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 13ATEX0041 X** Issue Number: **4**

(4) Product: **Mass Flow Measuring Systems CNGmass, LNGmass and LPGmass**

(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

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-product-safety.com Registered Arnhem 09085396

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 13ATEX0041 X** Issue No. **4**

(15) **Description**

The Mass Flow Measuring Systems CNGmass, LNGmass and LPGmass 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

CNGmass, LNGmass, LPGmass

code D8cdee-ffghijknnpppr+#**# and
code OD8cdee-ffghijknnppprs+#**#

c = Product
- C = CNGmass
- E = LPGmass
- L = LNGmass

d = Generation
- B = CNGmass, LPGmass, LNGmass

ee = Size
- 08 = DN8 15 = DN15 25 = DN25 40 = DN40
- 50 = DN50 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
- BO = II 1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb
II 2 D Ex tb IIIC Txx ºC Db
- BU = II 2 G Ex ia IIC/IIB T6 … T1 Gb or
II 1/2 G Ex ia IIC/IIB T6 … T1 Ga/Gb
- BQ = II 1/2 G Ex ia IIC/IIB 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

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

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 13ATEX0041 X** Issue No. **4**

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

s = 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

Thermal data

Ambient temperature range: -50 ºC to +60 ºC;
process temperature range: -50 ºC to +150 ºC (for CNGmass and LPGmass)
-200 ºC to +150 ºC (for LNGmass).

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

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

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

NOTE 1: Txx for group IIIC

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 13ATEX0041 X** Issue No. **4**

Electrical data

Safety barrier

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

MODbus RS 485 (terminals 26, 27):
U_N = 5 Vdc
U_m = 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:
U_o = 16,24 V; I_o = 0,623 A (limited by fuse of 0,25 A); P_o = 2,45 W;
L_o = 92,8 µH (IIC and IIIC) or 372 µH (IIB and IIIC);
C_o = 0,433 µF (IIC and IIIC) or 2,57 µF (IIB and IIIC);
L_o/R_o = 14,6 µH/Ω (IIC and IIIC) or 58,3 µH/Ω (IIB and IIIC).

Flowmeters CNGmass, LNGmass and LPGmass

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):
U_i = 16,24 V; I_i = 0,623 A; P_i = 2,45 W; L_i = 0 µH; C_i = 6 nF.

Service interface (connector):
in type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, with following maximum values:
U_o = 7,5 V; I_o = 100 mA; P_o = 160 mW; C_i = negligible; L_i = negligible.

Installation instructions

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

(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).

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 13ATEX0041 X** Issue No. **4**

(19) **Test documentation**

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

(20) **Certificate history**

Issue 1 -	216083600	initial certificate
Issue 2 -	217218500	changes to all flowmeters for added variable for d = Generation
Issue 3 -	218169400	assessment according EN 60079-31 : 2014(Ed. 2) addition of software for PROFINET added order code options
Issue 4 -	226590200	assessment per EN IEC 60079-0 : 2018 and EN 60079-26 : 2015, specific condition introduced.