

# 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: **KEMA 10ATEX0072** Issue Number: **8**

(4) Product: **Flowmeters Proline, types  
Promass A 200, E 200 and F 200  
Promag H 200, P 200, E 200 and W 200  
Prosonic Flow B 200  
Prowirl C 200, D 200, F 200, R 200 and O 200**

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

(6) Address: **Kägenstrasse 7, 4153 Reinach BL1, 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/ExTR12.0029/05.

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

**EN 60079-0 : 2012 + A11  
EN 60079-11 : 2012  
EN 60079-31 : 2014**

**EN 60079-1 : 2014  
EN 60079-15 : 2010**

**EN 60079-7: 2015  
EN 60079-26 : 2015**

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:



**Promass see Annex 2  
Promag see Annex 3  
Prosonic see Annex 4  
Prowirl see Annex 5**

Date of certification: 20 September 2017  
DEKRA Certification B.V.

L.G. van Schie  
Certification Manager



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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 10ATEX0072**

Issue No. **8**

(15) **Description**

See Annex 2 for the Promass description.  
See Annex 3 for the Promag description.  
See Annex 4 for the Prosonic description.  
See Annex 5 for the Prowirl description.

**Electrical data**

See Annex 1 for the electrical data.

**Installation instructions**

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

(16) **Report Number**

No. NL/DEK/ExTR12.0029/05.

(17) **Specific conditions of use**

None, except for Prowirl refer to Marking section in Annex 5.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR12.0029/05.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 10ATEX0072**

Issue No. **8**

(20) **Certificate history**

- Issue 1 - 213234300 - initial certificate
- Issue 2 - 213234300 - Added Flowmeters Proline Promass E 200 with identical construction and order code;
  - minor changes to the electrical circuit.
- Issue 3 - 215428300 - Updated and extended Model code range, thermal specifications and electrical specifications
- Issue 4 - 216240100 - Added I/O interface option D
  - Added Display options L, M
  - Updated electrical and thermal data
- Issue 5 - 217052400 - increased maximum medium temperature for Promass F 200 to 205°C
  - additional version of Promass E (type 8E2C and O8E2C)
  - changes to type designation
  - updated thermal data
  - drawing revision to previous certification
- Issue 6 - 218301700 - Increased maximum medium temperature for Promass F 200 to 205°C.
  - New version of Promass E.
  - Minor product updates, including changes to type designation.
  - Update to IEC60079-26 Ed 3 and IEC6079-31 Ed 2.
- Issue 7 - 219708300 - Change of model code for Promass E 200
- Issue 8 - 221778700 - Integrating of Promag, Prosonic and Prowirl which previously had individual certificates based on the same report.
  - Introduction of a Promass A 200
  - Introduction of a new pressure sensor for Prowirl 200
  - Update EN 60079-1:2007 to EN 60079-1: 2014
  - Introduction of Ex ec per EN 60079-7:2015 as alternative to Ex nA per EN 60079-15:2010

## Annex 1 to EU-Type Examination Certificate KEMA 10ATEX0072, issue 8

### This annex is applicable for flowmeters type

**Proline Promass A/E/F 200,**  
**Proline Promag H/P/E/W 200**  
**Proline Prosonic Flow B 200**  
**Proline Prowirl C/D/F/R/O 200**

### Electrical data

For assignment of approval code and I/O code to type of flowmeter refer to type designation of Annex 2 to Annex 5.

#### Flowmeter with Approval codes cc = BA, BB, BJ, B2, B5 and I/O code d = A

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:  
 $U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:  
in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:  
 $U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

#### Flowmeter with Approval codes cc = BA, BB, BJ, B2, B5 and I/O code d = B

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:  
 $U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Supply/output circuit (terminals 3 and 4):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:  
 $U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 6 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:  
in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:  
 $U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

#### Flowmeter with Approval codes cc = BA, BB, BJ, B2, B5 and I/O code d = C

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:  
 $U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 30 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;



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Supply/output circuit (terminals 3 and 4):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit,  
with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 30 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any  
other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Flowmeter with Approval codes cc = BA, BB, BJ, B2, B5 and I/O code d = D

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit,  
with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Supply/output circuit (terminals 3 and 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit,  
with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 6 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Input circuit (terminals 5 and 6):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit,  
with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any  
other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Flowmeter with Approval codes cc = BA, BB, BJ, B2, B5 and I/O codes d = E, G

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit,  
with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1.2 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 10 \text{ }\mu\text{H}$ ;

or in accordance with FISCO, with following maximum values:

$U_i = 17.5 \text{ V}$ ;  $I_i = 550 \text{ mA}$ ;  $P_i = 5.5 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 10 \text{ }\mu\text{H}$ ;

Supply/output circuit (terminals 3 and 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit,  
with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 6 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any  
other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

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### Flowmeter with Approval codes cc = BC, BG, BK, B3, B6, TC and I/O code d = A

Supply/output circuit (terminals 1 and 2):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

### Flowmeter with Approval codes cc = BC, BG, BK, B3, B6, TC and I/O code d = B

Supply/output circuit (terminals 1 and 2):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$ .

Output circuit (terminals 3 and 4):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$

$P_{\max} = 1 \text{ W}$

NOTE: this circuit is functionally limited by an internal resistance of  $760.5 \Omega$ ; herewith  $P_{\max}$  may be determined

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

### Flowmeter with Approval codes cc = BC, BG, BK, B3, B6, TC and I/O code d = C

Supply/output circuits (terminals 1 and 2; 3 and 4):

$U_N = 30 \text{ V dc}$

$U_m = 250 \text{ V}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

### Flowmeter with Approval codes cc = BC, BG, BK, B3, B6, TC and I/O code d = D

Supply/output circuit (terminals 1 and 2):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$ .

Supply/output circuit (terminals 3 and 4):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$

Input circuit (terminals 5 and 6):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$ .



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Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Flowmeter with Approval codes cc = BC, BG, BK, B3, B6, TC and I/O codes d = E, G

Supply/output circuit (terminals 1 and 2):

$U_N = 32 \text{ V dc}$

$U_m = 250 \text{ V}$

$P_{\max} = 0.88 \text{ W}$

Supply/output circuit (terminals 3 and 4):

$U_N = 35 \text{ V dc}$

$U_m = 250 \text{ V}$

$P_{\max} = 1 \text{ W}$

NOTE: this circuit is functionally limited by an internal resistance of  $760.5 \Omega$ ; herewith  $P_{\max}$  may be determined.

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Flowmeter with Approval codes cc = BD, BH and I/O code d = A

Supply/output circuit (terminals 1 and 2):

in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Flowmeter with Approval codes cc = BD, BH and I/O code d = B

Supply/output circuit (terminals 1 and 2):

in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Supply/output circuit (terminals 3 and 4):

in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 6 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

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### Flowmeter with Approval codes cc = BD, BH and I/O code d = C

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 30 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Supply/output circuit (terminals 3 and 4):  
in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 30 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

### Flowmeter with Approval codes cc = BD, BH and I/O code d = D

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Supply/output circuit (terminals 3 and 4):  
in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 6 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Input circuit (terminals 5 and 6):

in type of protection intrinsic safety Ex ic IIC, only for connection to an intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;

Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

### Flowmeter with Approval codes cc = BD, BH and I/O codes d = E, G

Supply/output circuit (terminals 1 and 2):  
in type of protection intrinsic safety Ex ic IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 32 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = \text{N/A}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 10 \text{ }\mu\text{H}$ ;

or in accordance with FISCO, with following maximum values:

$U_i = 17.5 \text{ V}$ ;  $I_i = \text{N/A}$ ;  $P_i = \text{N/A}$ ;  $C_i = 5 \text{ nF}$ ;  $L_i = 10 \text{ }\mu\text{H}$ ;

Supply/output circuit (terminals 3 and 4):

in type of protection intrinsic safety Ex ic IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 35 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 6 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .



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### Service connector:

in type of protection intrinsic safety Ex ia IIC, for connection of E+H Service Interface FXA291 or any other certified interface, with following maximum values:

$U_o = 7.3 \text{ V}$ ;  $I_o = 100 \text{ mA}$ ;  $P_o = 160 \text{ mW}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

### All models

#### Interconnection cable for remote versions of Proline Prowirl C/D/F/R/O 200

When the interconnection between Transmitter and Sensor of the Remote versions of the Flowmeter is in type of protection intrinsic safety Ex ia IIC/IIIC or Ex ic IIC/IIIC, then the interconnecting cable shall have an  $L_c/R_c \leq 38.2 \mu\text{H}/\Omega$ .

#### External display connector

The type of protection of the external display connector depends on the Approval code of the equipment.

For transmitter models with Display codes e = M or L, prepared for connection of the external display of Endress+Hauser, Type FHX50, or any other suitable display in type of protection intrinsic safety Ex ia IIC/IIIC, the following maximum values apply:

$U_o = 7.3 \text{ V}$ ;  $I_o = 157 \text{ mA}$ ;  $P_o = 362 \text{ mW}$ ;  $C_o = 388 \text{ nF}$ ;  $L_o = 149 \mu\text{H}$ ;

maximum allowed cable capacitance  $C_c = 125 \text{ nF}$ ; maximum allowed cable inductance  $L_c = 149 \mu\text{H}$ .

In other cases, if used as interface in type of protection intrinsic safety Ex ia IIC/IIIC, the following maximum values apply:

$U_o = 7.3 \text{ V}$ ;  $I_o = 327 \text{ mA}$ ;  $P_o = 800 \text{ mW}$ ;  $U_i = 7.3 \text{ V}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ .

If used as non-intrinsically safe interface,  $U_N = 6.5 \text{ V}$ .

#### Interface pressure sensor (only for Proline Prowirl):

in type of protection intrinsic safety Ex ia IIC, for connection of sensor DPC21, with following maximum values:

$U_o = 4.1 \text{ V}$ ;  $I_o = 450 \text{ mA}$ ;  $P_o = 150 \text{ mW}$ ;  $C_o = 99.3 \mu\text{F}$ ;  $L_o = 84 \mu\text{H}$ .

## Annex 4 to EU-Type Examination Certificate KEMA 10ATEX0072, issue 8

### This annex is applicable for flowmeters type Proline Prosonic Flow B 200

#### Description

Ultrasonic Flowmeter Proline Prosonic Flow B 200 is used for measurement of a gas flow.

The transmitter consists of an electronics enclosure and an integral sensor assembly.

Depending on the applied interface, the sensor measurement signal is converted into an electrical output signal.

Ambient temperature range -40 °C to +60 °C;  
Process temperature range 0 °C to +80 °C.

See thermal data below for detailed information on the relation between ambient temperature and process temperature and temperature class.

#### Marking



II 2 G Ex ia IIC T6...T1 Gb or  
II 2 G Ex db [ia] IIC T6...T1 Gb

#### Type designation

Prosonic Flow B 200,  
code 9B2Bbb - ccdefghiiikl + ### and  
code O9B2Bbb - ccdefghiiiklm + ###

Prosonic Flow B 200 transmitter only:  
code 9X2Bbb - ccdefg + ###  
code O9X2Bbb - ccdefgl + ###

- bb = Size:  
50, 80, 1H, 1F, 2H or XX
- cc = Approval code  
BJ = Ex ia IIC T6...T1 Gb  
BK, TC = Ex db [ia] IIC T6...T1 Gb
- d = I/O - interface  
A = 4 - 20 mA HART  
B = 4 - 20 mA HART + pulse/frequency/switch output  
C = 4 - 20 mA HART + 4 - 20 mA  
D = 4 - 20 mA HART + pulse/frequency/switch output + 4 - 20 mA input  
E = Foundation Fieldbus + pulse/frequency/switch output  
G = Profibus PA + pulse/frequency/switch output
- e = Display, operation  
L, M = prepared for FHX50



## Annex 4 to EU-Type Examination Certificate KEMA 10ATEX0072, issue 8

- any other single number or letter
- f = Enclosure  
any single number or letter
- g = Cable gland  
any single number or letter
- h = Sensor version
  - 1 = Standard
  - 2 = With temperature measurement
- iii = Process connection  
any triple numbers or letters
- k = Calibration  
any single number or letter
- l = Customer version  
any single number or letter
- \*\* = Option (no, two or multiple of two digits)  
any combination of numbers and letters
- # = Additional options, not relevant for safety

### Assignment of Ultrasonic Flowmeter Proline Prosonic Flow B 200 to replacement transmitter

Product flowmeters	Replacement transmitter type
model code	model code
9B2B**-...	9X2BXX-...
O9B2B**-...	O9X2BXX-...

### Thermal data

Ambient temperature range -40 °C to +60 °C;  
Process temperature range 0 °C to +80 °C.

The relation between ambient temperature, process temperature, electrical data and temperature class for the different models of Ultrasonic Flow Transmitters is listed in the following tables:

#### Prosonic Flow B 200 with I/O code d = A

Temperature class	Maximum process temperature	
	T6	T5...T1
Tamb (max)		
40 °C	60 °C	80 °C
60 °C	--	80 °C

## Annex 4 to EU-Type Examination Certificate KEMA 10ATEX0072, issue 8

### Prosonic Flow B 200 with I/O code d = B

P <sub>i</sub> (W)	Temp. class Tamb (max)	Maximum process temperature		
		T6	T5	T4...T1
1.0	40 °C	--	80 °C	80 °C
	50 °C	--	60 °C	80 °C
	60 °C	--	--	80 °C
0.85	40 °C	60 °C	80 °C	80 °C
	50 °C	--	80 °C	80 °C
	60 °C	--	--	80 °C

### Prosonic Flow B 200 with I/O codes d = C, D, E, G

Temperature class Tamb (max)	Maximum process temperature		
	T6	T5	T4...T1
40 °C <sup>1)</sup>	60 °C	80 °C	80 °C
50 °C	--	80 °C	80 °C
60 °C	--	55 °C <sup>2)</sup>	80 °C

Note 1: Tamb (max) is 35 °C for I/O code D

Note 2: Not allowed for I/O code D

Note 3: For versions with approval code cc = BJ and provided with option OVP or TRM, the maximum ambient temperature decreases by 2K