



# 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.

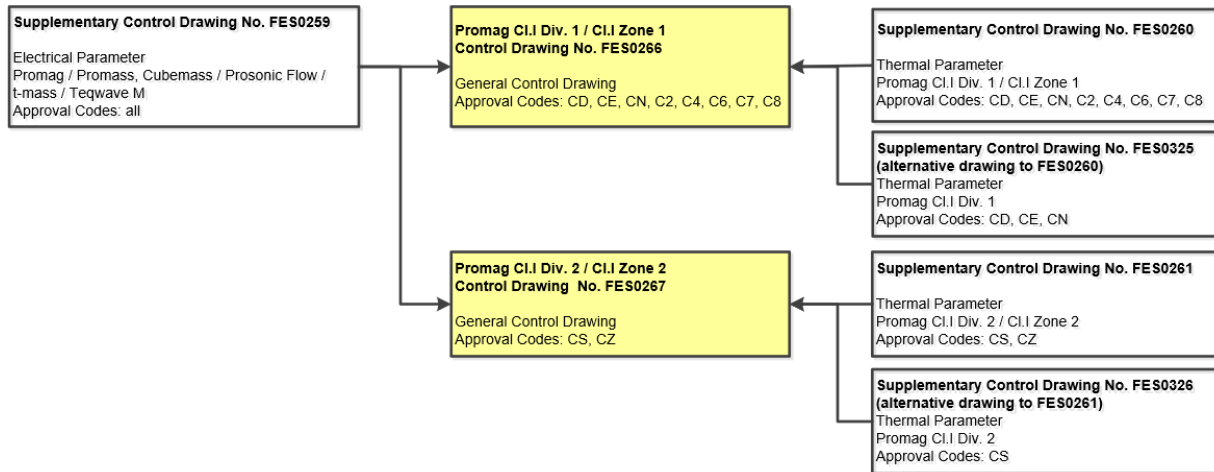
Proline Promass 300/500, Proline Cubemass 300/500, Proline Promag 300/500, Proline Prosonic Flow 300/500, Proline t-mass 300/500 and Proline Teqwave M 300/500 Flowmeter system available as compact and remote versions; product electrical ratings as listed under order code 'e'; hazardous locations designations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



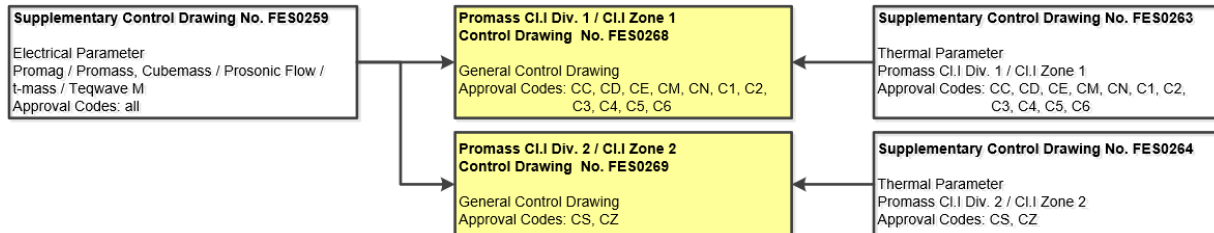
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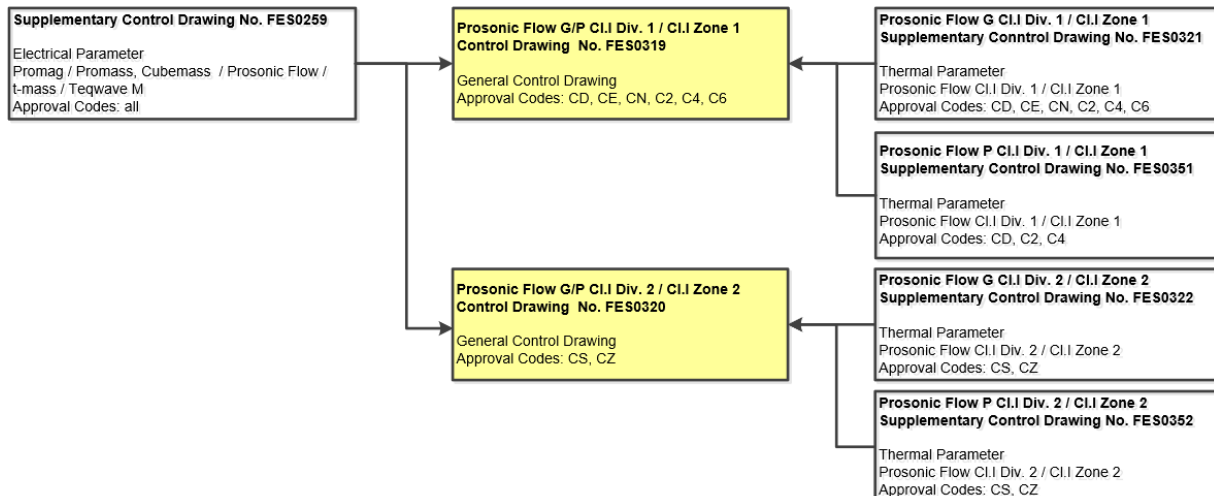
### Proline Promag 300/500:



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



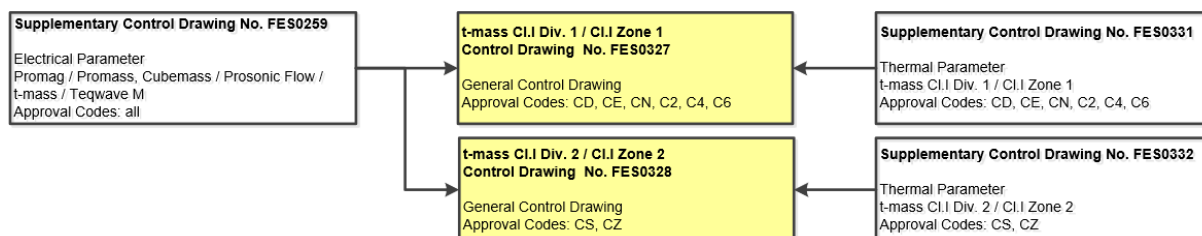
### Proline Prosonic Flow 300/500:



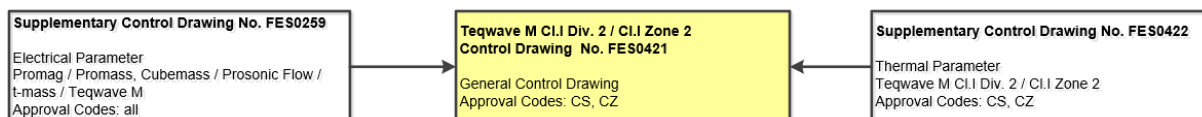
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#### Proline t-mass 300/500:



#### 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<br>Ex tb IIIC T** Db |
| C2 | = | Ex db eb [ia] IIC T6...T1 Gb<br>Ex tb IIIC T** Db |
| C3 | = | Ex db [ia] IIB T6...T1 Gb<br>Ex tb IIIC T** Db    |
| C4 | = | Ex db [ia] IIC T6...T1 Gb<br>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 – 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**





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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                                                |
| <b>h</b>  | =  | <b>Input / Output 3</b>           |                                                            |
|           | 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                                                |
| <b>i</b>  | =  | <b>Input / Output 4</b>           |                                                            |
|           | A  | =                                 | without Input/Output 4                                     |
|           | X  | =                                 | Sensor only                                                |
| <b>j</b>  | =  | <b>Display / Operation</b>        |                                                            |
|           |    |                                   | any single number or letter                                |
| <b>k</b>  | =  | <b>Integrated ISEM electronic</b> |                                                            |
|           | A  | =                                 | Sensor                                                     |
|           | B  | =                                 | Transmitter                                                |
| <b>m</b>  | =  | <b>Transmitter Housing</b>        |                                                            |
|           |    |                                   | any single number or letter                                |
| <b>n</b>  | =  | <b>Cable Sensor Connection</b>    |                                                            |
|           |    |                                   | any single number or letter                                |
| <b>o</b>  | =  | <b>Cable Entry</b>                |                                                            |
|           |    |                                   | any single number or letter                                |
| <b>pp</b> | =  | <b>Upgrade Kit</b>                |                                                            |
|           | AA | =                                 | not used                                                   |
| <b>rr</b> | =  | <b>Existing Product</b>           | (see assignment of flowmeter to replacement transmitter)   |
|           | PA | =                                 | Prosonic Flow P 500                                        |
|           | 00 | =                                 | not used                                                   |
| <b>ss</b> | =  | <b>Sensor type</b>                |                                                            |
|           |    |                                   | any double digits with combination of number and/or letter |
| <b>t</b>  | =  | <b>Process Temperature</b>        |                                                            |
|           |    |                                   | any single number or letter                                |
| <b>uu</b> | =  | <b>Cable</b>                      |                                                            |
|           |    |                                   | any double digits with combination of number and/or letter |
| <b>vv</b> | =  | <b>Installation set</b>           |                                                            |
|           |    |                                   | 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 – ddqqrrww + ###**

**ODK9013 – ddqqrrwwyy + ###** 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:

|                                          |                                 |
|------------------------------------------|---------------------------------|
| <b>4a3bcc – ddeffghjlpstttww + ###</b>   |                                 |
| <b>O4a3bcc – ddeffghjlpstttwyy + ###</b> | for OEM-version                 |
| <b>4x3bxx – ddeffghjlpww + ###</b>       | for replacement transmitter     |
| <b>O4x3bxx – ddeffghjlpwwyy + ###</b>    | for replacement transmitter OEM |

#### Extended order code Proline Teqwave M 500:

|                                             |                                 |
|---------------------------------------------|---------------------------------|
| <b>4a5bcc – ddeffghijkmnopstttww + ###</b>  |                                 |
| <b>O4a5cc – ddeffghijkmnopstttwyy + ###</b> | for OEM-version                 |
| <b>4x5bxx – ddeffghijkmopww + ###</b>       | for replacement transmitter     |
| <b>O4x5bxx – ddeffghijkmopwwyy + ###</b>    | 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                        |
| <b>g</b> | <b>= Input / Output 2</b> |   |                                    |
|          | 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                        |
| <b>h</b> | <b>= Input / Output 3</b> |   |                                    |
|          | 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<br>b = | device model<br>code<br>ww = | Order code                            | Generation code<br>b = | existing product<br>rr = | device model<br>code<br>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<br>UPD1: 2015, UPD2: 2016, AMD1:<br>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<br>(2018) + UPD2 (2019) + UPD3<br>(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<br>( <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 <sup>rd</sup> Edition                          | Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition   |
| ANSI/UL-121201-2021 9 <sup>th</sup> 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 <sup>th</sup> Edition                          | Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements                                                         |



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|                                                |                                                                                                              |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| ANSI/UL 60079-1-2015 7 <sup>th</sup> Edition   | Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”                            |
| ANSI/UL 60079-7-2021 5 <sup>th</sup> Edition   | Explosive Atmospheres – Part 7: Equipment protection by increased safety “e”                                 |
| ANSI/UL 60079-11:2018 6 <sup>th</sup> Edition  | Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety “i”                           |
| ANSI/UL-60079-15-2020 5 <sup>th</sup> Edition  | Explosive atmospheres – Part 15: Equipment protection by type of protection “n” (Edition 4)                  |
| ANSI/UL 60079-26:2017, 3 <sup>rd</sup> Edition | Explosive atmospheres — Part 26: Equipment with Equipment Protection Level (EPL) Ga                          |
| ANSI/UL 60079-31:15 2 <sup>nd</sup> Edition    | Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”                         |
| ANSI/UL 60079-47:2022 1 <sup>st</sup> Edition  | Explosive atmospheres – Part 47: Equipment Protection by 2-Wire Intrinsically Safe Ethernet Concept (2-WISE) |
| ANSI/UL50E:2015 2 <sup>nd</sup> Edition        | Enclosures for Electrical Equipment, Environmental Considerations                                            |
| ANSI/UL 122701-2017 3 <sup>rd</sup> 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](http://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<br>Non-intrinsically safe                                                                                       | IO's type of protection<br>IS / Ex ia / AEx ia                                                                                                                                                                                                                                    |
|-----|---------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IO1 | IO options: HA, TA              | Terminal No.:<br>26 and 27 | ---                                                                                                                                     | U <sub>i</sub> = 30V, I <sub>i</sub> = 570mA, P <sub>i</sub> = 8.5W<br>L <sub>i</sub> = 10μH, C <sub>i</sub> = 5nF                                                                                                                                                                |
|     | IO options: CA, CB              |                            | ---                                                                                                                                     | U <sub>i</sub> = 30V, I <sub>i</sub> = 100mA, P <sub>i</sub> = 1.25W<br>L <sub>i</sub> = 0, C <sub>i</sub> = 6nF                                                                                                                                                                  |
|     | IO options: CC, CD              |                            | ---                                                                                                                                     | U <sub>o</sub> = 21.8V, I <sub>o</sub> = 90mA, P <sub>o</sub> = 491mW<br>L <sub>o</sub> = 4.1mH (IIC) / 15mH (IIB), C <sub>o</sub> = 160nF (IIC) / 1160nF (IIB)<br>U <sub>i</sub> = 30V, I <sub>i</sub> = 10mA, P <sub>i</sub> = 0.3W, L <sub>i</sub> = 5μH, C <sub>i</sub> = 6nF |
|     | IO options: RC, MC              |                            | ---                                                                                                                                     | Approval codes BA, BB, BC, BD, B7, B8, CC, CD, CE, C1, C2, C3, C4, C7, C8:<br>2-WISE power load APL port profile SLAA (see note 1)<br>U <sub>i</sub> = 17.5 V, I <sub>i</sub> = 380 mA, P <sub>i</sub> = 5.32 W, L <sub>i</sub> ≤ 10 μH, C <sub>i</sub> ≤ 5 nF                    |
|     | IO options: BA, BB, MA          |                            | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                                                                                                               |
|     | IO options: LA, GA, SA          |                            | U <sub>N</sub> = 32V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                                                                                                               |
|     | IO options: RB, MB              |                            | APL port profile SLAX / SPE PoDL classes 10, 11, 12:<br>U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>        | ---                                                                                                                                                                                                                                                                               |
|     | IO options: NA, RA              |                            | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                                                                                                               |
| IO2 | IO options: C, G, K             | Terminal No.:<br>24 and 25 | ---                                                                                                                                     | U <sub>i</sub> = 30V, I <sub>i</sub> = 100mA, P <sub>i</sub> = 1.25W, L <sub>i</sub> = 0, C <sub>i</sub> = 0                                                                                                                                                                      |
|     | IO options: B, D, E, F, I, J, L |                            | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                                                                                                               |
|     | IO options: H                   |                            | U <sub>N</sub> = 30V <sub>DC</sub><br>I <sub>N</sub> = 100mA <sub>DC</sub> / 500mA <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> | ---                                                                                                                                                                                                                                                                               |
| IO3 | IO options: C, G, K             | Terminal No.:<br>22 and 23 | ---                                                                                                                                     | U <sub>i</sub> = 30V, I <sub>i</sub> = 100mA, P <sub>i</sub> = 1.25W, L <sub>i</sub> = 0, C <sub>i</sub> = 0                                                                                                                                                                      |
|     | IO options: B, D, E, F, I, J, L |                            | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                                                                                                               |
|     | IO options: H                   |                            | U <sub>N</sub> = 30V <sub>DC</sub><br>I <sub>N</sub> = 100mA <sub>DC</sub> / 500mA <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> | ---                                                                                                                                                                                                                                                                               |
| IO4 | IO options: C, G, K             | Terminal No.:<br>20 and 21 | ---                                                                                                                                     | U <sub>i</sub> = 30V, I <sub>i</sub> = 100mA, P <sub>i</sub> = 1.25W, L <sub>i</sub> = 0, C <sub>i</sub> = 0                                                                                                                                                                      |
|     | IO options: B, D, E, F, I, J, L |                            | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                                                                                                               |
|     | IO options: H                   |                            | U <sub>N</sub> = 30V <sub>DC</sub><br>I <sub>N</sub> = 100mA <sub>DC</sub> / 500mA <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> | ---                                                                                                                                                                                                                                                                               |

## Power Supply:

|                           |                                  | Type of protection<br>Non-intrinsically safe                                       |
|---------------------------|----------------------------------|------------------------------------------------------------------------------------|
| Power supply:<br>option D | Terminal No.:<br>1(L+) and 2(L-) | U <sub>N</sub> = 19.2...28.8V <sub>DC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> |
| Power supply:<br>option E | Terminal No.:<br>1(L) and 2(N)   | U <sub>N</sub> = 85...264V <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub>    |

## 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.<br>Diese Zeichnung darf ohne unsere<br>Genehmigung weder vervielfältigt werden noch<br>dritten Personen und Konkurrenzfirmen<br>zugänglich gemacht werden. | Ersetzt durch:<br><br>Ersatz für:<br>Ersteller: FES / Bn<br>FILE: M:\Zeichng\FES0259\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<br>Zone 1, Zone 21, Cl.I Div.1, Div.2, Cl.II, Cl.III, Cl.I Zone 1, Cl.I Zone 2<br>Electrical Parameter Transmitter<br>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<br>Non-intrinsically safe                                                                                       | IO's type of protection<br>NIFW / Ex ic / AEx ic                                                                                                                                       |
|-----|---------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IO1 | IO options: HA, TA              | Terminal No.:<br>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<br>Lo = 9mH (IIC) / 39mH (IIB), Co = 600nF (IIC) / 4000nF (IIB)<br>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:<br>2-WISE power load APL port profile SLAC (see note 1)<br>Ui = 17.5 V, li = 380 mA, Pi = 5.32 W, Li ≤ 10 μH, Ci ≤ 5 nF |
|     | IO options: BA, BB, MA          |                            | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |
|     | IO options: LA, GA, SA          |                            | U <sub>N</sub> = 32V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |
|     | IO options: RB, MB              |                            | APL port profile SLAX / SPE PoDL classes 10, 11, 12:<br>U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>        | ---                                                                                                                                                                                    |
| IO2 | IO options: NA, RA              | IO1 / RJ45                 | U <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |
|     | 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 <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |
| IO3 | IO options: H                   | Terminal No.:<br>24 and 25 | U <sub>N</sub> = 30V <sub>DC</sub><br>I <sub>N</sub> = 100mA <sub>DC</sub> / 500mA <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> | ---                                                                                                                                                                                    |
|     | 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 <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |
| IO4 | IO options: H                   | Terminal No.:<br>22 and 23 | U <sub>N</sub> = 30V <sub>DC</sub><br>I <sub>N</sub> = 100mA <sub>DC</sub> / 500mA <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> | ---                                                                                                                                                                                    |
|     | 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 <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |
| IO4 | IO options: H                   | Terminal No.:<br>20 and 21 | U <sub>N</sub> = 30V <sub>DC</sub><br>I <sub>N</sub> = 100mA <sub>DC</sub> / 500mA <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> | ---                                                                                                                                                                                    |
|     | 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 <sub>N</sub> = 30V <sub>DC</sub> , U <sub>M</sub> = 250V <sub>AC</sub>                                                                | ---                                                                                                                                                                                    |

## Power Supply:

|                           |                                      | Type of protection<br>Non-intrinsically safe                                                                    |
|---------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Power supply:<br>option I | Terminal No.:<br>1(L+/L) and 2(L-/N) | U <sub>N</sub> = 19.2...28.8V <sub>DC</sub> /<br>85...264V <sub>AC</sub><br>U <sub>M</sub> = 250V <sub>AC</sub> |

## 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. | Ersetzt durch:<br><br>Ersatz für:<br>Ersteller: FES / Bn<br>FILE: M:\Zeichng\FES0259\E\FES0259F.doc |            |      |
|                                                                                                                                               | B | 20.04.2018 / Bn | G |                   | Diese Zeichnung darf ohne unsere              |                                                                                                     |            |      |
|                                                                                                                                               | C | 10.07.2019 / Bn | H |                   | Genehmigung weder vervielfältigt werden noch  |                                                                                                     |            |      |
|                                                                                                                                               | D | 29.09.2021 / Bn | J |                   | dritten Personen und Konkurrenzfirmen         |                                                                                                     |            |      |
|                                                                                                                                               | E | 12.07.2022 / Bn | K |                   | zugänglich gemacht werden.                    |                                                                                                     |            |      |
| Control Drawing IECEX, ATEX, CSA, cCSA <sub>US</sub>                                                                                          |   |                 |   |                   | Massstab                                      | Gezeichnet                                                                                          | 10.05.2016 | Bn   |
| Zone 1, Zone 21, Cl.I Div.1, Div.2, Cl.II, Cl.III, Cl.I Zone 1, Cl.I Zone 2                                                                   |   |                 |   |                   |                                               | Geprüft                                                                                             |            |      |
| Electrical Parameter Transmitter                                                                                                              |   |                 |   |                   |                                               | Ex-geprüft                                                                                          | 01.03.2023 | DOMI |
| Proline 300/500                                                                                                                               |   |                 |   |                   |                                               | 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:<br>CC, CD, CE, C1, C2, C3, C4, C7, C8,<br>BA, BB, BC, BD, B7, B8 | Terminal No.:<br>81, 82, 83, 84                                                             | The connection circuit for Remote Display provides an intrinsically safe circuit with type of protection IS, Ex ia, AEx ia:<br>U <sub>o</sub> = 3.9V, I <sub>o</sub> = 1.5A (spark), 200mA (power), P <sub>o</sub> = 600mW, R <sub>i</sub> = 2.6Ω, C <sub>o</sub> = 670μF, L <sub>o</sub> = 0<br>Cable parameter L/R ≤ 0.024 mH/Ω for connection to Endress+Hauser Remote Display type DKX001 |
| Approval code:<br>CS, CZ,<br>BS                                                 |                                                                                             | U <sub>N</sub> = 3.3V, I <sub>N</sub> = 150mA                                                                                                                                                                                                                                                                                                                                                 |
| Approval code:<br>CM, CN, C5, C6,<br>BI, BJ, BL, BM, BN                         | Remote display type DKX001 is not intended to be connected to these transmitter electronics |                                                                                                                                                                                                                                                                                                                                                                                               |

## Service interface

|                                                                     |                               |                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval code:<br>BA, BB, B7,<br>C1, C2, C7                         | Terminal Service<br>Interface | Service Interface shall only be installed:<br>- in areas which are known to be non hazardous with a non intrinsically safe circuit U <sub>N</sub> = 3.3 V, U <sub>M</sub> = 250 V <sub>AC</sub><br>or<br>- to an intrinsically safe circuit with U <sub>i</sub> = 10V, I <sub>i</sub> = n.a., P <sub>i</sub> = na., C <sub>i</sub> = 200nF, L <sub>i</sub> = 0 |
| Approval code:<br>BC, BD, B8,<br>CC, CD, CE, C3, C4, C8             |                               | Service Interface shall only be installed:<br>- to an non intrinsically safe circuit with U <sub>N</sub> = 3.3V, U <sub>M</sub> = 250V <sub>AC</sub><br>or<br>- to an intrinsically safe circuit with U <sub>i</sub> = 10V, I <sub>i</sub> = n.a., P <sub>i</sub> = na., C <sub>i</sub> = 200nF, L <sub>i</sub> = 0                                            |
| Approval code:<br>BS, BI, BJ, BL, BM, BN,<br>CS, CM, CN, CZ, C5, C6 |                               | U <sub>N</sub> = 3.3V                                                                                                                                                                                                                                                                                                                                          |

|                                                                                                                                                                                            |   |                 |   |                   |                                                                                                                                                                                                          |                                                                                                     |            |      |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------|---|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------|------|--|
| Änderungen:                                                                                                                                                                                | A | 10.05.2016 / Bn | F | 01.03.2023 / DOMI | Alle gesetzlichen Urheberrechte. vorbehalten.<br>Diese Zeichnung darf ohne unsere<br>Genehmigung weder vervielfältigt werden noch<br>dritten Personen und Konkurrenzfirmen<br>zugänglich gemacht werden. | Ersetzt durch:<br><br>Ersatz für:<br>Ersteller: FES / Bn<br>FILE: M:\Zeichng\FES0259\E\FES0259F.doc |            |      |  |
|                                                                                                                                                                                            | 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, cCSAus<br><br>Zone 1, Zone 21, Cl.I Div.1, Div.2, Cl.II, Cl.III, Cl.I Zone 1, Cl.I Zone 2<br><br>Electrical Parameter Transmitter<br><br>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                                                                                                                                                                                             |                                                                                                     |            |      |  |



**This Installation Drawing applies to the flowmeters:**

|                     | <b>flowmeter</b>       | <b>flowmeter OEM version</b> | <b>replacement transmitter</b> | <b>replacement transmitter OEM version</b> |
|---------------------|------------------------|------------------------------|--------------------------------|--------------------------------------------|
| Proline t-mass 300: | 6*3B** – ddeffgh...    | O6*3B** – ddeffgh...         | 6x3Bxx – ddeffgh...            | 6x3Bxx – ddeffgh...                        |
| Proline t-mass 500: | 6*5B** – ddeffghi*A... | O6*5B** – ddeffghi*A...      | 6x5Bxx – ddeffghi*A...         | 6x5Bxx – 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:**

- FOR COMPLETE INSTALLATION DRAWING SEE ADDITIONAL INSTALLATION DRAWINGS.**  
**ASSIGNMENT OF INSTALLATION DRAWINGS:**  
**FES0259 -> ELECTRICAL PARAMETERS TO ALL ABOVE LISTED FLOWMETERS**  
**FES0332 -> THERMAL PARAMETERS TO ALL ABOVE LISTED FLOWMETERS**
- Install per Canadian Electrical Code (CEC) resp. National Electrical Code (NEC) ANSI/NFPA 70.
- The flowmeters Proline t-mass 300 and Proline t-mass 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.
- 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 SUITABILITY FOR CLASS I, DIVISION 2**  
**AVERTISSEMENT – RISQUE D'EXPLOSION – LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATÉRIEL INACCEPTABLE POUR LES EMBLEMENTS DE CLASSE I, DIVISION 2**
- The equipment shall only be used for fluids where all process-wetted materials are adequately resistant to the fluid.
- Proline t-mass 300/500 is a Single Seal devices. See nameplate for maximum working pressure.
- The cross-sectional area of the PE conductor connected to the protective earthing facilities located inside and outside the enclosure shall not exceed 4mm<sup>2</sup>.
- 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. This shall be considered to determine suitability of the flowmeter in a specific application.
- The Proline t-mass 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
- 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.

|                                                                                                                                                                               |   |                   |   |  |                                                                                                                                                                                                          |                                                                                                     |            |            |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------|---|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------|------------|------|
| Änderungen:                                                                                                                                                                   | A | 26.04.2018 / Bn   | F |  | Alle gesetzlichen Urheberrechte. vorbehalten.<br>Diese Zeichnung darf ohne unsere<br>Genehmigung weder vervielfältigt werden noch<br>dritten Personen und Konkurrenzfirmen<br>zugänglich gemacht werden. | Ersetzt durch:<br><br>Ersatz für:<br>Ersteller: FES / Bn<br>FILE: M:\Zeichng\FES0328\C\FES0328C.doc |            |            |      |
|                                                                                                                                                                               | B | 17.06.2019 / Bn   | G |  |                                                                                                                                                                                                          |                                                                                                     |            |            |      |
|                                                                                                                                                                               | C | 07.07.2021 /Bn    | H |  |                                                                                                                                                                                                          |                                                                                                     |            |            |      |
|                                                                                                                                                                               | D | 01.03.2023 / DOMI | J |  |                                                                                                                                                                                                          |                                                                                                     |            |            |      |
|                                                                                                                                                                               | E |                   | K |  |                                                                                                                                                                                                          |                                                                                                     |            |            |      |
| Control Drawing CSA, cCSAus                                                                                                                                                   |   |                   |   |  |                                                                                                                                                                                                          | Massstab                                                                                            | Gezeichnet | 26.04.2018 | Bn   |
| Cl.I Division 2, Cl. I Zone 2                                                                                                                                                 |   |                   |   |  |                                                                                                                                                                                                          |                                                                                                     | Geprüft    |            |      |
| General Requirements                                                                                                                                                          |   |                   |   |  |                                                                                                                                                                                                          |                                                                                                     | Ex-geprüft | 01.03.2023 | DOMI |
| Proline t-mass 300/500                                                                                                                                                        |   |                   |   |  |                                                                                                                                                                                                          |                                                                                                     | Gesehen    |            |      |
| <div><div></div><div>Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach</div></div> |   |                   |   |  |                                                                                                                                                                                                          | <div><div>FES0328D</div><div>1/2</div></div>                                                        |            |            |      |

### Notes to Class I Division 2:

1. Receptacle (plug-in connector) with thread M12x1, approved for Cl. I Div.2:  
Install per Canadian Electrical Code (CEC) or National Electrical Code (NEC) ANSI/NFPA 70 and use supply wires suitable for 20°C above ambient temperature.
2. The M12 mating connector which is sourced by the user must also be approved for Cl. I Div.2 and must be suitable for Type 4X, IP66/67.  
It must provide additional mechanical security to prevent accidental disconnection.
3. Receptacle (plug-in connector) with thread M12x1 for Non-hazardous classified areas:  
The M12 mating connector which is sourced by the user must be suitable for Type 4X, IP66/67.
4. Covers of transmitter enclosures for Proline 500 with ISEM integrated in sensor shall be tightened with a torque of 2.5 Nm for cover screws.

### Notes to Ex ec / AEx ec:

1. Enclosures with Ex ec / AEx ec rated terminal compartment: Use only suitably certified Ex ec / AEx ec 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.
4. Receptacle (plug-in connector) with thread M12x1 for Non-hazardous classified areas: The M12 mating connector which is sourced by the user must be suitable for Type 4X, IP66/67.
5. Covers of transmitter enclosures for Proline 500 with ISEM integrated in sensor shall be tightened with a torque of 2.5 Nm for cover screws.

### 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<br>with approval code dd = | Model code of remote display type DKX001 and ODKX001<br>(refer to certificate CSA 160686-70030937) |    |                 |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------|----|-----------------|
| CS                                                 | DKX001-CS****                                                                                      | or | ODKX001-CS***** |
| CZ                                                 | DKX001-CZ****                                                                                      | or | ODKX001-CZ***** |

### 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.

|                                                                                                                                               |   |                   |   |  |                                                                                                                                                                                                         |                                         |            |            |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------|---|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------|------------|------|
| Änderungen:                                                                                                                                   | A | 26.04.2018 / Bn   | F |  | Alle gesetzlichen Urheberrechte vorbehalten.<br>Diese Zeichnung darf ohne unsere<br>Genehmigung weder vervielfältigt werden noch<br>dritten Personen und Konkurrenzfirmen<br>zugänglich gemacht werden. | Ersetzt durch:                          |            |            |      |
|                                                                                                                                               | B | 17.06.2019 / Bn   | G |  |                                                                                                                                                                                                         | Ersatz für:                             |            |            |      |
|                                                                                                                                               | C | 07.07.2021 /Bn    | H |  |                                                                                                                                                                                                         | Ersteller: FES / Bn                     |            |            |      |
|                                                                                                                                               | D | 01.03.2023 / DOMI | J |  |                                                                                                                                                                                                         | FILE: M:\Zeichng\FES0328\C\FES0328C.doc |            |            |      |
|                                                                                                                                               | E |                   | K |  |                                                                                                                                                                                                         |                                         |            |            |      |
| Control Drawing CSA, cCSAus<br><br>Cl.I Division 2, Cl. I Zone 2<br><br>General Requirements<br><br>Proline t-mass 300/500                    |   |                   |   |  |                                                                                                                                                                                                         | Massstab                                | Gezeichnet | 26.04.2018 | Bn   |
|                                                                                                                                               |   |                   |   |  |                                                                                                                                                                                                         |                                         | Geprüft    |            |      |
|                                                                                                                                               |   |                   |   |  |                                                                                                                                                                                                         |                                         | Ex-geprüft | 01.03.2023 | DOMI |
|                                                                                                                                               |   |                   |   |  |                                                                                                                                                                                                         |                                         | Gesehen    |            |      |
|  Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach |   |                   |   |  |                                                                                                                                                                                                         | FES0328D                                |            |            |      |
|                                                                                                                                               |   |                   |   |  |                                                                                                                                                                                                         | 2/2                                     |            |            |      |

## 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)

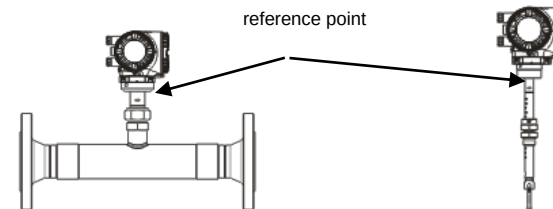
| Size / DN | T <sub>med</sub> |          | T <sub>a,max</sub> | T <sub>med,max</sub> [°C] |            |            |            |            |            |
|-----------|------------------|----------|--------------------|---------------------------|------------|------------|------------|------------|------------|
|           | min [°C]         | 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) T<sub>a,min</sub> = -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 <sub>max</sub> 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       | ---                                                                    | ---        | 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  
 - T<sub>a,min</sub> = -40°C, -50°C respectively (see nameplate)  
 - for maximum medium temperature and minimum medium temperature see nameplate  
 (2) location of reference point



|                                                                                                                                                            |            |                 |   |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|---|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|----|---------|--|--|------------|------------|----|---------|--|--|
| Änderungen:                                                                                                                                                | A          | 19.07.2018 / Bn | F |  | Alle gesetzlichen Urheberrechte. vorbehalten.<br>Diese Zeichnung darf ohne unsere<br>Genehmigung weder vervielfältigt werden noch<br>dritten Personen und Konkurrenzfirmen<br>zugänglich gemacht werden. | Ersetzt durch:<br><br>Ersatz für:<br>Ersteller: FES / Bn<br>FILE: M:\Zeichng\FES0332A\FES0332A.doc                                                                                                                        |            |            |    |         |  |  |            |            |    |         |  |  |
|                                                                                                                                                            | B          |                 | G |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
|                                                                                                                                                            | C          |                 | H |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
|                                                                                                                                                            | D          |                 | J |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
|                                                                                                                                                            | E          |                 | K |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
| Control Drawing IECEx, ATEX, CSA, cCSAus<br>Zone 2, Cl.I Div. 2, Cl.I Zone 2<br><br>Thermal Parameter<br><br>Proline t-mass 300/500                        |            |                 |   |  |                                                                                                                                                                                                          | <table><tr><td>Gezeichnet</td><td>19.07.2018</td><td>Bn</td></tr><tr><td>Geprüft</td><td></td><td></td></tr><tr><td>Ex-geprüft</td><td>19.07.2018</td><td>Bn</td></tr><tr><td>Gesehen</td><td></td><td></td></tr></table> | Gezeichnet | 19.07.2018 | Bn | Geprüft |  |  | Ex-geprüft | 19.07.2018 | Bn | Gesehen |  |  |
| Gezeichnet                                                                                                                                                 | 19.07.2018 | Bn              |   |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
| Geprüft                                                                                                                                                    |            |                 |   |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
| Ex-geprüft                                                                                                                                                 | 19.07.2018 | Bn              |   |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
| Gesehen                                                                                                                                                    |            |                 |   |  |                                                                                                                                                                                                          |                                                                                                                                                                                                                           |            |            |    |         |  |  |            |            |    |         |  |  |
| <div> Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach</div> |            |                 |   |  |                                                                                                                                                                                                          | <div>FES0332A1/2</div>                                                                                                                                                                                                    |            |            |    |         |  |  |            |            |    |         |  |  |

**Proline t-mass 500**

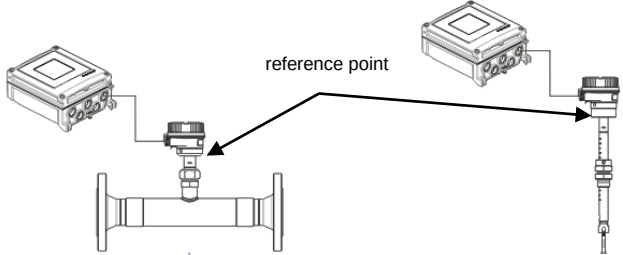
**Notes:**

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<br>(for insulation refer to manual of Endress+Hauser Flowtec) |                  |             |                            |                           |               |               |               |               |               |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------|----------------------------|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Size / DN                                                                                                                                    | T <sub>med</sub> |             | T <sub>a,max</sub><br>[°C] | T <sub>med,max</sub> [°C] |               |               |               |               |               |
|                                                                                                                                              | min<br>[°C]      | max<br>[°C] |                            | T6<br>(85°C)              | T5<br>(100°C) | T4<br>(135°C) | T3<br>(200°C) | T2<br>(300°C) | T1<br>(450°C) |
|                                                                                                                                              |                  |             |                            |                           |               |               |               |               |               |
| all                                                                                                                                          | -50              | 180         | 55                         | ---                       | ---           | 115           | 155           | 180           | 180           |
|                                                                                                                                              |                  |             | 60                         | ---                       | ---           | 115           | 130           | 130           | 130           |
| Notes: (1) T <sub>a,min</sub> = -40°C, -50°C respectively (see nameplate)                                                                    |                  |             |                            |                           |               |               |               |               |               |

| Transmitter for all versions                                                                                                                |                           |              |               |               |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------|---------------|---------------|
| Type of enclosure                                                                                                                           | T <sub>a,max</sub>        |              |               |               |
|                                                                                                                                             | Ordinary location<br>(°C) | T6<br>(85°C) | T5<br>(100°C) | T4<br>(135°C) |
| aluminium                                                                                                                                   | 60                        | ---          | 45            | 60            |
| plastic                                                                                                                                     | 60                        | ---          | ---           | ---           |
| Notes: (1) aluminium enclosure: T <sub>a,min</sub> = -50°C (for limitation see name plate)<br>plastic enclosure: T <sub>a,min</sub> = -40°C |                           |              |               |               |

| Sensor: Temperature table for versions with sensor insulated<br>(for insulation not in compliance to manual of Endress+Hauser Flowtec)                                                                                                                                                                                                                                                                               |                                                                           |               |               |               |               |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Size / DN                                                                                                                                                                                                                                                                                                                                                                                                            | T <sub>max</sub> to be measured at reference point at<br>sensor neck [°C] |               |               |               |               |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | T6<br>(80°C)                                                              | T5<br>(100°C) | T4<br>(135°C) | T3<br>(200°C) | T2<br>(300°C) | T1<br>(450°C) |
| all                                                                                                                                                                                                                                                                                                                                                                                                                  | ---                                                                       | ---           | 76            | 78            | 82            | 82            |
| Notes: (1) for safe use temperatures shall not exceed all of the following:<br>- temperature table for versions with sensor not insulated (refer to table above)<br>- temperature at reference point as listed in this table<br>- T <sub>a,min</sub> = -40°C, -50°C respectively (see nameplate)<br>- for maximum medium temperature and minimum medium temperature see nameplate<br>(1) location of reference point |                                                                           |               |               |               |               |               |
|                                                                                                                                                                                                                                                                                                                                   |                                                                           |               |               |               |               |               |

|                                                                                                                                                 |   |                 |   |  |                                                                                                                                                                                                          |                                         |            |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------|---|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------|----|
| Aenderungen:                                                                                                                                    | A | 19.07.2018 / Bn | F |  | Alle gesetzlichen Urheberrechte. vorbehalten.<br>Diese Zeichnung darf ohne unsere<br>Genehmigung weder vervielfältigt werden noch<br>dritten Personen und Konkurrenzfirmen<br>zugänglich gemacht werden. | Ersetzt durch:                          |            |    |
|                                                                                                                                                 | B |                 | G |  |                                                                                                                                                                                                          | Ersatz für:                             |            |    |
|                                                                                                                                                 | C |                 | H |  |                                                                                                                                                                                                          | Ersteller: FES / Bn                     |            |    |
|                                                                                                                                                 | D |                 | J |  |                                                                                                                                                                                                          | FILE: M:\Zeichng\FES0332\A\FES0332A.doc |            |    |
|                                                                                                                                                 | E |                 | K |  |                                                                                                                                                                                                          |                                         |            |    |
| Control Drawing IECEx, ATEX, CSA, cCSAus<br><br>Zone 2, Cl.I Div. 2, Cl.I Zone 2<br><br>Thermal Parameter<br><br>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                            |            |    |