this place D, G, Q or S will be inserted.
- 6) At this place E or T will be inserted.
- 7) At this place 1 or 3 will be inserted.
- 8) At this place 2 or 5 will be inserted.
- A) At this place B, K, M, N or 8 will be inserted.
- B) At this place 82 or NI will be inserted.
- C) At this place D or S will be inserted.
- D) At this place 81, 84, NH or TA will be inserted.
- E) At this place F, G, R, S, T or U will be inserted.
- F) At this place A, B, C, D, E, H, J, K, L, M, N, P, Q, V, W, 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9 will be inserted.



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Sensor

Type/Order code	Marking
Promass **M DN8...80-*****1)*****+##*# Promass **I DN8...80-*****1)*****+##*# Promass **3)DN8...50-*****1)*****+##*# Promass **A DN1...4-*****1)*****+##*# Promass **F DN8...250-*****1)*****+##*# Promass **O DN80...250-*****1)*****+##*# Promass **E DN8...80-*****1)*****+##*# Promass **X DN350-*****1)*****+##*# Promass **M DN8...80-*****5)*****+##*# Promass **I DN8...80-*****5)*****+##*# Promass **3) DN8...50-*****5)*****+##*# Promass **A DN1...4-*****5)*****+##*# Promass **F DN8...250-*****5)*****+##*# Promass **O DN80...250-*****5)*****+##*# Promass **E DN8...80-*****5)*****+##*# Promass **X DN350-*****5)*****+##*# Sensor C 8C* DN1...6-D)*****+##*# Sensor C 8C* DN1...6-B)*****+##*#	Ex ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
Promass **M DN80-*****4)*****+##*# Promass **I DN41/50/51/80-*****4)*****+##*# Promass **F DN80...250-*****4)*****+##*# Promass **O DN80...250-*****4)*****+##*# Promass **3) DN50-*****4)*****+##*# Promass **E DN80-*****4)*****+##*# Promass **X DN350-*****4)*****+##*# Promass **M DN80-*****6)*****+##*# Promass **I DN41/50/51/80-*****6)*****+##*# Promass **F DN80...250-*****6)*****+##*# Promass **O DN80...250-*****6)*****+##*# Promass **3) DN50-*****6)*****+##*# Promass **X DN350-*****6)*****+##*#	Ex ia IIB T6...T1 Gb Ex ia tb IIIC T** °C Db
Promass **F DN8...250-*****7)*****+##*# Promass **O DN80...250-*****7)*****+##*# Promass **X DN350-*****7)*****+##*# Promass **F DN8...250-*****8)*****+##*# Promass **O DN80...250-*****8)*****+##*# Promass **X DN350-*****8)*****+##*#	Ex ia IIC T6...T1 Ga/Gb <sup>9)</sup> Ex ia tb IIIC T** °C Db
Promass **F DN80...250-*****4)*****+##*# Promass **O DN80...250-*****4)*****+##*# Promass **X DN350-*****4)*****+##*# Promass **F DN80...250-*****6)*****+##*# Promass **O DN80...250-*****6)*****+##*# Promass **X DN350-*****6)*****+##*#	Ex ia IIB T6...T1 Ga/Gb <sup>9)</sup> Ex ia tb IIIC T** °C Db
Promass FP DN8...25**_*****A)*****+##*# Promass FP DN8...25**_*****C)*****+##*#	Ex ia IIC T5...T1 Gb Ex ia tb IIIC T** °C Db

- 1) At this place B, F, K, M, N, O or U will be inserted.
- 3) At this place H, P or S will be inserted.
- 4) At this place C, L, P or W will be inserted.
- 5) At this place D, G, Q or S will be inserted.
- 6) At this place E or T will be inserted.
- 7) At this place 1 or 3 will be inserted.
- 8) At this place 2 or 5 will be inserted.

- 9) Comment: Zone 0 inside measuring tube.
- A) At this place B, K, M, N or 8 will be inserted.
- B) At this place 82 or NI will be inserted.
- C) At this place D or S will be inserted.
- D) At this place 81, 84, NH or TA will be inserted.