



# Certificate of Compliance

**Certificate:** 2551823

**Master Contract:** 160686

**Project:** 80069906

**Date Issued:** 2021-07-27

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

**Attention:** Daniel Bosshard

*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 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 I, Division 2, Groups A, B, C and D:**

Product	<p><b>Proline Promag 400 Magnetic-inductive flow measuring system; compact version (single board version)</b> providing exciter coil circuits and non-incendive electrode circuits to Integral Sensor Model Promag W, L, D.</p> <p>Proline Promag W 400, Model 5W4Bbb-ccdefMhiklllmn+### and O5W4Bbb-ccdefMhiklllmnp + ###</p> <p>Proline Promag L 400, Model 5L4Bbb-ccefMhiklllmn+### and O5L4Bbb-ccefMhiklllmnp + ###</p> <p>Proline Promag D 400, Model 5D4Bbb-ccefMhiklllmn+### and O5D4Bbb-ccefMhiklllmnp + ###</p>
---------	--



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

	Note: Must be installed as per control drawing FES0196*
Electrical Rating	Rated input: 100-230V AC, 47-63Hz, 30VA 18-30 V AC, 44-66 Hz, 30 VA 24 V DC Nominal (18 to 30Vdc max), 8.0 W
Enclosure rating	Type 4X, IP 66/67
Temp. code and ambient temperature	T4 (-20°C to + 50°C)
Process temperature and MWP	Max process temperature: +80°C Maximum Working Pressure (MWP): 160bar (Sensors W, L), 25bar (sensor D)

Product	<p><b>Proline Promag 400 Magnetic-inductive flow measuring system; remote version (<u>single board version</u>)</b> providing exciter coil circuits and non-incendive electrode circuits to Remote Sensor, Model Promag W, L, D.</p> <p>Proline Promag W 400, Model 5W4Bbb-ccdefNhiklllmn+### and O5W4Bbb-ccdefNhikllmnp + ###          Proline Promag L 400, Model 5L4Bbb-ccfNhiklllmn+### and O5L4Bbb-ccfNhikllmnp + ###          Proline Promag D 400, Model 5D4Bbb-ccfNhiklllmn+### and O5D4Bbb-ccfNhikllmnp + ###</p> <p>Note: Must be installed as per control drawing FES0196*</p>
Electrical Rating	Rated input: 100-230V AC, 47-63Hz, 30VA 18-30 V AC, 44-66 Hz, 30 VA 24 V DC Nominal (18 to 30Vdc max), 8.0 W
Enclosure rating	Transmitter Housing: Type 4X, IP 66/67 Sensor Housing: Type 4X, 6P, IP 66/68
Temp. code and ambient temperature	Transmitter Housing: T4 (-20°C to + 50°C) Sensor Housing: T6 or T5 (-20°C to + 60°C)
Process temperature and MWP	Max process temperature: +90°C Maximum Working Pressure (MWP): 160bar (Sensors W, L), 25bar (sensor D)

Product	<p><b>Proline Promag 400 Magnetic-inductive flow measuring system; compact version (<u>modular version</u>)</b> providing exciter coil circuits and non-incendive electrode circuits to Integral Sensor Model Promag W, L, D.</p>
---------	---



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

	<p>Proline Promag W 400, Model 5W4Cbb-ccdLfA/M/Q/Rhiklllmn+### and O5W4Cbb-ccdLfA/M/Q/Rhiklllmnp + ###</p> <p>Proline Promag L 400, Model 5L4Cbb-ccLfA/M/Q/Rhiklllmn+### and O5L4Cbb-ccLfA/M/Q/Rhiklllmnp + ###</p> <p>Proline Promag D 400, Model 5D4Cbb-ccLfA/M/Q/Rhiklllmn+### and O5D4Cbb-ccLfA/M/Q/Rhiklllmnp + ###</p> <p>Note: Must be installed as per control drawing FES0196*</p>
Electrical Rating	<p>Rated input:</p> <p>100-240 V AC, 50/60Hz (+/- 4Hz), 30VA</p> <p>24 V AC, 50/60Hz (+/- 4Hz), 10VA</p> <p>24 V DC, 8.0W</p>
Enclosure rating	Type 4X, IP 66/67
Temp. code and ambient temperature	T4 (-40°C to + 60°C)
Process temperature and MWP	<p>Max process temperature: +80°C</p> <p>Maximum Working Pressure (MWP):</p> <p>160bar (Sensors W, L), 25bar (sensor D)</p>

Product	<p><b>Proline Promag 400 Magnetic-inductive flow measuring system; remote version (<u>modular version</u>)</b> providing exciter coil circuits and non-incendive electrode circuits to Remote Sensor, Model Promag W, L, D.</p> <p>Proline Promag W 400, Model 5W4Cbb-ccdLfN/Phiklllmn+### and O5W4Cbb-ccdLfN/Phiklllmnp + ###</p> <p>Proline Promag L 400, Model 5L4Cbb-ccLfN/Phiklllmn+### and O5L4Cbb-ccLfN/Phiklllmnp + ###</p> <p>Proline Promag D 400, Model 5D4Cbb-ccLfN/Phiklllmn+### and O5D4Cbb-ccLfN/Phiklllmnp + ###</p> <p>Note: Must be installed as per control drawing FES0196*</p>
Electrical Rating	<p>Rated input:</p> <p>100-240 V AC, 50/60Hz (+/- 4Hz), 30VA</p> <p>24 V AC, 50/60Hz (+/- 4Hz), 10VA</p> <p>24 V DC, 8.0W</p>
Enclosure rating	<p>Transmitter Housing:</p> <p>Type 4X, IP 65/66/67</p> <p>Sensor Housing:</p> <p>Type 4X, 6P, IP 66/68</p>
Temp. code and ambient temperature	<p>Transmitter Housing:</p> <p>T4 (-40°C to + 60°C)</p> <p>Sensor Housing:</p>



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

	T6 or T5 (-40°C to + 60°C)
Process temperature and MWP	Max process temperature: +90°C Maximum Working Pressure (MWP): 160bar (Sensors W, L), 25bar (sensor D)

**Order Code Structure:**

<u>Proline Promag W 400</u>	<u>Proline Promag L 400, Proline Promag D 400</u>
<p><b>5a4obb-ccdefghikllmn + ###</b>  <b>O5a4obb-ccdefghikllmnpp + ###</b></p> <p><b><u>Proline Promag 400 - replacement transmitter</u></b>  <b>5X4oXX-ccdgefhi + ###</b>  <b>O5X4oXX-ccdgefhipp + ###</b></p> <p><b>a = Type of sensor</b>  W = Promag W</p> <p><b>o = Generation Index</b>  B = single board version  C = modular version</p> <p><b>bb = Size (nominal tube diameter)</b>  any double number or letter</p> <p><b>cc = Approval</b>  C6 = CSA C/US NI CL.I Div.2 Gr. ABCD</p> <p><b>d = Design</b>  <b>(options for length of tube)</b>  any single number or letter</p> <p><b>e = Power Supply (and sensor only option)</b>  A = 100-230Vac  (single board version only)  B = 24AC/DC  (single board version only)  L = 24-240V AC/DC  (modular version only)  X = sensor only (For customers ordering a replacement sensor.)</p> <p><b>f = Output/Input</b>  H,I,J = 4-20mA HART + configurable ports  L = PROFIBUS DP  M = Modbus RS485  N = Ethernet/IP  O, P = Modbus/PFS/IOUT  X = sensor only (For customers</p>	<p><b>5a4obb-ccdefghikllmn + ###</b>  <b>O5a4obb-ccdefghikllmnpp + ###</b></p> <p><b>a = Type of sensor</b>  L = Promag L  D = Promag D</p> <p><b>o = Generation Index</b>  B = single board version  C = modular version</p> <p><b>bb = Size (nominal tube diameter)</b>  any double number or letter</p> <p><b>cc = Approval</b>  C6 = CSA C/US NI CL.I Div.2 Gr. ABCD</p> <p><b>e = Power Supply (and sensor only option)</b>  A = 100-230Vac  (single board version only)  B = 24AC/DC  (single board version only)  L = 24-240V AC/DC  (modular version only)  X = sensor only (For customers ordering a replacement sensor.)</p> <p><b>f = Output/Input</b>  H,I,J = 4-20mA HART + configurable ports  L = PROFIBUS DP  M = Modbus RS485  N = Ethernet/IP  O, P = Modbus/PFS/IOUT  X = sensor only (For customers ordering a replacement sensor.)</p> <p><b>g = Housing of Transmitter</b>  A = Compact, Alu  M = Compact, Polymeric  N = Remote, Polymeric  P = Remote, Alu</p>



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

<p>ordering a replacement sensor.)</p> <p><b>g = Housing of Transmitter</b>  A = Compact, Alu  M = Compact, Polymeric  N = Remote, Polymeric  P = Remote, Alu  Q = Compact, Polymeric, 22.5° angle  R = Compact, Alu, 22.5° angle</p> <p><b>h = Cable, Remote Version (options for length and quality of cable)</b>  any single number or letter</p> <p><b>i = Cable Glands</b>  D = Thread NPT1/2"  L = Thread NPT1/2" + M12x1 receptacle for ethernet</p> <p><b>k = Liner Material (covers the inside of measurement tube)</b>  any single number or letter</p> <p><b>lll = Process Connection (= flange)</b>  any tripple number or letter</p> <p><b>m = Electrodes (shape and material of electrodes contacting the fluid)</b>  any single number or letter</p> <p><b>n = Calibration Flow</b>  any single number or letter</p> <p><b>pp = Customer version</b>  any double number or letter</p> <p>** = Option in two digits (none, two or multiple of two digits); any combination of number or letter</p> <p>+, # = Signs used as indicator for optional abbreviation of extended order code</p>	<p>Q = Compact, Polymeric, 22.5° angle  R = Compact, Alu, 22.5° angle</p> <p><b>h = Cable, Remote Version (options for length and quality of cable)</b>  any single number or letter</p> <p><b>i = Cable Glands</b>  D = Thread NPT1/2"  L = Thread NPT1/2" + M12x1 receptacle for ethernet</p> <p><b>k = Liner Material (covers the inside of measurement tube)</b>  any single number or letter</p> <p><b>lll = Process Connection (= flange)</b>  any tripple number or letter</p> <p><b>m = Electrodes (shape and material of electrodes contacting the fluid)</b>  any single number or letter</p> <p><b>n = Calibration Flow</b>  any single number or letter</p> <p><b>pp = Customer version</b>  any double number or letter</p> <p>** = Option in two digits (none, two or multiple of two digits); any combination of number or letter</p> <p>+, # = Signs used as indicator for optional abbreviation of extended order code</p>
---	---

<p>Product</p>	<p><b>Proline Prosonic Flow ultrasonic flow measuring system; remote version</b> providing non incendive circuits to sensors Prosonic Flow W and Prosonic Flow I.</p> <p>Proline Prosonic W 400, Model 9W4Bcc-ddefghikklmmnpp + ### and O9W4Bcc-ddefghikklmmnppqq + ###</p> <p>Proline Prosonic I 400, Model 9I4Bcc-ddefghikklmmnoopp + ### and O9I4Bcc-ddefghikklmmnooppqq + ###</p> <p>Note: Must be installed as per control drawing FES0233*</p>
----------------	--



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

Electrical Rating	Rated input: 100-240 V AC, 50/60Hz (+/- 4Hz), 30VA 24 V AC, 50/60Hz (+/- 4Hz), 10VA 24 V DC, 8.0W
Enclosure rating	Transmitter Housing: Type 4X, IP 65/66/67 Sensor: Type 4X/ 6P/ IP 66/68
Temp. code and ambient temperature	Transmitter Housing: T4 (-40°C to + 60°C) Sensor Housing: T6-T1, see control drawing FES0233*
Process temperature and MWP	See control drawing FES0233*

**Order Code Structure:**

<p><b><u>Proline Prosonic Flow W 400</u></b>            9W4Bcc-ddefghikklmmnpp + ###            09W4Bcc-ddefghikklmmnppqq + ###</p> <p><b><u>Proline Prosonic Flow I 400</u></b>            9I4Bcc-ddefghikklmmnoopp + ###            09I4Bcc-ddefghikklmmnooppqq + ###</p> <p><b><u>Proline Prosonic Flow 400 - replacement transmitter</u></b>            9X4BXX-ddefghipp + ###            09X4BXX-ddefghippqq + ###</p>	
<b>cc</b>	<p><b>Number of Sensorsets</b>            A1 = 1 Sensorset            A2 = 2 Sensorsets</p>
<b>dd</b>	<p><b>Approval</b>            C6 = CSA C/US NI CL.I Div.2 Gr. ABCD</p>
<b>e</b>	<p><b>Power Supply</b>            L = 100..240 VAC or 24V AC/DC            X = Sensor only (Not for replacement transmitter)</p>
<b>f</b>	<p><b>Output/Input</b>            H,I = 4-20mA HART +                      configurable ports            L = Profibus DP            M = Modbus RS485            N = Ethernet/IP</p>



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

	O,P = Modbus/PFS/IOUT X = Sensor only (Not for replacement transmitter)
<b>g</b>	<b>Display/Operation</b> F = Display module G = Display module with WLAN X = Sensor only (Not for replacement transmitter)
<b>h</b>	<b>Housing of Transmitter</b> N = Remote, Polymeric enclosure P = Remote, Aluminum enclosure X = Sensor only (Not for replacement transmitter)
<b>i</b>	<b>Cable Entries</b> D = Thread NPT1/2" L = Thread NPT1/2" + M12x1 receptacle for Ethernet X = Sensor only (Not for replacement transmitter)
<b>kk</b>	<b>Sensor Version</b> any double number or letter
<b>l</b>	<b>Process Temperature</b> any single number or letter
<b>mm</b>	<b>Cable</b> any double number or letter
<b>nn</b>	<b>Installation Set</b> any double number or letter
<b>oo</b>	<b>Sensor Holder</b> any double number or letter
<b>pp</b>	<b>Device Model</b> A1 = 1 (Generation 1)
<b>qq</b>	<b>Customer Version</b> any double number or letter
+, #	Signs used as indicator for optional abbreviation of extended order code
**	Option in two digits (none, two or multiple of two digits); any combination of number or letter

**Proline Prosonic Flow 400 sensor set**

**DK9018-ddkk100**

<b>dd</b>	<b>Approval</b> C6 = CSA C/US NI CL.I Div.2 Gr. ABCD
<b>kk</b>	<b>Sensor Version</b> any double number or letter
<b>l</b>	<b>Process Temperature</b> any single number or letter
<b>00</b>	<b>Reserved for future use</b>



**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

Note:

The modular version is optionally available with an antenna bushing for the connection of an external antenna.

**Conditions of Acceptability:**

1. Final installation shall be as per Canadian Electrical Code (CEC) or National Electrical Code (NEC). Refer to control drawing FES0196 and FES0233 for safe instructions.
2. For polymeric enclosures: Do not remove the reinforcement plate. This ensures grounding and mechanical stability of the conduit entries and the optional antenna bushing.
3. 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 parameters defined in the control drawing.
4. The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure. The RF antenna or the RF antenna cable shall be fitted with a Series N (MIL-STD-348) plug connector. The coupling nut of the Series N plug connector shall be hand tightened only.
5. The metal enclosure of the Antenna Bushing H337 shall be securely connected to local earth, typically via the enclosure to which it is connected



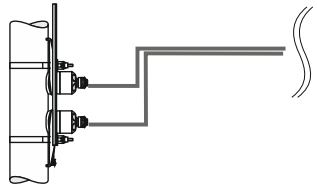


**Certificate:** 2551823  
**Project:** 80069906

**Master Contract:** 160686  
**Date Issued:** 2021-07-27

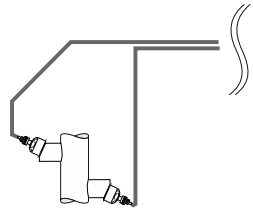
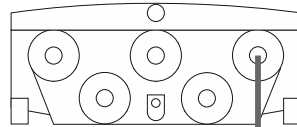
**APPLICABLE REQUIREMENTS**

CAN/CSA-C22.2 No. 0- 2020	General Requirements – Canadian Electrical Code, Part II
CAN/CSA-C22.2 No. 94-M91	Special Purpose Enclosures
CAN/CSA-C22.2 No. 61010-1-12	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
C22.2 No. 213- 2017	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. 60529:05	Degrees of protection provided by enclosures (IP Code)
ANSI/UL 121201- 2017	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
FMRC 3600 – 2011	Electrical Equipment for Use in Hazardous (Classified) Locations, General Requirements
FMRC 3611 – 2004	Nonincendive Electrical Equipment for Use in Class I and Class II, Division 2, and Class III, Division 1 and 2 Hazardous (Classified) Locations
FMRC 3810 – 2005	Electrical and Electronic Test, Measuring, and Process Control Equipment
ANSI/UL 61010-1, Third Edition	Standard for Safety, Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements
UL 50 (11 <sup>th</sup> Ed.)	Enclosures for Electrical Equipment
ANSI/IEC 60529:2004	Degrees of Protection Provided by Enclosures (IP Code)

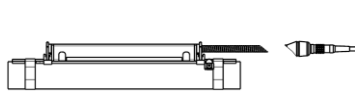


Prosonic Flow W (type C-030-A)  
 Prosonic Flow W (type C-050-A)  
 Prosonic Flow W (type C-100-A)  
 Prosonic Flow W (type C-200-A)  
 Prosonic Flow W (type C-100-B)  
 Prosonic Flow W (type C-200-B)  
 Prosonic Flow W (type C-100-C)  
 Prosonic Flow W (type C-200-C)

Transmitter  
 Prosonic Flow 400



Prosonic Flow I (type C-100-A)



Prosonic Flow W (type C-500-A)

## Prosonic Flow I/W 400

### Hazardous Locations

Cl. I. Div. 2, Gps A,B,C,D

#### Notes:

1. Install according to Canadian Electrical Code (CEC) or National Electrical Code (NEC) ANSI/NFPA 70.
2. Tightening torque for transmitter cover screws: 2.5 Nm
3. For polymeric enclosures: Do not remove the reinforcement plate. This ensures grounding and mechanical stability of the conduit entries and the optional antenna bushing.
4. Suitable for outdoor use.
5. Open housing for brief periods only. Avoid the ingress of foreign objects, moisture or contaminants  
 Logement ouvert pour de brèves périodes seulement. Éviter la pénétration de corps étrangers, d'humidité ou de contaminants
6. Sensor circuits are NIFW. Installation of sensor cables in conduits is not necessary.

Aenderungen:	A	03.12.2014 / BDA	F	Ersteller: FES / BDA FILE: M:\ZEICHNG\FES0233\C\FES0233C.doc
	B	08.03.2019 / BDA	G	
	C	28.06.2021 / BDA	H	
	D		J	
	E		K	

cCSA<sub>US</sub> Control Drawing  
 Class I Division 2

Prosonic Flow I/W 400

Endress+Hauser 

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

Gezeichnet	03.12.2014	BDA
Geprüft		
Ex-geprüft	28.06.2021	BDA
Gesehen		

FES0233 C

1/3

7. Specified temperatures

Transmitter:

- Temperature class for transmitter is T4
- Range of ambient temperature: -40°C to 60°C

Sensor:

- Temperature class and range of ambient/fluid temperature:

Order Code	kk	l	Type of Sensor	Ambient temp. (°C)		Fluid temp. min (°C)	Fluid temp. max (°C)				
				min	max		T6	T5	T4	T3-T1	
<b>Prosonic Flow W 400:</b>  9W4B**-C6*****kk1***** +### 09W4B**-C6*****kk1***** +### DK9018-C6kk1**	AA	A	C-030-A	-20	80	-20	80	80	80	80	
	AA	B	C-030-A	-40	80	-40	80	80	80	80	
	AB	A	C-050-A	-20	75	-20	75	80	80	80	
	AC	A	C-100-A		80	-20	-	80	80	80	
	AD	A	C-200-A	-20	75	-20	75	80	80	80	
	AE	A	C-500-A		80	-20	-	80	80	80	
	<b>Prosonic Flow I 400:</b>  9I4B**-C6*****kk1***** +### 09I4B**-C6*****kk1***** +### DK9018-C6kk1**	AE	B	C-500-A	-40	75	-40	75	80	80	80
		AE	F	C-500-A	0	75	0	75	95	130	130
		AC	B	C-100-B		80	0	-	95	130	130
		AD	B	C-200-B	-40	70	-40	70	80	80	80
AD		B	C-200-B	-40	80	-40	-	80	80	80	
AC		F	C-100-C		75	0	75	80	80	80	
AD		F	C-200-C	0	80	0	-	95	130	130	
AF		A	I-100-A		75	-20	75	80	80	80	
AF		B	I-100-A	-40	80	-40	-	80	80	80	


8. **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 EMPLACEMENTS DE CLASSE I, DIVISION 2;

9. **WARNING** - EXPLOSION HAZARD – DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS;

**AVERTISSEMENT** – RISQUE D'EXPLOSION – AVANT DE DÉCONNECTER L'EQUIPMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DÉSIGNÉ NON DANGEREUX;

10. Replacement of transmitter or sensor: Do not re-use the replaced transmitter / sensor in any other application.

Aenderungen:	A	03.12.2014 / BDA	F	Ersteller: FES / BDA  FILE: M:\ZEICHNG\FES0233\C\FES0233C.doc
	B	08.03.2019 / BDA	G	
	C	28.06.2021 / BDA	H	
	D		J	
	E		K	
<b>cCSA<sub>US</sub> Control Drawing</b> <b>Class I Division 2</b>  <b>Prosonic Flow I/W 400</b> <b>Endress+Hauser</b> 				Gezeichnet: 03.12.2014, BDA Geprüft: Ex-geprüft: 28.06.2021, BDA Gesehen:
Flowtec AG, Kaegenstrasse 7, CH-4153 Reinach BL1, Postfach				<b>FES0233 C</b> <span style="float: right;">2/3</span>

# Prosonic Flow I/W 400 - Wiring Options

## 1) Cl. I. Div. 2, Gps A,B,C,D


- a) **Threaded Cable Entries NPT1/2":**
  - 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.
- b) **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.
  - The M12 mating connector which is sourced by the customer 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.
- c) **Sensor Circuits (NIFW):**
  - Install per Canadian Electrical Code (CEC) or National Electrical Code (NEC) ANSI/NFPA 70.

## 2) Non-hazardous classified areas

- a) **Threaded Cable Entries (e.g. NPT1/2" or M20x1.5):**
  - 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.
- b) **Receptacle (plug-in connector) with thread M12 x 1:**
  - Install per Canadian Electrical Code (CEC) or National Electrical Code (NEC) ANSI/NFPA 70.
  - The M12 mating connector which is sourced by the customer must be suitable for Type 4X, IP66/67.
- c) **Sensor Circuits:**
  - Install per Canadian Electrical Code (CEC) or National Electrical Code (NEC) ANSI/NFPA 70.

## 3) Notes for External Antenna

- a) 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:
  - i) The antenna connected to the antenna bushing shall have an impedance of at least 50Ω
  - ii) The rated frequency range of the antenna shall not exceed 1710MHz ... 6000MHz
  - iii) The rated power of the antenna shall be at least 100mW
- b) The antenna bushing type H337 shall be mounted wrench tight to the transmitter enclosure to maintain the ingress protection of the enclosure.
- c) The RF antenna or the RF antenna cable shall be fitted with a Series N (MIL-STD-348) plug connector. The coupling nut of the Series N plug connector shall be hand tightened only.
- d) The metal enclosure of the Antenna Bushing H337 shall be securely connected to local earth, typically via the enclosure to which it is connected

Änderungen:	A	03.12.2014 / BDA	F	Ersteller: FES / BDA FILE: M:\ZEICHN\G\FES0233\C\FES0233C.doc		
	B	08.03.2019 / BDA	G			
	C	28.06.2021 / BDA	H			
	D		J			
	E		K			
cCSA <sub>US</sub> Control Drawing Class I Division 2  Prosonic Flow I/W 400				Gezeichnet	03.12.2014	BDA
				Geprüft		
				Ex-geprüft	28.06.2021	BDA
				Gesehen		
Endress+Hauser 				<b>FES0233 C</b>		3/3
Flowtec AG, Kaegenstrasse 7, CH-4153 Reinach BL1, Postfach						