FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

PROMASS abc-defghiknop. Mass Flowmeter.
XP-IS-DIP / I,II,III / 1 / ABCDEFG / T*; XP-IS / I / 1 / IIC / T* - FES0048; Entity, FISCO; Type 4X

Special Conditions of Use:
1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to Control Drawing FES0048.

Entity Parameters:
I/O option S and R HART Current Output or Current Output:
V_{oc} = 21.8 V, I_{sc} = 90 mA, P_o = 0.49 W, C_a = 150 nF, L_a = 4.1 mH;
V_{Max} = 30 V, I_{Max} = 10 mA, P_i = 0.3 W, C_i = 6 nF, L_i = 0.
I/O Option S and T Frequency Output:
V_{Max} = 30 V, I_{Max} = 300 mA, P_i = 0.6 W, C_i = 6 nF, L_i = 0.
I/O option T and U HART Current Output or Current Output:
V_{Max} = 30 V, I_{Max} = 100 mA, P_i = 1.25 W, C_i = 6 nF, L_i = 0.
I/O Options F and G (Entity, FISCO):
V_{Max} = 30 V, I_{Max} = 600 mA, P_i = 8.5 W, C_i = 5 nF, L_i = 10 µH.

a = Type of electronic: 40, 80, 83 or 84.
b = Type of sensor: A (with h = N).
b = Type of sensor: E (with h = N or O; (c=80) with h = P)
b = Type of sensor: F [(c = 08, 15, 25, 40, 50, 80, 1H, 1F, 2F) with h = N or O; (c = 80, 1H, 1F, 2F) with h = P].
b = Type of sensor: I [(c = 08, 15, 16, 25, 26, 40, 41, 50, 51, 80) with h = N or O; (c = 41, 50, 51, 80) with h = P].
b = Type of sensor: M [(c = 08, 15, 25, 40, 50, 80) with h = N or O; (c = 80) with h = P].
b = Type of sensor: H [(c = 08, 15, 25, 40, 50) with h = N or O; (c = 50) with h = P].
b = Type of sensor: P [(c = 08, 15, 25, 40, 50) with h = N or O; (c = 50) with h = P].
b = Type of sensor: S [(c = 08, 15, 25, 40, 50) with h = N or O; (c = 50) with h = P].
b = Type of sensor: X.
c = Size: 01, 02, 04, 08, 15, 16, 25, 26, 40, 41, 50, 51, 80, 1H, 1F, 2F, XX.
d = Material of tube/high pressure version: any single number or letter.
e = Process connection with sealing for Promass M: any triple number or letter (up to 400 bar).

f = Certifications/Treatments: any single number or letter.
g = Calibration: any single number or letter.
h = Approvals: N or O(Div. 1, GP A, B, C, D, E, F, G) or P (Div. 1, GP C, D, E, F, G).
i = Version: A, E, F, J, K, L, M, N, 1, 4, 7 or 8.
k = Cable gland: B or X.
n = Version: 0, 1, 2, 3, 4, 5, 7, 8, 9, A, B, C, D, E, F, G, H, K, L, M, N, P, Q, R, S or X.
o = Software: any single number or letter.
p = I/O's: A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, X, 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.

AND

PROMASS abc-defghiknop. Mass Flowmeter.
NI-ANI/I/2/ABCD/T*; NI-ANI/2/IIC/T*; DIP/II,III/1/EFG/T*; Nonincendive Sensor Field Wires and Nonincendive Fieldbus Field Wires — FES0050; Type 4X
Nonincendive Fieldbus Field Wire Parameters:
Vmax = 35V, Ci = 5nF, Li = 10 µH
Special conditions of use:
1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to Control Drawing FES0050.
a = Type of electronic: 40, 80, 83 or 84
b = Type of sensor: A, E, F, H, I, M, P, S, or X
c = Size: 01, 02, 04, 08, 15, 16, 25, 26, 40, 41, 50, 51, 80, 1H, 1F, 2F or XX
d = Material of tube/high pressure version: any single number or letter
e = Process connection with sealing for Promass M: any triple number or letter (up to the pressure of 400 bar)
f = Certifications/Treatments: any single number or letter
g = Calibration: any single number or letter
h = Approvals: R (Division 2)
i = Version: A, B, C, D, G, H, 1, 2, 3, 5, or 6
k = Cable gland: A, B, C, D, K, L, M, Q, R, S or X
n = Version: 0, 1, 2, 3, 4, 5, 7, 8, 9, A, B, C, D, E, F, G, H, K, L, M, N, P, Q, R, S or X
o = Software: any single number or letter
p = I/O's: A, B, C, D, E, H, I, J, K, L, M, N, P Q, V, W, X, 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9

Equipment Ratings:

Explosionproof for Class I Division 1, Group A, B, C and D and Class I, Zone 1, Group IIC; dust-ignitionproof for Classes II and III Division 1, Groups E, F and G hazardous (classified) outdoor (Type 4X) locations; sensor circuits and signal output circuits (p = I/O options F, G, R, S, T, U) intrinsically safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F and G and Class I Zone 1 Groups IIC when installed in accordance with FM Control Drawing FES0048.

Nonincendive for Class I Division 2, Group A, B, C and D and Class I, Zone 2, Group IIC; dust-ignitionproof for Classes II and III Division 1, Group E, F and G hazardous (classified) outdoor (Type 4X) locations; sensor circuits nonincendive for Class I, Division 2, Groups A, B, C and D and Class I, Zone 2, Group IIC. Nonincendive field wiring for Class I Division 2, Group A, B, C and D and Classes II and III Division 1, Group E, F and G hazardous (classified) locations when installed in accordance with FM Control Drawing FES0050.

FM Approved for:

Endress + Hauser Flowtec AG
Kaegenstrasse 7
CH-4153 Reinach, Switzerland

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/NEMA 250	1991

Original Project ID: 3009083 Approval Granted: December 19, 2000

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3012866	December 28, 2001		
3012691	May 7, 2002		
3015235	September 4, 2002		
3016669	February 21, 2003		
3021216	August 31, 2003		
050120	February 28, 2005		
050818	September 1, 2005		
3028484	November 20, 2006		
070130	July 25, 2007		
3030403	November 30, 2007		
070905	December 20, 2007		
071115	December 31, 2007		
3038437	June 9, 2010		
3042811	May 9, 2011		

FM Approvals LLC

Patrick Byrne
Technical Team Manager

May 26, 2011
Date