CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 12ATEX0148 X** Issue Number: **6**

(4) Product: **Mass Flow Measuring Systems Proline Promass A/E/F/G/H/I/P/S/O/X 100 and Proline Cubemass C 100**

(5) Manufacturer: **Endress+Hauser Flowtec AG**

(6) Address: **Kägenstrasse 7, 4153 Reinach, Switzerland**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/DEK/ ExTR12.0034/08.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018 **EN 60079-11 : 2012**
EN 60079-26 : 2015 **EN 60079-31 : 2014**

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II (1) G [Ex ia Ga] IIC
II 2 G Ex ia IIC T6 … T1 Gb or Ex ia IIB T6 … T1 Gb
II 1/2 G Ex ia IIC T6 … T1 Ga/Gb or Ex ia IIB T6 … T1 Ga/Gb
II 2 D Ex tb IIIC Txx ºC Db

Date of certification: 28 June 2022

DEKRA Certification B.V.

R. Schuller
Certification Manager

PRODUCTS RvA C 001

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(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 12ATEX0148 X** Issue No. **6**

(15) **Description**

The Mass Flow Measuring Systems Proline Promass A/E/F/G/H/I/O/P/S/X 100 and Proline Cubemass C 100 are intended to be used for mass flow measurement based on the measuring principle of controlled generated Coriolis forces.
The intrinsically safe systems consist of a mass flowmeter and an associated safety barrier.
These systems are provided with a MODbus communication interface.

The transmitter enclosure is made of aluminium or stainless steel and provides a degree of protection of at least IP65.

Type designation

Proline Promass A/E/F/G/H/I/O/P/S/X 100
Proline Cubemass C 100

code 8b1dee-ffghijknnpppr+#**#,
code O8b1dee-ffghijknnppprt+#**#,
code 8b1dee - ffghijknnpppрss+#**# and
code O8b1dee - ffghijknnppprsst+#**#

b = Type of sensor

A =	Promass A	E =	Promass E	F =	Promass F
G =	Promass G	H =	Promass H	I =	Promass I
O =	Promass O	P =	Promass P	S =	Promass S
X =	Promass X				
C =	Sensor (exclusively for Cubemass C 100)				

c = Generation

B =	Promass A/E (Tmed = 140°C)/F/G/H/I/O/P/S/X and Sensor C
C =	Promass E (Tmed = 205°C)/S

ee = Size

01 =	DN1	02 =	DN2	04 =	DN4	06 =	DN6
08 =	DN8	15 =	DN15	16 =	DN16	25 =	DN25
26 =	DN26	40 =	DN40	41 =	DN41	50 =	DN50
51 =	DN51	80 =	DN80	1H =	DN100	1F =	DN150
2F =	DN250	3F, 3R, 3E = DN350		XX = sensor only			

ff = Approval

BM, NG =	II 2 G Ex ia IIC/IIB T6 … T1 Gb or II 1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb II 2 D Ex tb IIIC Txx ºC Db
BN, NF =	II 2 G Ex ia IIC T6 … T1 Gb or II 1/2 G Ex ia IIC T6 … T1 Ga/Gb II 2 D Ex tb IIIC Txx ºC Db
BO =	II 1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb II 2 D Ex tb IIIC Txx ºC Db
BP =	II 1/2 G Ex ia IIC T6 … T1 Ga/Gb II 2 D Ex tb IIIC Txx ºC Db
BQ =	II 1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb
BR =	II 1/2 G Ex ia IIC T6 … T1 Ga/Gb

(13) **SCHEDULE**

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BU = II 2 G Ex ia IIC/IIB T6 … T1 Gb or
II1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb
BV = II 2 G Ex ia IIC T6 … T1 Gb or
II 1/2 G Ex ia IIC T6 … T1 Ga/Gb
85 = II 2 G Ex ia IIC/IIB T6 … T1 Gb or
II 1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb
II 2 D Ex ia IIIC Txx ºC Db
84 = II 2 G Ex ia IIC T6 … T1 Gb or
II 1/2 G Ex ia IIC T6 … T1 Ga/Gb
II 2 D Ex ia IIIC Txx ºC Db

g = Power supply
D = 24 Vdc

h = Input/output
M = MODbus RS485

i = Display/Operation
any single number or letter

j = Housing
A = aluminium compact, G300
B = stainless steel compact, G301
C = stainless steel compact, G302

k = Cable entry
any single number or letter

nn = Measuring tube material
any double number or letter

ppp = Process connection
any triple number or letter

r = Calibration
any single number or letter

ss = Device model
A1 = product version 1

t = Customer version
any single number or letter

** = Option (none, two or multiple of two digits)
any combination of numbers and/or letters

#, + = Symbols used as indicator for optional abbreviation of extended order code

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 12ATEX0148 X** Issue No. **6**

Thermal data

Ambient temperature range: -50 ºC to +60 ºC;
process temperature range: -50 ºC to +150 ºC;
-40 ºC to +140 ºC for Promass E 100 (8E1B… and O8E1B...);
-50 °C to +240 °C for extended temperature version of Promass F only
-50 ºC to +205 ºC for extended temperature versions.

The relation between maximum ambient temperature, maximum process temperature and temperature class, depending on the enclosure type is shown in the following tables:

Standard temperature versions

Enclosures j = A (G300) and j = B (G301)

Temperature class (max surface temperature T [1])	T6 (85 ºC)	T5 (100 ºC)	T4 (135 ºC)	T3 - T1 (200 ºC)
Max ambient temperature	35 ºC	50 ºC	60 ºC	60 ºC
Max process temperature	50 ºC	85 ºC	120 ºC	150 ºC [1]

Enclosure j = C (G302)

Temperature class (max surface temperature T [1])	T6 (85 ºC)	T5 (100 ºC)	T4 (135 ºC)	T3 - T1 (200 ºC)
Max ambient temperature	35 ºC	45 ºC	50 ºC	50 ºC
Max process temperature	50 ºC	85 ºC	120 ºC	150 ºC [2]

NOTE 1: Txx for group IIIC
NOTE 2: For Measurement Systems Proline Promass E 100 (b = E and d = B), the maximum process temperature is 140 ºC.

Extended temperature versions

Enclosures j = A (G300) and j = B (G301)

Temperature class (max surface temperature T [3])	T6 (85 ºC)	T5 (100 ºC)	T4 (135 ºC)	T3 (200 ºC)	T2 - T1 (300 ºC)
Max ambient temperature	35 ºC	50 ºC	60 ºC	60 ºC	60 ºC
Max process temperature	50 ºC	85 ºC	120 ºC	170 ºC	205 ºC [4]

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 12ATEX0148 X** Issue No. **6**

Enclosure j = C (G302)

Temperature class (max surface temperature T [3])	T6 (85 ºC)	T5 (100 ºC)	T4 (135 ºC)	T3 (200 ºC)	T2 - T1 (300 ºC)
Max ambient temperature	35 ºC	45 ºC	50 ºC	50 ºC	50 ºC
Max process temperature	50 ºC	85 ºC	120 ºC	170 ºC	205 ºC[4]

NOTE 3: Txx for group IIIC

NOTE 4: Max process temperature = 240 °C for Promass F version with max. Tmed = 240 °C. For process temperature above 205 °C, the transmitter shall not be installed above the sensor.

Electrical data

Safety barrier

Power supply (terminals 1, 2):
UN = 20 …. 30 Vdc
P ≤ 4,8 W
Um = 260 Vac

MODbus RS 485 (terminals 26, 27):
UN = 5 Vdc
Um = 260 Vac

Power supply (terminals 10, 20) and MODbus RS 485 (terminals 62, 72):
in type of protection intrinsic safety Ex ia IIC or Ex ia IIB and Ex ia IIIC, with following maximum values:
Uo = 16,24 V; Io = 0,623 A (limited by fuse of 0,25 A); Po = 2,45 W;
Lo = 92,8 µH (IIC and IIIC) or 372 µH (IIB and IIIC);
Co = 0,433 µF (IIC and IIIC) or 2,57 µF (IIB and IIIC);
Lo/Ro = 14,6 µH/Ω (IIC and IIIC) or 58,3 µH/Ω (IIB and IIIC).

Transmitter Promass 100 and Cubemass 100

Power supply (terminals 10, 20) and MODbus RS 485 (terminals 62, 72):
in type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, only for connection to the intrinsically safe Safety Barrier board, with following maximum values (for each circuit):
Ui = 16,24 V; Ii = 0,623 A; Pi = 2,45 W; Li = 0 µH; Ci = 6 nF.

Service interface (connector):
in type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, with following maximum values:
Uo = 7,5 V; Io = 100 mA; Po = 160 mW; Ci = negligible; Li = negligible.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 12ATEX0148 X** Issue No. **6**

(16) **Report Number**

No. NL/DEK/ ExTR12.0034/08.

(17) **Specific conditions of use**

For maximum surface temperature, ambient temperature range and maximum process temperatures see Thermal data in cl. 15 and safety instructions.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR12.0034/08.

(20) **Certificate history**

Issue 1 -	215314900	Initial certificate
Issue 2 -	216083600	Extended temperature range of severals models; added versions with interfaces 4 - 20 mA (HART/PFS and Profibus DP)
Issue 3 -	217218500	New internal display for EPL Gc devices Increased maximum medium temperature for Promass A...X 100 / Cubemass C 100 to 205°C New version of Promass E, 8E1C… and O8E1C New Promass G Changes to all flowmeters for added variable for d = Generation
Issue 4 -	218169400	Addition of software for PROFINET Added order code options Assessment according EN 60079-31 : 2014(Ed. 2)
Issue 5 -	221879400	Assessment per EN 60079-26 : 2015 (Ed. 3) New generation sensor Promass E New option using the existing sensor Promass F, for process temperatures 205 °C > Tp > 240 °C Added and changed order code options
Issue 6 -	226590200	Assessment per EN IEC 60079-0 : 2018, specific condition introduced