



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSACa 21ATEX0001X** Issue: **0**

4 Equipment: **Proline Promass K10 and Proline Promag P10**

5 Applicant: **Endress+Hauser Flowtec AG**

6 Address: Kägenstrasse 7, 4153 Reinach BL 1,
Switzerland

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

8 CSA Group Testing & Certification, notified body number 2899 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0: 2018 EN 60079-1: 2014 EN IEC 60079-7: 2015 +A1: 2018
EN 60079-11: 2012 EN 60079-26: 2015 EN 60079-31: 2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall be as per the Certificate Annexe.

Project Number 80077053

Signed: D Magee

Title: Director of Operations

CSA Group Testing & Certification Inc.

178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

CSACa 21ATEX0001X
Issue 0

13 DESCRIPTION OF EQUIPMENT

Proline 10 is a platform used for flowmeters type Proline Promass K10 and Proline Promag P10. All versions of Proline 10 flowmeter are available as a compact version where the transmitter is installed integral to the sensor.

All Proline Promag 10 and Proline Promass 10 flowmeters are available for an ambient temperature of -40°C to +60°C. The versions of flowmeters Proline Promass 10 and Proline Promag 10 are available for an enclosure protection of degree IP66 and IP67.

See the annexe attached to this certificate for further product details.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Issue 0: See the associated ATEX report R80077053 for a full list of drawings covered by this issue.

14.2 Associated CSA Reports and Certificate History

Issue	Date	Report number	Comment
0	11 August 2021	R80077053	The release of the prime certificate.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1. All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe circuits potential equalization must exist.
- 15.2. The sensors may only be used for those process media, for which the wetted parts are known to be suitable (refer to nameplate or installation instructions for applicable materials).
- 15.3. It is not permitted to use versions of Proline Promag 10 and Proline Promass 10 without display module (refer to installation instructions for proper assembly).
- 15.4. For order code 'ee' = BC: Equipment of Proline Promass 10 and Proline Promag 10 with transmitter terminal compartment with type of protection Ex db (Zone 1) must be de-energized for 10 minutes before opening enclosure.
- 15.5. The Proline 10 Flowmeter that may include, stainless steel label tag with rope, when not bonded to earth used on coated metallic transmitter and/or sensor enclosure, shall be prevented from risk of electrostatic charging caused by friction and/or cleaning. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
- 15.6. Only use battery Renata type lithium CR1632, 3V for display.
- 15.7. The flameproof joints are not intended to be repaired.
- 15.8. For Proline Promass 10 with order code 'ee' = BA, BC: Zone 0 is only applicable for the process medium in the measuring tube.

CSA Group Testing & Certification Inc.
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

CSACa 21ATEX0001X
Issue 0

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 The Proline 10 final product shall be subjected to a dielectric test.

CSA Group Testing & Certification Inc.

178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X
Equipment: Proline Promass K10 and Proline Promag P10
Applicant: Endress+Hauser Flowtec AG

1 Proline Promass K10

1.1 Order Code

Extended order code Proline Promass 10

8aBbcc – eehiknppqqrss + ###

O8aBbcc – eehiknppqqrsstt + ###

8xBbdd – eehiknooppss + ###

O8xBbdd – eehiknooppssstt + ###

for OEM-version

for replacement transmitter

for replacement transmitter OEM

- 8 = Promass**
- a = Type of sensor**
 - K = Promass K
 - x = replacement transmitter without sensor
- B = Proline 10**
- b = Generation**
 - B = Generation of Flowmeter
- cc = Size**
 - any double digits with combination of number or letter
- dd = Assignment of replacement transmitter**
 - xx = standard transmitter
 - x1 = transmitter for approval code ee = BA or C1
- ee = Approval**
 - BA = Ex db eb [ib] IIB T4...T1 Gb
Ex tb IIIC T** Db
 - BC = Ex db [ib] IIB T4...T1 Gb
Ex tb IIIC T** Db
- h = Power Supply**
 - I = 100-230Vac / 24Vdc
 - X = sensor only for replacement
- i = Input / Output**
 - B = 4-20mA HART, Pulse/Frequency/Switch output
 - C = 4-20mA HART, Pulse/Frequency/Switch output Ex i
 - M = Modbus RS485, 4-20mA
 - U = Modbus RS485, 4-20mA (Ex i)
 - X = sensor only for replacement
- k = Display / Operation**
 - any single number or letter
- l = Housing**
 - any single number or letter
- n = Cable Entry**
 - any single number or letter
- oo = Existing product**
 - any double digits with combination of number or letter
- pp = Measuring tube material**
 - any double digits with combination of number or letter
- qqq = Process connection**
 - any triple digits with combination of number or letter

CSA Group Testing & Certification Inc.
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X
Equipment: Proline Promass K10 and Proline Promag P10
Applicant: Endress+Hauser Flowtec AG

- r** = **Calibration**
any single number or letter
- ss** = **Device model (two digit)**
A1 = product version 1
- tt** = **Customer version (two digits)**
any double digits with combination of number or letter
- +** = **Additional optional order codes**
- **** = **Option in two digits (none, two or multiple of two digits)**
any combination of number and/or letter
- #** = **Signs used as indicator for optional abbreviation of extended order code**

1.2 Marking

Proline Promass 10		
Model Code: 8*B*** – ee*i*****+### 08*B*** – ee*i*****+###		
Approval ee =	I/O i =	Marking of Ex protection
BA	C, U	Transmitter: Ⓢ II2G Ex db eb ib [ib] IIB T4...T1 Gb Ⓢ II2D Ex tb [ib] IIIC T** °C Db Sensor : Ⓢ II1/2G Ex ia IIB T4...T1 Ga/Gb Ⓢ II2D Ex tb IIIC T** °C Db or Ⓢ II2G Ex ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db
	B, M	Transmitter: Ⓢ II2G Ex db eb ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db Sensor: Ⓢ II1/2G Ex ia IIB T4...T1 Ga/Gb Ⓢ II2D Ex tb IIIC T** °C Db or Ⓢ II2G Ex ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db
BC	C, U	Transmitter: Ⓢ II2G Ex db ib [ib] IIB T4...T1 Gb Ⓢ II2D Ex tb [ib] IIIC T** °C Db

Information: Level of Protection representative for ...
db -> electronic compartment eb -> terminal compartment ib -> display + sensor [ib] -> IO's tb -> enclosure
db -> electronic compartment eb -> terminal compartment ib -> display + sensor tb -> enclosure
db -> electronic compartment + terminal compartment ib -> display + sensor [ib] -> IO's tb -> enclosure

CSA Group Testing & Certification Inc.
 178 Rexdale Boulevard,
 Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSA Ca 21ATEX0001X

Equipment: Proline Promass K10 and Proline Promag P10

Applicant: Endress+Hauser Flowtec AG

		Sensor: Ⓢ II1/2G Ex ia IIB T4...T1 Ga/Gb Ⓢ II2D Ex tb IIIC T** °C Db or Ⓢ II2G Ex ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db	
BC	B, M	Transmitter: Ⓢ II2G Ex db ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db Sensor: Ⓢ II1/2G Ex ia IIB T4...T1 Ga/Gb Ⓢ II2D Ex tb IIIC T** °C Db or Ⓢ II2G Ex ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db	db -> electronic compartment + terminal compartment ib -> display + sensor tb -> enclosure

1.3 Assignment of Flowmeter to Replacement Transmitter

The replacement transmitters are assigned to the flowmeter Proline Promass 10 as follows:

Product flowmeters				Replacement transmitter type			
model code	Generation code b =	Approval code ee =	device model code ss =	model code	Generation code b =	Approval code ee =	device model code ss =
8KBb**-ee...ss, O8KBb**-ee...ss	B	BA	A1	8xBbx1-ee...ss, O8xBbx1-ee...ss	B	BA	A1
	B	BC	A1	8xBbxx-ee...ss, O8xBbxx-ee...ss	B	BC	A1

1.4 Electrical Parameters

Power Supply			
Order Code h =	approval code ee =	terminal no.	values
I	BA, BC	No. 1(L+/L), 2(L-/N)	$U_N = 19.2...31.2V_{DC} / 85...264V_{AC}$ $U_M = 250 V$

CSA Group Testing & Certification Inc.
 178 Rexdale Boulevard,
 Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X

Equipment: Proline Promass K10 and Proline Promag P10

Applicant: Endress+Hauser Flowtec AG

Input / Output		
Order Code i =	terminal no.	Values for approval code ee = BA, BC
B	No. 26, 27 (4-20mA HART, active)	$U_N = 30V_{DC}$ $U_M = 250Vac$
	No. 24, 25 (4-20mA HART, passive)	$U_N = 30V_{DC}$ $U_M = 250Vac$
	No. 22, 23 (Pulse, frequency, switch)	$U_N = 30V_{DC}$ $U_M = 250Vac$
C	No. 26, 27 (4-20mA HART, active Ex i)	$U_O = 22.3V$ $I_O = 93mA$ $P_O = 520mW$ $L_O = 8mH$ $C_O = 500nF$ $U_i = 6.5V$ $I_i = 10mA$ $P_i = 20mW$
	No. 24, 25 (4-20mA HART, passive Ex i)	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0\mu H$ $C_i = 6nF$
	No. 22, 23 (Pulse, frequency, switch Ex i)	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0\mu H$ $C_i = 10nF$
M	No. 26, 27 (4-20mA, active)	$U_N = 30V$ $U_M = 250Vac$
	No. 24, 25 (4-20mA, passive)	$U_N = 30V$ $U_M = 250Vac$
	No. 22, 23 (Modbus)	$U_N = 3.3V$ $U_M = 250Vac$
U	No. 26, 27 (4-20mA, active Ex i)	$U_O = 22.3V$ $I_O = 93mA$ $P_O = 520mW$ $L_O = 8mH$ $C_O = 500nF$ $U_i = 6.5V$ $I_i = 10mA$ $P_i = 20mW$
	No. 24, 25 (4-20mA, passive Ex i)	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0\mu H$ $C_i = 6nF$

CSA Group Testing & Certification Inc.

178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X
Equipment: Proline Promass K10 and Proline Promag P10
Applicant: Endress+Hauser Flowtec AG

	No. 22, 23 (Modbus Ex i)	$U_i = 4.2V$ $I_i = n.a.$ $P_i = n.a.$ $L_i = 0\mu H$ $C_i = 6nF$ $L_o/R_o = 1.2mH/\Omega$ $U_o = 4.2V$ $I_o = 120mA$ $P_o = 130mW$ $L_o = 10mH$ $C_o = 900\mu F$
--	-----------------------------	---

Service Interface		
Order Code ee =	terminal no.	values
all	CDI	$U_i = 7.0V$ $I_i = n.a$ (current limited circuit) $L_i = 0 \mu H$ $C_i = 0 \mu F$ $U_o = 3.9V$ $I_o = 10mA$ $P_o = 40mW$ $L_o = 1H$ $C_o = 300\mu F$

CSA Group Testing & Certification Inc.
 178 Rexdale Boulevard,
 Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSA Ca 21ATEX0001X

Equipment: Proline Promass K10 and Proline Promag P10

Applicant: Endress+Hauser Flowtec AG

1.5 Thermal Parameters

Proline Promass 10

Notes:
This page applies to versions with extended order code covering:

8*BB** – dd... O8*BB** – dd...
with approval option cCSAus / CSA: dd = CC, C1, C3
IECEX / ATEX: dd = BA, BC

Temperature table for versions with sensor insulated and not insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Size / DN	T _{oper}		T _{amb}	T _{meas range} [°C]						
	min [°C]	max [°C]		T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)	
08...50	-40	150	50	---	---	130	130	150	150	
			60	---	---	100	130	150	150	
			60	---	---	110	135	150	150	
80										

Temperature table for versions with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Size / DN	T _{max} to be measured at reference point at sensor neck [°C]				
	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T1 (450°C)
all	---	---	67	68	69

Notes:

- for safe use temperatures shall not exceed all of the following:
 - temperature table for versions with sensor not insulated (refer to table on the left)
 - temperature at reference point as listed in this table
 - for maximum medium temperature and minimum medium temperature see nameplate
- location of reference point

Änderungen:	A	13.01.2020 / Bn	F	Alle gesetzlichen Urheberrechte vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	Ersetzt durch: Ersteller: FES / Bn FILE: M:\Zeichng\FES0358A\FES0358A.doc		
	B		G				
	C		H				
	D		J				
	E		K				
Control Drawing IECEx, ATEX, CSA, cCSAus					Gezeichnet	13.01.2020	Bn
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1					Geprüft		
Thermal Parameter					Ex-geprüft	13.01.2020	Bn
Proline Promass 10					Gesehen		
Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach					FES0358A 1/1		

CSA Group Testing & Certification Inc.
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X
Equipment: Proline Promass K10 and Proline Promag P10
Applicant: Endress+Hauser Flowtec AG

2 Proline Promag P10

2.1 Order Code

Extended order code Proline Promag 10:

5aBbcc – eefghiklmnopppqrss + ###

O5aBbcc – eefghiklmnopppqrsstt + ###

5xBbdd – eefghiklmnss + ###

O5xBbdd – eefghiklmnsstt + ###

for OEM-version

for replacement transmitter

for replacement transmitter OEM

- 5** = **Promag**
- a** = **Type of sensor**
 - P = Sensor Promag P
 - x = replacement transmitter without sensor
- B** = **Proline 10**
- b** = **Generation**
 - B = Generation of Flowmeter
- cc** = **Size**
 - any combination of number and/or letter up to size = DN3000
- dd** = **Assignment of replacement transmitter**
 - xx = standard transmitter
 - x1 = transmitter for approval code ee = BA or C1
- ee** = **Approval**
 - BA = Ex db eb [ib] IIB T4...T1 Gb
Ex tb IIIC T* Db
 - BC = Ex db [ib] IIB T4...T1 Gb
Ex tb IIIC T* Db
- f** = **Design**
 - any single number or letter
- g** = **Functionality**
 - any single number or letter
- h** = **Power Supply**
 - I = 100-230Vac / 24Vdc
 - X = sensor only for replacement
- i** = **Input / Output**
 - B = 4-20mA HART, Pulse/Frequency/Switch output
 - C = 4-20mA HART, Pulse/Frequency/Switch output Ex i
 - M = Modbus RS485, 4-20mA
 - U = Modbus RS485, 4-20mA (Ex i)
 - X = sensor only for replacement
- k** = **Display / Operation**
 - any single number or letter
- l** = **Housing**
 - any single number or letter
- m** = **Cable Sensor Connection Remote Version**
 - any single number or letter
- n** = **Cable Entry**
 - any single number or letter

CSA Group Testing & Certification Inc.
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X
Equipment: Proline Promass K10 and Proline Promag P10
Applicant: Endress+Hauser Flowtec AG

- o** = **Liner material**
any single number or letter
- ppp** = **Process connection**
any triple digits with combination of number or letter
- q** = **Electrode**
any number or letter
- r** = **Calibration**
any single number or letter
- ss** = **Device Model (two digit)**
A1 = product version 1
- tt** = **Customer version (two digits)**
any double digits with combination of number or letter

- +** = **Additional optional order codes**

- **** = **Option in two digits (none, two or multiple of two digits)**
any combination of number and/or letter
- #** = **Signs used as indicator for optional abbreviation of extended order code**

2.2 Marking

Proline Promag 10		
Model Code: 5*B*** - ee**i*****+### O5*B*** - ee**i*****+###		
Approval ee =	I/O i =	Marking of Ex protection
BA	C, U	Transmitter: ⊕ II2G Ex db eb ib [ib] IIB T4...T1 Gb ⊕ II2D Ex tb [ib] IIIC T** °C Db Sensor: ⊕ II2G Ex eb ib IIB T4...T1 Gb ⊕ II2D Ex tb IIIC T** °C Db
	B, M	Transmitter: ⊕ II2G Ex db eb ib IIB T4...T1 Gb ⊕ II2D Ex tb IIIC T** °C Db Sensor: ⊕ II2G Ex eb ib IIB T4...T1 Gb ⊕ II2D Ex tb IIIC T** °C Db

Information: Level of Protection for transmitter representative for ...
db -> electronic compartment eb -> terminal compartment + sensor ib -> display + sensor [ib] -> IO's tb -> enclosure
db -> electronic compartment eb -> terminal compartment + sensor ib -> display + sensor tb -> enclosure

CSA Group Testing & Certification Inc.
 178 Rexdale Boulevard,
 Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSA Ca 21ATEX0001X

Equipment: Proline Promass K10 and Proline Promag P10

Applicant: Endress+Hauser Flowtec AG

BC	C, U	Transmitter: Ⓢ II2G Ex db ib [ib] IIB T4...T1 Gb Ⓢ II2D Ex tb [ib] IIIC T** °C Db Sensor: Ⓢ II2G Ex eb ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db	db -> electronic compartment + terminal compartment ib -> display + sensor [ib] -> IO's tb -> enclosure
	B, M	Transmitter: Ⓢ II2G Ex db ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db Sensor: Ⓢ II2G Ex eb ib IIB T4...T1 Gb Ⓢ II2D Ex tb IIIC T** °C Db	db -> electronic compartment + terminal compartment ib -> display + sensor tb -> enclosure

2.3 Assignment

The replacement transmitters are assigned to the flowmeter Proline Promag 10 as follows:

Product flowmeters				Replacement transmitter type			
model code	Generation code b =	Approval code ee =	device model code ss =	model code	Generation code b =	Approval code ee =	device model code ss =
5PBb**-ee...ss, O5PBb**-ee...ss	B	BA	A1	5xBbx1-ee...ss, O5xBbx1-ee...ss	B	BA	A1
	B	BC	A1	5xBbxx-ee...ss, O5xBbxx-ee...ss	B	BC	A1

2.4 Electrical Parameter

Power Supply			
Order Code h =	approval code ee =	terminal no.	values
I	BA, BC	No. 1(L+/L), 2(L-/N)	U _N = 19.2...31.2V _{DC} / 85...264V _{AC} U _M = 250 V

CSA Group Testing & Certification Inc.
 178 Rexdale Boulevard,
 Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X

Equipment: Proline Promass K10 and Proline Promag P10

Applicant: Endress+Hauser Flowtec AG

Input / Output		
Order Code i =	terminal no.	Values for approval code ee = BA, BC
B	No. 26, 27 (4-20mA HART, active)	$U_N = 30V_{DC}$ $U_M = 250V_{ac}$
	No. 24, 25 (4-20mA HART, passive)	$U_N = 30V_{DC}$ $U_M = 250V_{ac}$
	No. 22, 23 (Pulse, frequency, switch)	$U_N = 30V_{DC}$ $U_M = 250V_{ac}$
C	No. 26, 27 (4-20mA HART, active Ex i)	$U_O = 22.3V$ $I_O = 93mA$ $P_O = 520mW$ $L_O = 8mH$ $C_O = 500nF$ $U_i = 6.5V$ $I_i = 10mA$ $P_i = 20mW$
	No. 24, 25 (4-20mA HART, passive Ex i)	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0\mu H$ $C_i = 6nF$
	No. 22, 23 (Pulse, frequency, switch Ex i)	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0\mu H$ $C_i = 10nF$
M	No. 26, 27 (4-20mA, active)	$U_N = 30V$ $U_M = 250V_{ac}$
	No. 24, 25 (4-20mA, passive)	$U_N = 30V$ $U_M = 250V_{ac}$
	No. 22, 23 (Modbus)	$U_N = 3.3V$ $U_M = 250V_{ac}$
U	No. 26, 27 (4-20mA, active Ex i)	$U_O = 22.3V$ $I_O = 93mA$ $P_O = 520mW$ $L_O = 8mH$ $C_O = 500nF$ $U_i = 6.5V$ $I_i = 10mA$ $P_i = 20mW$
	No. 24, 25 (4-20mA, passive Ex i)	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0\mu H$ $C_i = 6nF$

CSA Group Testing & Certification Inc.

178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSACa 21ATEX0001X
Equipment: Proline Promass K10 and Proline Promag P10
Applicant: Endress+Hauser Flowtec AG

	No. 22, 23 (Modbus Ex i)	$U_i = 4.2V$ $I_i = n.a.$ $P_i = n.a.$ $L_i = 0\mu H$ $C_i = 6nF$ $L_o/R_o = 1.2mH/\Omega$ $U_o = 4.2V$ $I_o = 120mA$ $P_o = 130mW$ $L_o = 10mH$ $C_o = 900\mu F$
--	-----------------------------	---

Service Interface		
Order Code ee =	terminal no.	values
all	CDI	$U_i = 7.0V$ $I_i = n.a$ (current limited circuit) $L_i = 0 \mu H$ $C_i = 0 \mu F$ $U_o = 3.9V$ $I_o = 10mA$ $P_o = 40mW$ $L_o = 1H$ $C_o = 300\mu F$

CSA Group Testing & Certification Inc.
 178 Rexdale Boulevard,
 Toronto, Ontario M9W 1R3

Certificate Annexe



Certificate Number: CSA Ca 21ATEX0001X

Equipment: Proline Promass K10 and Proline Promag P10

Applicant: Endress+Hauser Flowtec AG

3.1 Thermal Parameter

Proline Promag P10

Notes:
This page applies to versions with extended order code covering: 5PB** - dd... 05PB** - dd...
with approval option cCSAus / CSA: dd = CC, CF, C1, C3
IECEX / ATEX: dd = BA, BC

Temperature table for versions with sensor insulated and not insulated
(for insulation refer to manual of Endress+Hauser Flow)

Sensor	Size / DN	Liner	T _{med.min} [°C]	T _{med.max} [°C]					
				T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P	all	all (3)	-40 (2)	40	---	---	150 (2)	150 (2)	150 (2)
			55 (3)	---	---	130 (2)	130 (2)	130 (2)	
			60 (3)	---	---	100 (2)	100 (2)	100 (2)	

Notes: (1) T_{a,min} = -40°C (for limitation see name plate)
(2) for further limitation of medium temperature see general note below
(3) T_{a,max} = 50°C for liner PU

Temperature table for versions with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flow)

Sensor	Size / DN	Liner	T _{med.min} [°C]	T _{a,max} [°C]	T _{med.max} @T1 [°C]	T _{max} to be measured at reference point at sensor neck [°C]					
						T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P	all	all	-40 (2)	60 (2)	150 (2)	---	---	69	69	69	69

Notes: (1) T_{a,min} = -40°C (for limitation see name plate)
(2) for limitation of T_{a,max}, T_{med,max} and T_{med,min} depending on type of liner see name plate
(3) for safe use temperatures shall not exceed all of the following:
- temperature table for not insulated sensor (refer to table on the left)
- temperature at reference point as listed in this table
- for maximum medium temperature and minimum medium temperature see nameplate
(4) location of reference point

General Note:
- In addition to the temperature tables above it is not permitted to exceed the following range of medium temperature in dependence of the liner:
PTFE (130°C): -40°C ... 130°C
PTFE (110°C): -10°C ... 110°C
PTFE (90°C): -20°C ... 90°C (optional version only)
PFA: -20°C ... 150°C
PU: -20°C ... 50°C (optional version only)
Hard rubber: 0°C ... 80°C (optional version only)

For permitted range of medium temperature, see name plate

Änderungen:	A	10.02.2020 / Bn	F	Alle gesetzlichen Urheberrechte, vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	Ersetzt durch:	
	B		G		Ersatz für:	
	C		H		Ersteller: FES / Bn	
	D		J		FILE: M:\Zeichn\FES0360A\FES0360A.doc	
	E		K			
Control Drawing IECEX, ATEX, CSA, cCSAus				Gezeichnet	10.02.2020	Bn
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1				Geprüft		
Thermal Parameter				Ex-geprüft	10.02.2020	Bn
Proline Promag 10				Gesehen		
Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach				FES0360A 1/1		

CSA Group Testing & Certification Inc.
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3