



Certificate of Compliance

Certificate: 70087366

Master Contract: 160686

Project: 80174206

Date Issued: 2024-03-20

Issued To: Endress + Hauser Flowtec AG
Kagenstrasse 7
Reinach., Basel-Country, 4153
Switzerland

Attention: Minh Tuan Do

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Anil Sodhi
Anil Sodhi

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations - CERTIFIED TO U.S. STANDARDS

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations – CERTIFIED TO U.S. STANDARDS

Class I, Division 1, Group A, B, C, D T6...T1;

Class I, Division 2, Group A, B, C, D T6...T1;

Class II, Division 1, Groups E, F, G; Class III;



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Class I, Zone 1, AEx/Ex db eb ia [ia Ga] IIC T6... T1 Gb;
Class I, Zone 1, AEx/Ex db eb [ia Ga] IIC T6... T1 Gb;
Class I, Zone 1, AEx/Ex db ia [ia Ga] IIC T6... T1 Gb;
Class I, Zone 1, AEx/Ex db [ia Ga] IIC T6... T1 Gb;
Class I, Zone 1, AEx/Ex ia IIC T6... T1 Gb;
Class I, Zone 1, AEx/Ex db ia IIC T6... T1 Gb;

Class I, Zone 0/1, AEx/Ex db eb ia [ia Ga] IIC T6... T1 Ga/Gb;
Class I, Zone 0/1, AEx/Ex db ia [ia Ga] IIC T6... T1 Ga/Gb;
Class I, Zone 0/1, AEx/Ex ia IIC T6... T1 Ga/Gb;

Class I, Zone 2, AEx/Ex ec nC IIC T5... T1 Gc;
Class I, Zone 2, AEx/Ex ec nC [ic] IIC T5... T1 Gc;
Class I, Zone 2, AEx/Ex ec nC [ic] [ia Ga] IIC T5... T4 Gc;
Class I, Zone 2, AEx/Ex ec IIC T6... T1 Gc;
Class I, Zone 2, AEx/Ex ec nC IIC T6... T1 Gc;

Zone 21, AEx/Ex tb IIIC T** °C Db;
Zone 21, AEx/Ex ia tb IIIC T** °C Db;
Zone 21, AEx/Ex tb [ia Da] IIIC T** °C Db;
Zone 21, AEx/Ex tb [ia Da] IIIC T85 °C Db;
Zone 21, AEx/Ex ia IIIC T** °C Db;

Note: See approval code 'dd' within the ordering code for the markings of the equipment based on the final construction. ** refer to control drawing for applicable temperatures.

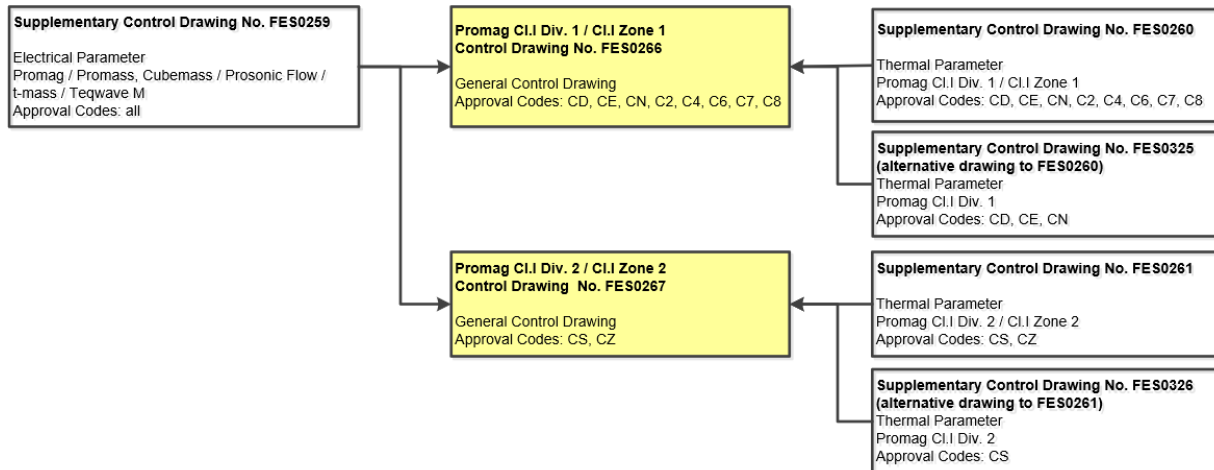
Proline Promass 300/500, Proline Cubemass 300/500, Proline Promag 300/500, Proline Prosonic Flow 300/500, Proline t-mass 300/500 and Proline Teqwave M 300/500 Flowmeter system available as compact and remote versions; product electrical ratings as listed under order code 'e'; hazardous locations designations as listed under order code 'dd'; ambient temperature as listed in the applicable control drawings as shown below;



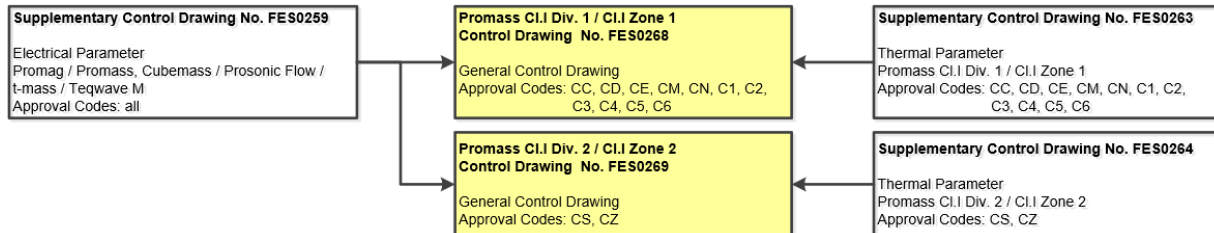
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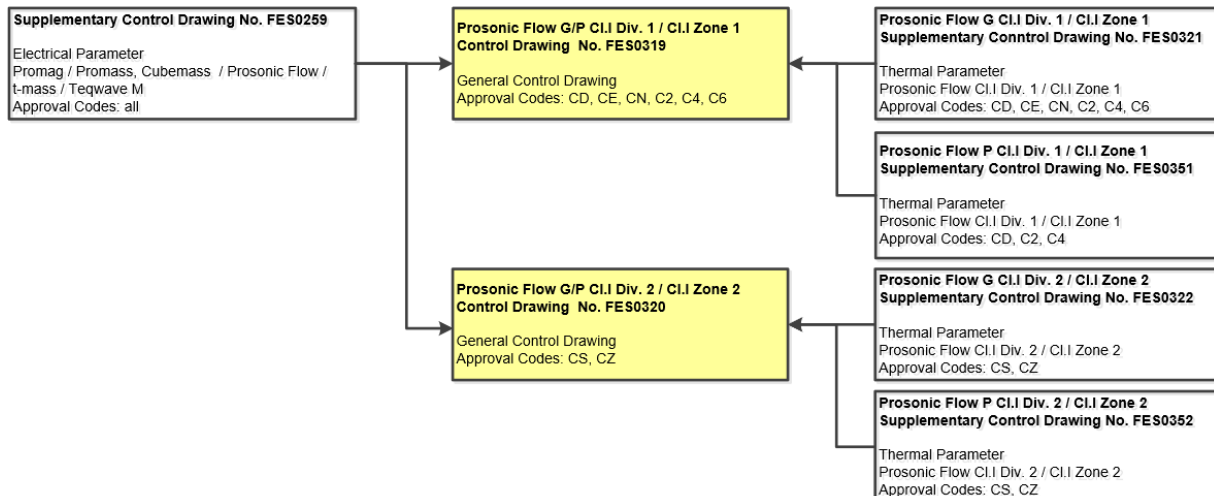
Proline Promag 300/500:



Proline Promass 300/500 & Proline Cubemass 300/500:



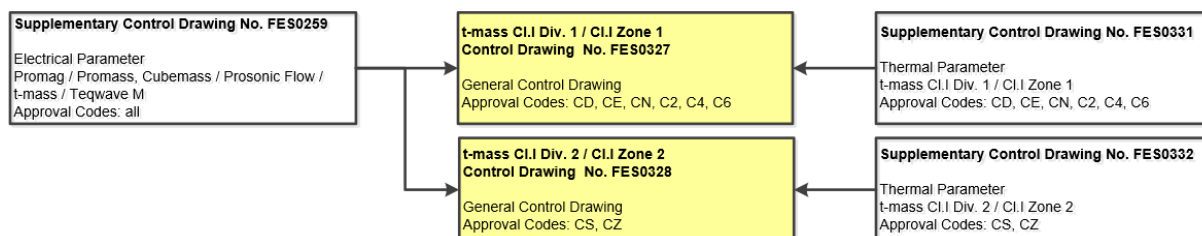
Proline Prosonic Flow 300/500:



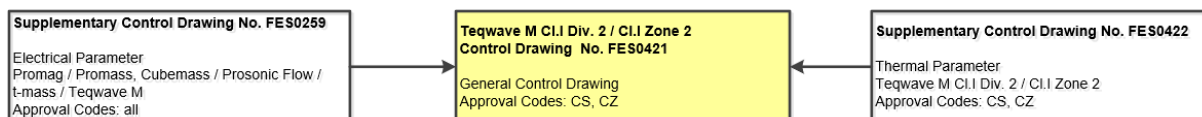
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Proline t-mass 300/500:



Proline Teqwave M 300/500:



Proline Promass 300/500, Proline Cubemass 300/500

Extended order code Proline Promass 300 and Cubemass 300:

8a3bcc – ddeffghjlpstttvw + ###

O8a3bcc – ddeffghjlpstttvwyy + ###

8x3bxx – ddeffghjlprrssw + ###

O8x3bxx – ddeffghjlprrsswyy + ###

for OEM-version

for replacement transmitter

for replacement transmitter OEM

Extended order code Proline Promass 500 and Cubemass 500:

8a5bcc – ddeffghijkmnopsstttvw + ###

O8a5bcc – ddeffghijkmnopsstttvwyy + ###

8x5bxx – ddeffghijkmopqrrssw + ###

O8x5bxx – ddeffghijkmopqrrsswyy + ###

for OEM-version

for replacement transmitter

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:

CC	=	Cl.I Div.1, Cl.II,III, GP C-G
CD	=	Cl.I Div.1, Cl.II,III, GP A-G
CE	=	Cl.I Div.1, GP A-D
CS	=	Cl.I Div. 2, GP A-D
CZ	=	Ex ec IIC T5...T1 Gc
C1	=	Ex db eb [ia] IIB T6...T1 Gb Ex tb IIIC T** Db
C2	=	Ex db eb [ia] IIC T6...T1 Gb Ex tb IIIC T** Db
C3	=	Ex db [ia] IIB T6...T1 Gb Ex tb IIIC T** Db
C4	=	Ex db [ia] IIC T6...T1 Gb Ex tb IIIC T** Db

Proline Promass 500:

CC	=	Cl.I Div.1, Cl.II,III, GP C-G	(transmitter + sensor)
CD	=	Cl.I Div.1, Cl.II,III, GP A-G	(transmitter + sensor)
CE	=	Cl.I Div.1, GP A-D	(transmitter + sensor)
CM	=	Cl.I Div. 2, GP CD	(transmitter)
		Cl.I Div.1, Cl.II,III, GP C-G	(sensor)
CN	=	Cl.I Div. 2, GP A-D	(transmitter)
		Cl.I Div.1, Cl.II,III, GP A-G	(sensor)
CS	=	Cl.I Div. 2, GP A-D	(transmitter + sensor)
CZ	=	Ex ec IIC T5...T4 Gc	(transmitter)
		Ex ec IIC T5...T1 Gc	(sensor)
C1	=	Ex db eb [ia] IIB T6...T5 Gb	(transmitter)
		Ex ia IIB T6...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
C2	=	Ex db eb [ia] IIC T6...T5 Gb	(transmitter)
		Ex ia IIC T6...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
C3	=	Ex db [ia] IIB T6...T5 Gb	(transmitter)
		Ex ia IIB T6...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
C4	=	Ex db [ia] IIC T6...T5 Gb	(transmitter)
		Ex ia IIC T6...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(transmitter + sensor)
C5	=	Ex ec IIC T5...T4 Gc	(transmitter)
		Ex ia IIB T6...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)
C6	=	Ex ec IIC T5...T4 Gc	(transmitter)
		Ex ia IIC T5...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(sensor)



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- 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
L = Pulse output Ex i
K = Pulse output
X = sensor only



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-
- 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
L = Pulse output Ex i
K = 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
L = Pulse output Ex i
K = 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



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- qq** = **Upgrade Kit**
any double digits with combination of number or letter
- rr** = **Existing Product** (see assignment 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 table below for assignment of flowmeter to replacement of transmitter)
A1 = product version 1
A2 = product version 2
- yy** = **Customer version (two digit)**
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**

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 – ddeffghijkmnopqqww + ### for replacement transmitter only
O5x5bxx – ddeffghijkmnopqqwwyy + ### 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**



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Proline Promag 300:

CD = Cl.I Div.1, Cl.II,III, GP A-G
CE = Cl.I Div.1, GP A-D
CS = Cl.I Div. 2, GP A-D
CZ = Ex ec IIC T5...T1 Gb
C2 = Ex db eb [ia] IIC T6...T1 Gb
Ex tb IIIC T** Db
C4 = Ex db [ia] IIC T6...T1 Gb
Ex tb IIIC T** Db

Proline Promag 500:

CD = Cl.I Div.1, Cl.II,III, GP A-G (transmitter + sensor)
CE = Cl.I Div.1, GP A-D (transmitter + sensor)
CN = Cl.I Div. 2, GP A-D (transmitter)
Cl.I Div.1, Cl.II,III, GP A-G (sensor)
CS = Cl.I Div. 2, GP A-D (transmitter + sensor)
CZ = Ex ec IIC T5...T4 Gc (transmitter)
Ex ec IIC T5...T1 Gc (sensor)
C2 = Ex db eb [ia] IIC T6...T5 Gb (transmitter)
Ex eb ia IIC T6...T1 Gb (sensor)
Ex tb IIIC T** Db (transmitter + sensor)
C4 = Ex db [ia] IIC T6...T5 Gb (transmitter)
Ex eb ia IIC T6...T1 Gb (sensor)
Ex tb IIIC T** Db (transmitter + sensor)
C6 = Ex ec IIC T5...T1 Gc (transmitter)
Ex db ia IIC T6...T1 Gb (sensor)
Ex tb IIIC T** Db (sensor)
C7 = Ex db eb [ia] IIC T6...T5 Gb (transmitter)
Ex eb ia IIC T6...T1 Gb (sensor)
C8 = Ex db [ia] IIC T6...T5 Gb (transmitter)
Ex eb ia IIC T6...T1 Gb (sensor)

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

e = **Power Supply**

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



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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
L = Pulse output Ex i
K = 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



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- G = Pulse/Frequency/Switch output Ex i
- H = Relay
- I = 4-20mA input
- J = Status input
- L = Pulse output Ex i
- K = 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
 - L = Pulse output Ex i
 - K = 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 Kit**
 - 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



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- u** = **Electrode**
any number or letter
- v** = **Calibration**
any single number or letter
- ww** = **Device Model (two digit)** (refer to table below for assignment of flowmeter to replacement of transmitter)
A1 = product version 1
A2 = product version 2
- yy** = **Customer version (two digit)**
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**

Proline Prosonic Flow 300/500

Proline Prosonic Flow G 300/500

Extended order code Proline Prosonic Flow G 300:

- 9G3bcc – ddeffghjlpstuuuvww + ###**
O9G3bcc – ddeffghjlpstuuuvwwyy + ### for OEM-version
9x3bxx – ddeffghjlprrssww + ### for replacement transmitter
O9x3bxx – ddeffghjlprrsswwyy + ### for replacement transmitter OEM

Extended order code Proline Prosonic Flow G 500:

- 9G5bcc – ddeffghijkmnopsstuuuvww + ###**
O9G5bcc – ddeffghijkmnopsstuuuvwwyy + ### for OEM-version
9x5bxx – ddeffghijkmopqrrssww + ### for replacement transmitter
O9x5bxx – ddeffghijkmopqrrsswwyy + ### 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 G 300:
CD = Cl.I Div.1, Cl.II,III, GP A-G
CE = Cl.I Div.1, GP A-D
CS = Cl.I Div. 2, GP A-D
CZ = Ex ec IIC T5...T1 Gc
C2 = Ex db eb [ia] IIC T6...T1 Gb
Ex tb IIIC T** Db
C4 = Ex db [ia] IIC T6...T1 Gb
Ex tb IIIC T** Db



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Proline Prosonic Flow G 500:

CN	=	Cl.I Div. 2, GP AD	(transmitter)
		Cl.I Div.1, Cl.II,III, GP A-G	(sensor)
CS	=	Cl.I Div. 2, GP A-D	(transmitter + sensor)
CZ	=	Ex ec IIC T5...T4 Gc	(transmitter)
		Ex ec IIC T5...T1 Gc	(sensor)
C6	=	Ex ec IIC T5...T4 Gc	(transmitter)
		Ex db ia IIC T5...T1 Gb	(sensor)
		Ex tb IIIC T** Db	(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



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- 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



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- o** = **Cable Sensor Connection** (Proline 500 only)
any single number or letter
- p** = **Cable Entry**
any single number or letter
- qq** = **Upgrade Kit**
any double digits with combination of number or letter
- rr** = **Existing Product** (see assignment of flowmeter to replacement transmitter)
 - GA = Prosonic Flow G
 - 00 = not used
- ss** = **Measuring tube material, sensor version**
any double digits with combination of number or letter
- t** = **Pressure 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)**
 - 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**

Proline Prosonic Flow P 500

Extended order code Proline Prosonic Flow P 500:

9P5bcc – ddeffghjkmossuuuvvww + ###	
O9P5bcc – ddeffghjkmossuuuvvwwyy + ###	for OEM-version
9x5bxx – ddeffghjkmnoprrssww + ###	for replacement transmitter
O9x5bxx – ddeffghjkmnoprrsswwyy + ###	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**
 - CD = Cl.I Div.1, Cl.II,III, GP A-G
 - CS = Cl.I Div. 2, GP A-D
 - CZ = Ex ec IIC T5...T4 Gc (transmitter)
Ex ic IIC T6...T1 Gc (Sensor)



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- C2 = Ex db eb [ia] IIC T6...T5 Gb (transmitter)
Ex tb IIIC T** Db (transmitter)
Ex ia IIC T6...T1 Gb (Sensor)
Ex ia IIIC T** Db (Sensor)
- C4 = Ex db [ia] IIC T6...T5 Gb (transmitter)
Ex tb IIIC T** Db (transmitter)
Ex ia IIC T6...T1 Gb (Sensor)
Ex ia IIIC T** Db (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



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	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 500
	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



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- 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**
CD = Cl.I Div.1, Cl.II,III, GP A-G
CS = Cl.I Div. 2, GP A-D
CZ = Ex icIIC T6...T1 Gc
C2 = Ex ia IIC T6...T1 Gb
Ex ia IIIC T** °C Db
C4 = Ex ia IIC T6...T1 Gb
Ex ia IIIC T** °C Db
- 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 sensor types DK9013 and ODK9013 are intended for use as replacement of sensors for product Prosonic Flow P 500 types 9P5B and O9P5B or for extension of Prosonic Flow P 500 types 9P5B and O9P5B from one sensor set to two sensor sets

Proline t-mass 300/500

Extended order code Proline t-mass 300:

6F3bcc – ddeffghjlpstttvww + ###

6I3bcc – ddeffghjlpstttuuvww + ###

O6F3bcc – ddeffghjlpstttvwwyy + ### for OEM-version



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O6I3bcc – ddeffghjlpstttuuvwyy + ### for OEM-version
6x3bxx – ddeffghjlpssww + ### for replacement transmitter
O6x3bxx – ddeffghjlpsswwyy + ### for replacement transmitter OEM

Extended order code Proline t-mass 500:

6F5bcc – ddeffghijkmnopsstttvww + ###
6I5bcc – ddeffghijkmnopsstttuuvw + ###
O6F5cc – ddeffghijkmnopsstttvwwyy + ### for OEM-version
O6I5cc – ddeffghijkmnopsstttuuvwyy + ### 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:

CD = Cl.I Div.1, Cl.II,III, GP A-G
CE = Cl.I Div.1, GP A-D
CS = Cl.I Div. 2, GP A-D
CZ = Ex ec IIC T4...T1 Gc
C2 = Ex db eb [ia] IIC T4...T1 Gb
Ex tb IIIC T** Db
C4 = Ex db [ia] IIC T4...T1 Gb
Ex tb IIIC T** Db

Proline t-mass 500:

CN = Cl.I Div. 2, GP CD (transmitter)
Cl.I Div.1, Cl.II,III, GP A-G (sensor)
CS = Cl.I Div. 2, GP A-D (transmitter + sensor)
CZ = Ex ec IIC T5...T4 Gc (transmitter)
Ex ec IIC T4...T1 Gc (sensor)
C6 = Ex ec IIC T5...T4 Gc (transmitter)
Ex db ia IIC T4...T1 Gb (sensor)
Ex tb IIIC T** Db (sensor)

e = Power Supply

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



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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



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- 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)**
 - A1 = product version 1
 - A2 = product version 2
- yy = Customer version (two digits)**
 - any double digits with combination of number or letter



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- **** = **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**

Proline Teqwave M 300/500

Extended order code Proline Teqwave M 300:

- 4a3bcc – ddeffghjlpstttww + ###**
O4a3bcc – ddeffghjlpstttwyy + ### for OEM-version
4x3bxx – ddeffghjlpww + ### for replacement transmitter
O4x3bxx – ddeffghjlpwwyy + ### for replacement transmitter OEM

Extended order code Proline Teqwave M 500:

- 4a5bcc – ddeffghijkmnopstttww + ###**
O4a5cc – ddeffghijkmnopstttwyy + ### for OEM-version
4x5bxx – ddeffghijkmopww + ### for replacement transmitter
O4x5bxx – ddeffghijkmopwwyy + ### for replacement transmitter OEM

- a** = **Type of sensor**
W = Teqwave MW
- b** = **Generation**
B = Generation of Flowmeter
- cc** = **Size**
any combination of number and/or letter up to size = DN300
- dd** = Proline Teqwave M 300:
CS = Cl.I Div. 2, GP A-D
CZ = Ex ec IIC T5...T1 Gc

Proline Teqwave M 500:

- CS = Cl.I Div. 2, GP A-D (transmitter + sensor)
CZ = Ex ec IIC T5...T4 Gc (transmitter)
Ex ec IIC T6...T1 Gc (sensor)

- e** = **Power Supply**
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



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	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



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-
- 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
- s** = **Design**
any single number or letter
- ttt** = **Process connection**
any triple digits with combination of number or letter
- ww** = **Device Model (two digits)** (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**



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Assignment of Flowmeter to Replacement Transmitter

The replacement transmitters are assigned to the flowmeters Proline Promass 300/500, Proline Cubemass 300/500, Proline Promag 300/500, Proline Prosonic Flow 300/500, Proline t-mass 300/500 and Proline Teqwave M 300/500 as follows:

Product flowmeters			Replacement transmitter type			
Order code	Generation code b =	device model code ww =	Order code	Generation code b =	existing product rr =	device model code ww =
4W*b**...ww, O4W*b**...ww	B	A2	4x*bxx...ww, O4x*bxx...ww	B	n.a.	A2
5H*b**...ww, O5H*b**...ww	B	A1 / A2	5x*bxx...ww, O5x*bxx...ww	B	n.a.	A1 / A2
5P*b**...ww, O5P*b**...ww	B	A1 / A2	5x*bxx...ww, O5x*bxx...ww	B	n.a.	A1 / A2
5W*b**...ww, O5W*b**...ww	B	A1 / A2	5x*bxx...ww, O5x*bxx...ww	B	n.a.	A1 / A2
6F*b**...ww, O6F*b**...ww	B	A1 / A2	6x*bxx...ww, O6x*bxx...ww	B	n.a.	A1 / A2
6I*b**...ww, O6I*b**...ww	B	A1 / A2	6x*bxx...ww, O6x*bxx...ww	B	n.a.	A1 / A2
8A*b**...ww, O8A*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	AA (all sizes)	A1 / A2
8A*b**...ww, O8A*b**...ww	C	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	AB (all sizes)	A1 / A2
8C*b**...ww, O8C*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	CA (all sizes)	A1 / A2
8E*b**...ww, O8E*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	EA (DN8...15)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	EB (DN25...50)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	EC (DN80)	A1 / A2
8F*b**...ww, O8F*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	FA (DN8...15)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	FB (DN25...50)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	FC (DB80...250)	A1 / A2
8H*b**...ww, O8H*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	HA (DN8...40)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	HB (DN50)	A1 / A2
8I*b**...ww, O8I*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	IA (DN8...40)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	IB (DN40FB...80)	A1 / A2
8O*b**...ww, O8O*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	OA (all sizes)	A1 / A2
8P*b**...ww, O8P*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	PA (DN8...40)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	PB (DN50)	A1 / A2
8Q*b**...ww, O8Q*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	QA (DN25...50)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	QB (DN80...100)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	QC (DN150...250)	A1 / A2
8S*b**...ww, O8S*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	SA (DN8...40)	A1 / A2
			8x*bxx...rr...ww, O8x*bxx...rr...ww	B	SB (DN50)	A1 / A2
8X*b**...ww, O8X*b**...ww	B	A1 / A2	8x*bxx...rr...ww, O8x*bxx...rr...ww	B	XA (all sizes)	A1 / A2
9G*b**...ww, O9G*b**...ww	B	A1 / A2	9x*bxx...pp...ww, O9x*bxx...pp...ww	B	GA (all sizes)	A1 / A2
9P*b**...ww, O9P*b**...ww	B	A1 / A2	9x*bxx...pp...ww, O9x*bxx...pp...ww	B	PA (all versions)	A1 / A2



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Conditions of Acceptability:

Applicable to all Proline 300/500 Flowmeters:

- 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.
- The equipment may have non-conductive surfaces which are a potential electrostatic charging hazard – see instructions for guidance.
- 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:
 - The antenna shall have an impedance of at least 50Ω
 - The rated frequency range of the antenna shall not exceed 1710MHz ... 6000MHz
 - The RF antenna or the RF antenna cable shall be fitted with a Type N connector plug (MIL-STD-348)
- The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure.
- The coupling nut of the Type 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.
- 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, Cubemass, Promag, Prosonic Flow, t-mass and Teqwave M	Approval code 'bb' of remote display DKX001/ODKX001 as covered by CSA 160686-70030937
CC, CD or CE	CE or CG
C1, C2, C3, C4, C7, C8	CI, CK or CL
CS	CS
CZ	CZ

- Only use battery Renata type lithium CR1632, 3V.
- The flameproof joints are not intended to be repaired.
- For Proline Promass 300/500, Proline Cubemass 300/500 with order code 'dd' = C1, C2, C3, C4, C5 & C6:
Zone 0 is only applicable to sensor with process medium in the measuring tube.
- For Proline t-mass 300/500 with order code 'dd' = C2, C4 & C6:
Zone 0 is only applicable to sensor with process medium in the measuring tube.

Additional conditions applicable to Proline Promass 300/500 and Proline Cubemass 300/500:

- All transmitters certified for Class I, Division 1 are factory sealed and do not require external seals. These factory seals are only valid when used in -40°C or higher ambient temperatures.
- All sensors for the Proline Promass 300/500 flowmeter systems are assessed as dual seal devices. Refer to the markings on the sensor for the maximum working pressures.



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Additional conditions applicable to Proline Promag 300/500:

- All transmitters certified for Class I, Division 1 are factory sealed and do not require external seals. These factory seals are only valid when used in -40°C or higher ambient temperatures. Remote enclosures assembled on the sensor certified for Class I, Division 1 are also factory sealed however they do not have an ambient temperature limitation.
- All sensors for the Proline Promag 300/500 flowmeter systems are assessed as single seal devices. Refer to the markings on the sensor for the maximum working pressures.
- 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.
- The Proline Promag 300/500 Flowmeter that may include non-conductive surfaces of sensor enclosure housing, shall be prevented from risk of electrostatic charging caused by friction and/or cleaning. The equipment nameplate shall bear the following warning: WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

Additional conditions applicable to Proline Prosonic Flow 300/500:

- All transmitters certified for Class I, Division 1 are factory sealed and do not require external seals. These factory seals are only valid when used in -40°C or higher ambient temperatures. Remote enclosures assembled on the sensor certified for Class I, Division 1 are also factory sealed however they do not have an ambient temperature limitation.
- The sensor for the Proline Prosonic Flow G 300/500 flowmeter system is assessed as dual seal devices. Refer to the markings on the sensor for the maximum working pressures.

Additional conditions applicable to Proline t-mass 300/500:

- All transmitters certified for Class I, Division 1 are factory sealed and do not require external seals. These factory seals are only valid when used in -40°C or higher ambient temperatures. Remote enclosures assembled on the sensor certified for Class I, Division 1 are also factory sealed however they do not have an ambient temperature limitation.
- All sensors for the Proline t-mass 300/500 flowmeter systems are assessed as single seal devices. Refer to the markings on the sensor for the maximum working pressures.

Applicable for Proline transmitter hygienic SS enclosure housing G306:

- For the G306 enclosure when forming part of an Ex-Equipment, first the covers shall be made hand-tight and then an additional 45 degrees turn tightening shall be applied to them.
- The thread form of the threaded entries of the G306 enclosure when forming part of an Ex-Equipment shall be marked on the equipment or shall appear in the installation instructions.
- Transmitter shall not be installed vertically above the sensor.



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APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 61010-1-12 UPD1: 2015, UPD2: 2016, AMD1: 2018	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
CSA C22.2 No. 213-2017, UPD1 (2018) + UPD2 (2019) + UPD3 (2021)	Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations
CAN/CSA C22.2 No. 25-17	Enclosures for Use in Class II Groups E, F, G Hazardous Locations
CAN/CSA C22.2 No. 30-M1986 (<i>Reaffirmed 2016</i>)	Explosion-proof enclosures for use in class 1 hazardous locations
CAN/CSA-C22.2 No. 60079-0:19	Explosive Atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-1:16	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA-C22.2 No. 60079-7:16	Explosive Atmospheres – Part 7: Equipment protection by increased safety “e”
CAN/CSA-C22.2 No. 60079-11:14	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety “i”
CAN/CSA-C22.2 No. 60079-15:18	Explosive atmospheres — Part 15: Equipment protection by type of protection “n”
CAN/CSA-C22.2 No. 60079-26:16	Explosive atmospheres — Part 26: Equipment with Equipment Protection Level (EPL) Ga
CAN/CSA-C22.2 No. 60079-31:15	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”
CAN/CSA-C22.2 No. 60079-47:22	Explosive atmospheres – Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)
CAN/CSA C22.2 No. 94.2-15	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL-61010-1 2018 3 rd Edition	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
ANSI/UL-121201-2021 9 th Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
FM 3600 (Jan. 2022)	Electrical Equipment for use in Hazardous (Classified) Locations General Requirements
FM 3615 (Jan. 2022)	Explosion proof Electrical Equipment General Requirements
FM 3610 (July 2021)	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous (Classified) Locations
FM 3616 (Jan. 2022)	Dust-Ignition proof Electrical Equipment General Requirements
ANSI/UL 60079-0:2020 7 th Edition	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements



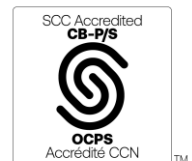
Certificate: 70087366
Project: 80174206

Master Contract: 160686
Date Issued: 2024-03-20

ANSI/UL 60079-1-2015 7 th Edition	Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”
ANSI/UL 60079-7-2021 5 th Edition	Explosive Atmospheres – Part 7: Equipment protection by increased safety “e”
ANSI/UL 60079-11:2018 6 th Edition	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety “i”
ANSI/UL-60079-15-2020 5 th Edition	Explosive atmospheres – Part 15: Equipment protection by type of protection “n” (Edition 4)
ANSI/UL 60079-26:2017, 3 rd Edition	Explosive atmospheres — Part 26: Equipment with Equipment Protection Level (EPL) Ga
ANSI/UL 60079-31:15 2 nd Edition	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”
ANSI/UL 60079-47:2022 1 st Edition	Explosive atmospheres – Part 47: Equipment Protection by 2-Wire Intrinsically Safe Ethernet Concept (2-WISE)
ANSI/UL50E:2015 2 nd Edition	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL 122701-2017 3 rd Edition	Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids

Notes:

Products certified under Class C225802, C225803, C225804, C225882, C225883, C225884 have been certified under CSA’s ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca



Proline Promag 300/500 – Proline Promass 300/500 – Proline Prosonic Flow 300/500 – Proline t-mas 300/500 – Proline Teqwave M 300/500

Notes:

This page applies to versions with extended order code covering: approval options cCSAus / CSA: CC, CD, CE, C1, C2, C3, C4, C7, C8
IECEX / ATEX: BA, BB, BC, BD, B7, B8

Input / Output:

			IO's type of protection Non-intrinsically safe	IO's type of protection IS / Ex ia / AEx ia
IO1	IO options: HA, TA	Terminal No.: 26 and 27	---	U _i = 30V, I _i = 570mA, P _i = 8.5W L _i = 10μH, C _i = 5nF
	IO options: CA, CB		---	U _i = 30V, I _i = 100mA, P _i = 1.25W L _i = 0, C _i = 6nF
	IO options: CC, CD		---	U _o = 21.8V, I _o = 90mA, P _o = 491mW L _o = 4.1mH (IIC) / 15mH (IIB), C _o = 160nF (IIC) / 1160nF (IIB) U _i = 30V, I _i = 10mA, P _i = 0.3W, L _i = 5μH, C _i = 6nF
	IO options: RC, MC		---	Approval codes BA, BB, BC, BD, B7, B8, CC, CD, CE, C1, C2, C3, C4, C7, C8: 2-WISE power load APL port profile SLAA (see note 1) U _i = 17.5 V, I _i = 380 mA, P _i = 5.32 W, L _i ≤ 10 μH, C _i ≤ 5 nF
	IO options: BA, BB, MA		U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: LA, GA, SA		U _N = 32V _{DC} , U _M = 250V _{AC}	---
	IO options: RB, MB		APL port profile SLAX / SPE PoDL classes 10, 11, 12: U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: NA, RA		U _N = 30V _{DC} , U _M = 250V _{AC}	---
IO2	IO options: C, G, K	Terminal No.: 24 and 25	---	U _i = 30V, I _i = 100mA, P _i = 1.25W, L _i = 0, C _i = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: H		U _N = 30V _{DC} I _N = 100mA _{DC} / 500mA _{AC} U _M = 250V _{AC}	---
IO3	IO options: C, G, K	Terminal No.: 22 and 23	---	U _i = 30V, I _i = 100mA, P _i = 1.25W, L _i = 0, C _i = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: H		U _N = 30V _{DC} I _N = 100mA _{DC} / 500mA _{AC} U _M = 250V _{AC}	---
IO4	IO options: C, G, K	Terminal No.: 20 and 21	---	U _i = 30V, I _i = 100mA, P _i = 1.25W, L _i = 0, C _i = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: H		U _N = 30V _{DC} I _N = 100mA _{DC} / 500mA _{AC} U _M = 250V _{AC}	---

Power Supply:

		Type of protection Non-intrinsically safe
Power supply: option D	Terminal No.: 1(L+) and 2(L-)	U _N = 19.2...28.8V _{DC} U _M = 250V _{AC}
Power supply: option E	Terminal No.: 1(L) and 2(N)	U _N = 85...264V _{AC} U _M = 250V _{AC}

Notes:

- 1) for IO1 with IO option RC and MC refer to "Ethernet-APL Installation Drawing - Device End Users v1.0" 2-WISE power load port (6), available for download at <https://www.ethernet-apl.org/library/>

Änderungen:	A	10.05.2016 / Bn	F	01.03.2023 / DOMI	Alle gesetzlichen Urheberrechte. vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	Ersetzt durch: Ersatz für: Ersteller: FES / Bn FILE: M:\Zeichng\FES0259\E\FES0259F.doc				
	B	20.04.2018 / Bn	G							
	C	10.07.2019 / Bn	H							
	D	29.09.2021 / Bn	J							
	E	12.07.2022 / Bn	K							
Control Drawing IECEx, ATEX, CSA, cCSAus Zone 1, Zone 21, Cl.I Div.1, Div.2, Cl.II, Cl.III, Cl.I Zone 1, Cl.I Zone 2 Electrical Parameter Transmitter Proline 300/500						Massstab	Gezeichnet	10.05.2016	Bn	
							Geprüft			
							Ex-geprüft	01.03.2023	DOMI	
							Gesehen			
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach						FES0259F 1/3				

Proline Promag 300/500 – Proline Promass 300/500 – Proline Prosonic Flow 300/500 – Proline t-mas 300/500 – Proline Teqwave M 300/500

Notes:

This page applies to versions with extended order code covering:

approval options: cCSAus / CSA: CS, CM, CN, CZ, C5, C6
IECEX / ATEX: BI, BJ, BL, BM, BN, BS

Input / Output:

			IO's type of protection Non-intrinsically safe	IO's type of protection NIFW / Ex ic / AEx ic
IO1	IO options: HA, TA	Terminal No.: 26 and 27	---	Ui = 32V, li = 570mA, Pi = 8.5W, Li = 10μH, Ci = 5nF
	IO options: CA, CB		---	Ui = 30V, li = 100mA, Pi = 1.25W, Li = 0, Ci = 6nF
	IO options: CC, CD		---	Uo = 21.8V, Io = 90mA, Po = 491mW Lo = 9mH (IIC) / 39mH (IIB), Co = 600nF (IIC) / 4000nF (IIB) Ui = 30V, li = 10mA, Pi = 0.3W, Li = 5μH, Ci = 6nF
	IO options: RC, MC		---	Approval codes BI, BJ, BL, BM, BN, BS, CS, CM, CN, CZ, C5, C6: 2-WISE power load APL port profile SLAC (see note 1) Ui = 17.5 V, li = 380 mA, Pi = 5.32 W, Li ≤ 10 μH, Ci ≤ 5 nF
	IO options: BA, BB, MA		U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: LA, GA, SA		U _N = 32V _{DC} , U _M = 250V _{AC}	---
	IO options: RB, MB		APL port profile SLAX / SPE PoDL classes 10, 11, 12: U _N = 30V _{DC} , U _M = 250V _{AC}	---
IO2	IO options: NA, RA	IO1 / RJ45	U _N = 30V _{DC} , U _M = 250V _{AC}	---
	IO options: C, G, K		---	Ui = 30V, li = 100mA, Pi = 1.25W, Li = 0, Ci = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---
IO3	IO options: H	Terminal No.: 24 and 25	U _N = 30V _{DC} I _N = 100mA _{DC} / 500mA _{AC} U _M = 250V _{AC}	---
	IO options: C, G, K		---	Ui = 30V, li = 100mA, Pi = 1.25W, Li = 0, Ci = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---
IO4	IO options: H	Terminal No.: 22 and 23	U _N = 30V _{DC} I _N = 100mA _{DC} / 500mA _{AC} U _M = 250V _{AC}	---
	IO options: C, G, K		---	Ui = 30V, li = 100mA, Pi = 1.25W, Li = 0, Ci = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---
IO4	IO options: H	Terminal No.: 20 and 21	U _N = 30V _{DC} I _N = 100mA _{DC} / 500mA _{AC} U _M = 250V _{AC}	---
	IO options: C, G, K		---	Ui = 30V, li = 100mA, Pi = 1.25W, Li = 0, Ci = 0
	IO options: B, D, E, F, I, J, L		U _N = 30V _{DC} , U _M = 250V _{AC}	---

Power Supply:

		Type of protection Non-intrinsically safe
Power supply: option I	Terminal No.: 1(L+/L) and 2(L-/N)	U _N = 19.2...28.8V _{DC} / 85...264V _{AC} U _M = 250V _{AC}

Notes:

- 1) for IO1 with IO option RC and MC refer to "Ethernet-APL Installation Drawing - Device End Users v1.0" 2-WISE power load port (6), available for download at <https://www.ethernet-apl.org/library/>

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	B	20.04.2018 / Bn	G							
	C	10.07.2019 / Bn	H							
	D	29.09.2021 / Bn	J							
	E	12.07.2022 / Bn	K							
Control Drawing IECEX, ATEX, CSA, cCSA _{US} Zone 1, Zone 21, Cl.I Div.1, Div.2, Cl.II, Cl.III, Cl.I Zone 1, Cl.I Zone 2 Electrical Parameter Transmitter Proline 300/500						Massstab	Gezeichnet	10.05.2016	Bn	
							Geprüft			
							Ex-geprüft	01.03.2023	DOMI	
							Gesehen			
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach						FES0259F				
						2/3				

Proline Promag 300/500 – Proline Promass 300/500 – Proline Prosonic Flow 300/500 – Proline t-mas 300/500 – Proline Teqwave M 300/500

Notes:

This page applies versions with extended order code covering:

approval options: cCSAus / CSA: CC, CD, CE, CM, CN, CS, CZ, C1, C2, C3, C4, C5, C6, C7, C8

IECEX / ATEX: BA, BB, BC, BD, BI, BJ, BL, BM, BN, BS, B7, B8,

Remote Display type DKX001

Proline 300/500 are intended to be connected to a remote display of Endress+Hauser type DKX001

Approval code: CC, CD, CE, C1, C2, C3, C4, C7, C8, BA, BB, BC, BD, B7, B8	Terminal No.: 81, 82, 83, 84	The connection circuit for Remote Display provides an intrinsically safe circuit with type of protection IS, Ex ia, AEx ia: U ₀ = 3.9V, I ₀ = 1.5A (spark), 200mA (power), P ₀ = 600mW, R _i = 2.6Ω, C ₀ = 670μF, L ₀ = 0 Cable parameter L/R ≤ 0.024 mH/Ω for connection to Endress+Hauser Remote Display type DKX001
Approval code: CS, CZ, BS		U _N = 3.3V, I _N = 150mA
Approval code: CM, CN, C5, C6, BI, BJ, BL, BM, BN	Remote display type DKX001 is not intended to be connected to these transmitter electronics	

Service interface

Approval code: BA, BB, B7, C1, C2, C7	Terminal 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 U _i = 10V, I _i = n.a., P _i = na., C _i = 200nF, L _i = 0
Approval code: BC, BD, B8, CC, CD, CE, C3, C4, C8		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 U _i = 10V, I _i = n.a., P _i = na., C _i = 200nF, L _i = 0
Approval code: BS, BI, BJ, BL, BM, BN, CS, CM, CN, CZ, C5, C6		U _N = 3.3V

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	B	20.02.2018 / Bn	G						
	C	10.07.2019 / Bn	H						
	D	29.09.2021 / Bn	J						
	E	12.07.2022 / Bn	K						
Control Drawing IECEX, ATEX, CSA, cCSA _{US} Zone 1, Zone 21, Cl.I Div.1, Div.2, Cl.II, Cl.III, Cl.I Zone 1, Cl.I Zone 2 Electrical Parameter Transmitter Proline 300/500					Massstab	Gezeichnet	10.05.2016	Bn	
						Geprüft			
						Ex-geprüft	01.03.2023	DOMI	
						Gesehen			
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach					FES0259F 3/3				

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 cCSAus : dd = CD, CE, C2, C4

O5(H/P)3B** - dd...

O5W3B** - dd...

5x3Bxx - dd...

5x3Bxx - dd...

IECEX / ATEX: dd = BB, BD

O5x3Bxx - dd...

O5x3Bxx - dd...

Standard version with sensor not insulated:

Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	T _{med,max} (°C) (2)					
					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
				55	---	---	95	120	120	120
Promag H	2...150	PFA	-40	45	80	95	120	120	120	120
				55	---	---	95	120	120	120
				60	---	---	95	100	100	100
				60	---	---	95	100	100	100

- Notes: (1) T_{a,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 T_{a,max} = 50°C @ class T6 and T_{med,max} = 50°C @ class T6 for optional versions available with medium temperature measurement
 (4) Limitation of T_{med,max} = 120°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) (1)	T _{med,max} (°C) (2)					
					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
				60	---	---	100	100	100	100
				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
				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
				55	---	---	95	120	120	120
Promag W	25...3000	ETFE (3)	-40	45	80	95	120	120	120	120
				55	---	---	95	120	120	120

- Notes: (1) T_{a,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} = 120°C depending on process pressure (see nameplate)

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

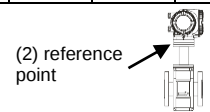
Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	T _{med,max} (°C) (2)					
					T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P Promag W	15...600	PTFE	-40	50	60	95	130	130	130	130
				55	---	---	95	130	130	130
				60	---	---	100	100	100	100
				60	---	---	100	100	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
				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
				55	---	---	95	120	120	120
Promag W	25...3000	ETFE (3)	-40	45	80	95	120	120	120	120
				55	---	---	95	120	120	120

- Notes: (1) T_{a,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} = 120°C depending on process pressure (see nameplate)

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

Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	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	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) T_{a,min} = -40°C (for limitation see name plate)
 (2) Location of reference point
 (3) Limitation of T_{med,max} = 120°C depending on process pressure (see nameplate)



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	B	24.10.2016 / Bn	G			
	C	03.05.2017 / Bn	H			
	D	15.02.2018 / Bn	J			
	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



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

FES0260F

1/3

Gezeichnet	10.05.2016	Bn
Geprüft		
Ex-geprüft	12.10.2022	Bn
Gesehen		

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...
with approval option cCSAus: dd = CD, CE, C2, C4, C7, C8

O5(H/P)5B** - dd*****B...
O5W5B** - dd*****B...

5x5Bxx - dd*****B...
5x5Bxx - dd*****B...
IECEX / ATEX: dd = BB, BD, B7, B8

O5x5Bxx - dd*****B...
O5x5Bxx - dd*****B...

Sensor of Standard version with sensor not insulated

Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	T _{med,max} (°C) (2)					
					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) T_{a,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 T_{a,max} = 50°C @ class T6 and T_{med,max} = 50°C @ class T6 for optional versions available with medium temperature measurement
(4) Limitation of T_{med,max} = 120°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) (1)	T _{med,max} (°C) (2)					
					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
				60	80	80	80	80	80	80
	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) T_{a,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} = 120°C depending on process pressure (see nameplate)

Transmitter for all versions:

T _{a,max} (°C) (1)	
T6 (85°C)	T5 (100°C)
55	60
Notes: (1) T _{a,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)

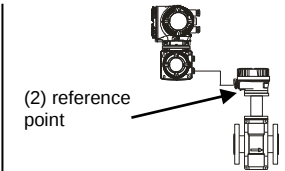
Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	T _{med,max} (°C) (2)					
					T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
Promag P	15...600	PTFE	-40	60	75	95	130	130	130	130
Promag W	25...200	PFA	-40	60	80	95	130	150	150	150
				60	75	80	80	80	80	80
	50...3000	HG	-20	60	75	80	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50	50
	25...3000	ETFE (3)	-40	55	80	95	120	120	120	120
				60	75	95	120	120	120	120

- Notes: (1) T_{a,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} = 120°C depending on process pressure (see nameplate)

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

Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	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	69	69	69
		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) T_{a,min} = -40°C (for limitation see name plate)
(2) Location of reference point
(3) Limitation of T_{med,max} = 120°C depending on process pressure (see nameplate)



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	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\FES0260F.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	12.10.2022	Bn
						Gesehen		
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach						FES0260F 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) (1)	T _{med,max} (°C) (2)				
					T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T1 (450°C)
Promag P	15...600	PTFE	-40	60	80	95	130	130	130
Promag W	25...200	PFA	-40	50	80	95	130	150	150
				60	80	95	130	130	130
	50...3000	HG	-20	60	80	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50
	25...3000	ETFE (4)	-40	60	80	95	120	120	120
Promag H	2...150	PFA	-40	35	80	95	130	150	150
				45	80	95	135	135	135
				60	80	95	115	115	115

Notes: (1) T_{a,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 T_{a,max} = 50°C @ class T6 and T_{med,max} = 50°C @ class T6 for optional versions available with medium temperature measurement
(4) Limitation of T_{med,max} = 120°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) (1)	T _{med,max} (°C) (2)				
					T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T1 (450°C)
Promag P	15...600	PTFE	-40	60	80	95	130	130	130
Promag W	25...200	PFA	-40	60	80	95	130	150	150
	50...3000	HG	-20	60	80	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50
	25...3000	ETFE (3)	-40	60	80	95	120	120	120

Notes: (1) T_{a,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} = 120°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) (1)	T _{med,max} (°C) (2)				
					T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T1 (450°C)
Promag P	15...600	PTFE	-40	60	70	95	130	130	130
Promag W	25...200	PFA	-40	60	75	95	130	150	150
	50...3000	HG	-20	60	75	80	80	80	80
	25...1000	PU	-20	50	50	50	50	50	50
	25...3000	ETFE (3)	-40	60	70	95	120	120	120

Notes: (1) T_{a,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} = 120°C depending on process pressure (see nameplate)

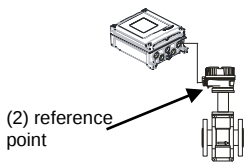
Sensor of High temperature version with sensor insulated (insulation not in compliance with manual of E+H Flowtec):											
Sensor	Size / DN	Liner	T _{med,min} (°C)	T _{a,max} (°C) (1)	T _{med,max} @T1 (°C)	T _{max} to be measured at reference point at sensor neck (°C)					
						T6 (85°C)	T5 (100°C)	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)							

Notes:

(1) T_{a,min} = -40°C (for limitation see name plate)

(2) Location of reference point

(3) Limitation of T_{med,max} = 120°C depending on process pressure (see nameplate)



(2) reference point

Transmitter for all versions:				
Type of enclosure	T _{a,max} (°C) (1)			
	Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

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

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	B	24.10.2016 / Bn	G			
	C	03.05.2017 / Bn	H			
	D	15.02.2018 / Bn	J			
	E	10.06.2021 / Bn	K			

Control Drawing IECEx, ATEX, CSA, cCSAus			Gezeichnet	10.05.2016	Bn
Zone 1, Zone 21, Cl.I Div. 1, Cl.II, Cl.III, Cl.I Zone 1			Geprüft		
Thermal Parameter			Ex-geprüft	12.10.2022	Bn
Proline Promag 300/500			Gesehen		



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

FES0260F

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This Installation Drawing applies to the flowmeters:

	flowmeter	flowmeter OEM version	replacement transmitter	replacement transmitter OEM version
Proline Promag 300:	5(H/P)3B** - ddeffgh...	O5(H/P)3B** - ddeffgh...	5x3Bxx - ddeffgh...	O5x3Bxx - ddeffgh...
	5W3B** - dd*effgh...	O5W3B** - dd*effgh...	5x3Bxx - ddeffgh...	O5x3Bxx - ddeffgh...
Proline Promag 500:	5(H/P)5B** - ddeffgh**B...	O5(H/P)5B** - ddeffgh**B...	5x5Bxx - ddeffgh**B...	O5x5Bxx - ddeffgh**B...
	5W5B** - dd*effgh**B...	O5W5B** - dd*effgh**B...	5x5Bxx - ddeffgh**B...	O5x5Bxx - ddeffgh**B...
	5(H/P)5B** - ddeffghi*A...	O5(H/P)5B** - ddeffghi*A...	5x5Bxx - ddeffghi*A...	O5x5Bxx - ddeffghi*A...
	5W5B** - dd*effghi*A...	O5W5B** - dd*effghi*A...	5x5Bxx - ddeffghi*A...	O5x5Bxx - ddeffghi*A...

where **dd** = approval code, **e** = power supply code, **ff** = IO1 code, **g** = IO2 code, **h** = IO3 code, **i** = IO4 code

General notes to products:

1. **FOR COMPLETE INSTALLATION DRAWING SEE ADDITIONAL INSTALLATION DRAWINGS.**

ASSIGNMENT OF INSTALLATION DRAWINGS:

FES0259 -> ELECTRICAL PARAMETERS TO ALL ABOVE LISTED FLOWMETERS

FES0260 -> THERMAL PARAMETERS TO ALL ABOVE LISTED FLOWMETERS

- Install per Canadian Electrical Code (CEC) resp. National Electrical Code (NEC) ANSI/NFPA 70 using threaded conduit or other wiring methods in accordance with articles 500 to 510.
- The flowmeters Proline Promag 300 and Proline Promag 500 must be integrated into the potential equalisation system by means of earthing connection facilities or alternatively via pipe, but only if the ground connection via pipe according to national regulations can be assured.
- Control room equipment shall not use or generate more than 250 V rms or VDC.
- Cable glands shall be suitable for a temperature range of minimum specified Ta to maximum Ta + 20°C and shall be certified for the intended use.
- Use supply wires suitable for 20°C above ambient temperature.
- WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY**
AVERTISSEMENT – RISQUE D'EXPLOSION – LA SUBSTITUTION DES COMPOSANTS RISQUE DE NUIRE À LA SÉCURITÉ INTRINSÈQUE DU PRODUIT
- The equipment shall only be used for fluids where all process-wetted materials are adequately resistant to the fluid.
- Sensor enclosure (plastic) used for flowmeters Proline Promag 500 types 5W5***_*****B.. or O5W5***_*****B.. installed in hazardous location Class I Division 1 shall not be exposed to atmospheres including acetone or ethyl acetate.
- The cross-sectional area of the PE conductor connected to the protective earthing facilities located inside and outside the enclosure shall not exceed 4mm².
- If the stainless steel label or tag is not bonded to earth, the maximum average capacitance of the nameplate or tag is max. 30pF bonded to a coated metallic enclosure and 20pF bonded to a polymeric sensor enclosure. This shall be considered to determine suitability of the flowmeter in a specific application.
- If the polymeric sensor enclosure is used, do not install the in a location where subjected to external conditions which might cause a build-up of electrostatic charges. Cleaning of equipment shall be done only with a damp cloth.
- The Proline Promag 300/500 Flowmeter is designed for the following range of environmental conditions:
 - Outdoor use
 - Environmental conditions:
 - Pollution Degree: 4 (Macro), 2 (Micro) for all version
 - Pollution Degree: 2 (Macro), 2 (Micro) for plastic transmitter enclosure with Ex ic sensor outputs
 - Overvoltage category II
 - Mode of operation: continuous
 - Altitude 2000m

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	C	21.04.2017 / Bn	H							
	D	20.02.2018 / Bn	J							
	E	07.07.2021 / Bn	K							
Control Drawing CSA, cCSAus						Massstab	Gezeichnet	12.05.2016	Bn	
Cl.I Division 1, Cl.II, Cl.III, Class I Zone 1, Zone 21							Geprüft			
General Requirements							Ex-geprüft	01.03.2023	DOMI	
Proline Promag 300/500							Gesehen			
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach						FES0266F				1/3

Notes to XP / Ex db / AEx db:

1. Enclosures with Ex db / AEx db rated terminal compartment: Use only suitably certified Ex db / AEx db cable glands, appropriately ingress and temperature rated for their point of mounting. If conduit entries are used, seals must be installed immediately adjacent to the enclosure.
2. Transmitter enclosures with XP rating: Enclosures are factory sealed when using in ambient temperature of not lower than -40°C.
Sensor enclosures with XP rating: Enclosures are factory sealed.
3. **WARNING – AFTER DE-ENERGIZING, DELAY 10 MINUTES BEFORE OPENING ENCLOSURE IN TYPE OF PROTECTION EX D**
AVERTISSEMENT – APRÈS AVOIR COUPÉ L'ALIMENTATION, ATTENDRE 10 MINUTES AVANT D'OUVRIER UN BOITIER DE PROTECTION DE TYPE EX D
4. Unused cable entry shall be closed with approved sealing plugs or conduit seals that correspond to the type of protection.
5. Flameproof joints shall not be repaired.

Notes to Ex eb / AEx eb:

1. Enclosures with Ex eb / AEx eb rated terminal compartment: Use only suitably certified Ex eb / AEx eb cable glands, appropriately ingress and temperature rated for their point of mounting.
2. Unused cable entry shall be closed with approved sealing plugs that correspond to the type of protection.
3. To ensure the degree of protection is maintained, it shall be ensured that the cover seal of enclosures with flat seals is installed with no bends in the seal surface before securing the cover.
Seals that are not flat shall be replaced.

Notes to IS / Ex i / AEx i:

1. When connecting the intrinsically safe circuits of explosion protection category “ia” of the measuring device to certified intrinsically safe circuits of explosion protection category “ib” with the explosion group IIC and IIB respectively, the explosion protection changes to Ex ib IIC and Ex ib IIB respectively. Intrinsically safe circuits of explosion protection category “ib” are suitable for areas which require EPL Gb apparatus.
2. The connection circuit for Remote Display type DKX001 and ODKX001 provides an intrinsically safe circuit with type of protection IS, Ex ia, AEx ia. For assessment of installation see additional drawing “FES0259” as amendment to this control drawing

Notes to Cl.II, Cl.III / Ex tb:

1. Class II Group G: The maximum temperature of process shall not exceed 165°C/329°F.
2. An additional assessment is required to ensure the suitability of the device to explosive gas-air and dust-air mixtures occurring simultaneously.
3. The housing may only be opened for a brief period. During this time, the user shall ensure that dust does not enter the electronic housing.
4. A dust-tight conduit seal shall be used when installed in Class II & III environments.

Notes to Proline flowmeters using stainless steel enclosure (hygienic):

1. Covers shall be first closed hand-tight and then additionally 45 degrees turned for tightening.
2. The transmitter shall not be installed vertically above the sensor.

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	B	28.10.2016 / Bn	G					
	C	21.04.2017 / Bn	H					
	D	20.02.2018 / Bn	J					
	E	07.07.2021 / Bn	K					
Control Drawing CSA, cCSAus Cl.I Division 1, Cl.II, Cl.III, Class I Zone 1, Zone 21 General Requirements Proline Promag 300/500					Massstab	Gezeichnet	12.05.2016	Bn
						Geprüft		
						Ex-geprüft	01.03.2023	DOMI
						Gesehen		
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach					FES0266F 2/3			

Notes to Remote Display type DKX001 and ODKX001:

1. Observe additional control drawing of Remote Display type DKX001, ODKX001 respectively if used.
2. Assignment of order codes to certificate of Remote Display type DKX001 or ODKX001 if ordered separately:

Model code of flowmeter with approval code dd =	Model code of remote display type DKX001 and ODKX001 (refer to certificate CSA 160686-70030937)	
CD, CE	DKX001-(CE/CG)****	or ODKX001-(CE/CG)*****
C2 or C4	DKX001-(CI/CK/CL)****	or ODKX001-(CI/CK/CL)*****

Notes to External Antenna and Antenna Bushing H337:

1. Any passive omni-directional RF antenna with or without cable is permitted to be connected to the output connector socket Type N of the antenna bushing when meeting the following parameters:
 - a) The antenna shall have an impedance of at least 50Ω.
 - b) The rated frequency range of the antenna shall not exceed 1710MHz ... 6000MHz.
 - c) The RF antenna and the RF antenna cable shall be fitted with a Type N connector plug (MIL-STD-348).
The antenna supplied by Endress+Hauser meets those requirements.
2. The antenna bushing shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure.
3. The coupling nut of the Type N plug connector shall be hand tightened only.
4. The enclosure of the antenna bushing shall be securely connected to local earth, typically via the enclosure to which it is connected.

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	B	28.10.2016 / Bn	G						
	C	21.04.2017 / Bn	H						
	D	20.02.2018 / Bn	J						
	E	07.07.2021 / Bn	K						
Control Drawing CSA, cCSAus Cl.I Division 1, Cl.II, Cl.III, Class I Zone 1, Zone 21 General Requirements Proline Promag 300/500					Massstab	Gezeichnet	12.05.2016	Bn	
						Geprüft			
						Ex-geprüft	01.03.2023	DOMI	
						Gesehen			
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach					FES0266F				3/3