



Certificate of Compliance

Certificate: 1111289

Master Contract: 160686

Project: 70158803

Date Issued: 2017-12-14

Issued to: **Endress + Hauser Flowtec AG**
Kagenstrasse 7
Reinach, Basel Land 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 - For Hazardous Locations PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non- Incendive Systems -

Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; Type 4X:

• PROMAG 50/51/53W/P/H/Xc-defghN[A/6/U/V]lmnop+### Compact Magnetic Flowmeter, PROMAG 50/51/53W/P/H/Xc-defghN[P]lmnop+### Compact Magnetic Flowmeter (enhanced climate) . Input rated 16-62Vdc, 20-55Vac, 85-260Vac, 50/60Hz, 15VA. Relay contacts rated 42Vdc/100mA and 30Vac/500mA. Explosion-proof with Intrinsically Safe electrodes, specific Temperature Code and signal output circuits per Control Drawing FES0041. Temperature Code T1 - T5. Ambient Temperature -40°C to +60°C.

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



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Ex de [ia Ga] IIC T6 ... T1 Gb; Type 4X:

• PROMAG 50/51/53W/P/H/Xc-defgh[B/D/N/3/4/5/6][G/N/W/7/8]Imnop+#### Remote Magnetic Flowmeter, PROMAG 50/51/53W/P/Hc-defgh[B/D/N/3/4/5/6][T]Imnop+#### Remote Magnetic Flowmeter (enhanced climate). Input rated 16-62Vdc, 20-55Vac, 85-260Vac, 50/60Hz, 15VA. Relay contacts rated 42Vdc/100mA and 30Vac/500mA. Explosion-proof with Intrinsically Safe electrodes, specific Temperature Code and signal output circuits per Control Drawing FES0240. Temperature Code T1 - T5. Ambient Temperature -40°C to +60°C.

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Class I, Division 1, Groups B, C and D; Class II, Division 1, Groups E, F and G; Class III; Type 4X:

• PROMAG 50/51/53W/P/H/Xc-defghN[A/6/U/V]Imnop+#### Compact Magnetic Flowmeter, PROMAG 50/51/53W/P/H/Xc-defghN[P]Imnop+#### Compact Magnetic Flowmeter (enhanced climate). Input rated 16-62Vdc, 20-55Vac, 85-260Vac, 50/60Hz, 15VA. Relay contacts rated 42Vdc/100mA and 30Vac/500mA. Explosion-proof with Intrinsically Safe electrodes, specific Temperature Code and signal output circuits per Control Drawing FES0041. FACTORY SEALED. Temperature Code T1 - T5. Ambient Temperature -40°C to +60°C.

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

Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III:

• Promag50/51/53/55H/Xc-defghR[A/B/1/2]Imnop+#### Compact Magnetic Flowmeter (Type 4x), Promag50/51/53/55H/Xc-defghR[P/R]Imnop+#### Compact Magnetic Flowmeter (Type 4x, enhanced climate), Promag50/51/53/55H/Xc-defghR[C/3]Imnop+#### Remote Magnetic Flowmeter (Type 4x), Promag50/51/53/55H/Xc-defghR[S]Imnop+#### Remote Magnetic Flowmeter (Type 4x, enhanced climate), Promag50/51/53/55W/L/P/E/S/D/Xc-defghR[A/1/6]Imnop+#### Compact Magnetic Flowmeter (Type 4x), Promag50/51/53/55W/L/P/E/S/D/Xc-defghR[P]Imnop+#### Compact Magnetic Flowmeter (Type 4x, enhanced climate), Promag50/51/53/55W/L/P/E/S/D/Xc-defghR[C/3]Imnop+#### Remote Magnetic Flowmeter (Type 4x), Promag50/51/53/55W/L/P/E/S/D/Xc-defghR[S]Imnop+#### Remote Magnetic Flowmeter (Type 4x, enhanced climate) and Promag50/51/53/55W/L/P/E/S/Xc-defghR[K/5]Imnop+#### Remote Magnetic Flowmeter (Transmitter Type 4x, Sensor 6P). Transmitter Promag50/51/53 Input rated 16-62Vdc; 20-55Vac; or 85-260Vac, 45/65Hz, 15VA. Transmitter Promag55 Input rated 20-64Vdc, 19W; or 20-260Vac, 45-65Hz, 45VA.

Transmitter Promag50/51/53/55 Relay contacts rated 42Vdc/100mA and 30Vac/500mA. Non-incendive electrodes and specific Temperature Code per Control Drawing FES0042.



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Temperature Code T1 - T4A (Compact version Promag50/51/53/55W/L/P/H/S/D), T4A (Remote Transmitter Promag50/51/53), T4 (Remote Transmitter Promag55) and T1 - T6 (Remote Sensors Promag W/L/P/H/S/D). Ambient Temperature -40 °C to +60 °C.

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- PMG-abcdefghi and PMH-abcdefghij compact or remote Magnetic Flowmeter (Type 4X). Transmitter Input rated 16-62Vdc, 20-55Vac, 85-260Vac, 50/60Hz, 15VA. Transmitter Relay contacts rated 42Vdc/100mA and 30Vac/500mA. Non-incendive electrodes and specific Temperature Code per Control Drawing Kobold 002. Temperature Code T1 - T4A (Transmitter) and T1- T6 (Remote Sensors). Ambient Temperature -40 °C to +60 °C.

Note: Series PMG flowmeters are manufactured under the trade name Kobold.

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

AEx de [ia Ga] IIC T6 ... T1 Gb; Type 4X:

- PROMAG 50/51/53W/P/H/Xc-defgh[B/D/N/3/4/5/6][G/N/W/7/8]lmnop+#### Remote Magnetic Flowmeter, PROMAG 50/51/53W/P/Hc-defgh[B/D/N/3/4/5/6][T]lmnop+#### Remote Magnetic Flowmeter (enhanced climate). Input rated 16-62Vdc, 20-55Vac, 85-260Vac, 50/60Hz, 15VA. Relay contacts rated 42Vdc/100mA and 30Vac/500mA. Explosion-proof with Intrinsically Safe electrodes, specific Temperature Code and signal output circuits per Control Drawing FES0240. Temperature Code T1 - T5. Ambient Temperature -40°C to +60°C.

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APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-M91 (R2001)	General Requirements - Canadian Electrical Code, Part II
C22.2 No. 142-M1987 (R2009)	Process Control Equipment
C22.2 No. 25-1966 (R2009)	Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
C22.2 No. 30-M1986 (R2007)	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA-C22.2 No. 157-92 (R2006)	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
C22.2 No. 213-M1987 (R2008)	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:11 Ed. 5	Explosive Atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-1:11	Explosive Atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
CAN/CSA-C22.2 No. 60079-7:12	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. 94-M91 (R2006)	Special Purpose Enclosures
ANSI/UL 60079-0:09	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-1:09	Electrical Apparatus for Explosive Gas Atmospheres - Part 1: Flameproof Enclosures "d"
ANSI/UL 60079-11:13	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"
ANSI/ISA-60079-7:13	Explosive Atmospheres - Part 7: Equipment protection by increased safety "e"

Hazardous Locations

Class I Div. 2 Groups ABCD or Class I Zone 2 Groups IIC and Class II and III Division 1 Groups EFG



PROMAG 5. W / S / P / L / E



PROMAG 5.H



Promag 5.D

Notes:

1. Control room equipment shall not use or generate more than 250 V rms or VDC.
2. Caution: Use supply wires suitable for 20 °C above ambient temperature, but at least for 80 °C / 176°F.
3. Class II Group G: The surface temperature of the apparatus cannot exceed 165 °C / 329°F.
4. Install per Canadian Electrical Code
5. Fieldbus cable connectors are suitable for Class 1 Div. 2 Groups A,B,C,D if nonincendive circuits are used, see sheet 3.
6. A dust-tight conduit seal shall be used when installed in Class II & III environments

High temperature version (180 °C / 356°F):

PROMAG 5.P/S**-B*****

PROMAG 5. W / S / P / H / D / L / E

Temperature table for compact version:

Max. ambient temperature	Max. medium temperature depending temperature classes						
	T6	T5	T4A	T4	T3C	T2	T1
50 °C / 122°F				115°C / 239°F	115°C / 239°F	115°C / 239°F	115°C / 239°F
45 °C / 113°F	---	---	115°C / 239°F	130°C / 266°F	130°C / 266°F	130°C / 266°F	130°C / 266°F
40 °C / 104°F				130°C / 266°F	150°C / 302°F	150°C / 302°F	150°C / 302°F

High temperature version PROMAG 5.P/S**-B***** only:

Temperature table for compact version:

Max. ambient temperature	Max. medium temperature depending temperature classes							
	T6	T5	T4A	T4	T3C	T3A	T2	T1
60 °C / 140°F			---		130°C / 266°F	130°C / 266°F	130°C / 266°F	130°C / 266°F
50 °C / 122°F	---	---	115°C / 239°F	130°C / 266°F	150°C / 302°F	150°C / 302°F	150°C / 302°F	150°C / 302°F
40 °C / 104°F						180°C / 356°F	180°C / 356°F	180°C / 356°F

The minimum ambient temperature is -40°C / -40°F

Aenderungen:	A	07.12.01 / MDI	F	05.05.09/BDA	Ersteller: FES / ID 1077 FILE: M:\ZEICHNUNG\FES0042K\FES0042K.doc
	B	15.01.03 / MDI	G	03.02.2011/KLI	
	C	31.10.05/PAM	H	08.08.2012/BIF	
	D	14.07.06/UD	J	21.02.2014/BDA	
	E	10.10.08/BDA	K	23.08.2017/BDA	

CSA Control Drawing Class I Division 2
Class I Zone 2
Compact version
PROMAG 5x

Gezeichnet	07.12.01	MDI
Geprüft		
Ex-geprüft	23.08.2017	BDA
Gesehen		



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

FES0042 K

1/4

Hazardous Locations

Class I Div. 2 Groups ABCD or Class I Zone 2 Groups IIC and Class II and III Division 1 Groups EFG

PROMAG 5.W / S / P / H / D / L / E

Temperature table for sensors in remote version

Max. ambient temperature	Max. medium temperature depending temperature classes						
	T6	T5	T4A	T4	T3C	T2	T1
60 °C / 140°F	80°C / 176°F	95°C / 203°F	115°C / 239°F	130°C / 266°F	130°C / 266°F	130°C / 266°F	130°C / 266°F
50 °C / 122°F *)	---	---	---	---	150°C / 302°F	150°C / 302°F	150°C / 302°F

*) 60 °C / 140°F for PROMAG 5.H DN40 – 100



Transmitter



PROMAG 5.H



PROMAG 5. W/S/P/L/E



Promag 5.D

Notes:

- Control room equipment shall not use or generate more than 250 V rms or VDC.
- Caution: Use supply wires suitable for 20 °C above ambient temperature, but at least for 80 °C / 176°F.
- Class II Group G: The surface temperature of the apparatus cannot exceed 165 °C / 329°F.
- Install per Canadian Electrical Code
- Fieldbus cable connectors are suitable for Class 1 Div. 2 Groups A,B,C,D if nonincendive circuits are used, see sheet 3.
- A dust-tight conduit seal shall be used when installed in Class II & III environments

High temperature version PROMAG 5.P/S**-B***** only:

Temperature table for compact version:

Max. ambient temperature	Max. medium temperature depending temperature classes						
	T6	T5	T4	T3C	T3A	T2	T1
60 °C / 140°F	80°C / 176°F	95°C / 203°F	130°C / 266°F	150°C / 302°F	150°C / 302°F	150°C / 302°F	150°C / 302°F
50 °C / 122°F	---	---	---	---	180°C / 356°F	180°C / 356°F	180°C / 356°F

For Promag 50/51/53, temperature class for remote transmitter is T4A at 60°C / 140°F.

For Promag 55, temperature class for remote transmitter is T4 at 60°C / 140°F.

The minimum ambient temperature is -40°C / -40°F

High temperature version (180 °C / 356°F):

PROMAG 5.P/S**-B*****

Aenderungen:	A	07.12.01 / MDI	F	05.05.09/BDA	Ersteller: FES / ID 1077 FILE: M:\ZEICHNUNG\FES0042\K\FES0042K .doc
	B	15.01.03 / MDI	G	03.02.2011/KLI	
	C	31.10.05/PAM	H	08.08.2012/BIF	
	D	14.07.06/UD	J	21.02.2014/BDA	
	E	10.10.08/BDA	K	23.08.2017/BDA	

CSA Control Drawing Class I Division 2
Class I Zone 2
Remote version
PROMAG 5x

Gezeichnet	07.12.01	MDI
Geprüft		
Ex-geprüft	23.08.2017	BDA
Gesehen		



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

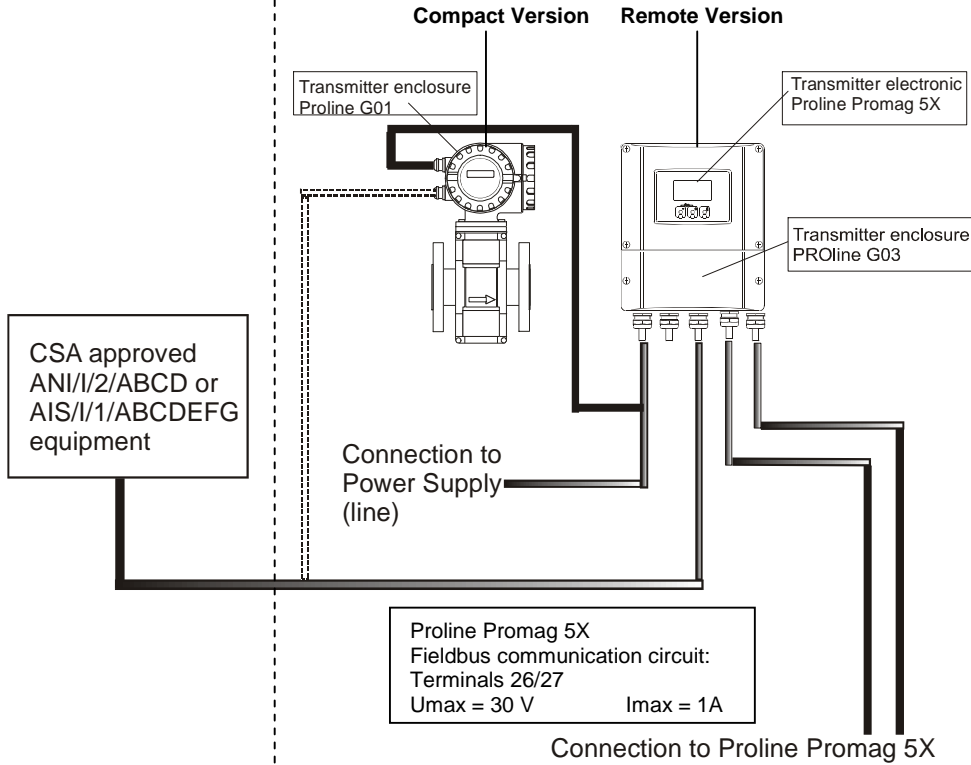
FES0042 K

2/4

Fieldbus Connector Class I Div.2 Compact /Remote Version

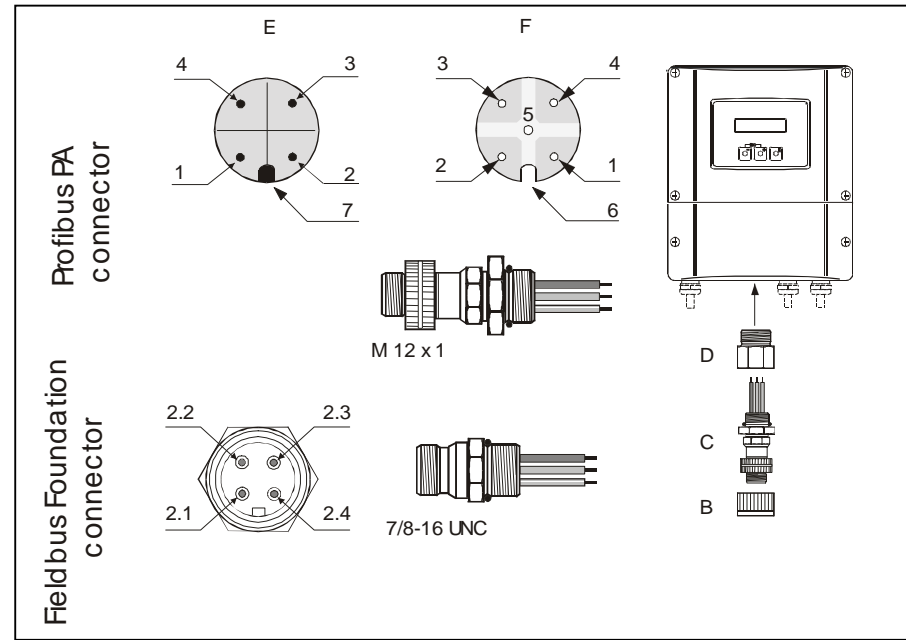
**Non-Hazardous
Classified Location**

Hazardous Classified Location
Class I Div. 2 Groups ABCD or
Class I Zone 2 Groups IIC, Class II



Notes:

1. Install per Canadian Electrical Code.
2. Fieldbus cable connectors are suitable for Class I Div.2 Groups A, B, C, D if connected to associated nonincendive or associated intrinsically equipment..
3. For nonincendive wiring of fieldbus communication circuit, make sure that $C_{cable} \leq C_a$ and $L_{cable} \leq L_a$.



Pin assignment:

- Profibus PA**
- 1 = Brown wire, PA+ (terminal 26)
 - 2 = Not connected
 - 3 = Blue wire, PA- (terminal 27)
 - 4 = Black wire, ground
 - 5 = Female connector not assigned
 - 6 = Positioning groove
 - 7 = Positioning key

- Fieldbus Foundation**
- 2.1 = Brown wire, FF+ (terminal 26)
 - 2.2 = Blue wire, FF- (terminal 27)
 - 2.3 = Grey wire, ground
 - 2.4 = Not assigned

A	07.12.01 / MDI	F	05.05.09/BDA
B	15.01.03 / MDI	G	03.02.2011/KLI
C	31.10.05/PAM	H	08.08.2012/BIF
D	14.07.06/UD	J	21.02.2014/BDA
E	10.10.08/BDA	K	23.08.2017/BDA

Ersteller: FES / **ID 1006**
FILE: M:\ZEICHN\G\FES0042\K\FES0042K .doc

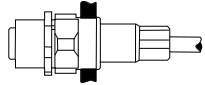
CSA Control Drawing Class I Division 2
Class I Zone 2 - Fieldbus Connector
Compact version / Remote version
PROMAG 5x

Gezeichnet	15.01.2003	MDI
Geprüft		
Ex-geprüft	23.08.2017	BDA
Gesehen		

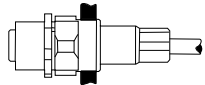


1) Thread: M20x1.5, NPT ½", NPT¾" or G ½"

2) Approved / Certified receptacle for process wiring for Cl.I, Div. 2



3) Listed receptacle for process wiring (general purpose)



Notes:

1. Class I Division 2 Groups ABCD, Class II Division 1 Groups EFG and Class III

Flow meter with cable entry M20x1.5 thread, NPT1/2" thread, NPT ¾" thread:

- Install all per National Electrical Code CEC and use supply wires suitable for 10 °C / 18 °F above ambient temperature.
- Class II Group G: The surface temperature of the apparatus cannot exceed 165 °C / 329°F

2. Class I Division 2 Groups ABCD

Flow meter with FM approved receptacles (plug-in connector) suitable for Class I, Div. 2 installation:

- Install per National Electrical Code CEC
- Install tool secured guard on the connection to render the connection normally not arcing.

3. Class I Division 2 Groups ABCD:

Flowmeters with listed cable glands, pig tails or receptacles (plug in connector):

- The connector must not be removed when energized. Therefore the warning "Do not separate when energized" must be readable after installation.
- Install per National Electrical Code CEC

4. Non-hazardous classified areas:

All of the above described cable entries are suitable for installations in non-hazardous areas

- Install per National Electrical Code CEC

Component ratings:

- Wire at least AWG 28
- Dielectric strength of wire insulation at least 50 V
- Current rating of components at least 1 A
- Temperature range at least -40 °C ... +70 °C

Anderungen:	A	07.12.01 / MDI	F	05.05.09/BDA	Ersteller: FES / ID 1006 FILE: M:\ZEICHN\G\FES0042\K\FES0042K .doc
	B	15.01.03 / MDI	G	03.02.2011/KLI	
	C	31.10.05/PAM	H	08.08.2012/BIF	
	D	14.07.06/UD	J	21.02.2014/BDA	
	E	10.10.08/BDA	K	23.08.2017/BDA	

**CSA Control Drawing Class I Division 2
Cable entries**

PROMAG 50/51/53/55 W/P/H/S/D/L/E

Gezeichnet	15.01.2003	MDI
Geprüft		
Ex-geprüft	23.08.2017	BDA
Gesehen		



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

FES0042 K

4/4