IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

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Certificate No.: **IECEx CSA 16.0034X**

Page 1 of 6

Status: **Current**

Issue No: 8

Date of Issue: 2022-05-20

Applicant: **Endress+Hauser Flowtec AG**
Kägenstrasse 7
CH-4153
Reinach/BL1
Switzerland

Equipment: **Proline 300/500 flowmeter system**

Optional accessory:

Type of Protection: **Ex d, n, i, t, e**

Marking:

See below annexes attached to this certificate for details:

Annex A - Proline Promass 300/500 and Proline Cubemass 300/500

Annex B - Proline Promag 300/500

Annex C - Proline Prosonic Flow 300/500

Annex D - Proline t-mass 300/500

Certificate history:

Issue 7 (2020-10-17)
Issue 6 (2020-05-26)
Issue 5 (2019-08-22)
Issue 4 (2019-03-01)
Issue 3 (2017-12-27)
Issue 2 (2017-08-31)
Issue 1 (2017-01-17)
Issue 0 (2016-07-13)

Approved for issue on behalf of the IECEx Certification Body: **Dorin Stochitoiu**

Position: **Technical Oversight Specialist**

Signature:
(for printed version)

Date:
(for printed version)

20 May 2022

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Canada

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68700 Cernay
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2330 Endress Place
Greenwood
Indiana 46143
United States of America

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

IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15:2017 Edition:5.0	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-26:2014-10 Edition:3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
IEC 60079-31:2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7:2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC TS 60079-47:2021 Edition:1.0	Explosive atmospheres – Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)

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 Reports:

CA/CSA/ExTR16.0031/00
CA/CSA/ExTR16.0031/01
CA/CSA/ExTR16.0031/02
CA/CSA/ExTR16.0031/03
CA/CSA/ExTR16.0031/04
CA/CSA/ExTR16.0031/05
CA/CSA/ExTR16.0031/06
CA/CSA/ExTR16.0031/07
CA/CSA/ExTR16.0031/08

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Quality Assessment Report:

DE/TUN/QAR06.0004/09

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

This certificate covers various type of flowmeters as given below:

A) Proline Promass 300, Proline Promass 500, Proline Cubemass 300 and Proline Cubemass 500

B) Proline Promag 300 and Proline Promag 500

C) Proline Prosonic Flow 300 and Proline Prosonic Flow 500

D) Proline t-mass 300 and Proline t-mass 500

All flowmeters are available in two versions, a compact version (Proline 300) and a remote version (Proline 500). The remote Proline 500 version is also available as a version with ISEM electronic integrated in transmitter where the sensor sends analog signals to the transmitter and a version with ISEM electronic in sensor where the sensor is connected by a digital circuit to the transmitter with additional electronics located at the sensor for assessment of the sensor signals. As an exception Proline Prosonic Flow G 500 and Proline t-mass 500 are not available with ISEM integrated in the transmitter and Proline Prosonic Flow P 500 is not available with ISEM integrated in the sensor.

For all versions of the Proline 300, an additional remote Display, e.g. DKX001 or ODKX001, may be connected to the electronics. The remote display is available in two options for the user. Either it is ordered as a separate product or by the product of the flowmeter. An antenna bushing at cable entry for transmitter enclosures in type of protection Ex “eb”, Ex “tb” and Ex “ec” is available for connection of an external antenna.

The intrinsically safe output circuits for order code MC/RC meet the requirements for 2-WISE according to the used standards IEC 60079-11:2011 and IEC TS 60079-47:2021.

See below annexes attached to the certificate for details:

Annex A - Proline Promass 300/500 and Proline Cubemass 300/500

Annex B - Proline Promag 300/500

Annex C - Proline Prosonic Flow 300/500

Annex D - Proline t-mass 300/500

SPECIFIC CONDITIONS OF USE: YES as shown below:
See annexes attached to this certificate for specific conditions.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1:

This certificate is updated to include:- Minor changes to product order code- Minor corrections to product marking- Introduction of remote display as part of the flowmeter- Minor corrections to the product drawings

Issue 2:

The addition of model code for replacement transmitter OEM version and new assignment table of replacement transmitter to productof flowmeter.- The addition of new certified sensor ”Promass A” sensor with changes to model code.- Update in the ambient temperature reduced optionally to -60°C for sensors of Promass F/Q/X 500 with code for integrated ISEMelectronic k = “B” as described in the technical description document.- All the corresponding drawings were updated.- Combining all the Proline 300/500 sensor models from two separate certificates IECEx CSA 16.0031X and IECEx CSA 16.0034X intoone single certificate IECEx CSA 16.0034X.

Issue 3:

The introduction of a new hygienic stainless steel transmitter enclosure for versions Promag 300, Promass 300 and Cubemass300, installation in Zone 2 only.- Revision of corresponding drawings to include the new hygienic enclosure.

Issue 4:

Addition of new model version Proline Prosonic Flow G 300/500- Addition of new model version Proline t-mass 300/500- Addition of new Antenna bushing model H337 for external antenna connection- Addition of new order codes for IO1 current output (active) with I/O code xx = “CC” and “CD”- Addition of new order codes for IO2, IO3 and IO4 with I/O code “K” for pulse output Ex i (passive) and with I/O code “L” for pulse outputnon Ex i- Addition of new product order codes to include the following: sensor enclosure G350 (plastic) for Promag 500 in Zone 2 for remote version;an alternative transmitter enclosure G328 (plastic) for Proline 500; changes to order code for Promag W300 and Promag W500- Revised standard IEC 60079-0, Edition 6 to IEC60079-0, Edition 7.0- Revised standard IEC 60079-15, Edition 4 to IEC60079-15, Edition 5.0- Revised control drawings to include the above changes in revision 4.0 of this report.

Issue 5:

This revision includes the following changes:- Addition of product order code “ww = A2” that was missed in the previous edition for model Proline Promag 300/500, Proline Prosonic300/500 and Proline t-mass 300/500. See Certificate Annex for order code details- Correction of entity parameter for IO1 order codes: CA, CB. Affected nameplate drawings are revised in this edition.

Issue 6:

This revision includes the below changes:- Introduction of new model version Proline Prosonic Flow P 500- Changes in nomenclature (“Digital” is now referred as ISEM integrated in sensor, “Analog” is now referred as ISEM integrated in transmitter)- Introduction of new flange sizes for Proline Promass 300/500 for High Temperature (HT) flowmeters- Update of related product documentation- Addition of new manufacturing location in China.

Issue 7:

Update to cover corrections related to the maximum process temperature.

Issue 8:

The following changes are introduced in this issue:

- Introduction of additional sensor sizes DN150/200/250 for Proline Promass Q
- Introduction of additional sensor type CH-050-A, CH-100-A for Proline Prosonic Flow P500 with process temperature up to 435°C
- Introduction of additional IO’s with IO-1 order code ff = MB, MC for Modbus and ff = RB, RC for Profinet
- Revision to order codes for Proline Prosonic Flow G300/500 and P500 replacement transmitter
- Introduction of new type of liner ETFE for Proline Promag sensors
- Proline Promag P500/W500, when used with sensor enclosure G300, is now available with rating IP68 in addition to IP67
- Introduction of new standard IEC TS 60079-47 for 2-WISE concept
- Update of standard IEC60079-7:2015 Ed. 5 to IEC60079-7:2017 Ed. 5.1
- Update of certification drawings

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Additional manufacturing locations:

Endress+Hauser Flowtec (Brazil) Fluxômetros Ltda.
Estrada Municipal Antônio Sesti,
600 Bairro Recreio Costa Verde
Itatiba, SP - 13254-085
Brazil

Endress+Hauser Flowtec (India) Pvt. Ltd.
M 171-176, Waluj MIDC, Industrial Area
Aurangabad - , Maharashtra State 431136
India

Endress+Hauser Flowtec (China) Co. Ltd.
China-Singapore Industrial Park (SIP)
Su-Hong-Zhong-Lu No. 465
Suzhou 215021
China

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

Annexes:

Annex_A_to_IECEx_CSA_16.0034X_Issue_8_Promass.pdf
Annex_B_to_IECEx_CSA_16.0034X_Issue_8_Promag.pdf
Annex_C_to_IECEx_CSA_16.0034X_Issue_8_Prosonic.pdf
Annex_D_to_IECEx_CSA_16.0034X_Issue_8_t-mass.pdf

Annex A:

This Annex is applicable for flowmeters type Proline Promass 300/500 and Proline Cubemass 300/500

Table of Contents

1. Description

The Proline 300 / 500 is a platform used for flowmeters of type Proline Promass 300, Proline Promass 500, Proline Cubemass 300 and Proline Cubemass 500. All flowmeters are available in two versions, a compact version (Proline 300) and a remote version (Proline 500). The remote Proline 500 version is also available as a version with ISEM electronic integrated in transmitter where the sensor sends analog signals to the transmitter and a version with ISEM electronic in sensor where the sensor is connected by a digital circuit to the transmitter with additional electronics located at the sensor for assessment of the sensor signals.

For all versions of the Proline 300, an additional remote Display, e.g. DKX001 or ODKX001, may be connected to the electronics. The remote display is available in two options for the user. Either it is ordered as a separate product or by the product of the flowmeter.

Different electronics are used for the flowmeters where the sensor is installed in a Zone 1 or 2 location and where the transmitter can be installed in a safe area or Zone 1 or 2 locations. All versions of electronics are designed either with intrinsically safe IO's (Ex ia for Zone 1 or Ex ic for Zone 2) or with non-intrinsically safe IO's. A mix of type of protections, Ex i in combination with non-Ex i IO's is not allowed.

All Proline Promass 300/500 flowmeters are available for an ambient temperature of -40°C to +60°C and optional -50°C to +60°C. In addition the version of the sensor Proline Promass F/X/Q 500 with ISEM electronic in transmitter is available also for -60°C to +60°C ambient.

All versions of flowmeters Proline Promass 300, Proline Promass 500, Proline Cubemass 300 and Proline Cubemass 500 are available for an enclosure protection of degree IP66, IP67.

2. Order Code

2.1. Proline Promass 300/500, Proline Cubemass 300/500

Extended order code Proline Promass 300 and Cubemass 300:

8a3bcc – ddeffghjlpsstttvww + ##**	
O8a3bcc – ddeffghjlpsstttvwwyy + ##**	for OEM-version
8x3bxx – ddeffghjlprrssww + ##**	for replacement transmitter
O8x3bxx – ddeffghjlprrsswwyy + ##**	for replacement transmitter OEM

Extended order code Proline Promass 500 and Cubemass 500:

8a5bcc – ddeffghijkmnopsstttvww + ##**	
O8a5bcc – ddeffghijkmnopsstttvwwyy + ##**	for OEM-version
8x5bxx – ddeffghijkmopqqrrssww + ##**	for replacement transmitter
O8x5bxx – ddeffghijkmopqqrrsswwyy + ##**	for replacement transmitter OEM

a = Type of sensor
A = Promass A; C = Cubemass C; E = Promass E; F = Promass F; H = Promass H; I = Promass I; O = Promass O; P = Promass P; Q = Promass Q; S = Promass S; X = Promass X

b = Generation
B = Promass A (type 8A*B**, O8A*B**); Cubemass C; Promass E; Promass F; Promass H; Promass I; Promass O; Promass P; Promass Q; Promass S; Promass X
C = Promass A (type 8A*C**, O8A*C**)

cc = Size
any double digits with combination of number or letter

dd = Approval
Proline Promass 300:

BA	=	Ex db eb [ia] IIB T6…T1 Gb Ex tb IIIC T** Db
BB	=	Ex db eb [ia] IIC T6…T1 Gb Ex tb IIIC T** Db
BC	=	Ex db [ia] IIB T6…T1 Gb Ex tb IIIC T** Db
BD	=	Ex db [ia] IIC T6…T1 Gb Ex tb IIIC T** Db
BS	=	Ex ec IIC T5…T1 Gc

Proline Promass 500 :

BA	=	Ex db eb [ia] IIB T6…T4 Gb	(transmitter)
		Ex ia IIB T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
BB	=	Ex db eb [ia] IIC T6…T4 Gb	(transmitter)
		Ex ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
BC	=	Ex db [ia] IIB T6…T4 Gb	(transmitter)
		Ex ia IIB T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
BD	=	Ex db [ia] IIC T6…T4 Gb	(transmitter)
		Ex ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
BI	=	[Ex ia] IIC	(transmitter)
		Ex ia IIB T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BJ	=	[Ex ia] IIC	(transmitter)
		Ex ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BL	=	non-Ex	(transmitter)
		Ex ec IIC T6…T1 Gc	(sensor)
BM	=	Ex ec [ia Ga] IIC T6…T1 Gc	(transmitter)
		Ex ia IIB T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BN	=	Ex ec [ia Ga] IIC T6…T1 Gc	(transmitter)
		Ex ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BS	=	Ex ec IIC T6…T1 Gc	(transmitter + sensor)

e = Power Supply

D	=	24Vdc
E	=	100-230Vac
I	=	100-230Vac / 24Vdc
X	=	sensor only

ff = Input / Output 1

- BA = 4-20mA HART
- BB = 4-20mA WHART
- CA = 4-20mA HART Ex i (passive)
- CB = 4-20mA WHART Ex i (passive)
- CC = 4-20mA HART Ex i (active)
- CD = 4-20mA WHART Ex i (active)
- GA = Profibus PA
- HA = Profibus PA Ex i
- LA = Profibus DP
- MA = Modbus RS485
- MB = Modbus TCP
- MC = Modbus TCP Ex i
- NA = EtherNet/IP
- RA = Profinet IO
- RB = Profinet
- RC = Profinet Ex i
- SA = Foundation Fieldbus
- TA = Foundation Fieldbus Ex i
- XX = sensor only

g = Input / Output 2

- A = without Input/Output 2
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

h =

- A = without Input/Output 3
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

i = **Input / Output 4** (Proline 500 only)
- A = without Input/Output 4
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

j = **Display / Operation**
with remote Display : O
without remote Display : any single number or letter except O

k = **Integrated ISEM electronic** (Proline 500 only)
- A = Sensor
- B = Transmitter

l = **Housing** (Proline 300 only)
any single number or letter

m = **Transmitter Housing** (Proline 500 only)
any single number or letter

n = **Sensor Housing** (Proline 500 only)
any single number or letter

o = **Cable Sensor Connection** (Proline 500 only)
any single number or letter

p = **Cable Entry**
any single number or letter

qq = **Upgrade Kid**
any double digits with combination of number or letter

rr = **Existing Product** (refer to section 1.2 for assignment table of flowmeter to replacement transmitter)
any double digits with combination of number or letter

ss = **Measuring tube material**
any double digits with combination of number or letter

ttt = **Process connection**
any triple digits with combination of number or letter

v = **Calibration**
any single number or letter

ww = **Device model (two digit)** (refer to section 1.2 for assignment table of flowmeter to replacement transmitter)
A1 = product version 1
A2 = product version 2

yy = **Customer version (two digits)**
any double digits with combination of number or letter

****** = **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. Assignment of Flowmeter to Replacement Transmitter

The replacement transmitters are assigned to the flowmeter Proline Promass 300/500 as follows:

Product flowmeters			**Replacement transmitter type**				
model code	**Generation code b =**	**device model code ww =**	**model code**	**Generation code b =**	**existing product rr =**		**device model code ww =**
8A***b****-…**ww**, O8A***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	AA	(all sizes)	A1 / A2
8A***b****-…**ww**, O8A***b****-…**ww**	C	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	AB	(all sizes)	A1 / A2
8C***b****-…**ww**, O8C***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr** …**ww**	B	CA	(all sizes)	A1 / A2
8E***b****-…**ww**, O8E***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	EA	(DN8…15)	A1 / A2
					EB	(DN25…50)	A1 / A2
					EC	(DN80)	A1 / A2
8F***b****-…**ww**, O8F***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	FA	(DN8…15)	A1 / A2
					FB	(DN25…50)	A1 / A2
					FC	(DN80…250)	A1 / A2
8H***b****-…**ww**, O8H***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	HA	(DN8…40)	A1 / A2
					HB	(DN50)	A1 / A2
8I***b****-…**ww**, O8I***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	IA	(DN8…40)	A1 / A2
					IB	(DN40FB…80)	A1 / A2
8O***b****-…**ww**, O8O***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	OA	(all sizes)	A1 / A2
8P***b****-…**ww**, O8P***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	PA	(DN8…40)	A1 / A2
					PB	(DN50)	A1 / A2
8Q***b****-…**ww**, O8Q***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	QA	(DN25…50)	A1 / A2
					QB	(DN80…100)	A1 / A2
					QC	(DN150…250)	A1 / A2
8S***b****-…**ww**, O8S***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	SA	(DN8…40)	A1 / A2
					SB	(DN50)	A1 / A2
8X***b****-…**ww**, O8X***b****-…**ww**	B	A1 / A2	8x***b**xx-…**rr**…**ww**, O8x***b**xx-…**rr**…**ww**	B	XA	(all sizes)	A1 / A2

2.3. Sensor Groups

In the following tables, the Promass 300/500 sensors are assigned to different sensor groups from A1 to C2 depending on their sensor size and electronics version.

Assignment of Promass sensors and Cubemass sensors installed in Zone 1:

Sensor Group	Type of sensor	Size of sensor	Group	$T_{Med,min}$
A1	A (type 8A*B**)	01(DN1), 02, 04	IIC	-50°C
	C	01, 02, 04, 06	IIC	-50°C
	E	25, 40, 50	IIC	-50°C
	F	08, 15, 25, 40, 50	IIC	-50°C / -60°C *)
	F(HT)	15, 25, 50	IIC	-50°C
	H, S, P	08, 15, 25, 40	IIC	-50°C
	I	08, 15, 16, 25, 26, 40	IIC	-50°C
	Q	25, 50	IIC	-50°C / -60°C *)
B1	A (type A*C**)	01(DN1), 02, 04	IIC	-50°C
	E	08, 15, 80	IIC	-50°C
	F	08, 15	IIC	-50°C / -60°C *)
	F, F(HT), O	80, 100, 150, 250	IIC	-50°C / -60°C *)
	I	41, 50, 51, 80	IIC	-50°C
	H, S, P	50	IIC	-50°C
	Q	80, 100, 150, 200, 250	IIC	-50°C / -60°C *)
	X	350	IIC	-50°C / -60°C *)
C1	F	15, 25, 40, 50	IIC	-200°C
	H	8, 15, 25, 40, 50	IIC	-200°C
	Q	25, 50	IIC	-200°C
D1	F	08, 15, 80, 100, 150, 250	IIC	-200°C
	H	50	IIC	-200°C
	Q	80, 100, 150, 200, 250	IIC	-200°C
E1	E	80	IIB	-50°C
	F, F(HT), O	80, 100, 150, 250	IIB	-50°C / -60°C *)
	H, S, P	50	IIB	-50°C
	I	41, 50, 51, 80	IIB	-50°C
	Q	80, 100, 150, 200, 250	IIB	-50°C / -60°C *)
	X	350	IIB	-50°C / -60°C *)
H1	F, F(HT)	80, 100, 150, 250	IIB	-200°C
	H	50	IIB	-200°C
	Q	80, 100, 150, 200, 250	IIB	-200°C

*) Tmed,min = -60°C only applicable for sensor of Promass F 500, Promass Q 500 and Promass X 500 version with ISEM integrated in transmitter.

Note: All sensors of Promass 300 and Promass 500 versions are available for EPL Ga/Gb except the versions “A” (size DN1), “H” (all sizes) and “I” (all sizes) which are only available for EPL Gb. For sensors with EPL Ga, Zone 0, the protection is only applicable for the interior of the measuring tube.

Assignment of Promass sensors and Cubemass sensors installed in Zone 2:

Sensor Group	Type of sensor	Size of sensor	$T_{Med,min}$
A2	C	01, 02, 04, 06	-50°C
	E	25, 40, 50, 80	-50°C
	F	25, 40, 50, 80, 100, 150, 250	-50°C / -60°C *)
	F(HT)	15, 25, 50, 80, 100, 150, 250	-50°C
	H, S, P	15, 25, 40, 50	-50°C
	I	08, 15, 16, 25, 26, 40, 41, 50, 51, 80	-50°C
	O	80, 100, 150, 250	-50°C
	Q	25, 50, 80, 100, 150, 200, 250	-50°C / -60°C *)
	X	350	-50°C / -60°C *)
B2	A (type 8A*B**)	01, 02, 04	-50°C
	F	08, 15	-50°C
	E	08, 15	-50°C
	H, S, P	08	-50°C
C2	F	25, 40, 50, 80, 100, 150, 250	-200°C
	F(HT)	15, 25, 50, 80, 100, 150, 250	-200°C
	H	8, 25, 40, 50	-200°C
	Q	25, 50, 80, 100, 150, 200, 250	-200°C
D2	F	08, 15	-200°C
	H	50	-200°C
E2	A (type 8A*C**)	01, 02, 04	-50°C

*) Tmed,min = -60°C only applicable for sensor of Promass F 500, Promass Q 500 and Promass X 500 version with ISEM integrated in transmitter.

3. Parameters

3.1. Electrical Parameters

Power Supply		
Order Code e =	**terminal no.**	**values**
D [1)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} U_M = 250V_{AC}
E [1)]	No. 1(L+/L), 2(L-/N)	U_N = 85…264V_{AC} U_M = 250V_{AC}
I [2)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} /85…264V_{AC} U_M = 250V_{AC}

1) applicable for products with approval code dd = BA, BB, BC, BD
2) applicable for products with approval code dd = BS, BI, BJ, BL, BM, BN

Input/Output 1			
Order Code ff =	**terminal no.**	**values**	
BA, BB, MA	No. 26, 27	U_N = 30V_{DC} U_M = 250V_{AC}	
LA, GA, SA	No. 26, 27	U_N = 32V_{DC} U_M = 250V_{AC}	
CA, CB	No. 26, 27	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 6nF	
CC, CD	No. 26, 27	1) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 4.1mH (IIC) / 15mH (IIB) C_O = 160nF (IIC) / 1160nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH	2) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 9mH (IIC) / 39mH (IIB) C_O = 600nF (IIC) / 4000nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH
HA, TA	No. 26, 27	1) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 30V I_i = 570mA P_i = 8.5W L_i = 10µH C_i = 5nF	2) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 32V I_i = 570mA P_i = 8.5W L_i = 10µH C_i = 5nF
MB, RB	No. 26, 27	APL port profile SLAX / SPE PoDL classes 10, 11, 12 U_N = 30V_{DC} U_M = 250V_{AC}	
MC, RC	No. 26, 27	1) 2-WISE power load APL port profile SLAA U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF	2) 2-WISE power load APL port profile SLAC U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF
NA, RA	IO1 / RJ45	U_N = 30V_{DC} U_M = 250Vac	

1) applicable for products with approval code dd = BA, BB, BC, BD

2) applicable for products with approval code dd = BS, BM, BN

Input/Output 2		
Order Code g =	**terminal no.**	**values**
C, G, K	No. 24, 25	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 24, 25	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 24, 25	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Input/Output 3		
Order Code h =	**terminal no.**	**values**
C, G, K	No. 22, 23	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 22, 23	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 22, 23	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Input/Output 4		
Order Code i =	**terminal no.**	**values**
C, G, K	No. 20, 21	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 20, 21	U_N = $30V_{DC}$ U_M = 250Vac
H	No. 20, 21	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Service Interface		
Order Code dd =	**terminal no.**	**values**
BA, BB	Service Interface	Service Interface shall only be installed • in areas which are known to be non hazardous with a non intrinsically safe circuit U_N = 3.3 V, U_M = 250 V_{AC} or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
BC, BD	Service Interface	Service Interface shall only be installed • to an non intrinsically safe circuit with U_N = 3.3V, U_M = 250V_{AC} or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
not for: BA, BB, BC, BD	Service Interface	U_N = 3.3V

Antenna bushing		
Order Code dd =	**terminal no.**	**values**
BA, BB, BI, BJ, BL, BM, BN, BS	N connector	See conditions of certfication

Display remote		
Order Code dd =	**terminal no.**	**values**
BA, BB, BC, BD	No. 81, 82, 83, 84	Uo = 3.9V Io = 1.5A (spark) 200mA (power) Po = 600mW Ri = 2.6Ω Co = 670µF Lo = 0
not for: BA, BB, BC, BD	No. 81, 82, 83, 84	U_N = 3.3V I_N = 150mA

For Transmitter with approval code dd = BA, BB, BC and BD connected to the Remote Display of Endress+Hauser, Type DKX001 or ODKX001, the cable parameter with ration L/R = ≤ 0.024 mH/Ω applies.

Promass and Cubemass Remote Transmitter and Remote Sensor:

8*****-… and O8*****-… with order code dd = BA, BB, BC, BD in combination with k = B:
Transmitter:
Terminals 41, 42-> exciter coil circuit: Uo = 15V, Io = 129mA, Po = 484mW (sensor group A1/C1/E1)
Uo = 15V, Io = 46mA, Po = 173mW (sensor group B1/D1/H1)

Terminals 9, 10, 11, 12, X3, X4-> temperature circuit:
Uo = 15V, Io = 18.2mA, Po = 68.3mW
Terminals 4, 5, 6, 7-> sensor coil circuit: Uo = 15V, Io = 15.2mA, Po = 57mW

Sensor:
Terminals 41, 42-> exciter coil circuit: Ui = 15V, Ii = 132mA, Pi = 494mW
(sensor group A1/C1/E1)
Ui = 15V, Ii = 48mA, Pi = 180mW
(sensor group B1/D1/H1)
Terminals 9, 10, 11, 12,X3, X4--> temperature circuit:
Ui = 15V, Ii = 60.6mA , Pi = 227.3mW
Terminals 4, 5, 6, 7-> sensor coil circuit: Ui = 15V, Ii = 15.2mA, Pi = 57mW

For interconnection using a cable with a maximum length of 120m is allowed when using a cable which has the following parameters:

Cable inductance ≤ 0.5 mH/km
Cable capacitance ≤ 0.5 µF/km

8*****-… and O8*****-… with order code dd = BS in combination with k = B:
Transmitter:
Terminals 41, 42-> exciter coil circuit: U_N = 15 V, I_N = 100mA (sensor group A2/C2)
U_N = 15 V, I_N = 72mA (sensor group B2/D2)
U_N = 15 V, I_N = 25mA (sensor group E2)
Terminals 9, 10, 11, 12, X3, X4--> temperature circuit:
U_N = 15 V, I_N = 18.2mA
Terminals 4, 5, 6, 7-> sensor coil circuit: U_N = 15 V, I_N = 15.2mA

Sensor:
Terminals 41, 42-> exciter coil circuit: U_N = 15 V
Terminals 9, 10, 11, 12, X3, X4--> temperature circuit:
U_N = 15 V
Terminals 4, 5, 6, 7-> sensor coil circuit: U_N = 15 V

8*****-… and O8*****-… with order code dd = BI, BJ, BM, BN in combination with k = A:
Transmitter:
terminals 61, 62, 63, 64 -> Uo = 13.8V, Io = 1.156A, Po = 3.3W

Sensor:
terminals 61, 62, 63, 64 -> Ui = 14V, Ii = 1.2A, Pi = 3.4W

For interconnection of transmitter to sensor any cable may be used with the following requirements:

- L/R ≤ 0.0089 mH/Ω and C_{cable} ≤ 760nF for group IIC, L/R ≤ 0.0356 mH/Ω and C_{cable} ≤ 4.2µF for group IIB

Or

- L_{cable} ≤ 26µH and C_{cable} ≤ 760nF for group IIC, L_{cable} ≤ 104µH and C_{cable} ≤ 4.2µF for group IIB

8*****-… and O8*****-… with order code dd = BL, BS in combination with k = A:
Transmitter:

terminals 61, 62->	U_N = 32V
terminals 63, 64->	U_N = 3.3V

Sensor:

terminals 61, 62->	U_N = 32V
terminals 63, 64->	U_N = 3.3V

3.2. Thermal Parameters (Zone 1)

Proline Promass A/E/F/H/I/O/P/Q/S/X 300 **Proline Cubemass C 300**

Notes: Pages 1 and 2 apply to versions with extended order code covering: 8*3B** – dd… O8*3B** – dd… 8x3Bxx – dd… O8x3Bxx – dd…
with approval option cCSAus / CSA: dd = CC, CD, CE, C1, C2, C3, C4
IECEx / ATEX: dd = BA, BB, BC, BD

Temperature table for versions with sensor not insulated

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	-50	205	50	50	95	130	150	205	205
				60	---	95	130	150	205	205
Cubemass C	01 … 06	-50	205	50	50	95	130	150	205	205
				60	---	95	130	150	205	205
Promass E	08 …50	-50	205	50	50	100	130	130	205	205
				55	---	80	100	130	205	205
				60	---	(80)	(100)	(130)	(205)	(205)
	80	-50	205	50	50	75	110	170	205	205
				55	---	75	110	170	205	205
				60	---	(75)	(110)	(170)	(205)	(205)
Promass F	08 … 15	-50	150	50	50	95	130	150	150	150
				60	---	95	130	150	150	150
		-50	240	50	50	95	130	160	240	240
				60	---	95	130	160	(240)	(240)
		-200	240	50	50	95	100	160	240	240
				60	---	95	100	160	(240)	(240)
	15 … 25	-50 / -200	350	50	45	95	130	175	275	350
				60	---	95	130	175	275	350
	25 … 50	-50	150	50	50	95	130	150	150	150
				60	---	95	130	150	150	150
		-50	240	50	50	95	130	160	240	240
				60	---	95	130	160	(240)	(240)
		-200	240	50	50	95	100	160	240	240
				60	---	95	100	160	(240)	(240)
	80 … 250	-50	150	50	50	75	110	150	150	150
				60	---	75	110	150	150	150
		-50	240	50	50	75	110	170	240	240
				60	---	75	110	170	(240)	(240)
		-200	240	50	50	75	110	170	240	240
				60	---	75	110	170	(240)	(240)
	50 … 250	-50 / -200	350	50	45	85	120	175	275	350
				60	---	85	120	175	275	350
Promass H	8	-50 / -200	205	50	50	65	100	160	205	205
				60	---	65	100	160	205	205
	15 … 50	-50 / -200	205	50	50	75	115	180	205	205
				60	---	75	115	180	205	205
Promass S, P	8	-50	150	45	45	65	100	150	150	150
				60	---	65	100	150	150	150
		-50	205	45	45	65	100	160	205	205
				60	---	65	100	160	205	205
	15 … 50	-50	150	50	50	75	115	150	150	150
				60	---	75	115	150	150	150
		-50	205	50	50	75	115	180	205	205
				60	---	75	115	180	205	205

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass I	8, 15	-50	150	50	50	95	130	150	150	150
	15FB, 25			60	---	95	120	(150)	(150)	(150)
	25FB, 40	-50	150	50	50	85	120	150	150	150
	40FB, 50			60	---	85	120	(150)	(150)	(150)
	50FB, 80	-50	150	50	50	85	120	150	150	150
				60	---	85	120	(150)	(150)	(150)
Promass O	80 … 250	-50	205	50	50	75	110	170	205	205
				55	---	75	110	170	205	205
				60	---	75	110	170	(205)	(205)
Promass X	350	-50	205	50	50	90	120	170	205	205
				55	---	90	120	170	205	205
				60	---	(90)	(120)	(170)	(205)	(205)
Promass Q	25 … 250	-50 / -200	240	50	50	75	110	160	240	240
				60	---	75	110	160	240	240

Notes:
(1) Ta,min = -40°C, -50°C respectively (see nameplate)
(2) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(3) for applicable version with maximum medium temperatue and minimum medium temperature see nameplate

Aenderungen:					
	A	10.05.2016 / Bn	F	09.06.2021 / Bn	
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	04.07.2018 / Bn	J		
	E	22.10.2019 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES0263\FFES0263F.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

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Continued of previous page

Temperature table for versions with sensor insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 ... 04	-50	205	50	50	95	130	150	205	205
				55	---	(95)	(130)	(150)	(205)	(205)
Cubemass C	01 ... 06	-50	205	50	---	95	130	150	205	205
				55	---	(95)	(130)	(150)	(205)	(205)
Promass E	08 ...50	-50	205	50	50	100	130	130	205	205
				55	---	(100)	(130)	(130)	(205)	(205)
	80	-50	205	45	50	75	110	170	205	205
				50	---	75	110	170	205	205
				55	---	(75)	(110)	(170)	(205)	(205)
Promass F	08 ... 15	-50	150	50	50	95	130	150	150	150
				60	---	95	110	(150)	(150)	(150)
		-50 / -200	240	50	50	95	130	160	240	240
				55	---	95	130	(160)	(240)	(240)
				60	---	95	110	110	110	110
	15 ... 25	-50 / -200	350	50	45	95	130	175	275	350
				60	---	95	130	175	275	350
	25 ... 50	-50	150	50	50	95	130	150	150	150
				60	---	95	110	(150)	(150)	(150)
		-50 / -200	240	50	50	95	130	160	240	240
				55	---	95	130	(160)	(240)	(240)
				60	---	95	110	110	110	110
	80 ... 250	-50	150	50	50	75	110	150	150	150
				60	---	75	110	(150)	(150)	(150)
		-50 / -200	240	50	50	75	110	170	240	240
				55	---	75	110	(170)	(240)	(240)
				60	---	75	110	110	110	110
	50 ... 250	-50 / -200	350	50	45	85	120	175	275	350
				60	---	85	120	175	275	350
Promass H	8	-50 / -200	205	50	50	65	100	160	205	205
				55	---	65	100	(160)	(205)	(205)
				60	---	65	100	100	100	100
	15 ... 50	-50 / -200	205	50	50	75	115	180	205	205
				55	---	75	115	(180)	(205)	(205)
				60	---	75	115	115	115	115
Promass S, P	8	-50	150	45	45	65	100	150	150	150
				50	---	65	100	150	150	150
				60	---	65	100	125	(150)	(150)
		-50	205	45	45	65	100	160	205	205
				50	---	65	100	160	205	205
				60	---	65	100	115	(205)	(205)
	15 ... 50	-50	150	50	50	75	115	150	150	150
				60	---	75	115	125	(150)	(150)
		-50	205	50	50	75	115	180	205	205
				60	---	75	115	(150)	(150)	(150)
Promass I	8, 15 15FB, 25	-50	150	50	50	95	130	150	150	150
				60	---	95	120	(150)	(150)	(150)
	25FB, 40 40FB, 50	-50	150	50	50	85	120	150	150	150
				60	---	85	120	(150)	(150)	(150)
	50FB, 80	-50	150	50	50	85	120	150	150	150
				60	---	85	120	(150)	(150)	(150)

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass O	80 ... 250	-50	205	50	50	75	110	170	205	205
				55	---	(75)	(110)	(170)	(205)	(205)
Promass X	350	-50	205	50	50	90	120	170	205	205
				55	---	(90)	(120)	(170)	(205)	(205)
Promass Q	25 ... 250	-50 / -200	240	50	50	75	110	160	240	240
				55	---	(75)	(110)	(160)	(240)	(240)

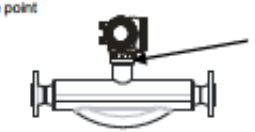
Notes:
(1) Ta,min = -40°C, -50°C respectively (see nameplate)
(2) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(3) for applicable version with maximum medium temperatue and minimum medium temperature see nameplate

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

Sensor	Size / DN	T_{max} to be measured at reference point at sensor neck [°C] T6 (85C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	all	59	72	75	76	77	77

Notes:
(1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Aenderungen:					
	A	10.05.2016 / Bn	F	09.06.2021 / Bn	
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	04.07.2018 / Bn	J		
	E	22.10.2019 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0263\FFES0263F.dbc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0263F 2/6

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes: This page applies to versions with extended order code covering: 8*5*** – dd*******B… O8*5*** – dd*******B… 8x5Bxx – dd*******B… O8x5Bxx – dd*******B…
with approval option cCSAus / CSA: dd = CC, CD, CE, C1, C2, C3, C4
IECEx / ATEX: dd = BA, BB, BC, BD

Temperature table for versions with sensor not insulated

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A (type 8A5B)	01 … 04	-50	205	60	60	95	130	150	205	205
Promass A (type 8A5C)	01 … 04	-50	205	55	55	95	130	150	205	205
				60	---	95	130	150	205	205
Cubemass C	01 … 06	-50	205	50	50	95	130	150	205	205
				60	---	95	130	150	205	205
Promass E	08 …50	-50	205	50	50	100	130	130	205	205
				60	---	100	130	130	205	205
	80	-50	205	60	60	75	110	170	205	205
Promass F	08 … 15	-50 / -60	150	55	50	95	130	150	150	150
				60	---	95	130	150	150	150
		-50 / -60 / -200	240	55	50	95	130	160	240	240
				60	---	95	130	160	240	240
	15 … 25	-50 / -200	350	60	70	95	130	175	265	350
	25 … 40	-50 / -60	150	55	55	95	130	150	150	150
				60	---	95	130	150	150	150
		-50 / -60 / -200	240	55	55	95	130	160	240	240
				60	---	95	130	160	240	240
	50	-50 / -60	150	55	55	95	130	150	150	150
				60	---	95	130	150	150	150
		-50 / -60 / -200	240	60	60	95	130	170	240	240
	80 … 250	-50 / -60	150	55	55	75	110	150	150	150
				60	---	75	110	150	150	150
		-50 / -60 / -200	240	60	60	75	110	170	240	240
	50 … 250	-50 / -200	350	60	70	85	120	175	265	350
Promass H	8	-50 / -200	205	50	50	65	100	160	205	205
				60	---	65	100	160	205	205
	15 … 50	-50 / -200	205	60	60	75	115	180	205	205
Promass S, P	8	-50	150	45	45	65	100	150	150	150
				60	---	65	100	150	150	150
		-50	205	45	45	65	100	160	205	205
				60	---	65	100	160	205	205
	15 … 40	-50	150	50	50	75	115	150	150	150
				60	---	75	115	150	150	150
		-50	205	50	50	75	115	180	205	205
				60	---	75	115	180	205	205
	50	-50	150	60	60	75	115	150	150	150
		-50	205	60	60	75	115	180	205	205

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass I	8, 15 15FB, 25	-50	150	60	60	95	130	150	150	150
	25FB, 40, 40FB, 50, 50FB, 80	-50	150	60	70	85	120	150	150	150
Promass O	80 … 250	-50	205	60	60	75	110	170	205	205
Promass X	350	-50 / -60	205	60	70	90	120	170	205	205
Promass Q	25 … 250	-50 / -60 / -200	240	60	55	75	110	160	240	240

Notes: (1) Ta,min = -40°C, -50°C / -60°C respectively (see nameplate)
(2) for applicable version with maximum medium temperatue and minimum medium temperature see nameplate

Transmitter for all versions:

$T_{a,max}$	
T6 (85°C)	T5 (100°C)
55	60

Notes: (1) Ta,min = -50°C (for limitation see name plate)

Aenderungen:					
	A	10.05.2016 / Bn	F	09.06.2021 / Bn	
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	04.07.2018 / Bn	J		
	E	22.10.2019 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0263\FFES0263F.dsc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

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Continued of previous page

Temperature table for versions with sensor insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A (type 8A5B)	01 ... 04	-50	205	50	60	95	130	150	(180)	(180)
				60	60	95	130	150	150	150
Promass A (type 8A5C)	01 ... 04	-50	205	50	60	95	130	150	(180)	(180)
				55	55	95	130	150	150	150
				60	---	95	130	150	150	150
Cubemass C	01 ... 06	-50	205	50	60	95	130	150	(180)	(180)
				60	---	95	130	150	150	150
Promass E	08 ...50	-50	205	50	50	100	130	130	205	205
				60	---	100	130	130	205	205
	80	-50	205	60	60	75	110	170	205	205
Promass F	08 ... 15	-50 / -60	150	55	50	95	130	150	150	150
				60	---	95	130	150	150	150
		-50 /-60 / -200	240	55	50	95	130	160	240	240
				60	---	95	130	160	240	240
	15 ... 25	-50 / -200	350	60	70	95	130	175	265	350
	25 ... 40	-50 / -60	150	55	55	95	130	150	150	150
				60	---	95	130	150	150	150
		-50 / -60 / -200	240	55	55	95	130	160	240	240
				60	---	95	130	160	240	240
	50	-50 / -60	150	55	55	95	130	150	150	150
				60	---	95	130	150	150	150
		-50 / -60 / -200	240	60	60	95	130	170	240	240
	80 ... 250	-50 / -60	150	55	55	75	110	150	150	150
				60	---	75	110	150	150	150
		-50 / -60 / -200	240	60	60	75	110	170	240	240
	50 ... 250	-50 / -200	350	60	70	85	120	175	265	350
Promass H	8	-50 / -200	205	50	50	65	100	160	205	205
				60	---	65	100	160	205	205
	15 ... 50	-50 / -200	205	60	60	75	115	180	205	205
Promass S, P	8	-50	150	45	45	65	100	150	150	150
				60	---	65	100	150	150	150
		-50	205	45	45	65	100	160	205	205
				60	---	65	100	160	205	205
	15 ... 40	-50	150	50	50	75	115	150	150	150
				60	---	75	115	150	150	150
		-50	205	50	50	75	115	180	205	205
				60	---	75	115	180	205	205
	50	-50	150	60	60	75	115	150	150	150
		-50	205	60	60	75	115	180	205	205
Promass I	8, 15 15FB, 25	-50	150	60	60	95	130	150	150	150
	25FB, 40, ... 80	-50	150	60	70	85	120	150	150	150
Promass O	80 ... 250	-50	205	60	60	75	110	170	205	205

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass X	350	-50 / -60	205	60	70	90	120	170	205	205
Promass Q	25 ... 250	-50 / -60 / -200	240	60	55	75	110	160	240	240

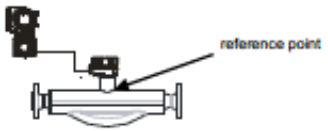
Notes: (1) Ta,min = -40°C, -50°C / -60°C respectively (see nameplate)
(2) values in brackets are applicable for installation where the sensor enclosure is not installed above the sensor
(3) for applicable version with max. medium temperatue and min. medium temperature see nameplate

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

Sensor	Size / DN	T_{med} 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)
all	all	63	72	84	91	91	91

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Transmitter for all versions:

$T_{a,max}$ T6 (85°C)	T5 (100°C)
55	60

Notes: (1) Ta,min = -50°C (for limitation see name plate)

Aenderungen:					
	A	10.05.2016 / Bn	F	09.06.2021 / Bn	
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	04.07.2018 / Bn	J		
	E	22.10.2019 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0263\FES0263F.dsc

Control Drawing IECEx, ATEX, CSA, cCSA$_{US}$
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

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Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes: This page applies to versions with extended order code covering: 8*5*** – dd*******A... O8*5*** – dd*******A... with approval option cCSAus / CSA: IECEx / ATEX: 8x5Bxx – dd*******A... dd = CM, CN, C5, C6 dd = BI, BJ, BM, BN O8x5Bxx – dd*******A...

Temperature table for versions with sensor not insulated

Sensor	Size / DN	$T_{m,ed}$ min [°C]	$T_{m,ed}$ max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A (type 8A5B)	01 ... 04	-50	205	35	60	95	130	150	205	205
				50	—	95	130	150	205	205
				60	—	—	130	150	205	205
Promass A (type 8A5C)	01 ... 04	-50	205	35	55	95	130	150	205	205
				50	—	95	130	150	205	205
				55	—	—	130	150	205	205
				60	—	—	130	150	190	190
Cubemass C	01 ... 06	-50	205	35	40	75	130	150	205	205
				50	—	75	130	150	205	205
				55	—	—	130	150	205	205
				60	—	—	130	150	160	160
Promass E	08 ...50	-50	205	35	40	60	130	130	205	205
				50	—	60	130	130	205	205
				60	—	—	130	130	205	205
	80	-50	205	35	40	60	110	170	205	205
				50	—	60	110	170	205	205
				60	—	—	110	170	205	205
Promass F	08 ... 50	-50	150	35	40	65	130	150	150	150
				50	—	65	130	150	150	150
				60	—	—	130	130	130	130
		-50 / -200	240	35	40	65	130	160	240	240
				50	—	65	130	160	240	240
				60	—	—	130	160	240	240
	15 ... 25	-50 / -200	350	35	40	80	130	175	275	350
				50	—	80	130	175	275	350
				60	—	—	130	175	240 (275)	240 (350)
	80 ... 250	-50	150	35	40	65	110	150	150	150
				50	—	65	110	150	150	150
				60	—	—	110	130	130	130
		-50 / -200	240	35	40	65	110	170	240	240
				50	—	65	110	170	240	240
				60	—	—	110	170	240	240
	50 ... 250	-50 / -200	350	35	40	80	120	175	275	350
				50	—	80	120	175	275	350
				60	—	—	120	175	240 (275)	240 (350)
Promass H	8	-50 / -200	205	35	40	65	100	160	205	205
				50	—	65	100	160	205	205
				60	—	—	100	160	205	205
	15 ... 50	-50 / -200	205	35	40	65	115	180	205	205
				50	—	65	115	180	205	205
				60	—	—	115	180	205	205
Promass S, P	8	-50	150	35	45	65	100	150	150	150
				50	—	65	100	150	150	150
				60	—	—	100	150	150	150
		-50	205	35	45	65	100	160	205	205
				50	—	65	100	160	205	205
				60	—	—	100	160	205	205
	15 ... 50	-50	150	35	45	65	110	150	150	150
				50	—	65	110	150	150	150
				60	—	—	110	150	150	150

Sensor	Size / DN	$T_{m,ed}$ min [°C]	$T_{m,ed}$ max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass S, P	15 ... 50	-50	205	35	45	65	110	180	205	205
				50	—	65	110	180	205	205
				60	—	—	110	180	205	205
Promass I	8, 80	-50	150	35	45	70	115	140	140	150
				50	—	70	115	140	140	150
				55	—	—	115	140	140	150
				60	—	—	115	140	140	140
Promass O	80 ... 250	-50	205	35	45	65	110	170	205	205
				50	—	65	110	170	205	205
				60	—	—	110	170	205	205
Promass X	350	-50	205	35	45	65	110	170	205	205
				50	—	65	110	170	205	205
				60	—	—	110	170	205	205
Promass Q	25 ... 250	-50 / -200	240	35	45	65	100	160	240	240
				50	—	65	100	160	240	240
				60	—	—	100	160	240	240

Notes:
(1) Ta,min = -40°C, -50°C respectively (see nameplate)
(2) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(3) for applicable version with maximum medium temperatue and minimum medium temperature see nameplate

Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	—	45	60
plastic	60	—	—	—

Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Aenderungen:					
	A	10.05.2016 / Bn	F	09.06.2021 / Bn	
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	04.07.2018 / Bn	J		
	E	22.10.2019 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES0263\FES0263F.doc

Control Drawing IECEx, ATEX, CSA, cCSAus

Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1

Thermal Parameter

Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0263F **5/6**

Temperature table for versions with sensor insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 ... 04	-50	205	35	40	90	90	150	150	150
				40	---	90	90	150	150	150
				45	---	---	90	150	150	150
				50	---	---	90	120	120	120
Cubemass C	01 ... 06	-50	205	35	40	90	100	150	150	150
				40	---	90	100	150	150	150
				45	---	---	100	150	150	150
				50	---	---	100	120	120	120
Promass E	08 ...50	-50	205	35	40	55	130	160	205	205
				50	---	55	130	160	205	205
	80	-50	205	35	40	55	110	170	205	205
				50	---	55	110	170	205	205
Promass F	08 ... 50	-50	150	35	40	60	130	130	130	130
				45	---	60	130	130	130	130
				50	---	---	130	130	130	130
		-50 / -200	240	35	40	60	130	160	240	240
				45	---	60	130	160	240	240
				50	---	---	130	160	240	240
	15 ... 25	-50 / -200	350	35	40	80	130	175	275	350
				50	---	80	130	175	275	350
				60	---	---	130	175	240 (275)	240 (350)
	80 ... 250	-50	150	35	40	60	110	130	130	130
				45	---	60	110	130	130	130
				50	---	---	110	130	130	130
		-50 / -200	240	35	40	60	110	170	240	240
				45	---	60	110	170	240	240
				50	---	---	110	170	240	240
	50 ... 250	-50 / -200	350	35	40	80	120	175	275	350
				50	---	80	120	175	275	350
				60	---	---	120	175	240 (275)	240 (350)
Promass H	8	-50 / -200	205	35	40	65	100	160	205	205
				45	---	65	100	160	205	205
				55	---	---	100	160	205	205
	15 ... 50	-50 / -200	205	35	40	65	115	180	205	205
				45	---	65	115	180	205	205
				55	---	---	115	180	205	205
Promass S, P	8	-50	150	35	40	55	100	150	150	150
				45	---	55	100	150	150	150
				50	---	---	100	120	120	120
		-50	205	35	40	55	100	160	205	205
				50	---	55	100	160	205	205
				55	---	---	100	160	205	205
	15 ... 50	-50	150	35	40	55	110	150	150	150
				45	---	55	110	150	150	150
				50	---	---	110	120	120	120
		-50	205	35	40	55	100	180	205	205
				50	---	55	100	180	205	205
				55	---	---	100	180	205	205
Promass I	8, 80	-50	150	35	45	70	90	150	150	150
				45	---	70	90	150	150	150
				50	---	---	90	120	120	---
Promass O	80 ... 250	-50	205	35	40	55	110	170	205	205
				50	---	55	110	170	205	205
Promass X	350	-50	205	35	40	55	120	170	205	205
				50	---	55	120	170	205	205
				55	---	---	120	170	205	205

Sensor	Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass Q	25 ... 250	-50 / -200	240	35	40	55	100	160	240	240
				50	---	55	100	160	240	240

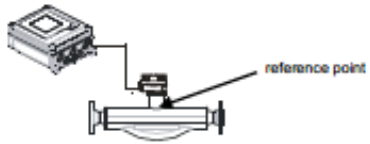
Notes: (1) Ta,min = -40°C, -50°C respectively (see nameplate)
(2) for applicable version with maximum medium temperatue and minimum medium temperature see nameplate

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

Sensor	Size / DN	T_{max} to be measured at reference point at sensor neck [°C] T6 (80°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	all	45	64	82	82	85	85

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Änderungen:					
	A	10.05.2016 / Bn	F	09.06.2021 / Bn	
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	04.07.2018 / Bn	J		
	E	22.10.2019 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0263\FFES0263F.dbc

Control Drawing IECEx, ATEX, CSA, cCSAus

Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1

Thermal Parameter

Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0263F **6/6**

3.3. Thermal Parameters (Zone 2)

Proline Promass A/E/F/H/I/O/P/Q/S/X 300 **Proline Cubemass C 300**

Notes:

This page applies to versions with extended order code covering: 8*3B** – dd… O8*3B** – dd… 8x3Bxx – dd… O8x3Bxx – dd…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor not insulated

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec / NI	-50	205	50	—	90	130	170	205	205
					60	—	—	130	170	205	205
Cubemass C	01 … 06	Ex ec / NI	-50	205	50	—	90	130	140	205	205
					60	—	—	130	140	205	205
Promass E	08 …15	Ex ec / NI	-50	205	50	—	80	115	165	205	205
					55	—	—	115	165	205	205
					60	—	—	(115)	(140)	(205)	(205)
	25 … 80	Ex ec / NI	-50	205	50	—	80	95	140	205	205
					55	—	—	95	140	205	205
					60	—	—	(95)	(140)	(205)	(205)
Promass F	08 … 15	Ex ec / NI	-50 / -200	150	50	—	80	115	150	150	150
					60	—	—	115	150	150	150
			-50 / -200	240	50	—	80	115	170	240	240
					55	—	—	115	170	240	240
					60	—	—	115	170	170 (240)	170 (240)
	25 … 80	Ex ec / NI	-50 / -200	150	50	—	60	95	150	150	150
					60	—	—	95	150	150	150
			-50 / -200	240	50	—	60	95	160	240	240
					55	—	—	95	160	240	240
					60	—	—	95	160	170 (240)	170 (240)
	100…250	Ex ec / NI	-50 / -200	150	50	—	60	95	150	150	150
					60	—	—	95	150	150	150
			-50 / -200	240	50	—	60	95	160	240	240
					55	—	—	95	160	240	240
					60	—	—	95	160	170 (240)	170 (240)
	15…250	Ex ec / NI	-50 / -200	350	50	—	85	120	185	280	350
					60	—	—	120	185	280	350
Promass H	8	Ex ec / NI	-50 / -200	205	50	—	80	115	165	205	205
					60	—	—	115	165	205	205
	15 … 50	Ex ec / NI	-50 / -200	205	50	—	60	95	130	205	205
					60	—	—	95	130	205	205
Promass S, P	8	Ex ec / NI	-50	150	50	—	80	115	150	150	150
					60	—	—	115	150	150	150
			-50	205	50	—	80	115	170	205	205
					60	—	—	115	170	205	205
	15 … 50	Ex ec / NI	-50	150	50	—	60	95	150	150	150
					60	—	—	95	150	150	150
			-50	205	50	—	60	95	160	205	205
					60	—	—	95	160	205	205
Promass I	8 … 80	Ex ec / NI	-50	150	50	—	60	95	150	150	150
					55	—	—	95	150	150	150
					60	—	—	(95)	(150)	(150)	(150)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass O	80…250	Ex ec / NI	-50	205	50	—	60	95	160	205	205
					55	—	—	95	160	205	205
					60	—	—	95	160	180 (205)	180 (205)
Promass X	350	Ex ec / NI	-50	205	50	—	60	95	160	205	205
					55	—	—	95	160	205	205
					60	—	—	(95)	(160)	(205)	(205)
Promass Q	25…250	Ex ec / NI	-50 / -200	240	50	—	60	95	160	240	240
					60	—	—	95	160	240	240

Notes:
(1) this page coveres sensors with type of protection Ex ec, AEx ec and non-incendive. Sensors with type of protection Ex nC is applicable only for sensor versions without purge connection or rupture disk (temperature table see next page)
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperatue see nameplate
(5) versions with transmitter enclosure stainless steel (hygienic) only for installation where transmitter is not installed above the sensor
(6) Versions with transmitter enclosure stainless steel (hygienic) installed in temperature class T5, a degree of 3°C for ambient temperature shall be taken into account

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B	24.10.2016 / Bn	G	09.06.2021 / Bn		Ersatz für:
C	03.05.2017 / Bn	H			Ersteller: FES / Bn
D	30.10.2017 / Bn	J			FILE: M:\Zeichng\FES\0264\G\FES0264G.doc
E	04.07.2018 / Bn	K			

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$

Zone 2, Cl.I Div. 2, Cl.I Zone 2

Thermal Parameter

Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 1/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 300 **Proline Cubemass C 300**

Notes:
This page applies to versions with extended order code covering: 8*3B** – dd… O8*3B** – dd… 8x3Bxx – dd… O8x3Bxx – dd…
with approval option cCSAus / CSA: dd = CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor not insulated

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec nC	-50	205	50	—	95	130	195	205	205
					60	—	—	130	195	205	205
Cubemass C	01 … 06	Ex ec nC	-50	205	50	—	95	130	195	205	205
					60	—	—	130	195	205	205
Promass E	08 …15	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	130	195	205	205
					60	—	—	(130)	(195)	(205)	(205)
	25 … 80	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	130	195	205	205
					60	—	—	(130)	(195)	(205)	(205)
Promass F	08 … 15	Ex ec nC	-50 / -200	150	50	—	95	130	150	150	150
					60	—	—	130	150	150	150
			-50 / -200	240	50	—	95	130	195	240	240
					55	—	—	130	195	240	240
					60	—	—	130	170	170 (240)	170 (240)
	25 … 80	Ex ec nC	-50 / -200	150	50	—	95	130	150	150	150
					60	—	—	130	150	150	150
			-50 / -200	240	50	—	95	130	195	240	240
					55	—	—	130	195	240	240
					60	—	—	130	170	170 (240)	170 (240)
	100…250	Ex ec nC	-50 / -200	150	50	—	95	130	150	150	150
					60	—	—	130	150	150	150
			-50 / -200	240	50	—	95	130	195	240	240
					55	—	—	130	195	240	240
					60	—	—	130	170	170 (240)	170 (240)
	15…250	Ex ec nC	-50 / -200	350	50	—	95	130	195	290	350
					60	—	—	130	195	290	350
Promass H	8	Ex ec nC	-50 / -200	205	50	—	95	130	195	205	205
					60	—	—	130	195	205	205
	15 … 50	Ex ec nC	-50 / -200	205	50	—	95	130	195	205	205
					60	—	—	130	195	205	205
Promass S, P	8	Ex ec nC	-50	150	50	—	95	130	150	150	150
					60	—	—	130	150	150	150
			-50	205	50	—	95	130	195	205	205
					60	—	—	130	195	205	205
	15 … 50	Ex ec nC	-50	150	50	—	95	130	150	150	150
					60	—	—	130	150	150	150
			-50	205	50	—	95	130	195	205	205
					60	—	—	130	195	205	205
Promass I	8 … 80	Ex ec nC	-50	150	50	—	95	130	150	150	150
					55	—	—	130	150	150	150
					60	—	—	(130)	(150)	(150)	(150)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass O	80…250	Ex ec nC	-50	205	50	---	95	130	195	205	205
					55	---	---	130	195	205	205
					60	---	---	130	180	180 (205)	180 (205)
Promass X	350	Ex ec nC	-50	205	50	---	95	130	195	205	205
					55	---	---	130	195	205	205
					60	---	---	(130)	(195)	(205)	(205)
Promass Q	25…250	Ex ec nC	-50 / -200	240	50	---	95	130	195	240	240
					60	---	---	130	195	240	240

Notes:
(1) type of protection Ex ec nC and AEx ec nC is applicable only for sensor versions without purge connection or rupture disk
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate
(5) versions with transmitter enclosure stainless steel (hygienic) only for installation where transmitter is not installed above the sensor
(6) Versions with transmitter enclosure stainless steel (hygienic) installed in temperature class T5, a degree of 3°C for ambient temperature shall be taken into account
(7) this temperature table is not applicable for Class I Division 2 versions. For Class I Division 2 versions see temperature table on page 1/12

A	10.05.2016 / Bn	F	22.10.2019 / Bn
B	24.10.2016 / Bn	G	09.06.2021 / Bn
C	03.05.2017 / Bn	H	
D	30.10.2017 / Bn	J	
E	04.07.2018 / Bn	K	

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
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Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 2/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 300 **Proline Cubemass C 300**

Notes:
This page applies to versions with extended order code covering: 8*3B** – dd… O8*3B** – dd… 8x3Bxx – dd… O8x3Bxx – dd…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec / NI	-50	205	50	---	90	130	170	205	205
					55	---	---	(130)	(170)	(205)	(205)
Cubemass C	01 … 06	Ex ec / NI	-50	205	50	---	95	130	195	205	205
					55	---	---	(130)	(170)	(205)	(205)
Promass E	08 …15	Ex ec / NI	-50	205	50	---	80	115	165	205	205
					55	---	---	(115)	(140)	(205)	(205)
	25 … 80	Ex ec / NI	-50	205	50	---	60	95	140	205	205
					55	---	---	(95)	(140)	(205)	(205)
Promass F	08 … 15	Ex ec / NI	-50 / -200	150	50	---	80	115	150	150	150
					55	---	---	(115)	(150)	(150)	(150)
			-50 / -200	240	50	---	80	115	170	240	240
					55	---	---	(115)	(170)	(240)	(240)
	25 … 80	Ex ec / NI	-50 / -200	150	50	---	60	95	150	150	150
					55	---	---	(95)	(150)	(150)	(150)
			-50 / -200	240	50	---	60	95	160	240	240
					55	---	---	(95)	(160)	(240)	(240)
	100…250	Ex ec / NI	-50 / -200	150	50	---	60	95	150	150	150
					55	---	---	(95)	(150)	(150)	(150)
			-50 / -200	240	50	---	60	95	160	240	240
					55	---	---	(95)	(160)	(240)	(240)
	15…250	Ex ec / NI	-50 / -200	350	50	---	85	120	185	280	350
					60	---	---	120	185	280	350
Promass H	8	Ex ec / NI	-50 / -200	205	50	---	80	115	165	205	205
					55	---	---	(115)	(165)	(205)	(205)
	15 … 50	Ex ec / NI	-50 / -200	205	50	---	60	95	130	205	205
					55	---	---	(95)	(130)	(205)	(205)
Promass S, P	8	Ex ec / NI	-50	150	50	---	80	115	150	150	150
					55	---	---	(115)	(150)	(150)	(150)
			-50	205	50	---	80	115	170	205	205
					55	---	---	(115)	(170)	(205)	(205)
	15 … 50	Ex ec / NI	-50	150	50	---	60	95	150	150	150
					55	---	---	95	150	150	150
					60	---	---	(95)	(150)	(150)	(150)
			-50	205	50	---	60	95	160	205	205
					55	---	---	95	160	205	205
					60	---	---	(95)	(160)	(205)	(205)
Promass I	8 … 80	Ex ec / NI	-50	150	50	---	60	95	150	150	150
					60	---	---	(95)	(150)	(150)	(150)
Promass O	80…250	Ex ec / NI	-50	205	50	---	60	95	160	205	205
					55	---	---	(95)	(160)	(205)	(205)
Promass X	350	Ex ec / NI	-50	205	50	---	60	95	160	205	205
					55	---	---	(95)	(160)	(205)	(205)

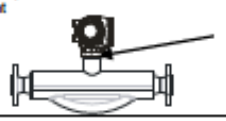
Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass Q	25…250	Ex ec / NI	-50 / -200	240	50	---	60	95	160	205	205
					55	---	(40)	(95)	(160)	(240)	(240)

Notes:
(1) this page coveres sensors with type of protection Ex ec, AEx ec and non-incendive. Sensors with type of protection Ex nC is applicable only for sensor versions without purge connection or rupture disk (temperature table see next page)
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate
(5) Versions with transmitter enclosure stainless steel (hygienic) are not allowed to be installed with insulation

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Sensor	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)	T2 (300°C)	T1 (450°C)
all	all	---	63 °C	72 °C	75°C	77°C	77°C

Notes:
(1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate
(2) location of reference point



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B	24.10.2016 / Bn	G	09.06.2021 / Bn	
C	03.05.2017 / Bn	H		
D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES0264G\FES0264G.doc

Control Drawing IECEx, ATEX, CSA, cCSA$_{US}$
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 3/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 300 **Proline Cubemass C 300**

Notes:
This page applies to versions with extended order code covering: 8*3B** – dd… O8*3B** – dd… 8x3Bxx – dd… O8x3Bxx – dd…
with approval option cCSAus / CSA: dd = CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,min}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
Cubemass C	01 … 06	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
Promass E	08 …15	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
	25 … 80	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
Promass F	08 … 15	Ex ec nC	-50 / -200	150	50	—	95	130	150	150	150
					55	—	—	(130)	(150)	(150)	(150)
			-50 / -200	240	50	—	95	130	195	240	240
					55	—	—	(130)	(195)	(240)	(240)
	25 … 80	Ex ec nC	-50 / -200	150	50	—	95	130	150	150	150
					55	—	—	(130)	(150)	(150)	(150)
			-50 / -200	240	50	—	95	130	195	240	240
					55	—	—	(130)	(195)	(240)	(240)
	100…250	Ex ec nC	-50 / -200	150	50	—	95	130	150	150	150
					55	—	—	(130)	(150)	(150)	(150)
			-50 / -200	240	50	—	95	130	195	240	240
					55	—	—	(130)	(195)	(240)	(240)
	15…250	Ex ec nC	-50 / -200	350	50	—	95	130	195	290	350
					60	—	—	130	195	290	350
Promass H	8	Ex ec nC	-50 / -200	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
	15 … 50	Ex ec nC	-50 / -200	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
Promass S, P	8	Ex ec nC	-50	150	50	—	95	130	150	150	150
					55	—	—	(130)	(150)	(150)	(150)
			-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
	15 … 50	Ex ec nC	-50	150	50	—	95	130	150	150	150
					55	—	—	130	150	150	150
					60	—	—	(130)	(150)	(150)	(150)
			-50	205	50	—	95	130	195	205	205
					55	—	—	130	195	205	205
					60	—	—	(130)	(195)	(205)	(205)
Promass I	8 … 80	Ex ec nC	-50	150	50	—	95	130	150	150	150
					60	—	—	(130)	(150)	(150)	(150)
Promass O	80…250	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)
Promass X	350	Ex ec nC	-50	205	50	—	95	130	195	205	205
					55	—	—	(130)	(195)	(205)	(205)

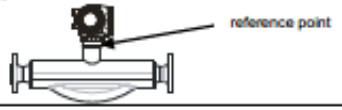
Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,min}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass Q	25…250	Ex ec nC	-50 / -200	240	50	---	95	130	195	205	205
					55	---	(40)	(95)	(160)	(240)	(240)

Notes:
(1) type of protection Ex ec nC and AEx ec nC is applicable only for sensor versions without purge connection or rupture disk
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate
(5) Versions with transmitter enclosure stainless steel (hygienic) are not allowed to be installed with insulation
(6) this temperature table is not applicable for Class I Division 2 versions. For Class I Division 2 versions see temperature table on page 3/12

Temperature table for versions in type of protection Ex ec nC, AEx ec nC with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	T_{med} 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)
all	all	---	63 °C	72 °C	75°C	77°C	77°C

Notes:
(1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate
(2) location of reference point



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B	24.10.2016 / Bn	G	09.06.2021 / Bn	
C	03.05.2017 / Bn	H		
D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0264G\FES0264G.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 4/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes:
This page applies to versions with extended order code covering: 8*5*** – dd*******B… O8*5*** – dd*******B… 8x5Bxx – dd*******B… O8x5Bxx – dd*******B…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor not insulated

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec / NI	-50	205	50	50	95	130	170	205	205
					60	—	95	130	170	205	205
Cubemass C	01 … 06	Ex ec / NI	-50	205	60	—	90	130	140	205	205
Promass E	08 …15	Ex ec / NI	-50	205	45	45	80	115	165	205	205
					60	—	80	115	165	205	205
	25 … 80	Ex ec / NI	-50	205	60	—	60	95	140	205	205
Promass F	08 … 15	Ex ec / NI	-50 / -200	150	50	50	80	115	150	150	150
					60	—	—	115	150	150	150
			-50 / -200	240	50	50	80	115	170	240	240
					60	—	80	115	170	240	240
	25 … 80	Ex ec / NI	-50 / -200	150	45	60	60	95	150	150	150
					60	—	60	95	150	150	150
			-50 / -200	240	45	60	60	95	160	240	240
					60	—	60	95	160	240	240
	100…250	Ex ec / NI	-50 / -200	150	45	60	60	95	150	150	150
					60	—	60	95	150	150	150
			-50 / -200	240	45	60	60	95	160	240	240
					60	—	60	95	160	240	240
	15…250	Ex ec / NI	-50 / -200	350	60	70	85	120	185	280	350
Promass H	8	Ex ec / NI	-50 / -200	205	50	45	80	115	165	205	205
					60	—	80	115	165	205	205
	15 … 50	Ex ec / NI	-50 / -200	205	60	—	60	95	130	205	205
Promass S, P	8	Ex ec / NI	-50	150	45	45	80	115	150	150	150
					60	—	80	115	150	150	150
			-50	205	45	45	80	115	170	205	205
					60	—	80	115	170	205	205
	15 … 50	Ex ec / NI	-50	150	45	45	60	95	150	150	150
					60	—	60	95	150	150	150
			-50	205	45	45	60	95	160	205	205
					60	—	60	95	160	205	205
Promass I	8 … 80	Ex ec / NI	-50	150	45	45	60	95	150	150	150
					60	—	60	95	150	150	150

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass O	80…250	Ex ec / NI	-50	205	45	45	60	95	160	205	205
					60	—	60	95	160	205	205
Promass X	350	Ex ec / NI	-50	205	45	45	60	95	160	205	205
					60	—	60	95	160	205	205
Promass Q	25…250	Ex ec / NI	-50 / -200	240	45	45	60	95	160	240	240
					60	—	60	95	160	240	240

Notes: (1) this page coveres sensors with type of protection Ex ec, AEx ec and non-incendive. Sensors with type of protection Ex nC applicable only for versions without purge connection or rupture disk (temperature tables see next page)
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) for maximum medium temperatue and minimum medium temperature see nameplate

Transmitter for all versions:

$T_{a,max}$		
T6 (85°C)	T5 (100°C)	T4 (135°C)
—	45	60

Notes: (1) Ta,min = -40°C, -50°C respectively (see name plate)

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B	24.10.2016 / Bn	G	09.06.2021 / Bn		
C	03.05.2017 / Bn	H			Ersatz für:
D	30.10.2017 / Bn	J			Ersteller: FES / Bn
E	04.07.2018 / Bn	K			FILE: M:\Zeichng\FES\0264\G\FES0264G.doc

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$

Zone 2, Cl.I Div. 2, Cl.I Zone 2

Thermal Parameter

Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 5/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes:
This page applies to versions with extended order code covering: 8*5*** – dd*******B… O8*5*** – dd*******B… 8x5Bxx – dd*******B… O8x5Bxx – dd*******B…
with approval option cCSAus / CSA: dd = CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor not insulated

Sensor	Size / DN	type of protection	T_{medium} min [°C]	T_{medium} max [°C]	$T_{a,max}$ [°C]	$T_{medium,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec nC	-50	205	60	80	95	130	195	205	205
Cubemass C	01 … 06	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass E	08 …15	Ex ec nC	-50	205	60	80	95	130	195	205	205
	25 … 80	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass F	08 … 15	Ex ec nC	-50 / -200	150	60	80	95	130	150	150	150
			-50 / -200	240	60	80	95	130	195	240	240
	25 … 80	Ex ec nC	-50 / -200	150	60	80	95	130	150	150	150
			-50 / -200	240	60	80	95	130	195	240	240
	100…250	Ex ec nC	-50 / -200	150	60	80	95	130	150	150	150
			-50 / -200	240	60	80	95	130	195	240	240
	15…250	Ex ec nC	-50 / -200	350	60	80	95	130	195	290	350
Promass H	8	Ex ec nC	-50 / -200	205	60	80	95	130	195	205	205
	15 … 50	Ex ec nC	-50 / -200	205	60	80	95	130	195	205	205
Promass S, P	8	Ex ec nC	-50	150	60	80	95	130	150	150	150
			-50	205	60	80	95	130	195	205	205
	15 … 50	Ex ec nC	-50	150	60	80	95	130	150	150	150
			-50	205	60	80	95	130	195	205	205
Promass I	8 … 80	Ex ec nC	-50	150	60	80	95	130	150	150	150
Promass O	80…250	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass X	350	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass Q	25…250	Ex ec nC	-50 / -200	240	60	80	95	130	195	240	240

Notes: (1) type of protection Ex ec nC and AEx ec nC is applicable only for sensor versions without purge connection or rupture disk
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) for maximum medium temperatue and minimum medium temperature see nameplate
(4) this temperature table is not applicable for Class I Division 2 versions. For Class I Division 2 versions see temperature table on page 5/12

Transmitter for all versions:

$T_{a,max}$		
T6 (85°C)	T5 (100°C)	T4 (135°C)
—	45	60

Notes: (1) Ta,min = -40°C, -50°C respectively (see name plate)

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B	24.10.2016 / Bn	G	09.06.2021 / Bn		Ersatz für:
C	03.05.2017 / Bn	H			Ersteller: FES / Bn
D	30.10.2017 / Bn	J			FILE: M:\Zeichng\FES\0264G\FES0264G.doc
E	04.07.2018 / Bn	K			

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 6/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes: This page applies to versions with extended order code covering: 8*5*** – dd*******B… O8*5*** – dd*******B… 8x5Bxx – dd*******B… O8x5Bxx – dd*******B…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	type of protection	T_{amb} min [°C]	T_{amb} max [°C]	$T_{a,max}$ [°C]	$T_{surface}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 … 04	Ex ec / NI	-50	205	50	50	95	130	150	150 (180)	150 (180)
					60	---	95	130	150	150	150
Cubemass C	01 … 06	Ex ec / NI	-50	205	50	---	90	130	140	(180)	(180)
					60	---	90	130	140	150	150
Promass E	08 …15	Ex ec / NI	-50	205	45	45	80	115	165	205	205
					60	---	80	115	165	205	205
	25 … 80	Ex ec / NI	-50	205	60	---	60	95	140	205	205
Promass F	08 … 15	Ex ec / NI	-50 / -200	150	50	50	80	115	150	150	150
					60	---	80	115	150	150	150
			-50 / -200	240	50	50	80	115	170	240	240
					60	---	80	115	170	240	240
	25 … 80	Ex ec / NI	-50 / -200	150	45	60	60	95	150	150	150
					60	---	60	95	150	150	150
			-50 / -200	240	45	60	60	95	160	240	240
					60	---	60	95	160	240	240
	100…250	Ex ec / NI	-50 / -200	150	45	60	60	95	150	150	150
					60	---	60	95	150	150	150
			-50 / -200	240	45	60	60	95	160	240	240
					60	---	60	95	160	240	240
	15…250	Ex ec / NI	-50 / -200	350	60	70	85	120	185	280	350
Promass H	8	Ex ec / NI	-50 / -200	205	50	45	80	115	165	205	205
					60	---	80	115	165	205	205
	15 … 50	Ex ec / NI	-50 / -200	205	60	---	60	95	130	205	205
Promass S, P	8	Ex ec / NI	-50	150	45	45	80	115	150	150	150
					60	---	80	115	150	150	150
			-50	205	45	45	80	115	170	205	205
					60	---	80	115	170	205	205
	15 … 50	Ex ec / NI	-50	150	45	45	60	95	150	150	150
					60	---	60	95	150	150	150
			-50	205	45	45	60	95	160	205	205
					60	---	60	95	160	205	205
Promass I	8 … 80	Ex ec / NI	-50	150	45	45	60	95	150	150	150
					60	---	60	95	150	150	150
Promass O	80…250	Ex ec / NI	-50	205	45	45	60	95	160	205	205
					60	---	60	95	160	205	205
Promass X	350	Ex ec / NI	-50	205	45	45	60	95	160	205	205
					60	---	60	95	160	205	205
Promass Q	25…250	Ex ec / NI	-50 / -200	240	45	45	60	95	160	240	240
					60	---	60	95	160	240	240

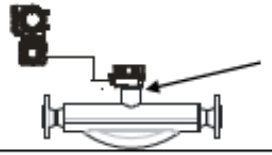
Notes: (1) this page coveres sensors with type of protection Ex ec, AEx ec and non-incendive. Sensors with type of protection Ex nC applicable only for versions without purge connection or rupture disk (temperature tables see next page)
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate

Temperature table for versions in type of protection Ex ec, AEx ec or or Non-incendive with sensor insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	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)	T2 (300°C)	T1 (450°C)
all	all	69	72	84	91	91	91

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Transmitter for all versions:

$T_{a,max}$ T6 (85°C)	T5 (100°C)	T4 (135°C)
---	45	60

Notes: (1) Ta,min = -40°C, -50°C respectively (see name plate)

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C	03.05.2017 / Bn	H		
D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0264\G\FES0264G.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 7/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes: This page applies to versions with extended order code covering: 8*5*** – dd*******B... O8*5*** – dd*******B... 8x5Bxx – dd*******B... O8x5Bxx – dd*******B...
with approval option cCSAus / CSA: dd = CZ
IECEx / ATEX: dd = BS

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 ... 04	Ex ec nC	-50	205	50	80	95	130	150	150 (180)	150 (180)
					60	---	95	130	150	150	150
Cubemass C	01 ... 06	Ex ec nC	-50	205	50	80	95	130	150	(180)	(180)
					60	80	95	130	150	150	150
Promass E	08 ...15	Ex ec nC	-50	205	60	80	95	130	195	205	205
	25 ... 80	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass F	08 ... 15	Ex ec nC	-50 / -200	150	60	80	95	130	150	150	150
			-50 / -200	240	60	80	95	130	195	240	240
	25 ... 80	Ex ec nC	-50 / -200	150	60	80	95	130	150	150	150
			-50 / -200	240	60	80	95	130	195	240	240
	100...250	Ex ec nC	-50 / -200	150	60	80	95	130	150	150	150
			-50 / -200	240	60	80	95	130	195	240	240
	15...250	Ex ec nC	-50 / -200	350	60	80	95	130	195	290	350
Promass H	8	Ex ec nC	-50 / -200	205	60	80	95	130	195	205	205
	15 ... 50	Ex ec nC	-50 / -200	205	60	80	95	130	195	205	205
Promass S, P	8	Ex ec nC	-50	150	60	80	95	130	150	150	150
			-50	205	60	80	95	130	195	205	205
	15 ... 50	Ex ec nC	-50	150	60	80	95	130	150	150	150
			-50	205	60	80	95	130	195	205	205
Promass I	8 ... 80	Ex ec nC	-50	150	60	80	95	130	150	150	150
Promass O	80...250	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass X	350	Ex ec nC	-50	205	60	80	95	130	195	205	205
Promass Q	25...250	Ex ec nC	-50 / -200	240	60	80	95	130	195	240	240

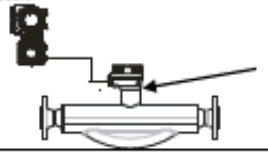
Notes:
(1) type of protection Ex ec nC and AEx ec nC is applicable only for sensor versions without purge connection or rupture disk
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate
(5) this temperature table is not applicable for Class I Division 2 versions. For Class I Division 2 versions see temperature table on page 7/12

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Sensor	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)	T2 (300°C)	T1 (450°C)
all	all	69	72	84	91	91	91

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Transmitter for all versions:

$T_{a,max}$ T6 (85°C)	T5 (100°C)	T4 (135°C)
---	45	60

Notes: (1) Ta,min = -40°C, -50°C respectively (see name plate)

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B	24.10.2016 / Bn	G	09.06.2021 / Bn	
C	03.05.2017 / Bn	H		
D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES0264G\FES0264G.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 8/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes:
This page applies to versions with extended order code covering: 8*5*** – dd*******A… O8*5*** – dd*******A… 8x5Bxx – dd*******A… O8x5Bxx – dd*******A…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS, BL

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor not insulated

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A (type 8A5B)	01 … 04	Ex ec / NI	-50	205	60	—	95	130	170	205	205
Promass A (type 8A5C)	01 … 04	Ex ec / NI	-50	205	55	—	95	130	170	205	205
					60	—	95	130	170	190	190
Cubemass C	01 … 06	Ex ec / NI	-50	205	55	—	95	130	140	205	205
					60	—	95	130	140	160	160
Promass E	08 …15	Ex ec / NI	-50	205	60	—	75	115	165	205	205
	25 … 80	Ex ec / NI	-50	205	60	—	60	95	140	205	205
Promass F	08 … 15	Ex ec / NI	-50 / -200	150	55	—	80	115	130	150	150
					60	—	80	115	130	130	130
			-50 / -200	240	60	—	80	115	170	240	240
	25 … 80	Ex ec / NI	-50 / -200	150	55	—	60	95	150	150	150
					60	—	60	95	130	130	130
			-50 / -200	240	60	—	60	95	160	240	240
	100…250	Ex ec / NI	-50 / -200	150	55	—	60	95	150	150	150
					60	—	60	95	130	130	130
			-50 / -200	240	60	—	60	95	160	240	240
	15…250	Ex ec / NI	-50 / -200	350	50	—	85	120	185	280	350
					60	—	85	120	185	240 (280)	240 (350)
Promass H	8	Ex ec / NI	-50 / -200	205	60	—	80	115	165	205	205
	15 … 50	Ex ec / NI	-50 / -200	205	60	—	60	95	130	205	205
Promass S, P	8	Ex ec / NI	-50	150	60	—	80	115	150	150	150
			-50	205	60	—	80	115	170	205	205
	15 … 50	Ex ec / NI	-50	150	60	—	60	95	150	150	150
			-50	205	60	—	60	95	160	205	205
Promass I	8 … 80	Ex ec / NI	-50	150	55	—	60	95	150	150	150
					60	—	60	95	140	140	140
Promass O	80…250	Ex ec / NI	-50	205	60	—	60	95	160	205	205

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass X	350	Ex ec / NI	-50	205	60	—	60	95	160	205	205
Promass Q	25…250	Ex ec / NI	-50 / -200	240	60	—	60	95	160	240	240

Notes: (1) this page coveres sensors with type of protection Ex ec, AEx ec and non-incendive. Sensors with type of protection Ex nC applicable only for versions without purge connection or rupture disk (temperature tables see next page)
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate

Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C	T4 (135°C)
aluminium	60	—	45	60
plastic	60	—	—	—

Notes: (1) aluminium enclosure: Ta,min = -40°C, -50°C respectively (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

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C	03.05.2017 / Bn	H		
D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

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Ersatz für:
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Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0264G 9/12

Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes:
This page applies to versions with extended order code covering: 8*5*** – dd*******A… O8*5*** – dd*******A… 8x5Bxx – dd*******A… O8x5Bxx – dd*******A…

with approval option cCSAus / CSA: dd = CZ
IECEx / ATEX: dd = BS, BL

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor not insulated

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A (type 8A5B)	01 … 04	Ex ec nC	-50	205	60	---	95	130	195	205	205
Promass A (type 8A5C)	01 … 04	Ex ec nC	-50	205	55	---	95	130	195	205	205
					60	---	95	130	190	190	190
Cubemass C	01 … 06	Ex ec nC	-50	205	55	---	95	130	195	205	205
					60	---	95	130	160	160	160
Promass E	08 …15	Ex ec nC	-50	205	60	---	95	130	195	205	205
	25 … 80	Ex ec nC	-50	205	60	---	95	130	195	205	205
Promass F	08 … 15	Ex ec nC	-50 / -200	150	55	---	95	130	130	150	150
					60	---	95	130	130	130	130
			-50 / -200	240	60	---	95	130	195	240	240
	25 … 80	Ex ec nC	-50 / -200	150	55	---	95	130	150	150	150
					60	---	95	130	130	130	130
			-50 / -200	240	60	---	95	130	195	240	240
	100…250	Ex ec nC	-50 / -200	150	55	---	95	130	150	150	150
					60	---	95	130	130	130	130
			-50 / -200	240	60	---	95	130	195	240	240
	15…250	Ex ec nC	-50 / -200	350	50	---	95	130	195	290	350
					60	---	95	130	195	240 (280)	240 (350)
Promass H	8	Ex ec nC	-50 / -200	205	60	---	95	130	195	205	205
	15 … 50	Ex ec nC	-50 / -200	205	60	---	95	130	195	205	205
Promass S, P	8	Ex ec nC	-50	150	60	---	95	130	150	150	150
			-50	205	60	---	95	130	195	205	205
	15 … 50	Ex ec nC	-50	150	60	---	95	130	150	150	150
			-50	205	60	---	95	130	195	205	205
Promass I	8 … 80	Ex ec nC	-50	150	55	---	95	130	150	150	150
					60	---	95	130	140	140	140
Promass O	80…250	Ex ec nC	-50	205	60	---	95	130	195	205	205
Promass X	350	Ex ec nC	-50	205	60	---	95	130	195	205	205
Promass Q	25…250	Ex ec nC	-50 / -200	240	60	---	95	130	195	240	240

Notes: (1) type of protection Ex ec nC and Ex ec nC is applicable only for sensor versions without purge connection or rupture disk
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) for maximum medium temperatue and minimum medium temperature see nameplate
(5) this temperature table is not applicable for Class I Division 2 versions. For Class I Division 2 versions see temperature table on page 9/12

Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -40°C, -50°C respectively (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

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D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

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Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

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Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes: This page applies to versions with extended order code covering: 8*5*** – dd*******A... O8*5*** – dd*******A... 8x5Bxx – dd*******A... O8x5Bxx – dd*******A...
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS, BL

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 ... 04	Ex ec / NI	-50	205	50	---	95	130	130	130	130
Cubemass C	01 ... 06	Ex ec / NI	-50	205	50	---	90	130	130	130	130
Promass E	08 ...15	Ex ec / NI	-50	205	50	---	75	115	165	205	205
	25 ... 80	Ex ec / NI	-50	205	50	---	60	95	140	205	205
Promass F	08 ... 15	Ex ec / NI	-50 / -200	150	45	---	80	115	150	150	150
					50	---	80	115	130	130	130
			-50 / -200	240	50	---	80	115	170	240	240
	25 ... 80	Ex ec / NI	-50 / -200	150	45	---	60	95	150	150	150
					50	---	60	95	130	130	130
			-50 / -200	240	50	---	60	95	160	240	240
	100...250	Ex ec / NI	-50 / -200	150	45	---	60	95	150	150	150
					50	---	60	95	130	130	130
			-50 / -200	240	50	---	60	95	160	240	240
	15...250	Ex ec / NI	-50 / -200	350	50	---	85	120	185	280	350
Promass H	8	Ex ec / NI	-50 / -200	205	55	---	80	115	165	205	205
	15 ... 50	Ex ec / NI	-50 / -200	205	55	---	60	95	130	205	205
Promass S, P	8	Ex ec / NI	-50	150	45	---	80	100	150	150	150
					50	---	80	100	130	130	130
			-50	205	55	---	80	115	170	205	205
	15 ... 50	Ex ec / NI	-50	150	45	---	60	95	150	150	150
					50	---	60	95	130	130	130
			-50	205	55	---	60	95	160	205	205
Promass I	8 ... 80	Ex ec / NI	-50	150	45	---	60	95	150	150	150
					50	---	60	95	130	130	130
Promass O	80...250	Ex ec / NI	-50	205	55	---	60	95	160	205	205
Promass X	350	Ex ec / NI	-50	205	55	---	60	95	160	205	205
Promass Q	25...250	Ex ec / NI	-50 / -200	240	50	---	60	95	160	240	240

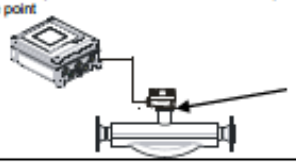
Notes: (1) this page coveres sensors with type of protection Ex ec, AEx ec and non-incendive. Sensors with type of protection Ex ec nC applicable only for versions without purge connection or rupture disk (temperature tables see next page)
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) for maximum medium temperatue and minimum medium temperature see nameplate

Temperature table for versions in type of protection Ex ec, AEx ec or Non-incendive with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Sensor	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)	T2 (300°C)	T1 (450°C)
all	all	---	72	82	85	85	85

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100C	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -40°C, -50°C respectively (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

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D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

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Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

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Proline Promass A/E/F/H/I/O/P/Q/S/X 500 **Proline Cubemass C 500**

Notes: This page applies to versions with extended order code covering: 8*5*** – dd*******A... with approval option; O8*5*** – dd*******A... cCSAus / CSA: dd = CZ IECEx / ATEX: dd = BS, BL; 8x5Bxx – dd*******A...; O8x5Bxx – dd*******A...

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Sensor	Size / DN	type of protection	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promass A	01 ... 04	Ex ec nC	-50	205	50	—	95	130	130	130	130
Cubemass C	01 ... 06	Ex ec nC	-50	205	50	—	95	130	130	130	130
Promass E	08 ...15	Ex ec nC	-50	205	50	—	95	130	195	205	205
	25 ... 80	Ex ec nC	-50	205	50	—	95	130	195	205	205
Promass F	08 ... 15	Ex ec nC	-50 / -200	150	45	—	95	130	150	150	150
					50	—	95	130	130	130	130
			-50 / -200	240	50	—	95	130	195	240	240
	25 ... 80	Ex ec nC	-50 / -200	150	45	—	95	130	150	150	150
					50	—	95	130	130	130	130
			-50 / -200	240	50	—	95	130	195	240	240
	100...250	Ex ec nC	-50 / -200	150	45	—	95	130	150	150	150
					50	—	95	130	130	130	130
			-50 / -200	240	50	—	95	130	195	240	240
	15...250	Ex ec nC	-50 / -200	350	50	—	95	130	195	280	350
Promass H	8	Ex ec nC	-50 / -200	205	55	—	95	130	195	205	205
	15 ... 50	Ex ec nC	-50 / -200	205	55	—	95	130	195	205	205
Promass S, P	8	Ex ec nC	-50	150	45	—	95	130	150	150	150
					50	—	95	130	130	130	130
			-50	205	55	—	95	130	195	205	205
	15 ... 50	Ex ec nC	-50	150	45	—	95	130	150	150	150
					50	—	95	130	130	130	130
			-50	205	55	—	95	130	195	205	205
Promass I	8 ... 80	Ex ec nC	-50	150	45	—	95	130	150	150	150
					50	—	95	130	130	130	130
Promass O	80...250	Ex ec nC	-50	205	55	—	95	130	195	205	205
Promass X	350	Ex ec nC	-50	205	55	—	95	130	195	205	205
Promass Q	25...250	Ex ec nC	-50 / -200	240	50	—	95	130	195	240	240

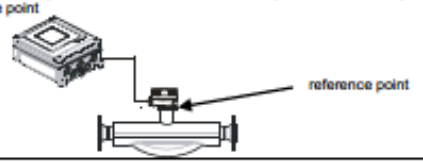
Notes: (1) type of protection Ex ec nC and AEx ec nC is applicable only for sensor versions without purge connection or rupture disk
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) for maximum medium temperatue and minimum medium temperature see nameplate
(4) this temperature table is not applicable for Class I Division 2 versions. For Class I Division 2 versions see temperature table on page 11/12

Temperature table for versions in type of protection Ex ec nC or AEx ec nC with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Sensor	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)	T2 (300°C)	T1 (450°C)
all	all	—	72	82	85	85	85

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100C)	T4 (135°C)
aluminium	60	—	45	60
plastic	60	—	—	—

Notes: (1) aluminium enclosure: Ta,min = -40°C, -50°C respectively (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

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C	03.05.2017 / Bn	H		
D	30.10.2017 / Bn	J		
E	04.07.2018 / Bn	K		

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Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promass 300/500, Proline Cubemass 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	09.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

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4. Marking

Proline Promass 300, Proline Cubemass 300			
Model Code: 8*3*** – dd*ff**********+#**# O8*3*** – dd*ff**********+#**#			
dd = approval	ff = I/O	Marking of Ex protection	Information: Marking of protection representative for …
BA	CA, CB, CC, CD, HA, TA, MC, RC	Ex db eb ia [ia Ga] IIB T6...T1 Ga/Gb [1)] Ex db eb ia [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db	db -> electronic compartment eb -> terminal compartment ia -> sensor tb -> enclosure [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIB T6...T1 Ga/Gb [1)] Ex db eb ia IIB T6...T1 Gb Ex tb IIIC T** °C Db	
BB	CA, CB, CC, CD, HA, TA, MC, RC	Ex db eb ia [ia Ga] IIC T6...T1 Ga/Gb [1)] Ex db eb ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db	db -> electronic compartment eb -> terminal compartment ia -> sensor tb -> enclosure [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIC T6...T1 Ga/Gb [1)] Ex db eb ia IIC T6...T1 Gb [1)] Ex tb IIIC T** °C Db	
BC	CA, CB, CC, CD, HA, TA, MC, RC	Ex db ia [ia Ga] IIB T6...T1 Ga/Gb [1)] Ex db ia [ia Ga] IIB T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db	db -> electronic compartment ia -> sensor tb -> enclosure [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIB T6...T1 Ga/Gb [1)] Ex db ia IIB T6...T1 Gb Ex tb IIIC T** °C Db	
BD	CA, CB, CC, CD, HA, TA, MC, RC	Ex db ia [ia Ga] IIC T6...T1 Ga/Gb [1)] Ex db ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db	db -> electronic compartment ia -> sensor tb -> enclosure [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIC T6...T1 Ga/Gb [1)] Ex db ia IIC T6...T1 Gb Ex tb IIIC T** °C Db	
BS	CA, CB, CC, CD, HA, TA, MC, RC	Ex ec nC [ic] IIC T5...T1 Gc	ec -> transmitter and sensor enclosure nC -> electronic [ic] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC IIC T5...T1 Gc	

[1)] The following sensors are marked for EPL Gb and Cl.I Zone 1 only without zone separation: Promass A DN1, Promass H DN8…50, Promass I DN 8…80

Proline Promass 500 with ISEM integrated in transmitter, Proline Cubemass 500 with ISEM integrated in transmitter			
Model Code: 8*5*** – dd*ff****B**********+#**# O8*5*** – dd*ff****B**********+#**#			
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter
BA	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db eb ia [ia Ga] IIB T6…T5 Gb Ex tb [ia Da] IIIC T85°C Db
		Sensor	Ex ia IIB T6...T1 Ga/Gb [1)] Ex ia IIB T6...T1 Gb Ex ia tb IIIC T** °C Db
BB	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db eb ia [ia Ga] IIC T6… T5 Gb Ex tb [ia Da] IIIC T85°C Db
		Sensor	Ex ia IIC T6...T1 Ga/Gb [1)] Ex ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
BC	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db ia [ia Ga] IIB T6… T5 Gb Ex tb [ia Da] IIIC T85°C Db
		Sensor	Ex ia IIB T6...T1 Ga/Gb [1)] Ex ia IIB T6...T1 Gb Ex ia tb IIIC T** °C Db
BD	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db ia [ia Ga] IIC T6… T5 Gb Ex tb [ia Da] IIIC T85°C Db
		Sensor	Ex ia IIC T6...T1 Ga/Gb [1)] Ex ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
BS	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc
		Sensor	Ex ec IIC T6...T1 Gc or Ex ec nC IIC T6…T1 Gc [2)]

Information: Marking of protection representative for …		
db	->	electronic compartment
eb	->	terminal compartment
ia	->	sensor
tb	->	enclosure
[ia Ga]	->	input/output Ex ia and sensor
[ia Da]	->	input/output Ex ia and sensor
db	->	electronic compartment
eb	->	terminal compartment
ia	->	sensor
tb	->	enclosure
[ia Ga]	->	input/output Ex ia and sensor
db	->	electronic compartment
ia	->	sensor
tb	->	enclosure
[ia Ga]	->	input/output Ex ia and sensor
[ia Da]	->	input/output Ex ia and sensor
db	->	electronic compartment
ia	->	sensor
tb	->	enclosure
[ia Ga]	->	input/output Ex ia and sensor
[ia Da]	->	input/output Ex ia and sensor
ec	->	transmitter and sensor enclosure
nC	->	electronic
[ic]	->	input/output Ex ia

[1)] The following sensors are marked for EPL Gb and Cl.I Zone 1 only without zone separation: Promass A DN1, Promass H DN8…50, Promass I DN 8…80

[2)] Marking Ex ec nC only applicable for sensors without purge connection or rupture disk

Proline Promass 500 with ISEM integrated in sensor, Proline Cubemass 500 with ISEM integrated in sensor				
Model Code: 8*5*** – dd*ff****A**********+#**# O8*5*** – dd*ff****A**********+#**#				
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter	Information:Marking of protection representative for …
BI	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	[Ex ia] IIC [Ex ia] IIIC	[Ex ia] -> sensor circuit ia -> sensor tb -> enclosure
		Sensor	Ex ia IIB T6...T1 Ga/Gb [1)] Ex ia IIB T6...T1 Gb Ex ia tb IIIC T** °C Db	
BJ	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	[Ex ia] IIC [Ex ia] IIIC	[Ex ia] -> sensor circuit ia -> sensor tb -> enclosure
		Sensor	Ex ia IIC T6...T1 Ga/Gb [1)] Ex ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db	
BL	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	[Ex ic] IIC	[Ex ic] -> input/output Ex ic ec -> transmitter and sensor enclosure nC -> sensor
		Sensor	Ex ec ic IIC T5...T1 Gc or Ex ec ic nC IIC T5...T1 Gc 3)	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	n.a. (non-Ex)	ec -> transmitter and sensor enclosure nC -> sensor
		Sensor	Ex ec ic IIC T5...T1 Gc or Ex ec ic nC IIC T5...T1 Gc 3)	
BM	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	Ex ec nC [ic][ia Ga] IIC T5…T4 Gc [Ex ia] IIIC	[Ex ia] -> sensor circuit ia -> sensor tb -> enclosure
		Sensor	Ex ia IIB T6...T1 Ga/Gb [1)] Ex ia IIB T6...T1 Gb Ex ia tb IIIC T** °C Db	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC [ia Ga] IIC T5…T4 Gc [Ex ia] IIIC	[Ex ia] -> sensor circuit ia -> sensor tb -> enclosure
		Sensor	Ex ia IIB T6...T1 Ga/Gb [1)] Ex ia IIB T6...T1 Gb Ex ia tb IIIC T** °C Db	

Proline Promass 500 with ISEM integrated in sensor, Proline Cubemass 500 with ISEM integrated in sensor			
Model Code: 8*5*** – dd*ff****A**********+#**# O8*5*** – dd*ff****A**********+#**#			
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter
BN	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	Ex ec nC [ic][ia Ga] IIC T5…T4 Gc [Ex ia] IIIC
		Sensor	Ex ia IIC T6...T1 Ga/Gb [1)] Ex ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC [ia Ga] IIC T5…T4 Gc [Ex ia] IIIC
		Sensor	Ex ia IIC T6...T1 Ga/Gb [1)] Ex ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
BS	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc
		Sensor	Ex ec IIC T5...T1 Gc or Ex ec nC IIC T5...T1 Gc [2)]
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC IIC T5…T4 Gc
		Sensor	Ex ec IIC T5...T1 Gc or Ex ec nC IIC T5...T1 Gc [2)]

Information:Marking of protection representative for …
[Ex ia] -> sensor circuit ia -> sensor tb -> enclosure
ec -> transmitter and sensor enclosure nC -> sensor

[1)] The following sensors are marked for EPL Gb and Cl.I Zone 1 only without zone separation: Promass A DN1, Promass H DN8…50, Promass I DN 8…80

[2)] Marking Ex ec nC only applicable for sensors without purge connection or rupture disk

5. Conditions of Certification

- All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalization must exist.

- The sensors may only be used for those process media, for which the wetted parts are known to be suitable

- Plastic transmitter enclosures for the order codes

  Proline Promass 8*5***-(BI/BJ)*******A….,
  Proline Promass O8*5***-(BI/BJ)*******A….,
  Proline Promass 8X5* XX -(BI/BJ) *******A….
  Proline Promass O8X5* XX -(BI/BJ) *******A….

  shall be installed in an area of at least pollution degree 2.

- If the flowmeter system is connected to remote display type DKX001, the approval codes 'dd' for the flowmeter shall be paired to the approval code "bb" of the remote display as follows:

Approval code 'dd' of Proline Promass 300	Approval code 'bb' of remote display DKX001/ODKX001 as covered by IECEx DEK 15.0024
BA, BB, BC or BD	BE, BF or BG
BS	BS

- The Proline 300/500 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

- Only use battery Renata type lithium CR1632, 3V.

- The flameproof joints are not intended to be repaired.

- For Proline Promass 300_500 with order code 'dd' = BA, BB, BC, BD, BI, BJ, BM & BN:
  Zone 0 is only applicable to sensor with process medium in the measuring tube

<u>Applicable to Antenna bushing H337 when used with Proline 300/500 transmitter enclosure:</u>

- Antenna supplied by Endress+Hauser shall be used only. As an alternate, any passive omni-directional RF antenna with or without cable is permitted to be connected when meeting the following parameters:
  a) The antenna connected to the antenna bushing shall have an impedance of at least 50Ω
  b) The rated frequency range of the antenna shall not exceed 1710MHz … 6000MHz
  c) The rated power of the antenna shall be at least 100mW

- The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure

- The RF antenna or the RF antenna cable shall be fitted with a Series N (MIL-STD-348) plug connector. The coupling nut of the Series N plug connector shall be hand tightened only

- The metal enclosure of the Antenna Bushing H337 shall be securely connected to local earth, typically via the enclosure to which it is connected

Annex B:

This Annex is applicable for flowmeters type Proline Promag 300/500

Table of Contents

1. Description

The Proline 300 / 500 is a platform used for flowmeters of type Proline Promag 300 and Proline Promag 500. All flowmeters are available in two versions, a compact version (Proline 300) and a remote version (Proline 500). The remote Proline 500 version is also available as a version with ISEM electronic integrated in transmietter where the sensor sends analog signals to the transmitter and a version with ISEM electronic in sensor where the sensor is connected by a digital circuit to the transmitter with additional electronics located at the sensor for assessment of the sensor signals.

For all versions of the Proline 300, an additional remote Display, e.g. DKX001 or ODKX001, may be connected to the electronics. The remote display is available in two options for the user. Either it is ordered as a separate product or by the product of the flowmeter.

Different electronics are used for the flowmeters where the sensor is installed in a Zone 1 or 2 location and where the transmitter can be installed in a safe area or Zone 1 or 2 locations. All versions of electronics are designed either with intrinsically safe IO's (Ex ia for Zone 1 or Ex ic for Zone 2) or with non-intrinsically safe IO's. A mix of type of protections, Ex i in combination with non-Ex i IO's is not allowed.

All Proline Promag 300/500 flowmeters are available for an ambient temperature of -40°C to +60°C and optional -50°C to +60°C.

All versions of flowmeters Proline Promag 300 and Promag 500 are available for an enclosure protection of degree IP66, IP67. In addition versions of remote sensor Proline Promag 500 are available for enclosure protection of degree IP68 as an optional.

2. Order Code

2.1. Proline Promag 300/500

Extended order code Proline Promag 300:

5a3bcc – ddzeffghjlpstttuvww + ##**	
O5a3bcc – ddzeffghjlpstttuvwwyy + ##**	for OEM-version
5x3bxx – ddeffghjlpww + ##**	for replacement transmitter only
O5x3bxx – ddeffghjlpwwyy + ##**	for replacement transmitter OEM

Extended order code Proline Promag 500:

5a5bcc – ddzeffghijkmnopstttuvww + ##**	
O5a5bcc – ddzeffghijkmnopstttuvwwyy + ##**	for OEM-version
5x5bxx – ddeffghijkmopqqww + ##**	for replacement transmitter only
O5x5bxx – ddeffghijkmopqqwwyy + ##**	for replacement transmitter OEM

a = Type of sensor
- H = Sensor Promag H
- P = Sensor Promag P
- W = Sensor Promag W

b = Generation
- B = Generation of Flowmeter

cc = Size
- any combination of number and/or letter up to size = DN3000

dd = Approval

Proline Promag 300 :
- BB = Ex db eb [ia] IIC T6…T1 Gb
  Ex tb IIIC T* Db
- BD = Ex db [ia] IIC T6…T1 Gb
  Ex tb IIIC T* Db
- BS = Ex ec IIC T5…T1 Gc

Proline Promag 500 :

BB	=	Ex db eb [ia] IIC T6…T4 Gb	(transmitter)
		Ex eb ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
BD	=	Ex db [ia] IIC T6…T1 Gb	(transmitter)
		Ex eb ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
BJ	=	non-Ex	(transmitter)
		Ex db ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BL	=	non-Ex	(transmitter)
		Ex ec ic IIC T6…T1 Gc	(sensor)
BN	=	Ex ec IIC T6…T1 Gc	(transmitter)
		Ex db ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T* Db	(sensor)
BS	=	Ex ec IIC T5…T1 Gc	(transmitter + sensor)
B7	=	Ex db eb [ia] IIC T6…T1 Gb	(transmitter)
		Ex eb [ia] IIC T6…T1 Gb	(sensor)
B8	=	Ex db [ia] IIC T6…T1 Gb	(transmitter)
		Ex eb [ia] IIC T6…T1 Gb	(sensor)

z = **Design** (Promag W 300 and Proline W 500 only)
any single number or letter

e = **Power Supply**

D	=	24Vdc
E	=	100-230Vac
I	=	100-230Vac / 24Vdc
X	=	sensor only

ff = **Input / Output 1**

BA	=	4-20mA HART
BB	=	4-20mA WHART
CA	=	4-20mA HART Ex i (passive)
CB	=	4-20mA WHART Ex i (passive)
CC	=	4-20mA HART Ex i (active)
CD	=	4-20mA WHART Ex i (active)
GA	=	Profibus PA
HA	=	Profibus PA Ex i
LA	=	Profibus DP
MA	=	Modbus RS485
MB	=	Modbus TCP
MC	=	Modbus TCP Ex i
NA	=	EtherNet/IP
RA	=	Profinet IO
RB	=	Profinet
RC	=	Profinet Ex i
SA	=	Foundation Fieldbus
TA	=	Foundation Fieldbus Ex i
XX	=	sensor only

g = Input / Output 2
- A = without Input/Output 2
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

h = Input / Output 3
- A = without Input/Output 3
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

i = Input / Output 4 (Proline 500 only)
- A = without Input/Output 4
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

j = Display / Operation
- with remote Display : O
- without remote Display : any single number or letter except O

k = Integrated ISEM electronic (Proline 500 only)
- A = Sensor
- B = Transmitter

l = Housing (Proline 300 only)
- any single number or letter

m = **Transmitter Housing** (Proline 500 only)
any single number or letter
n = **Sensor Housing** (Proline 500 only)
any single number or letter
o = **Cable Sensor Connection** (Proline 500 only)
any single number or letter
p = **Cable Entry**
any single number or letter
qq = **Upgrade Kid**
any double digits with combination of number or letter
s = **Liner material**
any single number or letter
ttt = **Process connection**
any triple digits with combination of number or letter
u = **Electrode**
any number or letter
v = **Calibration**
any single number or letter
ww = **Device Model (two digit)** (refer to section 1.2 for assignment table of flowmeter to replacement transmitter)
A1 = product version 1
A2 = product version 2
yy = **Customer version (two digits)**
any double digits with combination of number or letter

****** = **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. Assignment of Flowmeter to Replacement Transmitter

The replacement transmitters are assigned to the flowmeter Proline Promag 300/500 as follows:

Product flowmeters				**Replacement transmitter type**		
model code		**Generation code b =**	**device model code ww =**	**model code**	**Generation code b =**	**device model code ww =**
5H*b**-…ww, 5P*b**-…ww, 5W*b**-…ww,	O5H*b**-…ww O5P*b**-…ww O5W*b**-…ww	B	A1 / A2	5x*bxx-…ww, O5x*bxx-…ww	B	A1 / A2

3. Parameters

3.1. Electrical Parameters

Power Supply		
Order Code e =	**terminal no.**	**values**
D [1)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} U_M = 250V_{AC}
E [1)]	No. 1(L+/L), 2(L-/N)	U_N = 85…264V_{AC} U_M = 250V_{AC}
I [2)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} /85…264V_{AC} U_M = 250V_{AC}

1) applicable for products with approval code dd = BB, BD, B7, B8
2) applicable for products with approval code dd = BS, BI, BJ, BL, BM, BN

Input/Output 1			
Order Code ff =	**terminal no.**	**Values**	
BA, BB, MA	No. 26, 27	U_N = 30V_{DC} U_M = 250V_{AC}	
LA, GA, SA	No. 26, 27	U_N = 32V_{DC} U_M = 250V_{AC}	
CA, CB	No. 26, 27	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 6nF	
CC, CD	No. 26, 27	1) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 4.1mH (IIC) / 15mH (IIB) C_O = 160nF (IIC) / 1160nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH	2) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 9mH (IIC) / 39mH (IIB) C_O = 600nF (IIC) / 4000nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH
HA, TA	No. 26, 27	1) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 30V I_i = 570mA P_i = 8.5W L_i = 10µH	2) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 32V I_i = 570mA P_i = 8.5W L_i = 10µH

		C_i = 5nF	C_i = 5nF
MB, RB	No. 26, 27	APL port profile SLAX / SPE PoDL classes 10, 11, 12 U_N = $30V_{DC}$ U_M = $250V_{AC}$	
MC, RC	No. 26, 27	1) 2-WISE power load APL port profile SLAA U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF	2) 2-WISE power load APL port profile SLAC U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF
NA, RA	IO1 / RJ45	U_N = $30V_{DC}$ U_M = $250V_{AC}$	

1) applicable for products with approval code dd = BB, BD, B7, B8
2) applicable for products with approval code dd = BS, BM, BN

Input/Output 2		
Order Code g =	**terminal no.**	**values**
C, G, K	No. 24, 25	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 24, 25	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 24, 25	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Input/Output 3		
Order Code h =	**terminal no.**	**values**
C, G, K	No. 22, 23	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 22, 23	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 22, 23	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Input/Output 4		
Order Code i =	**terminal no.**	**values**
C, G, K	No. 20, 21	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 20, 21	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 20, 21	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Service Interface		
Order Code dd =	**terminal no.**	**values**
BA, BB	Service Interface	Service Interface shall only be installed • in areas which are known to be non hazardous with a non intrinsically safe circuit U_N = 3.3 V, U_M = 250 V_{AC} or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
BC, BD	Service Interface	Service Interface shall only be installed • to an non intrinsically safe circuit with U_N = 3.3V, U_M = $250V_{AC}$ or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
not for: BB, BD, B7, B8	Service Interface	U_N = 3.3V

Antenna bushing		
Order Code dd =	**terminal no.**	**values**
BB, BJ, BL, BN, BS, B7	N connector	See conditions of certfication

Display remote		
Order Code dd =	**terminal no.**	**values**
BB, BD, B7, B8	No. 81, 82, 83, 84	Uo = 3.9V Io = 1.5A (spark) 200mA (power) Po = 600mW Ri = 2.6Ω Co = 670µF Lo = 0
not for: BB, BD, B7, B8	No. 81, 82, 83, 84	U_N = 3.3V I_N = 150mA

For Transmitter with approval code dd = BB, BD, B7 and B8 connected to the Remote Display of Endress+Hauser, Type DKX001 or ODKX001, the cable parameter with ration L/R = ≤ 0.024 mH/Ω applies.

Promag Remote Transmitter and Remote Sensor:

5*****-… and O5*****-… with order code dd = BB, BD, B7, B8 in combination with k = B:

Transmitter :

terminals 4, 5, 6, 7, 8, 32, 33, 34, 35, 36, 37	-> Uo = 26.6V, Io = 19.2mA, Po = 128mW, Lo = 20mH, Co = 94nF and Uo = 13.3V, Io = 39.2mA, Po = 131mW, Lo = 20mH, Co = 94nF
terminals 41, 42	-> U_N = 60V, I_N = 90mA

Sensor :

terminals 4, 5, 6, 7, 8, 32, 33, 34, 35, 36, 37	-> Ui = 26.6V, Ii = n.a., Pi = n.a., Li = 0, Ci = 0
terminals 41, 42	-> U_N = 60V, I_N = 90mA

Interconnection of circuit connected to terminals 4, 5, 6, 7, 8, 37, 36 for use of a cable with a maximum length of 200m is allowed when using a cable which has the following parameters:
Cable inductance ≤ 1 mH/km
Cable capacitance ≤ 0.42 µF/km

5*****-… and O5*****-… with order code dd = BS in combination with k = B:

Transmitter :

terminals 4, 5, 6, 7, 8, 32, 33, 34, 35, 36, 37	-> Uo = 26.6V, Io = 19.2mA, Po = 128mW, Lo = 50mH, Co = 325nF and Uo = 13.3V, Io = 39.2mA, Po = 131mW, Lo = 50mH, Co = 325nF
terminals 41, 42	-> U_N = 60V

Sensor :

terminals 4, 5, 6, 7, 8, 32, 33, 34, 35, 36, 37	-> Ui = 26.6V, Ii = 19.2mA, Pi = n.a., Li = 0, Ci = 0 (+13.3V to -13.3V) or Ui = 13.3V, Ii = 39.2mA, Pi = n.a., Li = 0, Ci = 0 (to ground)
terminals 41, 42	-> U_N = 60V

Interconnection of circuit connected to terminals 4, 5, 6, 7, 8, 37, 36 for use of a cable with a maximum length of 200m is allowed when using a cable which has the following parameters:
Cable inductance ≤ 1 mH/km
Cable capacitance ≤ 1 µF/km

5*****-… and O5*****-… with order code dd = BJ, BL, BN, BS in combination with k = A:

Transmitter:

terminals 61, 62	-> U_N = 35V
terminals 63, 64	-> U_N = 3.3V

Sensor:

terminals 61, 62	-> U_N = 35V
terminals 63, 64	-> U_N = 3.3V

3.2. Thermal Parameters (Zone 1)

Proline Promag H/P/W 300

Notes:

This page applies to versions with extended order code covering:

5(H/P)3B** - dd…
5W3B** - dd…
O5(H/P)3B** - dd…
O5W3B** - dd…
5x3Bxx - dd…
5x3Bxx - dd…
O5x3Bxx - dd…
O5x3Bxx - dd…

with approval option cCSAus : dd = CD, CE, C2, C4 IECEx / ATEX: dd = BB, BD

Standard version with sensor not insulated:

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15…600	PTFE	-40	45	80	90	130	130	130	130
				50	60	90	130	130	130	130
				55	---	---	130	130	130	130
				60	---	---	100	100	100	100
	25…200	PFA	-40	40	80	95	130	150	150	150
				45	80	95	130	130	130	130
				50	60	90	130	130	130	130
				60	---	---	100	100	100	100
	50…3000	HG	-20	50	60	80	80	80	80	80
				60	---	---	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (4)	-40	45	80	95	120	120	120	120
				55	---	95	120	120	120	120
				60	---	95	100	100	100	100
Promag H	2…150	PFA	-40	50	80 (3)	95	130	150	150	150
				55 (3)	65 (3)	80	130	150	150	150
				60 (3)	---	---	115	115	115	115

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Promag H limited to Ta,max = 50°C @ class T6 and Tmed,max = 50°C @ class T6 for optional versions available with medium temperature measurement
(4) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

High temperature version with sensor not insulated:

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15…600	PTFE	-40	50	60	95	130	130	130	130
				55	---	95	130	130	130	130
				60	---	---	100	100	100	100
	25…200	PFA	-40	45	80	95	130	150	150	150
				50	60	95	130	150	150	150
				60	---	---	100	100	100	100
	50…3000	HG	-20	50	60	80	80	80	80	80
				60	---	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (3)	-40	45	80	95	120	120	120	120
				55	---	95	120	120	120	120
				60	---	95	100	100	100	100

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

High temperature version with sensor insulated
(for insulation refer to manual of E+H Flowtec):

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15…600	PTFE	-40	50	60	95	130	130	130	130
				55	---	95	130	130	130	130
				60	---	---	100	100	100	100
	25…200	PFA	-40	45	80	95	130	150	150	150
				50	60	95	130	150	150	150
				60	---	---	100	100	100	100
	50…3000	HG	-20	50	60	80	80	80	80	80
				60	---	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (4)	-40	45	80	95	120	120	120	120
				55	---	95	120	120	120	120
				60	---	95	100	100	100	100

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

High temperature version with sensor insulated
(insulation not in compliance to manual of E+H Flowtec):

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ @T1 [°C]	Tmax 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 Promag W	all	PTFE	-40	60	130	56.4	71.3	72.0	72.0	72.0	72.0
		PFA	-40	60	150	56.4	71.3	72.0	72.0	72.0	72.0
		HG	-20	60	80	56.4	71.3	72.0	72.0	72.0	72.0
		PU	-20	60	50	56.4	71.3	72.0	72.0	72.0	72.0
		ETFE	-40	60	120 (3)	56.3	71.3	72.0	72.0	72.0	72.0

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) location of reference point
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

(2) reference point

Aenderungen:					Alle gesetzlichen Urheberrechte vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	Ersetzt durch:
	A	10.05.2016 / Bn	F			
	B	24.10.2016 / Bn	G			Ersatz für:
	C	03.05.2017 / Bn	H			Ersteller: FES / Bn
	D	15.02.2018 / Bn	J			FILE: M:\Zeichng\FES0260\D\FES0260E.doc
	E	10.06.2021 / Bn	K			

Control Drawing IECEx, ATEX, CSA, cCSAus

Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1

Thermal Parameter

Proline Promag 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	10.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0260E **1/3**

Proline Promag H/P/W 500

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

5(H/P)5B** - dd*******B… O5(H/P)5B** - dd*******B… 5x5Bxx – dd*******B… O5x5Bxx - dd*******B…
5W5B** - dd*******B… O5W5B** - dd*******B… 5x5Bxx - dd*******B… O5x5Bxx - dd*******B…
with approval option cCSAus: dd = CD, CE, C2, C4, C7, C8 IECEx / ATEX: dd = BB, BD, B7, B8

Sensor of Standard version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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	15…600	PTFE	-40	60	80	95	130	130	130	130
Promag W	25…200	PFA	-40	50	80	95	130	150	150	150
				60	80	95	130	130	130	130
	50…3000	HG	-20	60	80	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (4)	-40	60	80	95	120	120	120	120
Promag H	2…150	PFA	-40	45	80	95	130	150	150	150
				55 (3)	80 (3)	95	130	130	130	130
				60 (3)	80 (3)	95	110	110	110	110

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Promag H limited to Ta,max = 50°C @ class T6 and Tmed,max = 50°C @ class T6 for optional versions available with medium temperature measurement
(4) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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	15…600	PTFE	-40	60	80	95	130	130	130	130
Promag W	25…200	PFA	-40	60	80	95	130	150	150	150
	50…3000	HG	-20	60	80	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (3)	-40	60	80	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor insulated
(for insulation refer to manual of E+H Flowtec)

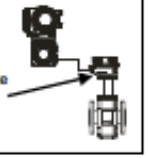
Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P	15…600	PTFE	-40	60	75	95	130	130	130	130
Promag W	25…200	PFA	-40	60	80	95	130	150	150	150
	50…3000	HG	-20	60	75	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (4)	-40	55	80	95	120	120	120	120
				60	75	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor insulated
(insulation not in compliance to manual of E+H Flowtec)

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ @T1 [°C]	T_{sw} 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	PTFE	-40	60	130	63.8	65.7	69	69	69	69
Promag W		PFA	-40	60	150	63.8	65.7	69	69	69	69
		HG	-20	60	80	63.8	65.7	69	69	69	69
		PU	-20	50	50	63.8	65.7	69	69	69	69
		ETFE	-40	60	120 (3)	63.8	65.7	68	68	68	68

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) location of reference point
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)



Transmitter for all versions:

$T_{a,max}$	
T6 (85°C)	T5 (100°C)
55	60

Notes: (1) Ta,min = -50°C (for limitation see name plate)

Aenderungen:					
	A	10.05.2016 / Bn	F		
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	15.02.2018 / Bn	J		
	E	10.06.2021 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES0260\E\FES0260E.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Promag 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	10.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0260E 2/3

Proline Promag H/P/W 500

Notes:

This page applies to versions with extended order code covering:

5(H/P)5B** - dd*******A...
5W5B** - dd*******A...
with approval option

O5(H/P)5B** - dd*******A...
O5W5B** - dd*******A...
cCSAus: dd = CN, C6

5x5Bxx - dd*******A...
5x5Bxx - dd*******A...
IECEx / ATEX: dd = BJ, BN

O5x5Bxx - dd*******A...
O5x5Bxx - dd*******A...

Sensor of Standard version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15...600	PTFE	-40	60	80	95	130	130	130	130
	25...200	PFA	-40	50	80	95	130	150	150	150
				60	80	95	130	130	130	130
	50...3000	HG	-20	60	80	80	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50	50
	25...3000	ETFE (3)	-40	60	80	95	120	120	120	120
Promag H	2...150	PFA	-40	35	80	95	130	150	150	150
				45	80	95	135	135	135	135
				60	80	95	115	115	115	115

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Promag H limited to Ta,max = 50°C @ class T6 and Tmed,max = 50°C @ class T6 for optional versions available with medium temperature measurement
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor not insulated:

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15...600	PTFE	-40	60	80	95	130	130	130	130
	25...200	PFA	-40	60	80	95	130	150	150	150
	50...3000	HG	-20	60	80	80	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50	50
	25...3000	ETFE (3)	-40	60	80	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor insulated
(for insulation refer to manual of E+H Flowtec)

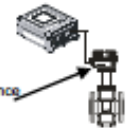
Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P Promag W	15...600	PTFE	-40	60	70	95	130	130	130	130
	25...200	PFA	-40	60	75	95	130	150	150	150
	50...3000	HG	-20	60	75	80	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50	50
	25...3000	ETFE (3)	-40	60	70	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ may be reduced by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor insulated
(insulation not in compliance to manual of E+H Flowtec):

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 Promag W	all	PTFE	-40	60	130	63.8	65.7	69	70.9	70.9	70.9
		PFA	-40	60	150	63.8	65.7	69	70.9	70.9	70.9
		HG	-20	60	80	63.8	65.7	69	70.9	70.9	70.9
		PU	-20	50	50	63.8	65.7	69	70.9	70.9	70.9
		ETFE	-40	60	120 (3)						

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) location of reference point
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)



Transmitter for all versions:

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Aenderungen:					
	A	10.05.2016 / Bn	F		
	B	24.10.2016 / Bn	G		
	C	03.05.2017 / Bn	H		
	D	15.02.2018 / Bn	J		
	E	10.06.2021 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES0260\D\FES0260E.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Promag 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	10.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0260E **3/3**

3.3. Thermal Parameters (Zone 2)

Proline Promag H/P/W 300

Notes:
This page applies to versions with extended order code covering: 5(H/P)3B** - dd… 5W3B** - dd… with approval option; O5(H/P)3B** - dd… O5W3B** - dd…; 5x3Bxx – dd… 5x3Bxx – dd…; O5x3Bxx - dd… O5x3Bxx - dd…
cCSAus: dd = CS, CZ
IECEx / ATEX: dd = BS

Standard version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15…600	PTFE	-40	50	---	90	130	130	130	130
				55	---	---	130	130	130	130
				60	---	---	100	100	100	100
	25…200	PFA	-40	40	---	---	---	150 (3)	150 (3)	150 (3)
				45	---	95	130	130	130	130
				50	---	90	130	130	130	130
				60	---	---	100	100	100	100
	50…3000	HG	-20	50	---	80	80	80	80	80
				60	---	---	80	80	80	80
	25…1000	PU	-20	50	---	50	50	50	50	50
	25…3000	ETFE (7)	-40	50	---	90	120	120	120	120
				60	---	---	100	100	100	100
Promag H (5), (6)	2…150	PFA	-40	50	---	95 (4)	130	150	150	150
				55 (4)	---	80 (4)	130	150	150	150
				60 (4)	---	---	100	100	100	100

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{max} see name plate
(3) sensor Promag P with liner type PFA may be used for condition of process with Tmed=180°C@Ta=50°C for a short period of time (max. 10 min.)
(4) Promag H limited to Ta,max = 50°C @ class T6 and Tmed,max = 50°C @ class T6 for optional versions available with medium temperature measurement
(5) versions with transmitter enclosure stainless steel (hygienic) only for installation where transmitter is not installed above the sensor
(6) Versions with transmitter enclosure stainless steel (hygienic) installed in temperature class T5, a degree of 3°C for ambient temperature shall be taken into account
(7) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

High temperature version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15…600	PTFE	-40	50	---	90	130	130	130	130
				55	---	---	130	130	130	130
				60	---	---	100	100	100	100
	25…200	PFA	-40	45	---	95	130	180	180	180
				50	---	90	130	160	160	160
				60	---	---	100	100	100	100
	50…3000	HG	-20	50	---	80	80	80	80	80
				60	---	---	80	80	80	80
	25…1000	PU	-20	50	---	50	50	50	50	50
	25…3000	ETFE (3)	-40	50	---	90	120	120	120	120
				60	---	---	100	100	100	100

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{max} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

High temperature version with sensor insulated
(for insulation refer to manual of E+H Flowtec)

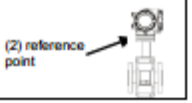
Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P Promag W	15…600	PTFE	-40	50	---	90	130	130	130	130
				55	---	---	130	130	130	130
				60	---	---	100	100	100	100
	25…200	PFA	-40	45	---	95	130	170	170	170
				50	---	90	130	160	160	160
				60	---	---	100	100	100	100
	50…3000	HG	-20	50	---	80	80	80	80	80
				60	---	---	80	80	80	80
	25…1000	PU	-20	50	---	50	50	50	50	50
	25…3000	ETFE (4)	-40	50	---	90	120	120	120	120
				60	---	---	100	100	100	100

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{max} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

High temperature version with sensor insulated
(insulation not in compliance to manual of E+H Flowtec)

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 Promag W	all	PTFE	-40	55	130	---	62.2	74.0	75.6	75.6	75.6
		PFA	-40	50	150	---	62.2	74.0	75.6	75.6	75.6
		HG	-20	60	80	---	62.2	74.0	75.6	75.6	75.6
		PU	-20	50	50	---	62.2	74.0	75.6	75.6	75.6
		ETFE	-40	60	120 (3)	---	62.2	74.0	74.0	74.0	74.0

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) location of reference point
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)



Aenderungen:					
	A	10.05.2016 / Bn	F		
	B	03.05.2017 / Bn	G		
	C	30.10.2017 / Bn	H		
	D	15.02.2018 / Bn	J		
	E	10.06.2021 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichn\FES\0261E\FES0261E.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promag 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	10.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0261E 1/3

Proline Promag H/P/W 500

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

5(H/P)5B** - dd*******B…
5W5B** - dd*******B…
O5(H/P)5B** - dd*******B…
O6W5B** - dd*******B…
5x5Bxx - dd*******B…
5x5Bxx - dd*******B…
O5x5Bxx - dd*******B…
O5x5Bxx - dd*******B…

with approval option cCSAus: dd = CS, CZ IECEx / ATEX: dd = BS

Sensor of Standard version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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	15…600	PTFE	-40	60	80	95	130	130	130	130
Promag W	25…200	PFA	-40	50	80	95	130	180	180	180
				60	80	95	130	130	130	130
	50…3000	HG	-20	60	80	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (4)	-40	60	80	95	120	120	120	120
Promag H	2…150	PFA	-40	45	80 (3)	95	130	150	150	150
				55 (3)	80 (3)	95	130	130	130	130
				60 (3)	80 (3)	95	110	110	110	110

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{med} see name plate
(3) Promag H limited to Ta,max = 50°C @ class T6 and Tmed,max = 50°C @ class T6 for optional versions available with medium temperature measurement
(4) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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	15…600	PTFE	-40	60	80	95	130	130	130	130
Promag W	25…200	PFA	-40	50	80	95	130	180	180	180
				60	80	95	130	150	150	150
	50…3000	HG	-20	60	80	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (3)	-40	60	80	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Transmitter for all versions

$T_{a,max}$		
T6 (85°C)	T5 (100°C)	T4 (135°C)
---	45	60

Notes: (1) Ta,min = -50°C (for limitation see name plate)

Sensor of High temperature version with sensor insulated (for insulation refer to manual of E+H Flowtec)

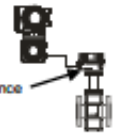
Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P	15…600	PTFE	-40	60	75	95	130	130	130	130
Promag W	25…200	PFA	-40	35	60	95	130	180	180	180
				40	80	95	130	170	170	170
				60	75	95	130	150	150	150
	50…3000	HG	-20	60	75	80	80	80	80	80
	25…1000	PU	-20	50	50	50	50	50	50	50
	25…3000	ETFE (4)	-40	55	80	95	120	120	120	120
				60	75	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor insulated (insulation not in compliance to manual of E+H Flowtec)

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	PTFE	-40	60	130	63.8	65.7	69	70.9	70.9	70.9
Promag W		PFA	-40	60	150	63.8	65.7	69	70.9	70.9	70.9
		HG	-20	60	80	63.8	65.7	69	70.9	70.9	70.9
		PU	-20	50	50	63.8	65.7	69	70.9	70.9	70.9
		ETFE	-40	60	120 (3)	63.8	65.7	68	68	68	68

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) location of reference point
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)



Aenderungen:					
	A	10.05.2016 / Bn	F		Alle gesetzlichen Urheberrechte vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.
	B	03.05.2017 / Bn	G		
	C	30.10.2017 / Bn	H		
	D	15.02.2018 / Bn	J		
	E	10.06.2021 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0261E\FES0261E.doc

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promag 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	10.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0261E 2/3

Proline Promag H/P/W 500

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

5(H/P)5B** - dd*******A...
5W5B** - dd********A...
with approval option

O5(H/P)5B** - dd*******A...
O5W5B** - dd********A...
cCSA: dd = CS, CZ

5x5Bxx - dd*******A...
5x5Bxx - dd*******A...
IECEx / ATEX: dd = BL, BS

O5x5Bxx - dd*******A...
O5x5Bxx - dd*******A...

Sensor of Standard version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15...600	PTFE	-40	50	50	95	130	130	130	130
				60	---	95	130	130	130	130
	25...200	PFA	-40	50	50	95	130	150 (3)	150 (3)	150 (3)
				60	---	95	130	130	130	130
	50...3000	HG	-20	50	80	80	80	80	80	80
				60	---	80	80	80	80	80
	25...1000	PU	-20	45	50	50	50	50	50	50
				50	---	50	50	50	50	50
	25...3000	ETFE (3)	-40	50	40	95	120	120	120	120
				60	---	95	120	120	120	120
Promag H	2...150	PFA	-40	40	50	95	130	150	150	150
				45	50 (4)	95	130	145	145	145
				55 (4)	---	95	115	115	115	115
				60 (4)	---	---	115	115	115	115

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{med} see name plate
(3) sensor Promag P with liner type PFA may be used for condition of process with Tmed=180°C@Ta=50°C for a short period of time (max. 10 min.)
(4) Promag H limited to Ta,max = 50°C @ class T6 and Tmed,max = 50°C @ class T6 for optional versions available with medium temperature measurement
(5) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor not insulated

Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°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 Promag W	15...600	PTFE	-40	45	70	95	130	130	130	130
				60	---	95	130	130	130	130
	25...200	PFA	-40	50	40	95	130	180	180	180
				60	---	95	130	150	150	150
	50...3000	HG	-20	45	50	80	80	80	80	80
				60	---	80	80	80	80	80
	25...1000	PU	-20	45	50	50	50	50	50	50
				50	---	50	50	50	50	50
	25...3000	ETFE (3)	-40	50	40	95	120	120	120	120
				60	---	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{med} see name plate

Transmitter for all versions

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Sensor of High temperature version with sensor insulated
(for insulation refer to manual of E+H Flowtec)

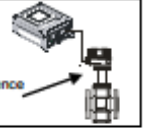
Sensor	Size / DN	Liner	$T_{med,min}$ [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P Promag W	15...600	PTFE	-40	45	70	95	130	130	130	130
				60	---	95	130	130	130	130
	25...200	PFA	-40	35	40	95	130	180	180	180
				50	40	95	130	175	175	175
				60	---	95	130	150	150	150
	50...3000	HG	-20	45	45	80	80	80	80	80
				60	---	80	80	80	80	80
	25...1000	PU	-20	45	50	50	50	50	50	50
				50	---	50	50	50	50	50
	25...3000	ETFE (3)	-40	50	40	95	120	120	120	120
				60	---	95	120	120	120	120

Notes: (1) Ta,min = -40°C (for limitation see name plate)
(2) $T_{med,max}$ and/or $T_{med,min}$ may be limited by versions. For limitation of range for T_{med} see name plate
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)

Sensor of High temperature version with sensor insulated
(insulation not in compliance to manual of E+H Flowtec)

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 Promag W	all	PTFE	-40	60	130	51.4	65.7	69	70.9	70.9	70.9
		PFA	-40	60	150	51.4	65.7	69	70.9	70.9	70.9
		HG	-20	60	80	51.4	65.7	69	70.9	70.9	70.9
		PU	-20	50	50	51.4	65.7	69	70.9	70.9	70.9
		ETFE	-40	60	120 (3)	49.6	65.7	69	70.9	70.9	70.9

Notes:
(1) Ta,min = -40°C (for limitation see name plate)
(2) location of reference point
(3) Limitation of $T_{med,max}$ = 85°C depending on process pressure (see nameplate)



Aenderungen:					
	A	10.05.2016 / Bn	F		
	B	03.05.2017 / Bn	G		
	C	30.10.2017 / Bn	H		
	D	15.02.2018 / Bn	J		
	E	10.06.2021 / Bn	K		

Ersetzt durch:
Ersatz für:
Ersteller: FES / Bn
FILE: M:\Zeichng\FES\0261E\FES0261E.doc

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Promag 300/500

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	10.06.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0261E **3/3**

4. Marking

Proline Promag 300			
Model Code: 5*3*** – dd*ff**********+#**# O5*3*** – dd*ff**********+#**#			
dd = approval	ff = I/O	Marking of Ex protection	Information: Marking of protection representative for …
BB	CA, CB, CC, CD, HA, TA, MC, RC	Ex db eb ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db	db -> electronic compartment eb -> terminal compartment and sensor ia -> sensor tb -> enclosure and sensor [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIC T6...T1 Gb Ex tb IIIC T** °C Db	
BD	CA, CB, CC, CD, HA, TA, MC, RC	Ex db ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db	db -> electronic and terminal compartment ia -> sensor tb -> enclosure and sensor [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIC T6...T1 Gb Ex tb IIIC T** °C Db	
BS	CA, CB, CC, CD, HA, TA, MC, RC	Ex ec nC ic [ic] IIC T5...T1 Gc	ec -> transmitter and sensor enclosure nC -> electronic ic -> sensor [ic] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC ic IIC T5...T1 Gc	

Proline Promag 500 with ISEM integrated in transmitter				
Model Code: 5*5*** – dd*ff****B**********+#**# O5*5*** – dd*ff****B**********+#**#				
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter	Information: Marking of protection representative for …
BB	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db eb [ia Ga] IIC T6…T5 Gb Ex tb [ia Da] IIIC T85°C Db	db -> electronic compartment eb -> terminal compartment and sensor ia -> sensor tb -> enclosure and sensor [ia Ga] -> input/output Ex ia and sensor [ia Da] -> input/output Ex ia and sensor
		Sensor	Ex eb ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db	

Proline Promag 500 with ISEM integrated in transmitter			
Model Code: 5*5*** – dd*ff****B**********+#**# O5*5*** – dd*ff****B**********+#**#			
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter
BD	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db [ia Ga] IIC T6…T5 Gb Ex tb [ia Da] IIIC T85°C Db
		Sensor	Ex eb ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
BS	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc
		Sensor	Ex ec ic IIC T6...T1 Gc
B7	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db eb [ia Ga] IIC T6… T5 Gb
		Sensor	Ex eb ia IIC T6...T1 Gb
B8	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db [ia Ga] IIC T6… T5 Gb

Information: Marking of protection representative for …
db -> electronic and terminal compartment
eb -> sensor
ia -> sensor
tb -> enclosure and sensor
[ia Ga] -> input/output Ex ia and sensor
[ia Da] -> input/output Ex ia and sensor
ec -> transmitter and sensor enclosure
nC -> electronic
ic -> sensor
[ic] -> input/output Ex ic and sensor circuit
db -> electronic compartment
eb -> terminal compartment and sensor
ia -> sensor
[ia Ga] -> input/output Ex ia and sensor
db -> electronic and terminal compartment
eb -> sensor
ia -> sensor
[ia Ga] -> input/output Ex ia and sensor

Proline Promag 500 with ISEM integrated in sensor			
Model Code: 5*5*** – dd*ff****A**********+#**# O5*5*** – dd*ff****A**********+#**#			
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter
BJ	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	n.a. (non-Ex)
		Sensor	Ex db ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
BL	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	[Ex ic] IIC
		Sensor	Ex ec ic IIC T6...T1 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	n.a. (non-Ex)
		Sensor	Ex ec ic IIC T6...T1 Gc

Information:Marking of protection representative for …
db -> sensor electronic enclosure
tb -> enclosure and sensor
ia -> sensor
ec -> transmitter and sensor enclosure
ic -> sensor
[Ex ic] -> input/output Ex ic

Proline Promag 500 with ISEM integrated in sensor				
Model Code: 5*5*** – dd*ff****A**********+#**# O5*5*** – dd*ff****A**********+#**#				
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter	Information:Marking of protection representative for …
BN	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc	ec -> transmitter enclosure db -> sensor terminal box ia -> sensor tb -> sensor enclosure [ic] -> input/output Ex ic
		Sensor	Ex db ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC IIC T5…T4 Gc	
		Sensor	Ex db ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db	
BS	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc	ec -> transmitter and sensor enclosure nC -> electronic ic -> sensor [ic] -> input/output Ex ic
		Sensor	Ex ec ic IIC T6...T1 Gc	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC IIC T5…T4 Gc	
		Sensor	Ex ec ic IIC T6...T1 Gc	

5. Conditions of Certification

- All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalization must exist.

- The sensors may only be used for those process media, for which the wetted parts are known to be suitable

- Plastic transmitter enclosures for the order codes

  Proline Promag 5*5***-(BJ)*******A….,
  Proline Promag O5*5***-(BJ)*******A….,
  Proline Promag 5*5*xx-(BJ) *******A….
  Proline Promag O5*5*xx-(BJ) *******A….

  shall be installed in an area of at least pollution degree 2.

- For remote versions of Promag flowmeters with a flat gasket within the sensor terminal box, the user shall ensure that flat cover seals are not bent into the seal surface before securing the cover. Seals that are not flat shall be replaced.

- If the flowmeter system is connected to remote display type DKX001, the approval codes ‘dd’ for the flowmeter shall be paired to the approval code “bb” of the remote display as follows:

Approval code 'dd' of Proline Promag 300	Approval code 'bb' of remote display DKX001/ODKX001 as covered by IECEx DEK 15.0024
BB, BD, B7 or B8	BE, BF or BG
BS	BS

- The Proline 300/500 Flowmeter that may include, stainless steel label tag with rope, when not bonded to earth used on coated metallic transmitter and/or sensor enclosure or polymeric sensor enclosure, shall be prevented from risk of electrostatic charging caused by friction and/or cleaning. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

- Only use battery Renata type lithium CR1632, 3V.

- The flameproof joints are not intended to be repaired.

Applicable to Antenna bushing H337 when used with Proline 300/500 transmitter enclosure:

- Antenna supplied by Endress+Hauser shall be used only. As an alternate, any passive omni-directional RF antenna with or without cable is permitted to be connected when meeting the following parameters:
  a) The antenna connected to the antenna bushing shall have an impedance of at least 50Ω
  b) The rated frequency range of the antenna shall not exceed 1710MHz … 6000MHz
  c) The rated power of the antenna shall be at least 100mW

- The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure

- The RF antenna or the RF antenna cable shall be fitted with a Series N (MIL-STD-348) plug connector. The coupling nut of the Series N plug connector shall be hand tightened only

- The metal enclosure of the Antenna Bushing H337 shall be securely connected to local earth, typically via the enclosure to which it is connected

Annex C:

This Annex is applicable for flowmeters type Proline Prosonic Flow 300/500

Table of Contents

1. Description

Proline 300 / 500 is a platform used for flowmeters type Proline Prosonic Flow G 300, Proline Prosonic Flow G 500, and Proline Prosonic Flow P 500. All flowmeters are available in two versions, a compact version (Proline 300) and a remote version (Proline 500). The remote version of Proline Prosonic Flow G 500 is available as a version with ISEM electronic integrated in sensor only where the sensor is connected by a digital circuit to the transmitter with additional electronics located at the sensor for assessment of the sensor signals. The remote version of Proline Prosonic Flow P 500 is available as a version with ISEM integrated in transmitter.

For all versions of the Proline 300, an additional remote Display, e.g. DKX001 or ODKX001, may be connected to the electronics. The remote display is available in two options for the user. Either it is ordered as a separate product or by the product of the flowmeter.

Different electronics are used for the flowmeters where the sensor is installed in a Zone 1 or 2 location and where the transmitter can be installed in a safe area or Zone 1 or 2 locations. All versions of electronics are designed either with intrinsically safe IO's (Ex ia for Zone 1 or Ex ic for Zone 2) or with non-intrinsically safe IO's. A mix of type of protections, Ex i in combination with non-Ex i IO's is not allowed.

All Proline Prosonic Flow G 300/500 flowmeters are available for an ambient temperature of -40°C to +60°C and optional -50°C to +60°C. Proline Prosonic Flow P 500 sensors are available for an ambient temperature of -20/-40/-50°C to +80°C and Proline Prosonic Flow P 500 transmitters are available for an ambient temperature of -40°C to +60°C and optional -50°C to +60°C.

All versions of flowmeters Proline Prosonic Flow G 300/500 are available for an enclosure protection of degree IP66, IP67 and Proline Prosonic Flow P 500 are available for an enclosure protection of degree IP66, IP67 (transmitter) and IP66, IP68 (sensor).

2. Order Code

2.1. Proline Prosonic Flow G 300/500

Extended order code Proline Prosonic Flow G 300:

9G3bcc – ddeffghjlpsstuuuvww + ##**
O9G3bcc – ddeffghjlpsstuuuvwwyy + ##** for OEM-version

Extended order code Proline Prosonic Flow G 500:
9G5bcc – ddeffghijkmnopsstuuuvww + ##**
O9G5bcc – ddeffghijkmnopsstuuuvwwyy + ##** for OEM-version

Extended order code for replacement transmitter of
Proline Prosonic Flow G 300
Proline Prosonic Flow G 500
9x3bxx – ddeffghjlprrssww + ##** for replacement transmitter
O9x3bxx – ddeffghjlprrsswwyy + ##** for replacement transmitter OEM
9x5bxx – ddeffghijkmopqqrrssww + ##** for replacement transmitter
O9x5bxx – ddeffghijkmopqqrrsswwyy + ##** for replacement transmitter OEM

b = Generation
B =Generation of Flowmeter

cc = Size
any double digits with combination of number or letter

dd = Approval

Proline Prosonic Flow 300:

BB	=	Ex db eb [ia] IIC T6…T1 Gb	
		Ex tb IIIC T** Db	
BD	=	Ex db [ia] IIC T6…T1 Gb	
		Ex tb IIIC T** Db	
BS	=	Ex ec IIC T6…T1 Gc	

Proline Prosonic Flow 500:

BJ	=	Non-Ex	(transmitter)
		Ex ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BL	=	non-Ex	(transmitter)
		Ex ec IIC T6…T1 Gc	(sensor)
BN	=	Ex ec [ia Ga] IIC T6…T1 Gc	(transmitter)
		Ex ia IIC T6…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BS	=	Ex ec IIC T6…T1 Gc	(transmitter + sensor)

e = Power Supply

D	=	24Vdc
E	=	100-230Vac
I	=	100-230Vac / 24Vdc
X	=	sensor only

ff = Input / Output 1

- BA = 4-20mA HART
- BB = 4-20mA WHART
- CA = 4-20mA HART Ex i (passive)
- CB = 4-20mA WHART Ex i (passive)
- CC = 4-20mA HART Ex i (active)
- CD = 4-20mA WHART Ex i (active)
- GA = Profibus PA
- HA = Profibus PA Ex i
- LA = Profibus DP
- MA = Modbus RS485
- MB = Modbus
- MC = Modbus Ex i
- NA = EtherNet/IP
- RA = Profinet IO
- RB = Profinet
- RC = Profinet Ex i
- SA = Foundation Fieldbus
- TA = Foundation Fieldbus Ex i
- XX = sensor only

g = Input / Output 2

- A = without Input/Output 2
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

h = Input / Output 3

- A = without Input/Output 3
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

i = **Input / Output 4** (Proline 500 only)
- A = without Input/Output 4
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

j = **Display / Operation**
with remote Display : O
without remote Display : any single number or letter except O

k = **Integrated ISEM electronic** (Proline 500 only)
- A = Sensor

l = **Housing** (Proline 300 only)
any single number or letter

m = **Transmitter Housing** (Proline 500 only)
any single number or letter

n = **Sensor Housing** (Proline 500 only)
any single number or letter

o = **Cable Sensor Connection** (Proline 500 only)
any single number or letter

p = **Cable Entry**
any single number or letter

qq = **Upgrade Kid**
any double digits with combination of number or letter

rr = **Existing Product** (refer to section 1.2 for assignment table of flowmeter to replacement transmitter)
- GA = Prosonic Flow G

ss = **Measuring tube material, sensor version**
any double digits with combination of number or letter

t = **Process component**
any single number or letter

uuu = **Process connection**
any triple digits with combination of number or letter

v = **Calibration**
any single number or letter

ww = **Device model (two digit)** (refer to section 1.2 for assignment table of flowmeter to replacement transmitter)
A1 = product version 1
A2 = product version 2

yy = **Customer version (two digits)**
any double digits with combination of number or letter

****** = **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. Proline Prosonic Flow P 500

Extended order code Proline Prosonic Flow P 500:
9P5bcc – ddeffghjkmotuuvvww + ##**
O9P5bcc – ddeffghjkmotuuvvwwyy + ##** for OEM-version

Extended order code for replacement transmitter of Proline Prosonic Flow P 500:
9x5bxx – ddeffghijkmnopprrssww + ##** for replacement transmitter
O9x5bxx – ddeffghijkmnopprrsswwyy + ##** for replacement transmitter OEM

b = Generation
B = Generation of Flowmeter

cc = Mounting Type
any double digits with combination of number and/or letter

dd = Approval Transmitter

BB	=	Ex db eb [ia] IIC T6…T1 Gb	(transmitter)
		Ex tb IIIC T** Db	(transmitter)
		Ex ia IIC T6…T1 Gb	(Sensor)
		Ex ia IIIC T** Db	(Sensor)
BD	=	Ex db [ia] IIC T6…T1 Gb	(transmitter)
		Ex tb IIIC T** Db	(transmitter)
		Ex ia IIC T6…T1 Gb	(Sensor)
		Ex ia IIIC T** Db	(Sensor)
BS	=	Ex ec IIC T5…T1 Gc	(transmitter)
		Ex ic IIC T6…T1 Gc	(Sensor)

e = Power Supply
D = 24Vdc
E = 100-230Vac
I = 100-230Vac / 24Vdc

ff = Input / Output 1

- BA = 4-20mA HART
- BB = 4-20mA WHART
- CA = 4-20mA HART Ex i (passive)
- CB = 4-20mA WHART Ex i (passive)
- CC = 4-20mA HART Ex i (active)
- CD = 4-20mA WHART Ex i (active)
- GA = Profibus PA
- HA = Profibus PA Ex i
- LA = Profibus DP
- MA = Modbus RS485
- MB = Modbus TCP
- MC = Modbus TCP Ex i
- NA = EtherNet/IP
- RA = Profinet IO
- RB = Profinet
- RC = Profinet Ex i
- SA = Foundation Fieldbus
- TA = Foundation Fieldbus Ex i
- XX = Sensor only

g = Input / Output 2

- A = without Input/Output 2
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = Sensor only

h = Input / Output 3

- A = without Input/Output 3
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = Sensor only

i = Input / Output 4
A = without Input/Output 4
X = Sensor only

j = Display / Operation
any single number or letter

k = Integrated ISEM electronic
A = Sensor
B = Transmitter

m = Transmitter Housing
any single number or letter

n = Cable Sensor Connection
any single number or letter

o = Cable Entry
any single number or letter

pp = Upgrade Kit
AA = not used

rr = Existing Product (see assignment of flowmeter to replacement transmitter)
PA = Prosonic Flow P
00 = not used

ss = Sensor type
any double digits with combination of number and/or letter

t = Process Temperature
any single number or letter

uu = Cable
any double digits with combination of number and/or letter

vv = Installation set
any double digits with combination of number and/or letter

ww = Device model (two digit) (see assignment of flowmeter to replacement transmitter)
A2 = product version 2

yy = Customer version (two digits)
any double digits with combination of number or letter

**** = 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

Extended order code Proline Prosonic Flow P 500 Clamp-On sensor:
DK9013 – ddqqrww + ##**
ODK9013 – ddqqrwwyy + ##** for OEM-version

dd = Approval
BB = Ex db eb [ia] IIC T6…T1 Gb
Ex tb IIIC T** Db
BD = Ex db [ia] IIC T6…T1 Gb
Ex tb IIIC T** Db
BS = Ex ec IIC T5…T1 Gc

qq = Sensor type
any double digits with combination of number and/or letter
r = Process Temperature
any single number or letter
ww = Device model (two digit) (see assignment of flowmeter to replacement transmitter)
00 = not used
yy = Customer version (two digits)
any double digits with combination of number or letter

**** = 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

Note: Clamp-On sensors types DK9013 and ODK9013 are intended for use as replacement of sensors for product Prosonic Flow P500 types 9P5B and O9P5B or for extention of Prosonic Flow P500 types 9P5B and O9P5B from one sensor set to two sensor sets

2.3. Assignment of Flowmeter to Replacement Transmitter

The replacement transmitters are assigned to the flowmeter Proline Prosonic Flow G 300/500 as follows:

Product flowmeters			**Replacement transmitter type**			
model code	**Generation code b =**	**device model code ww =**	**model code**	**Generation code b =**	**existing product rr =**	**device model code ww =**
9G*__b__**-…__ww__, O9G*__b__**-…__ww__	B	A1 / A2	9x*__b__xx-…__rr__…__ww__, O9x*__b__xx-…__rr__…__ww__	B	GA	A1 / A2
9P*__b__**-…__ww__, O9P*__b__**-…__ww__	B	A1 / A2	9x*__b__xx-…__rr__…__ww__, O9x*__b__xx-…__rr__…__ww__	B	PA	A1 / A2

3. Parameters

3.1. Electrical Parameters

Power Supply		
Order Code **e =**	**terminal no.**	**values**
D [1)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} U_M = 250V_{AC}
E [1)]	No. 1(L+/L), 2(L-/N)	U_N = 85…264V_{AC} U_M = 250V_{AC}
I [2)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} /85…264V_{AC} U_M = 250V_{AC}

[1)] applicable for products with approval code dd = BB, BD
[2)] applicable for products with approval code dd = BS, BJ, BL, BN

Input/Output 1			
Order Code **ff =**	**terminal no.**	**values**	
BA, BB, MA	No. 26, 27	U_N = 30V_{DC} U_M = 250V_{AC}	
LA, GA, SA	No. 26, 27	U_N = 32V_{DC} U_M = 250V_{AC}	
CA, CB	No. 26, 27	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 6nF	
CC, CD	No. 26, 27	1) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 4.1mH (IIC) / 15mH (IIB) C_O = 160nF (IIC) / 1160nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH	2) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 9mH (IIC) / 39mH (IIB) C_O = 600nF (IIC) / 4000nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH
HA, TA	No. 26, 27	1) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 30V I_i = 570mA P_i = 8.5W L_i = 10µH C_i = 5nF	2) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 32V I_i = 570mA P_i = 8.5W L_i = 10µH C_i = 5nF

MB, RB	No. 26, 27	APL port profile SLAX / SPE PoDL classes 10, 11, 12 U_N = 30V_{DC} U_M = 250V_{AC}	
MC, RC	No. 26, 27	1) 2-WISE power load APL port profile SLAA U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF	2) 2-WISE power load APL port profile SLAC U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF
NA, RA	IO1 / RJ45	U_N = 30V_{DC} U_M = 250V_{AC}	

1) applicable for products with approval code dd = BB, BD
2) applicable for products with approval code dd = BS, BL, BN

Input/Output 2		
Order Code g =	**terminal no.**	**values**
C, G, K	No. 24, 25	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 24, 25	U_N = 30V_{DC} U_M = 250V_{AC}
H	No. 24, 25	U_N = 30V_{DC} I_N = 100mA_{DC} / 500mA_{AC} U_M = 250V_{AC}

Input/Output 3		
Order Code h =	**terminal no.**	**values**
C, G, K	No. 22, 23	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 22, 23	U_N = 30V_{DC} U_M = 250V_{AC}
H	No. 22, 23	U_N = 30V_{DC} I_N = 100mA_{DC} / 500mA_{AC} U_M = 250V_{AC}

Input/Output 4		
Order Code **i =**	**terminal no.**	**values**
C, G, K	No. 20, 21	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 20, 21	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 20, 21	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Service Interface		
Order Code **dd =**	**terminal no.**	**values**
BB	Service Interface	Service Interface shall only be installed • in areas which are known to be non hazardous with a non intrinsically safe circuit U_N = 3.3 V, U_M = 250 V_{AC} or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
BD	Service Interface	Service Interface shall only be installed • to an non intrinsically safe circuit with U_N = 3.3V, U_M = $250V_{AC}$ or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
not for: BB, BD	Service Interface	U_N = 3.3V

Antenna bushing		
Order Code dd =	**terminal no.**	**values**
BB, BJ, BL, BN, BS	N connector	See conditions of certfication

Display remote		
Order Code **dd =**	**terminal no.**	**values**
BB, BD	No. 81, 82, 83, 84	Uo = 3.9V Io = 1.5A (spark) 200mA (power) Po = 600mW Ri = 2.6Ω Co = 670µF Lo = 0
not for: BB, BD	No. 81, 82, 83, 84	U_N = 3.3V I_N = 150mA

For Transmitter with approval code dd = BB and BD connected to the Remote Display of Endress+Hauser, Type DKX001 or ODKX001, the cable parameter with ration L/R = ≤ 0.024 mH/Ω applies.

Prosonic Flow G Remote Transmitter and Remote Sensor:

9G*****-… and O9G*****-… with order code dd = BJ, BN in combination with k = A:
Transmitter:
terminals 61, 62 -> U_N = 35V
terminals 63, 64 -> U_N = 3.3V

Sensor:
terminals 61, 62 -> U_N = 35V
terminals 63, 64 -> U_N = 3.3V

9G*****-… and O9G*****-… with order code dd = BL, BS in combination with k = A:
Transmitter:
terminals 61, 62 -> U_N = 35V
terminals 63, 64 -> U_N = 3.3V

Sensor:
terminals 61, 62 -> U_N = 35V
terminals 63, 64 -> U_N = 3.3V

Prosonic Flow P Remote Transmitter and Remote Sensor:
9P****-… and O9P****-… with order code dd = BB, BD, in combination with k = B:
Transmitter:
CH1, CH2 -> Uo = 40V, Io = 36.7mA, Po =459mW, Li = n.a., Ci = n.a.

Sensor:
Connector -> Ui = 40V, Ii = n.a., Pi =n.a., Li = n.a., Ci = n.a.

9P****-… and O9P****-… with order code dd = BS in combination with k = B:
Transmitter:
CH1, CH2 -> Uo = 50V, Io = 45.9mA, Po = 459mW, Li = n.a., Ci = n.a.

Sensor:
Connector -> Ui = 50V, Ii = n.a., Pi =n.a., Li = n.a., Ci = n.a.

3.2. Thermal Parameters (Zone 1)

3.2.1. Proline Prosonic Flow G 300/500

Proline Prosonic Flow G 300

Notes:

This page applies to versions with extended order code covering:

9*3B** – dd…
with approval option

O9*3B** – dd…
cCSAus / CSA: dd = CD, CE, C2, C4
IECEx / ATEX: dd = BB, BD

9x3Bxx – dd…

O9x3Bxx – dd…

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

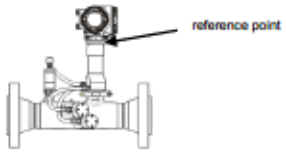
Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
25 … 300	-50	90	40	40	40	90	90	90	90
			55	---	40	90	90	90	90
			60	---	---	90	90	90	90
		150 (1)	45 (1)	70	85	120	150	150	150
			55 (1)	---	85	120	150	150	150
			60 (1)	---	(85)	(120)	(150)	(150)	(150)

Notes:
(1) temperatures not applicable for versions with pressure sensor
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor

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 (85C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	55	69	72	74	74	74

Notes:
(1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



Aenderungen:						Ersetzt durch:		
	A	22.02.2018 / Bn	F		Alle gesetzlichen Urheberrechte. vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	Ersatz für:		
	B		G			Ersteller: FES / Bn		
	C		H			FILE: M:\Zeichng\FES0321\A\FES0321A.doc		
	D		J					
	E		K					

Control Drawing IECEx, ATEX, CSA, $_{c}CSA_{US}$	Gezeichnet	07.02.2018	Bn
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1	Geprüft		
Thermal Parameter	Ex-geprüft	22.02.2018	Bn
Proline Prosonic Flow G 300/500	Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0321A **1/2**

Proline Prosonic Flow G 500

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

9*5*** – dd*******A… O9*5*** – dd*******A… 9x5Bxx – dd*******A… O9x5Bxx – dd*******A…
with approval option cCSAus / CSA: dd = CN, C6
IECEx / ATEX: dd = BJ, BN

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

Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
25 … 300	-50	90	40	40	40	90	90	90	90
			55	---	40	90	90	90	90
			60	---	---	90	90	90	90
		150 (1)	60 (1)	70	85	120	150	150	150

Notes:
(1) temperatures not applicable for versions with pressure sensor
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) for applicable version with maximum medium temperatue and minimum medium temperature see nameplate

Transmitter for all versions

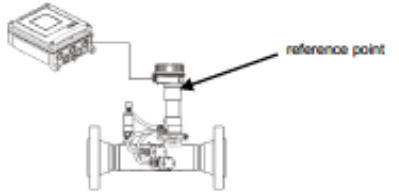
Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Sensor: 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 (80°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	69	71	75	77	77	77

Notes:
(1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



Aenderungen:						Ersetzt durch:		
	A	22.02.2018 / Bn	F		Alle gesetzlichen Urheberrechte. vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglig gemacht werden.	Ersatz für:		
	B		G			Ersteller: FES / Bn		
	C		H			FILE: M:\Zeichng\FES0321\A\FES0321A.dcc		
	D		J					
	E		K					

Control Drawing IECEx, ATEX, CSA, cCSAus	Gezeichnet	07.02.2018	Bn
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1	Geprüft		
Thermal Parameter	Ex-geprüft	22.02.2018	Bn
Proline Prosonic Flow G 300/500	Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0321A 2/2

3.2.2. Proline Prosonic Flow P500

Proline Prosonic Flow P 500

Notes:

This page applies to versions with extended order code covering:

9*5*** – dd******B…
DK9013-dd…
with approval option

O9*5*** – dd******B…
ODK9013-dd…
cCSAus / CSA: dd = CD, C2, C4
IECEx / ATEX: dd = BB, BD

9x5Bxx – dd*******B…

O9x5Bxx – dd*******B…

Transmitter: Temperature table for all versions

$T_{a,max}$	
T6 (85°C)	T5 (100°C)
55	60

Notes: (1) Ta,min = -50°C (for limitation see name plate)

Sensor: Temperature table for versions with sensor Insulated and not insulated

Type of sensor	T_{med}		T_a		$T_{med,max}$ [°C]					
	min [°C]	max [°C]	min [°C]	max [°C]	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
C-030-A	-50	120	-50	80	80	95	120	120	120	120
C-100-B	-40	80	-40	50	50	80	80	80	80	80
				80	---	80	80	80	80	80
C-100-C	0	170	-40	50	50	95	130	170	170	170
				80	---	95	130	170	170	170
C-200-B	-40	80	-40	65	65	80	80	80	80	80
				80	---	80	80	80	80	80
C-200-C	0	170	-40	65	65	95	130	170	170	170
				80	---	95	130	170	170	170
C-500-A	-40	150	-40	75	75	95	130	150	150	150
				80	---	95	130	150	150	150
CH-050-A	-50	435	-50	75	75	95	130	190	285	435
				80	---	95	130	190	285	435
CH-100-A	-50	435	-50	75	75	95	130	190	285	435
				80	---	95	130	190	285	435

Notes: (1) for type of sensor, temperature range and applicable Group see name plate

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	A	07.08.2019 / Bn	F			Ersatz für:
	B	30.07.2020 / Bn	G			Ersteller: FES / Bn
	C	30.09.2021 / Bn	H			FILE: M:\Zeichng\FES0351C\FES0351C.doc
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline Prosonic Flow P 500

Gezeichnet	07.08.2019	Bn
Geprüft		
Es-geprüft	30.09.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0351C 1/1

3.3. Thermal Parameters (Zone 2)

3.3.1. Proline Prosonic Flow G 300/500

Proline Prosonic Flow G 300

Notes:

This page applies to versions with extended order code covering:

9*3B** – dd…
with approval option

O9*3B** – dd…
cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

9x3Bxx – dd…

O9x3Bxx – dd…

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

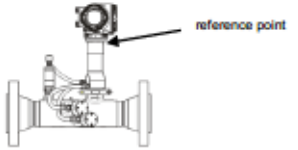
Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
25 … 300	-50	90	55	---	40	90	90	90	90
			60	---	---	90	90	90	90
		150 (1)	50 (1)	---	85	120	150	150	150
			55 (1)	---	---	120	150	150	150
			60 (1)	---	---	(120)	(150)	(150)	(150)

Notes:
(1) temperatures not applicable for versions with pressure sensor
(2) Ta,min = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(4) versions with transmitter enclosure stainless steel (metal sheet) only for installation where transmitter is not installed above the sensor
(5) Versions with transmitter enclosure stainless steel (metal sheet) installed in temperature class T5, a degree of 3°C for ambient temperature shall be taken into account

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

Size / DN	T_{med} to be measured at reference point at sensor neck [°C] T6 (85C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	---	62	72	73	73	73

Notes:
(1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



Aenderungen:					Alle gesetzlichen Urhebenrechte. vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglig gemacht werden.	Ersetzt durch:
	A	22.02.2018 / Bn	F			
	B	06.12.2021 / Bn	G			Ersatz für:
	C		H			Ersteller: FES / Bn
	D		J			FILE: M:\Zeichng\FES0321\B\FES0322B.doc
	E		K			

Control Drawing IECEx, ATEX, CSA, cCSAus	Gezeichnet	07.02.2018	Bn
Zone 2, Cl.I Div. 2, Cl.I Zone 2	Geprüft		
Thermal Parameter	Ex-geprüft	06.12.2021	Bn
Proline Prosonic Flow G 300/500	Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0322B 1/2

Proline Prosonic Flow G 500

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

9*5*** – dd*******A…
O9*5*** – dd*******A…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BL, BS
9x5Bxx – dd*******A…
O9x5Bxx – dd*******A…

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

Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
25 … 300	-50	90	55	---	40	90	90	90	90
			60	---	---	90	90	90	90
		150 (1)	60 (1)	---	85	120	150	150	150

Notes: (1) temperatures not applicable for versions with pressure sensor
(2) Ta,min = -40°C, -50°C respectively (see nameplate)

Transmitter for all versions

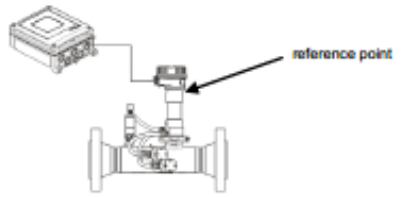
Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Sensor: 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 (80°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	---	71	75	77	77	77

Notes:
(1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



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	A	22.02.2018 / Bn	F			
	B	06.12.2021 / Bn	G			
	C		H			
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Prosonic Flow G 300/500

Gezeichnet	07.02.2018	Bn
Geprüft		
Ex-geprüft	06.12.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0322B **2/2**

3.3.2. Proline Prosonic Flow P500

Proline Prosonic Flow P 500

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

9*5*** – dd******B…
DK9013-dd…
with approval option

O9*5*** – dd******B…
ODK9013-dd…
cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

9x5Bxx – dd*******B…

O9x5Bxx – dd*******B…

Transmitter: Temperature table for all versions

$T_{a,max}$		
T6 (85°C)	T5 (100°C)	T4 (135°C)
---	45	60

Notes: (1) Ta,min = -50°C (for limitation see name plate)

Sensor: Temperature table for versions with sensor Insulated and not insulated

Type of sensor	T_{med}		T_a		$T_{med,max}$ [°C]					
	min [°C]	max [°C]	min [°C]	max [°C]	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
C-030-A	-50	120	-50	80	80	95	120	120	120	120
C-050-A	-20	80	-20	75	80	80	80	80	80	80
				80	---	80	80	80	80	80
C-100-A	-20	80	-20	75	75	80	80	80	80	80
				80	---	80	80	80	80	80
C-100-B	-40	80	-40	70	70	80	80	80	80	80
				80	---	80	80	80	80	80
C-100-C	0	170	-40	70	70	95	130	170	170	170
				80	---	95	130	170	170	170
C-200-B	-40	80	-40	75	75	80	80	80	80	80
				80	---	80	80	80	80	80
C-200-B	-40	80	-40	75	75	80	80	80	80	80
				80	---	80	80	80	80	80
C-200-C	0	170	-40	75	75	95	130	170	170	170
				80	---	95	130	170	170	170
C-500-A	-40	150	-40	75	75	95	130	150	150	150
				80	---	95	130	150	150	150
I-100-A	-40	80	-40	75	75	80	80	80	80	80
				80	---	80	80	80	80	80
CH-050-A	-50	435	-50	75	75	95	130	190	285	435
				80	---	95	130	190	285	435
CH-100-A	-50	435	-50	75	75	95	130	190	285	435
				80	---	95	130	190	285	435

Notes: (1) for type of sensor, temperature range and applicable Group see name plate

Aenderungen:						Ersetzt durch:
	A	07.08.2019 / Bn	F			Ersatz für:
	B	30.07.2020 / Bn	G			Ersteller: FES / Bn
	C	30.09.2021 / Bn	H			FILE: M:\Zeichng\FES0352\C\FES0352C.dsc
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline Prosonic Flow P 500

Gezeichnet	07.08.2019	Bn
Geprüft		
Ex-geprüft	30.09.2021	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0352C **1/1**

4. Marking

Proline Prosonic Flow G 300		
Model Code: 9*3*** – dd*ff**********+#**# O9*3*** – dd*ff**********+#**#		
dd = approval	ff = I/O	Marking of Ex protection transmitter
BB	HA, TA, CA, CB, CC, CD, MC, RC	Ex db eb ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIC T6...T1 Gb Ex tb IIIC T** °C Db
BD	HA, TA, CA, CB, CC, CD, MC, RC	Ex db ia [ia Ga] IIC T6...T1 Gb Ex tb [ia Da] IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIC T6...T1 Gb Ex tb IIIC T** °C Db
BS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC ic [ic] IIC T5...T1 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC ic IIC T5...T1 Gc

Information: Marking of protection representative for …
db -> transmitter electronic compartment and sensor enclosure eb -> transmitter terminal compartment ia -> sensor tb -> enclosures [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
db -> transmitter enclosure and sensor enclosure ia -> sensor tb -> enclosures [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
ec -> transmitter and sensor enclosure nC -> electronic ic -> sensor [ic] -> input/output Ex ia

Proline Prosonic Flow G 500 with ISEM integrated in sensor			
Model Code: 9*5*** – dd*ff****A**********+#**# O9*5*** – dd*ff****A**********+#**#			
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter
BJ	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	n.a. (non-Ex)
		Sensor	Ex db ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db
BL	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	[Ex ic] IIC
		Sensor	Ex ec ic IIC T5...T1 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	n.a. (non-Ex)
		Sensor	Ex ec ic IIC T5...T1 Gc

Information: Marking of protection representative for …
db -> sensor enclosure ia -> sensor tb -> sensor enclosure
ec -> sensor enclosure ic -> sensor [Ex ic] -> input/output Ex ic

Proline Prosonic Flow G 500 with ISEM integrated in sensor				
Model Code: 9*5*** – dd*ff****A**********+#**# O9*5*** – dd*ff****A**********+#**#				
BN	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc	db -> sensor enclosure ia -> sensor tb -> sensor enclosure
		Sensor	Ex db ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC IIC T5…T4 Gc	
		Sensor	Ex db ia IIC T6...T1 Gb Ex ia tb IIIC T** °C Db	
BS	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc	ec -> sensor enclosure nC -> electronic ic -> sensor [ic] -> input/output Ex ia
		Sensor	Ex ec ic IIC T5...T1 Gc	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC IIC T5…T4 Gc	
		Sensor	Ex ec ic IIC T5...T1 Gc	

Proline Prosonic Flow P 500 with ISEM integrated in transmitter				
Model Code: 9P5*** – dd*ff***B**********+#**# O9P5*** – dd*ff***B**********+#**# DK9013 – dd******** ODK9013 – dd**********				
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter	Information: Marking of protection representative for …
BB	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db eb ia [ia Ga] IIC T6… T5 Gb Ex tb [ia Da] IIIC T85°C Db	db -> transmitter electronic compartment and sensor enclosure eb -> transmitter terminal compartment ia -> sensor tb -> enclosures [ia Ga] -> input/output Ex ia and sensor [ia Da] -> input/output Ex ia and sensor
		Sensor	Ex ia IIC T6...T1 Gb Ex ia IIIC T** °C Db	
BD	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	Ex db ia [ia Ga] IIC T6… T5 Gb Ex tb [ia Da] IIIC T85°C Db	db -> transmitter electronic compartment and sensor enclosure ia -> sensor tb -> enclosures [ia Ga] -> input/output Ex ia and sensor [ia Da] -> input/output Ex ia and sensor
		Sensor	Ex ia IIC T6...T1 Gb Ex ia IIIC T** °C Db	

Proline Prosonic Flow P 500 with ISEM integrated in transmitter			
Model Code: 9P5*** – dd*ff***B**********+#**# O9P5*** – dd*ff***B**********+#**# DK9013 – dd******** ODK9013 – dd**********			
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter
BS	HA, TA, CA, CB, CC, CD, MC, RC	Transmitter	Ex ec nC ic [ic] IIC T5…T4 Gc
		Sensor	Ex ic IIC T6...T1 Gc or Ex ic IIB T6...T1 Gc [1)]
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC ic [ic] IIC T5…T4 Gc
		Sensor	Ex ic IIC T6...T1 Gc or Ex ic IIB T6...T1 Gc [1)]

Information: Marking of protection representative for …		
ec	->	transmitter enclosure
nC	->	electronic
ic	->	sensor
[ic]	->	input/output Ex ia and sensor circuit

[1)] Sensors type C-200-A and I-100-A are available only for group IIB

5. Conditions of Certification

- All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalization must exist.

- The sensors may only be used for those process media, for which the wetted parts are known to be suitable

- Plastic transmitter enclosures for the order codes

  Proline Prosonic Flow G 9*5***-(BJ)…,
  Proline Prosonic Flow G O9*5***-(BJ) …,
  Proline Prosonic Flow G 9X5*XX-(BJ)…,
  Proline Prosonic Flow G O9X5*XX-(BJ)…

  shall be installed in an area of at least pollution degree 2.

- If the flowmeter system is connected to remote display type DKX001, the approval codes ‘dd’ for the flowmeter shall be paired to the approval code “bb” of the remote display as follows:

Approval code ‘dd’ of Proline Prosonic Flow G 300	Approval code ‘bb’ of remote display DKX001/ODKX001 as covered by IECEx DEK 15.0024
BB, BD	BE, BF or BG
BS	BS

- The Proline 300/500 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

- Only use battery Renata type lithium CR1632, 3V.
- The flameproof joints are not intended to be repaired.

Applicable to Antenna bushing H337 when used with Proline 300/500 transmitter enclosure:

- Antenna suppled by Endress+Hauser shall be used only. As an alternate, any passive omni-directional RF antenna with or without cable is permitted to be connected when meeting the following parameters:
  a) The antenna connected to the antenna bushing shall have an impedance of at least 50Ω
  b) The rated frequency range of the antenna shall not exceed 1710MHz … 6000MHz
  c) The rated power of the antenna shall be at least 100mW
- The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure
- The RF antenna or the RF antenna cable shall be fitted with a Series N (MIL-STD-348) plug connector. The coupling nut of the Series N plug connector shall be hand tightened only
- The metal enclosure of the Antenna Bushing H337 shall be securely connected to local earth, typically via the enclosure to which it is connected

Annex D:

This Annex is applicable for flowmeters type Proline t-mass 300/500

Table of Contents

1. Description

Proline 300 / 500 is a platform used for flowmeters type Proline t-mass 300, Proline t-mass 500. All flowmeters are available in two versions, a compact version (Proline 300) and a remote version (Proline 500). The remote version of Proline 500 is available as a version with ISEM electronic in sensor only where the sensor is connected by a digital circuit to the transmitter with additional electronics located at the sensor for assessment of the sensor signals.

For all versions of the Proline 300, an additional remote Display, e.g. DKX001 or ODKX001, may be connected to the electronics. The remote display is available in two options for the user. Either it is ordered as a separate product or by the product of the flowmeter.

Different electronics are used for the flowmeters where the sensor is installed in a Zone 1 or 2 location and where the transmitter can be installed in a safe area or Zone 1 or 2 locations. All versions of electronics are designed either with intrinsically safe IO's (Ex ia for Zone 1 or Ex ic for Zone 2) or with non-intrinsically safe IO's. A mix of type of protections, Ex i in combination with non-Ex i IO's is not allowed.

All Proline t-mass 300/500 flowmeters are available for an ambient temperature of -40°C to +60°C and optional -50°C to +60°C.

All versions of flowmeters Proline t-mass 300 and Proline t-mass 500 are available for an enclosure protection of degree IP66, IP67. In addition versions of remote sensor Proline t-mass 500 are available for enclosure protection of degree IP68 as an optional.

2. Order Code

2.1. Proline t-mass 300/500

Extended order code Proline t-mass 300:

6F3bcc – ddeffghjlpsstttvww + ##**	
6I3bcc – ddeffghjlpsstttuuvww + ##**	
O6F3bcc – ddeffghjlpsstttvwwyy + ##**	for OEM-version
O6I3bcc – ddeffghjlpsstttuuvwwyy + ##**	for OEM-version
6x3bxx – ddeffghjlpssww + ##**	for replacement transmitter
O6x3bxx – ddeffghjlpsswwyy + ##**	for replacement transmitter OEM

Extended order code Proline t-mass 500:

6F5bcc – ddeffghijkmnopsstttvww + ##**	
6I5bcc – ddeffghijkmnopsstttuuvww + ##**	
O6F5cc – ddeffghijkmnopsstttvwwyy + ##**	for OEM-version
O6I5cc – ddeffghijkmnopsstttuuvwwyy + ##**	for OEM-version
6x5bxx – ddeffghijkmopssww + ##**	for replacement transmitter
O6x5bxx – ddeffghijkmopsswwyy + ##**	for replacement transmitter OEM

b = **Generation**
B =Generation of Flowmeter

cc = **Size**
any combination of number and/or letter up to size = DN100 (t-mass F) / 1500mm (t-mass I)

dd = **Approval**

Proline t-mass 300:

BB	=	Ex db eb [ia] IIC T4…T1 Gb	
		Ex tb IIIC T** Db	
BD	=	Ex db [ia] IIC T4…T1 Gb	
		Ex tb IIIC T** Db	
BS	=	Ex ec IIC T4…T1 Gc	

Proline t-mass 500:

BJ	=	[Ex ia] IIC	(transmitter)
		Ex ia IIC T4…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BL	=	non-Ex	(transmitter)
		Ex ec IIC T4…T1 Gc	(sensor)
BN	=	Ex ec [ia Ga] IIC T5…T4 Gc	(transmitter)
		Ex ia IIC T4…T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
BS	=	Ex ec IIC T4…T1 Gc	(transmitter + sensor)

e = Power Supply

- D = 24Vdc
- E = 100-230Vac
- I = 100-230Vac / 24Vdc
- X = sensor only

ff = Input / Output 1

- BA = 4-20mA HART
- BB = 4-20mA WHART
- CA = 4-20mA HART Ex i (passive)
- CB = 4-20mA WHART Ex i (passive)
- CC = 4-20mA HART Ex i (active)
- CD = 4-20mA WHART Ex i (active)
- GA = Profibus PA
- HA = Profibus PA Ex i
- LA = Profibus DP
- MA = Modbus RS485
- MB = Modbus
- MC = Modbus Ex i
- NA = EtherNet/IP
- RA = Profinet IO
- RB = Profinet
- RC = Profinet Ex i
- SA = Foundation Fieldbus
- TA = Foundation Fieldbus Ex i
- XX = sensor only

g = Input / Output 2

- A = without Input/Output 2
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

h = **Input / Output 3**
- A = without Input/Output 3
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

i = **Input / Output 4** (Proline 500 only)
- A = without Input/Output 4
- B = 4-20mA
- C = 4-20mA Ex i (passive)
- D = Configurable IO
- E = Pulse/Frequency/Switch output
- F = Pulse output phase-shifted
- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- K = Pulse output Ex i
- L = Pulse output
- X = sensor only

j = **Display / Operation**
with remote Display : O
without remote Display : any single number or letter except O

k = **Integrated ISEM electronic** (Proline 500 only)
- A = Sensor

l = **Housing** (Proline 300 only)
any single number or letter

m = **Transmitter Housing** (Proline 500 only)
any single number or letter

n = **Sensor Housing** (Proline 500 only)
any single number or letter

o = **Cable Sensor Connection** (Proline 500 only)
any single number or letter

p = **Cable Entry**
any single number or letter

ss = **Material sensor**
any double digits with combination of number or letter

ttt = **Process connection**
any triple digits with combination of number or letter

uu = **Gasket**
any double number or letter

v	**=**	**Calibration** any single number or letter
ww	**=**	**Device model (two digit)** (refer to section 1.2 for assignment table of flowmeter to replacement transmitter) A1 = product version 1 A2 = product version 2
yy	**=**	**Customer version (two digits)** any double digits with combination of number or letter
******	**=**	**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. Assignment of Flowmeter to Replacement Transmitter

The replacement transmitters are assigned to the flowmeter Proline t-mass 300/500 as follows:

Product flowmeters			**Replacement transmitter type**			
model code	**Generation code b =**	**device model code ww =**	**model code**	**Generation code b =**	**existing product rr =**	**device model code ww =**
6F***b****-…**ww**, O6F***b****-…**ww**	B	A1 / A2	6x***b**xx…**ww**, O6x***b**xx-…**ww**	B	n.a.	A1 / A2
6I***b****-…**ww**, O6I***b****-…**ww**	B	A1 / A2	6x***b**xx-…**ww**, O6x***b**xx-…**ww**	B	n.a.	A1 / A2

3. Parameters

3.1. Electrical Parameters

Power Supply		
Order Code e =	**terminal no.**	**values**
D [1)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} U_M = 250V_{AC}
E [1)]	No. 1(L+/L), 2(L-/N)	U_N = 85…264V_{AC} U_M = 250V_{AC}
I [2)]	No. 1(L+/L), 2(L-/N)	U_N = 19.2…28.8V_{DC} /85…264V_{AC} U_M = 250V_{AC}

1) applicable for products with approval code dd = BB, BD
2) applicable for products with approval code dd = BS, BJ, BL, BN

Input/Output 1		
Order Code ff =	**terminal no.**	**values**
BA, BB, MA	No. 26, 27	U_N = 30V_{DC} U_M = 250V_{AC}
LA, GA, SA	No. 26, 27	U_N = 32V_{DC} U_M = 250V_{AC}

CA, CB	No. 26, 27	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 6nF	
CC, CD	No. 26, 27	1) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 4.1mH (IIC) / 15mH (IIB) C_O = 160nF (IIC) / 1160nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH	2) U_O = 21.8V I_O = 90mA P_O = 491mW L_O = 9mH (IIC) / 39mH (IIB) C_O = 600nF (IIC) / 4000nF (IIB) Ui = 30V Ii = 10mA Pi = 0.3W Ci = 6nF Li = 5µH
HA, TA	No. 26, 27	1) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 30V I_i = 570mA P_i = 8.5W L_i = 10µH C_i = 5nF	2) Profibus PA (Fisco Field Device) / Foundation Fieldbus U_i = 32V I_i = 570mA P_i = 8.5W L_i = 10µH C_i = 5nF
MB, RB	No. 26, 27	APL port profile SLAX / SPE PoDL classes 10, 11, 12 U_N = $30V_{DC}$ U_M = $250V_{AC}$	
MC, RC	No. 26, 27	1) 2-WISE power load APL port profile SLAA U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF	2) 2-WISE power load APL port profile SLAC U_i = 17.5V I_i = 380mA P_i = 5.32W L_i ≤ 10µH C_i ≤ 5nF
NA, RA	IO1 / RJ45	U_N = $30V_{DC}$ U_M = $250V_{AC}$	

1) applicable for products with approval code dd = BB, BD
2) applicable for products with approval code dd = BS, BL, BN

Input/Output 2		
Order Code **g =**	**terminal no.**	**values**
C, G, K	No. 24, 25	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 24, 25	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 24, 25	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Input/Output 3		
Order Code **h =**	**terminal no.**	**values**
C, G, K	No. 22, 23	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 22, 23	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 22, 23	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Input/Output 4		
Order Code **i =**	**terminal no.**	**values**
C, G, K	No. 20, 21	U_i = 30V I_i = 100mA P_i = 1.25W L_i = 0 C_i = 0
B, D, E, F, I, J, L	No. 20, 21	U_N = $30V_{DC}$ U_M = $250V_{AC}$
H	No. 20, 21	U_N = $30V_{DC}$ I_N = $100mA_{DC}$ / $500mA_{AC}$ U_M = $250V_{AC}$

Service Interface		
Order Code dd =	**terminal no.**	**values**
BA, BB	Service Interface	Service Interface shall only be installed • in areas which are known to be non hazardous with a non intrinsically safe circuit U_N = 3.3 V, U_M = 250 V_{AC} or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
BC, BD	Service Interface	Service Interface shall only be installed • to an non intrinsically safe circuit with U_N = 3.3V, U_M = 250V_{AC} or • to an intrinsically safe circuit with Ui = 10V, Ii = n.a., Pi = na., Ci = 200nF, Li = 0
not for: BB, BD	Service Interface	U_N = 3.3V

Antenna bushing		
Order Code dd =	**terminal no.**	**values**
BB, BJ, BL, BN, BS	N connector	See conditions of certfication

Display remote		
Order Code dd =	**terminal no.**	**values**
BB, BD	No. 81, 82, 83, 84	Uo = 3.9V Io = 1.5A (spark) 200mA (power) Po = 600mW Ri = 2.6Ω Co = 670µF Lo = 0
not for: BB, BD	No. 81, 82, 83, 84	U_N = 3.3V I_N = 150mA

For Transmitter with approval code dd = BB and BD connected to the Remote Display of Endress+Hauser, Type DKX001 or ODKX001, the cable parameter with ration L/R = ≤ 0.024 mH/Ω applies.

t-mass Remote Transmitter and Remote Sensor:

6*****-… and O6*****-… with order code dd = BJ, BN in combination with k = A:

Transmitter:

terminals 61, 62, 63, 64 -> Uo = 13.8V, Io = 1.156A, Po = 3.3W

Sensor:

terminals 61, 62, 63, 64 -> Ui = 14V, Ii = 1.2A, Pi = 3.4W

For interconnection of transmitter to sensor any cable may be used with the following requirements:

- L/R ≤ 0.0089 mH/Ω and C_{cable} ≤ 760nF for group IIC, L/R ≤ 0.0356 mH/Ω and C_{cable} ≤ 4.2µF for group IIB

or

- L_{cable} ≤ 26µH and C_{cable} ≤ 760nF for group IIC, L_{cable} ≤ 104µH and C_{cable} ≤ 4.2µF for group IIB

6*****-… and O6*****-… with order code dd = BL, BS in combination with k = A:

Transmitter:

terminals 61, 62 -> U_N = 32V
terminals 63, 64 -> U_N = 3.3V

Sensor:

terminals 61, 62 -> U_N = 32V
terminals 63, 64 -> U_N = 3.3V

3.2. Thermal Parameters (Zone 1)

Proline t-mass 300

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

6*3B** – dd… with approval option
O6*3B** – dd… cCSAus / CSA: dd = CD, CE, C2, C4 IECEx / ATEX: dd = BB, BD
6x3Bxx – dd…
O6x3Bxx – dd…

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

Size / DN	T_{amb} min [°C]	T_{amb} max [°C]	$T_{a,min}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	-50	180	50	---	---	115	150	180	180
			55	---	---	115	155	160 (180)	160 (180)
			60	---	---	100 (115)	100 (130)	100 (130)	100 (130)

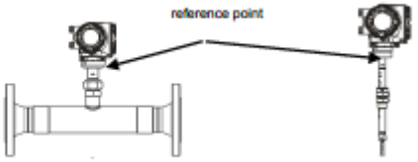
Notes: (1) Ta,min = -40°C, -50°C respectively (see nameplate)
(2) values in brackets are applicable for installation where the transmitter is not installed above the sensor

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

Size / DN	T_{med} to be measured at reference point at sensor neck [°C] T6 (85C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	---	---	73	76	77	77

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



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	A	19.07.2018 / Bn	F			Ersatz für:
	B		G			Ersteller: FES / Bn
	C		H			FILE: M:\Zeichng\FES0331\A\FES0331A.dcc
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, $_{C}CSA_{US}$	Gezeichnet	19.07.2018	Bn
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1	Geprüft		
Thermal Parameter	Ex-geprüft	19.07.2018	Bn
Proline t-mass 300/500	Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0331A **1/2**

Proline t-mass 500

Notes:
This page applies to versions with extended order code covering: 6*5*** – dd*******A… O6*5*** – dd*******A… 6x5Bxx – dd*******A… O6x5Bxx – dd*******A…
with approval option cCSAus / CSA: dd = CN, C6
IECEx / ATEX: dd = BJ, BN

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

Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	-50	180	55	---	---	115	155	180	180
			60	---	---	115	130	130	130

Notes: (1) Ta,min = -40°C, -50°C respectively (see nameplate)

Transmitter for all versions

Type of enclosure	$T_{a,max}$ Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

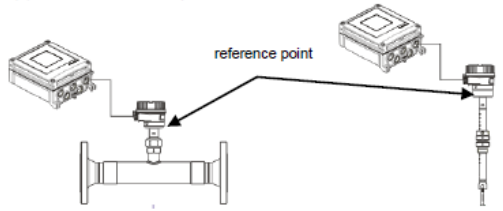
Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Sensor: 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 (80°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	---	---	76	78	82	82

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(1) location of reference point



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	C		H			FILE: M:\Zeichng\FES0331\A\FES0331A.doc
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1
Thermal Parameter
Proline t-mass 300/500

Gezeichnet	19.07.2018	Bn
Geprüft		
Ex-geprüft	19.07.2018	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0331A 2/2

3.3. Thermal Parameters (Zone 2)

Proline t-mass 300

Notes:
This page applies to versions with extended order code covering: 6*3B** – dd… O6*3B** – dd… 6x3Bxx – dd… O6x3Bxx – dd…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BS

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

Size / DN	T_{med} min [°C]	T_{med} max [°C]	$T_{a,max}$ [°C]	$T_{med,max}$ [°C] T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	-50	180	50	---	---	115	155	180	180
			55	---	---	115	155	160 (180)	160 (180)
			60	---	---	100 (115)	100 (130)	100 (130)	100 (130)

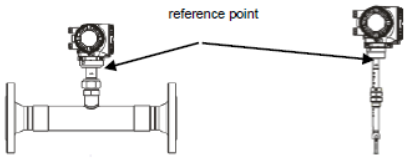
Notes: (1) Ta,min = -40°C, -50°C respectively (see nameplate)
(2) values in brackets are applicable for installation where the transmitter is not installed above the sensor
(3) versions with transmitter enclosure stainless steel (metal sheet) only for installation where transmitter is not installed above the sensor
(4) versions with transmitter enclosure stainless steel (metal sheet) installed in temperature class T5, a degree of 3°C for ambient temperature shall be taken into account

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 (85C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	---	---	73	76	77	77

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(2) location of reference point



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	B		G			Ersteller: FES / Bn
	C		H			FILE: M:\Zeichng\FES0332\A\FES0332A.doc
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, cCSAus	Gezeichnet	19.07.2018	Bn
Zone 2, Cl.I Div. 2, Cl.I Zone 2	Geprüft		
Thermal Parameter	Ex-geprüft	19.07.2018	Bn
Proline t-mass 300/500	Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0332A 1/2

Proline t-mass 500

Notes:
This page applies to versions with extended order code covering: 6*5*** – dd*******A… O6*5*** – dd*******A… 6x5Bxx – dd*******A… O6x5Bxx – dd*******A…
with approval option cCSAus / CSA: dd = CS, CZ
IECEx / ATEX: dd = BL, BS

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

Size / DN	T_{med}		$T_{a,max}$	$T_{med,max}$ [°C]					
	min [°C]	max [°C]	[°C]	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	-50	180	55	---	---	115	155	180	180
			60	---	---	115	130	130	130

Notes: (1) Ta,min = -40°C, -50°C respectively (see nameplate)

Transmitter for all versions

Type of enclosure	$T_{a,max}$			
	Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

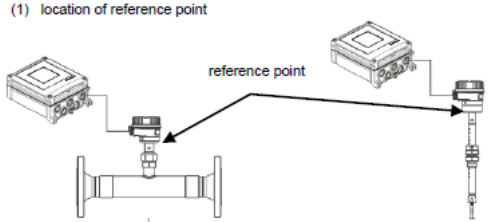
Notes: (1) aluminium enclosure: Ta,min = -50°C (for limitation see name plate)
plastic enclosure: Ta,min = -40°C

Sensor: 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 (80°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
all	---	---	76	78	82	82

Notes: (1) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta,min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperatue and minimum medium temperature see nameplate

(1) location of reference point



Aenderungen:						Ersetzt durch:
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	B		G			Ersteller: FES / Bn
	C		H			FILE: M:\Zeichng\FES0332\A\FES0332A.doc
	D		J			
	E		K			

Control Drawing IECEx, ATEX, CSA, cCSAus
Zone 2, Cl.I Div. 2, Cl.I Zone 2
Thermal Parameter
Proline t-mass 300/500

Gezeichnet	19.07.2018	Bn
Geprüft		
Ex-geprüft	19.07.2018	Bn
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0332A 2/2

4. Marking

Proline t-mass 300			
Model Code: 6F3*** – dd*ff**********+#**# 6I3*** – dd*ff**********+#**# O6F3*** – dd*ff**********+#**# O6I3*** – dd*ff**********+#**#			
dd = approval	ff = I/O	Marking of Ex protection	Information: Marking of protection representative for …
BB	CA, CB, CC, CD, HA, TA, MC, RC	Ex db eb ia [ia Ga] IIC T4...T1 Gb Ex db eb ia [ia Ga] IIC T4...T1 Ga/Gb Ex tb [ia Da] IIIC T** °C Db	db -> transmitter electronic compartment eb -> transmitter terminal compartment ia -> sensor tb -> enclosures [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIC T4...T1 Gb Ex db eb ia IIC T4...T1 Ga/Gb Ex tb IIIC T** °C Db	
BD	CA, CB, CC, CD, HA, TA, MC, RC	Ex db ia [ia Ga] IIC T4...T1 Gb Ex db ia [ia Ga] IIC T4...T1 Ga/Gb Ex tb [ia Da] IIIC T** °C Db	db -> transmitter electronic compartment eb -> transmitter terminal compartment ia -> sensor tb -> enclosures [ia Ga] -> input/output Ex ia [ia Da] -> input/output Ex ia
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIC T4...T1 Gb Ex db ia IIC T4...T1 Ga/Gb Ex tb IIIC T** °C Db	
BS	CA, CB, CC, CD, HA, TA, MC, RC	Ex ec nC [ic] IIC T4...T1 Gc	ec -> transmitter and sensor enclosure nC -> electronic [ic] -> input/output Ex ic
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC IIC T4...T1 Gc	

Proline t-mass 500 with ISEM integrated in sensor				
Model Code: 6F5*** – dd*ff****A**********+#**# 6I5*** – dd*ff****A**********+#**# O6F5*** – dd*ff****A**********+#**# O6I5*** – dd*ff****A**********+#**#				
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter	Information: Marking of protection representative for …
BJ	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Transmitter	[Ex ia] IIC [Ex ia] IIIC	[Ex ia] -> sensor circuit db -> sensor enclosure ia -> sensor tb -> sensor enclosure ia -> sensor
		Sensor	Ex db ia IIC T4...T1 Gb Ex db ia IIC T4...T1 Ga/Gb Ex ia tb IIIC T** °C Db	

Proline t-mass 500 with ISEM integrated in sensor				
Model Code: 6F5*** – dd*ff****A**********+#**# 6I5*** – dd*ff****A**********+#**# O6F5*** – dd*ff****A**********+#**# O6I5*** – dd*ff****A**********+#**#				
dd = approval	ff = I/O	Device	Marking of Ex protection transmitter	Information: Marking of protection representative for …
BL	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	[Ex ic] IIC	ec -> sensor enclosure [Ex ic] -> input/output Ex ic
		Sensor	Ex ec IIC T4...T1 Gc	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	n.a. (non-Ex)	
		Sensor	Ex ec IIC T4...T1 Gc	
BN	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	Ex ec nC [ic][ia Ga] IIC T5…T4 Gc [Ex ia] IIIC	db -> sensor enclosure ia -> sensor [ia Ga] -> sensor circuit [Ex ia] -> sensor circuit ec -> transmitter enclosure nC -> electronic [ic] -> input/output Ex ic
		Sensor	Ex db ia IIC T4...T1 Gb or Ex db ia IIC T4...T1 Ga/Gb Ex ia tb IIIC T** °C Db	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC [ia Ga] IIC T5…T4 Gc [Ex ia] IIIC	db -> sensor enclosure ia -> sensor [ia Ga] -> sensor circuit [Ex ia] -> sensor circuit ec -> transmitter enclosure nC -> electronic [ic] -> input/output Ex ic
		Sensor	Ex db ia IIC T4...T1 Gb or Ex db ia IIC T4...T1 Ga/Gb Ex ia tb IIIC T** °C Db	
BS	CA, CB, CC, CD, HA, TA, MC, RC	Transmitter	Ex ec nC [ic] IIC T5…T4 Gc	ec -> transmitter and sensor enclosure nC -> electronic [ic] -> input/output Ex ic
		Sensor	Ex ec IIC T4...T1 Gc	
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Transmitter	Ex ec nC IIC T5…T4 Gc	
		Sensor	Ex ec IIC T4...T1 Gc	

5. Conditions of Certification

- All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalization must exist.
- The sensors may only be used for those process media, for which the wetted parts are known to be suitable
- Plastic transmitter enclosures for the order codes

Proline t-mass 6*5***-(BJ)…,
Proline t-mass O6*5***-(BJ) …,
Proline t-mass 6X5*XX-(BJ)…,
Proline t-mass O6X5*XX-(BJ)…

shall be installed in an area of at least pollution degree 2.

- If the flowmeter system is connected to remote display type DKX001, the approval codes 'dd' for the flowmeter shall be paired to the approval code "bb" of the remote display as follows:

Approval code 'dd' of Proline t-mass 300	Approval code 'bb' of remote display DKX001/ODKX001 as covered by IECEx DEK 15.0024
BB, BD	BE, BF or BG
BS	BS

- The Proline 300/500 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

- Only use battery Renata type lithium CR1632, 3V.

- The flameproof joints are not intended to be repaired.

- For Proline t-mass 300_500 with order code 'dd' = BB, BD, BJ & BN:
  Zone 0 is only applicable to sensor with process medium in the measuring tube

<u>Applicable to Antenna bushing H337 when used with Proline 300/500 transmitter enclosure:</u>

- Antenna suppled by Endress+Hauser shall be used only. As an alternate, any passive omni-directional RF antenna with or without cable is permitted to be connected when meeting the following parameters:
  a) The antenna connected to the antenna bushing shall have an impedance of at least 50Ω
  b) The rated frequency range of the antenna shall not exceed 1710MHz … 6000MHz
  c) The rated power of the antenna shall be at least 100mW

- The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure

- The RF antenna or the RF antenna cable shall be fitted with a Series N (MIL-STD-348) plug connector. The coupling nut of the Series N plug connector shall be hand tightened only

- The metal enclosure of the Antenna Bushing H337 shall be securely connected to local earth, typically via the enclosure to which it is connected