



FM Approvals  
1151 Boston Providence Turnpike  
P.O. Box 9102 Norwood, MA 02062 USA  
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Member of the FM Global Group

# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FEP315abcdefghijklm0P1opqr ProcessMaster Electromagnetic Flowmeter – Integral version***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X: IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.

b = liner material; A, E, F, H, P, S, or U.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.

g = Process connection material; B, C, or D.

h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.

i = Calibration type; A, B, K, L, M, or T

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; A, B, or C

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

***FEP325abcdefghijklmIP1o0Yrs - ProcessMaster Electromagnetic Flowmeter – Remote version***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X: IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800,



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- 900, 001, 201, 401, 601, 801, or 002.  
b = liner material; A, E, F, H, P, S, or U.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.  
e = Grounding accessories; 1, 2, 3, or 4.  
f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.  
g = Process connection material; B, C, or D.  
h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.  
i = Calibration type; A, B, K, L, M, or T  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; A, B, or C  
l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.  
o = Cable Conduits; A, B, or C.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, or D.  
r = Configuration type/Diagnostics; 1, 2, 3 or 4.  
s = Accessories; AP or blank

**FEH315abcdefghijk0P1opqrs HygienicMaster Electromagnetic Flowmeter – Integral version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X: IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.  
b = liner material; A, or P.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.  
e = Grounding accessories; 1, or 2.  
f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.  
g = Process connection material; C, D, E, F, G, H, W, or Y.  
h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.  
i = Calibration type; A, B, K, L, M, or T  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; A, B, or C.  
o = Cable Conduits; A, B, or C.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, or D.  
r = Configuration type/Diagnostics; 1, 2, 3 or 4.

**FEH325abcdefghijkIP1o0Yrs HygienicMaster Electromagnetic Flowmeter – Remote version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X: IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X: IP65

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.  
b = liner material; A, or P.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.  
e = Grounding accessories; 1, or 2.  
f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.  
g = Process connection material; C, D, E, F, G, H, W, or Y.



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h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.  
i = Calibration type; A, B, K, L, M, or T  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; A, B, or C  
l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8  
o = Cable Conduits; A, B, or C.  
r = Configuration type/Diagnostics; 1, 2, 3 or 4.  
s = Accessories; AP or blank

**FET325jk0P1opqr Field Mount Transmitter only**

NI/ I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X: IP65

S / III / T4 Ta = -40°C to +60°C; Type 4X: IP65

DIP / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X: IP65

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; A, B, or C  
o = Cable Conduits; A, B, or C.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, or D.  
r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, Division 2 Groups F and G; Suitable for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Temperature Class dependent on Ambient and Process Temperature (see IDM-10-A0228); Ambient Temperature -40°C to +60°C; Indoor and outdoor locations

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY



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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992

Original Project ID: 3034391C

Approval Granted: *October 1, 2008*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC

J.E. Marquedant  
Group Manager, Electrical

*1 October 2008*  
Date



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P.O. Box 9102 Norwood, MA 02062 USA  
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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FEP315abcdefghijklmnop1opqr ProcessMaster Electromagnetic Flowmeter – Integral version***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

I / 2 / AEx / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65

21 / AEx / tD / 21 / T70°C / T\*; Type 4X; IP65

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.

b = liner material; A, E, F, H, P, S, or U.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.

g = Process connection material; B, C, or D.

h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.

i = Calibration type; A, B, K, L, M, or T

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; A, B, or C

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

***FEP325abcdefghijklmnop1o0Yrs - ProcessMaster Electromagnetic Flowmeter – Remote version***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

I / 2 / AEx / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65

21 / AEx / tD / 21 / T85°C / T\*; Type 4X; IP65

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AP or blank

**FEH315abcdefghijk0P1opqrs HygienicMaster Electromagnetic Flowmeter – Integral version**

NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

I / 2/ AEx / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65

21 / AEx / tD / 21 / T70°C / T\*; Type 4X; IP65

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, or P.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, or 2.
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.
- g = Process connection material; C, D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C.
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.

**FEH325abcdefghijkIP1o0Yrs HygienicMaster Electromagnetic Flowmeter – Remote version**

NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65

I / 2/ AEx / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65

21 / AEx / tD / 21 / T85°C / T\*; Type 4X; IP65

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, or P.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, or 2.
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.
- g = Process connection material; C, D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8
- o = Cable Conduits; A, B, or C.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AP or blank

**FET325jk0P1opqr Field Mount Transmitter only**

NI / I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X: IP65

S / III / T4 Ta = -40°C to +60°C; Type 4X: IP65

DIP / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X: IP65

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, Division 2 Groups F and G; Suitable for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*; Protected by Enclosure "tD" for Zone 21\*. Temperature Class dependent on Ambient and Process Temperature (see IDM-10-A0228); Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

\* Not applicable for FET325.

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY

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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002

Original Project ID: 3034391C

Approval Granted: *December 17, 2008*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760			

FM Approvals LLC

  
\_\_\_\_\_  
J. E. Marquardt  
Group Manager, Electrical

*17 December 2008*  
\_\_\_\_\_  
Date





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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FEH315abcdefghijklmnopqr ProcessMaster Electromagnetic Flowmeter – Integral version***

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / 1 / Ex d e m a i a IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/II,III/1/EFG/ Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.

\* See Manufacturer's Instruction manual

***FEP315abcdefghijklmnopqr ProcessMaster Electromagnetic Flowmeter – Integral version***

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; IP65, IP67

I / 1 / Ex d e m a i a IIC/T\* Ta = -40°C to +60°C; IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.

- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- \* See Manufacturer's Instruction manual

**FEP315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; IP65, IP67  
 I / I / Ex d e ia IIC/T\* Ta = -40°C to +60°C; IP65, IP67  
 DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijkIR1o0Yrs - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP68  
 I / I / Ex d e ma ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP68  
 DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.



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- k = Name plate language and type; A, B, or C
  - l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
  - s = Accessories; AP or blank
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijkIR1o0Yrs - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP68  
I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP68  
DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
  - s = Accessories; AP or blank
- \* See Manufacturer's Instruction manual

**FEH315abcdefghijk0R1opqrs HygienicMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -50°C to +60°C; Type 4X, IP65, IP67  
I / 1 / Ex d e ia ma IIC/T\* Ta = -50°C to +60°C; Type 4X, IP65, IP67  
DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, or P.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, or 2.
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.
- g = Process connection material; C, D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C.
- o = Cable Conduits; A, B, or C.

- p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- \* See Manufacturer's Instruction manual

**FET325jkIR1opqr Field Mount Transmitter only**

XP-IS / I / 1 / ABCD / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / 1 / Ex d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Cable length; 0, 1 or 2
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

### Equipment Ratings:

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions.

### FM Approved for:

ABB Automation Products GmbH  
Goettingen, Germany

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

CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA C22.2 No. 142	1987
CSA C22.2 No. 157	1992
CAN/CSA E60079-0	2002
CAN/CSA E60079-1	2002
CAN/CSA-E60079-7	2003
CAN/CSA-E60079-11	2002
CAN/CSA-E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005

Original Project ID: 3032562C

Approval Granted: *July 23, 2009*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC

  
\_\_\_\_\_  
J.E. Marquedant  
Group Manager, Electrical

*23 July 2009*  
\_\_\_\_\_  
Date



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FM Approvals  
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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

### **FEP315**abcdefghijklmnop1opqr **ProcessMaster Electromagnetic Flowmeter – Integral version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.

b = Liner material; A, E, F, H, P, S, or U.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.

g = Process connection material; B, C, or D.

h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.

i = Calibration type; A, B, K, L, M, or T

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; A, B, or C

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories; AY or blank

t = Laid length; J1, J3, JA, JC or blank

\* see Manufacturer's Instruction manual

#### *Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

### **FEP325**abcdefghijklmnopPno0Y0s - **ProcessMaster Electromagnetic Flowmeter – Remote version**



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NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
I / 2/ Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
DIP / A21/ T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = Liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2 or 3
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- s = Accessories; AP or AY
- t = Laid length; J1, J3, JA, JC or blank
- \* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH315abcdefghijk0P1opqrs HygienicMaster Electromagnetic Flowmeter – Integral version**

NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
I / 2/ Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
DIP / A21/ T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = Liner material; A, or P.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, or 2.
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.
- g = Process connection material; C, D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C.
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.



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s = Accessories; AP or blank  
t = Laid length; J1, J3, JA, JC or blank  
\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijkIPno0Y0s HygienicMaster Electromagnetic Flowmeter – Remote version**

NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68

I / 2/ Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68

DIP / A21/ T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67: IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = Liner material; A, or P.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.

g = Process connection material; C, D, E, F, G, H, W, or Y.

h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.

i = Calibration type; A, B, K, L, M, or T

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; A, B, or C

l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8

n = Protection class: 1, 2 or 3

o = Cable Conduits; A, B, or C.

s = Accessories; AY or AP

t = Laid length; J1, J3, JA, JC or blank

\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FET325jk0P1opqr Field Mount Transmitter only**

NI/ I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X; IP65: IP67

S / III / T4 Ta = -40°C to +60°C; Type 4X; IP65: IP67

DIP / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X; IP65: IP67

I / 2/ Ex / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65: IP67

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; A, B, or C

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

s = Accessories; AY or blank

\* see Manufacturer's Instruction manual





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**FEH315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / 1 / Ex d e i a ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/II,III/1/EFG/ Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1, E2, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1 or Y0.
- g = Process connection material; B, C, or D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; IP65, IP67

I / 1 / Ex d e i a ma IIC/T\* Ta = -40°C to +60°C; IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual



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**FEP315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; IP65, IP67

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2 or 3
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- s = Accessories; AY or AP
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual



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**FEP325abcdefghijkIRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
  - n = Protection class; 1, 2 or 3
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - s = Accessories; AY or AP
  - t = Laid length; J1, J3, JA, JC or blank
- \* See Manufacturer's Instruction manual

**FET325jkIR1opqr Field Mount Transmitter only**

IPA-XP-IS / I / 1 / BCD / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / 1 / Ex d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/ II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Cable length; 0, 1 or 2
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.



*Member of the FM Global Group*

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, Division 2 Groups F and G; Suitable for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*; Protected by Enclosure "tD" for Zone 21. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY



Member of the FM Global Group

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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005

Original Project ID: 3034391C

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Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		

FM Approvals LLC

*J.E. Marquedant*

J.E. Marquedant  
Group Manager, Electrical

13 August 2009  
Date



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Member of the FM Global Group

# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FEP315abcdefghijk0P1opqr ProcessMaster Electromagnetic Flowmeter – Integral version***

NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2/ Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / A21/ T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
  - b = Liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
  - s = Accessories; AY or blank
  - t = Laid length; J1, J3, JA, JC or blank
- \* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

***FEP325abcdefghijkIPno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 I / 2 / Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = Liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2 or 3
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- s = Accessories; AP or AY
- t = Laid length; J1, J3, JA, JC or blank
- \* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH315abcdefghijk0P1opqrs HygienicMaster Electromagnetic Flowmeter – Integral version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
 S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
 I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
 DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = Liner material; A, or P.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, or 2.
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.
- g = Process connection material; C, D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C.
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories; AP or blank  
 t = Laid length; J1, J3, JA, JC or blank  
 \* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijkIPno0Y0s HygienicMaster Electromagnetic Flowmeter – Remote version**

NI/ I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
 S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
 I / 2/ Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
 DIP / A21/ T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67: IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.  
 b = Liner material; A, or P.  
 c = Electrode design; 1, 2, 5, or 6.  
 d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.  
 e = Grounding accessories; 1, or 2.  
 f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.  
 g = Process connection material; C, D, E, F, G, H, W, or Y.  
 h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.  
 i = Calibration type; A, B, K, L, M, or T  
 j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
 k = Name plate language and type; A, B, or C  
 l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8  
 n = Protection class: 1, 2 or 3  
 o = Cable Conduits; A, B, or C.  
 s = Accessories; AY or AP  
 t = Laid length; J1, J3, JA, JC or blank  
 \* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FET325jk0P1opqr Field Mount Transmitter only**

NI/ I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67  
 S / III / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67  
 IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67  
 I / 2/ Ex / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
 k = Name plate language and type; A, B, or C  
 o = Cable Conduits; A, B, or C.  
 p = Power supply; 1, 2, 3, or 4.  
 q = Input and output signal type; A, B, C, or D.  
 r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.  
 s = Accessories; AY or blank  
 \* see Manufacturer's Instruction manual



**FEH315abcdefghijkl0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / 1 / Ex d e i a m a IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/II,III/1/EFG/ Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1, E2, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1 or Y0.
- g = Process connection material; B, C, or D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP315abcdefghijkl0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; IP65, IP67

I / 1 / Ex d e i a m a IIC/T\* Ta = -40°C to +60°C; IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP315abcdefghijkl0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; IP65, IP67  
 I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; IP65, IP67  
 DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
  - s = Accessories; AY or blank
  - t = Laid length; J1, J3, JA, JC or blank
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
 I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
 DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.
  - b = liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
  - n = Protection class: 1, 2 or 3
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - s = Accessories; AY or AP
  - t = Laid length; J1, J3, JA, JC or blank
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / I / Ex d e ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, or U.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; A, B, or C
  - l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
  - n = Protection class: 1, 2 or 3
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, or D.
  - s = Accessories; AY or AP
  - t = Laid length; J1, J3, JA, JC or blank
- \* See Manufacturer's Instruction manual

**FET325jklR1opqr Field Mount Transmitter only**

IPA-XP-IS / I / I / BCD / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / I / Ex d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/ II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Cable length; 0, 1 or 2
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, Division 2 Groups F and G; Suitable for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*; Protected by Enclosure "tD" for Zone 21. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY

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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
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Original Project ID: 3034391C

Approval Granted: October 1, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	<i>Sept. 11, 2009</i>		

FM Approvals LLC

  
 Robert L. Martell, Jr.  
 Assistant Vice President

  
 Date



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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FEP315abcdefghijkl0P1opqr ProcessMaster Electromagnetic Flowmeter – Integral version***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.

b = Liner material; A, E, F, H, M, P, S, or U.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.

g = Process connection material; B, C, or D.

h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.

i = Calibration type; A, B, K, L, M, or T

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; A, B, or C

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories; AY or blank

t = Laid length; J1, J3, JA, JC or blank

\* see Manufacturer's Instruction manual

***Special Condition of Use***

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

***FEP325abcdefghijklPno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version***



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NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
I / 2 / Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = Liner material; A, E, F, H, M, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2 or 3
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- s = Accessories; AP or AY
- t = Laid length; J1, J3, JA, JC or blank
- \* see Manufacturer's Instruction manual

*Special Condition of Use*

1. *Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.*

**FEH315abcdefghijk0P1opqrs HygienicMaster Electromagnetic Flowmeter – Integral version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = Liner material; A, or P.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, or 2.
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.
- g = Process connection material; C, D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C.
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.



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s = Accessories; AP or blank  
t = Laid length; J1, J3, JA, JC or blank  
\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijklPno0Y0s HygienicMaster Electromagnetic Flowmeter – Remote version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
I / 2 / Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68  
DIP / A21 / T\* / Ta = -40°C to +60°C ; Type 4X; IP65; IP67: IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.  
b = Liner material; A, or P.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.  
e = Grounding accessories; 1, or 2.  
f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.  
g = Process connection material; C, D, E, F, G, H, W, or Y.  
h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.  
i = Calibration type; A, B, K, L, M, or T  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; A, B, or C  
l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8  
n = Protection class: 1, 2 or 3  
o = Cable Conduits; A, B, or C.  
s = Accessories; AY or AP  
t = Laid length; J1, J3, JA, JC or blank  
\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FET325jk0P1opqr Field Mount Transmitter only**

NI / I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67  
S / III / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67  
IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67  
I / 2 / Ex / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; A, B, or C  
o = Cable Conduits; A, B, or C.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, or D.  
r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.  
s = Accessories; AY or blank  
\* see Manufacturer's Instruction manual





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**FEH315abcdefghijkl0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / I / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/II,III/1/EFG/ Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material; A, E, F, H, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1, E2, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1 or Y0.
- g = Process connection material; B, C, or D, E, F, G, H, W, or Y.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP315abcdefghijkl0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; IP65, IP67

I / I / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,
- b = liner material; A, E, F, H, M, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual



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**FEP315abcdefghijkl0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; IP65, IP67

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = liner material; A, E, F, H, M, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.
- b = liner material; A, E, F, H, M, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2 or 3
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- s = Accessories; AY or AP
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual



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**FEP325abcdefghijkIRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 201, 401, 601, 801, or 002.
- b = liner material; A, E, F, H, M, P, S, or U.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E1 or E2.
- g = Process connection material; B, C, or D.
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2 or 3
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- s = Accessories; AY or AP
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FET325jklR1opqr Field Mount Transmitter only**

IPA-XP-IS / I / 1 / BCD / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / 1 / Ex d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP/ II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; A, B, or C
- l = Cable length; 0, 1 or 2
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, or D.
- r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

**Equipment Ratings:**

Nonincendive for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, Division 2 Groups F and G; Suitable for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*; Protected by Enclosure "tD" for Zone 21. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous



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**Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C;  
Indoor and outdoor locations.**

**FM Approved for:**

**ABB Automation Products GmbH  
D-37079 Göttingen GERMANY**



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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005


Original Project ID: 3034391C

Approval Granted: October 1, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	September 4, 2009		
091009	October 27, 2009		

FM Approvals LLC

  
 \_\_\_\_\_  
 J. E. Marquedant  
 Group Manager, Electrical

27 October 2009  
 Date



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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

**FEP315abcdefghijk0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijk0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

I / 2/ Ex nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U or D
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- n = Protection Class: 1 or 4
- o = Cable Conduits; A, B, or C
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 1, 2, 3, or 4.
- s = Accessories: AY or blank
- t = Laid length; J1, J3, JA, JC or JN

### *Special Condition of Use*

1. *Sensors having exposed electrodes in the process shall be used in a non-flammable liquid*

process only.

**FEP325abcdefghijklPno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijklPno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

I / 2/ Ex nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U or D
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
- n = Protection Class: 1, 2, 3 or 4
- o = Cable Conduits; A, B, or C
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
- s = Accessories: AY or AP
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH315abcdefghijkl0Pnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEH515abcdefghijkl0Pnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65 ; IP67

I / 2/ Ex nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100
- b = liner material: A, or P
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, or 2
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1 or Y0.
- g = Process connection material; C, D, E, F, G, H, W or Y
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, or C, S, T or U
- n = Protection Class: 1, or 4
- o = Cable Conduits; A, B, or C
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 1, 2, 3, or 4.
- s = Accessories: AY or blank
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijk0Pno0Yrst HygenicMaster Electromagnetic Flowmeter – Remote version**

**FEH525abcdefghijk0Pno0Yrst HygenicMaster Electromagnetic Flowmeter – Remote version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

I / 2/ Ex nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material: A, or P
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, or 2
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1 or Y0
- g = Process connection material; C, D, E, F, G, H, W or Y
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, or C, S, T or U
- l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
- n = Protection Class: 1, 2, 3, or 4
- o = Cable Conduits; A, B, or C
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
- s = Accessories: AY or AP
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FET325jk0Pnopqr Field Mount Transmitter only**

**FET525jk0Pnopqr Field Mount Transmitter only**

NI / I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

S / III / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2/ Ex / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
- n = Protection Class: 1 or 4
- o = Cable Conduits; A, B, or C



- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

**FEP315abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 I / I / Ex d e i a m a / IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.
  - b = liner material: A, E, F, H, M, P, S, U or D
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
  - g = Process connection material; B, C, or D
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, or C, S, T or U
  - n = Protection Class: 1 or 4
  - o = Cable Conduits; A, B, or C
  - p = Power supply; 1, 2, 3, or 4
  - q = Input and output signal type; A, B, C, D, E, or F
  - r = Configuration type/Diagnostics; 1, 2, 3, or 4.
  - s = Accessories: AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEP315abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 I / I / Ex d e i a m a / IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U or D
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U

- n = Protection Class: 1 or 4
  - o = Cable Conduits; A, B, or C
  - p = Power supply; 1, 2, 3, or 4
  - q = Input and output signal type; A, B, C, D, E, or F
  - r = Configuration type/Diagnostics; 1, 2, 3, or 4.
  - s = Accessories: AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijkIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
 I / 1 / Ex d e ia ma / IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300
  - b = liner material: A, E, F, H, M, P, S, U or D
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
  - g = Process connection material; B, C, or D
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, C, S, T or U
  - l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
  - n = Protection Class: 1, 2, 3 or 4
  - o = Cable Conduits; A, B, or C
  - r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
  - s = Accessories: AY or AP
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijkIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
 I / 1 / Ex d e ia ma / IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U or D
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D

- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, or C, S, T or U
  - l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
  - n = Protection Class: 1, 2, 3 or 4
  - o = Cable Conduits; A, B, or C
  - r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
  - s = Accessories: AY or AP
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEH315abcdefghijkIRnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEH515abcdefghijkIRnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 I / I / Ex d e i a m a / IIC / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100
  - b = liner material: A, or P
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, or 2
  - f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1 or Y0.
  - g = Process connection material; C, D, E, F, G, H, W or Y
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, C, S, T or U
  - n = Protection Class: 1, or 4
  - o = Cable Conduits; A, B, or C
  - p = Power supply; 1, 2, 3, or 4
  - q = Input and output signal type; A, B, C, D, E, or F
  - r = Configuration type/Diagnostics; 1, 2, 3, or 4.
  - s = Accessories: AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FET325jkiRnopqr Field Mount Transmitter only**

**FET525jkiRnopqr Field Mount Transmitter only**

IPA-XP-IS / I / I / BCD / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 I / I / Ex d e [ia] IIC / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67  
 DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- l = Signal Cable length and type: 0, 1, or 2
- n = Protection Class: 1, or 4
- o = Cable Conduits; A, B, or C
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Ignition Protected Apparatus for Class II, Division 2 Groups F and G; Ignition Protected Apparatus for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. Single Seal per ISA 12.27.01

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G; indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. Single Seal per ISA 12.27.01

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY



Member of the FMG Group

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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005
ISA 12.27.01	2003

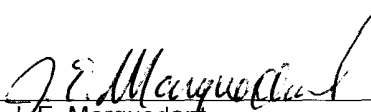
Original Project ID: 3034391C

Approval Granted: October 1, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	September 4, 2009		
091009	October 27, 2009		
3034172	March 30, 2010		
3039797	August 27, 2010		

FM Approvals LLC

  
 \_\_\_\_\_  
 J.E. Marquardt  
 Group Manager, Electrical

27 August 2010  
 Date



Member of the FM Global Group

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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

**FEP315abcdefghijklm0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijklm0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

I / 2 / Ex nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; FNICO, Type 4X; IP65; IP67

I / 2 / Ex nA nC nL / IIC / T\* Ta = -40°C to +60°C; FNICO, Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U or D
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- n = Protection Class: 1 or 4
- o = Cable Conduits; A, B, or C
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 1, 2, 3, or 4.
- s = Accessories: AY or blank
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEP325abcdefghijklPno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijklPno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

I / 2/ Ex nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U or D
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
- n = Protection Class: 1, 2, 3 or 4
- o = Cable Conduits; A, B, or C
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
- s = Accessories: AY or AP
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH315abcdefghijkl0Pnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEH515abcdefghijkl0Pnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65 ; IP67

I / 2/ Ex nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to + 60°C; FNICO, Type 4X; IP65; IP67

I / 2/ Ex nA nC nL / IIC / T\* Ta = -40°C to +60°C; FNICO, Type 4X; IP65; IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100
- b = liner material: A, or P
- c = Electrode design; 1, 2, 5, or 6.

- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, or 2
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1 or Y0.
- g = Process connection material; C, D, E, F, G, H, W or Y
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, or C, S, T or U
- n = Protection Class: 1, or 4
- o = Cable Conduits; A, B, or C
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 1, 2, 3, or 4.
- s = Accessories: AY or blank
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijklmnpq0Pno0Yrst HygenicMaster Electromagnetic Flowmeter – Remote version**

**FEH525abcdefghijklmnpq0Pno0Yrst HygenicMaster Electromagnetic Flowmeter – Remote version**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

I / 2/ Ex nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.
- b = liner material: A, or P
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, or 2
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1 or Y0
- g = Process connection material; C, D, E, F, G, H, W or Y
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, or C, S, T or U
- l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
- n = Protection Class: 1, 2, 3, or 4
- o = Cable Conduits; A, B, or C
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
- s = Accessories: AY or AP
- t = Laid length; J1, J3, JA, JC or JN

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FET325jklmnpqr Field Mount Transmitter only**

**FET525jklmnpqr Field Mount Transmitter only**

NI / I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67





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S / III / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67  
IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67  
I / 2 / Ex / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67  
NI / I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; FNICO, Type 4X; IP65; IP67  
I / 2 / Ex / nA nC nL / IIC / T4 Ta = -40°C to +60°C; FNICO, Type 4X; IP65; IP67

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; A, B, C, S, T or U  
l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8  
n = Protection Class: 1 or 4  
o = Cable Conduits; A, B, or C  
p = Power supply; 1, 2, 3, or 4  
q = Input and output signal type; A, B, C, D, E, or F  
r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

**FEP315abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
I / 1 / Ex d e ia ma / IIC / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67  
IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67  
I / 1 / Ex d e ia ma / IIC / T\* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.  
b = liner material: A, E, F, H, M, P, S, U or D  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W  
e = Grounding accessories; 1, 2, 3, or 4.  
f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7  
g = Process connection material; B, C, or D  
h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.  
i = Calibration type; A, B, K, L, M, or T  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; A, B, or C, S, T or U  
n = Protection Class: 1 or 4  
o = Cable Conduits; A, B, or C  
p = Power supply; 1, 2, 3, or 4  
q = Input and output signal type; A, B, C, D, E, or F  
r = Configuration type/Diagnostics; 1, 2, 3, or 4.  
s = Accessories: AY or blank  
t = Laid length; J1, J3, JA, JC or JN  
\* See Manufacturer's Instruction manual

**FEP315abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67  
I / 1 / Ex d e ia / IIC / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67



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DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67  
I / 1 / Ex d e ia / IIC / T\* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
  - b = liner material: A, E, F, H, M, P, S, U or D
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
  - g = Process connection material; B, C, or D
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, C, S, T or U
  - n = Protection Class: 1 or 4
  - o = Cable Conduits; A, B, or C
  - p = Power supply; 1, 2, 3, or 4
  - q = Input and output signal type; A, B, C, D, E, or F
  - r = Configuration type/Diagnostics; 1, 2, 3, or 4.
  - s = Accessories: AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijklmnopqrstuvwxyzRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijklmnopqrstuvwxyzRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
I / 1 / Ex d e ia ma / IIC / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300
  - b = liner material: A, E, F, H, M, P, S, U or D
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
  - g = Process connection material; B, C, or D
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, C, S, T or U
  - l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
  - n = Protection Class: 1, 2, 3 or 4
  - o = Cable Conduits; A, B, or C
  - r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
  - s = Accessories: AY or AP
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEP325abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / I / Ex d e i a / IIC / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
  - b = liner material: A, E, F, H, M, P, S, U or D
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
  - g = Process connection material; B, C, or D
  - h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
  - i = Calibration type; A, B, K, L, M, or T
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
  - k = Name plate language and type; A, B, or C, S, T or U
  - l = Signal Cable length and type: 0, 1, 2, 3, 4, 5, 6, 7 and 8
  - n = Protection Class: 1, 2, 3 or 4
  - o = Cable Conduits; A, B, or C
  - r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
  - s = Accessories: AY or AP
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FEH315abcdefghijklRnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEH515abcdefghijklRnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

I / I / Ex d e i a m a / IIC / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67

IPA-XP-IS / I / I / BCD / T\* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

I / I / Ex d e i a m a / IIC / T\* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100
- b = liner material: A, or P
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, or 2
- f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1 or Y0.
- g = Process connection material; C, D, E, F, G, H, W or Y
- h = Usage certifications; 0, 1, 2, 3, 4, 5, 6, or 7.
- i = Calibration type; A, B, K, L, M, or T
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U



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- n = Protection Class: 1, or 4
  - o = Cable Conduits; A, B, or C
  - p = Power supply; 1, 2, 3, or 4
  - q = Input and output signal type; A, B, C, D, E, or F
  - r = Configuration type/Diagnostics; 1, 2, 3, or 4.
  - s = Accessories: AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

**FET325jklRnopqr Field Mount Transmitter only**

**FET525jklRnopqr Field Mount Transmitter only**

- IPA-XP-IS / I / I / BCD / T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
- I / I / Ex d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
- DIP / II, III / I / EFG / T\* Ta = -40°C to + 60°C; Type 4X; IP65; IP67
- IPA-XP-IS / I / I / BCD / T6 Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67
- I / I / Ex d e [ia] IIC/T6 Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; A, B, C, S, T or U
- l = Signal Cable length and type: 0, 1, or 2
- n = Protection Class: 1, or 4
- o = Cable Conduits; A, B, or C
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

**Equipment Ratings:**

Nonincendive for Class I, Division 2, Groups A, B, C and D; Ignition Protected Apparatus for Class II, Division 2 Groups F and G; Ignition Protected Apparatus for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

**FM Approved for:**

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY



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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005
ISA 12.27.01	2003
CAN/CSA 60079-27	2009

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Approval Granted: October 1, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	September 4, 2009		
091009	October 27, 2009		
3034172	March 30, 2010		
3039797	August 27, 2010		
3040021	September 16, 2010		

FM Approvals LLC

  
 \_\_\_\_\_  
 J/E. Marquedant  
 Group Manager, Electrical

16 September 2010  
 Date



Member of the FM Global Group

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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FET325jk0Pnopqr Field Mount Transmitter only***

***FET525jk0Pnopqr Field Mount Transmitter only***

NI/ I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X: IP65: IP67

S / III / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67

IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67

I / 2/ Ex nA nC/ IIC/ T4/ Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

n = Protection Class: 1 or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

***FET325jklRnopqr Field Mount Transmitter only***

***FET525jklRnopqr Field Mount Transmitter only***

IPA-XP-IS / I / 1 / BCD / T6 Ta = -40°C to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67

I / 1 / Ex d e [ia] IIC/ T6 Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

<sup>+</sup> when option q = E or F

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

l = Cable length; 0, 1 or 2

n = Protection Class: 1, or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.



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**FEH315abcdefghijklm0Pnopqrst HygienicMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

**FEH515abcdefghijklm0Pnopqrst HygienicMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

S / III / 1 // T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

\* when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, or P or T.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1, or Y0.

g = Process connection material; C, D, E, F, G, H, W, or Y.

h = Usage certifications; any single number

i = Calibration type: any single letter

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

n = Protection Class: 1, or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories; AP or blank

t = Laid length; J1, J3, JA, JC or JN

\* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijklm0Pno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

**FEH525abcdefghijklm0Pno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

I / 2 / Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, or P or T.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1, or Y0.



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g = Process connection material; C, D, E, F, G, H, W, or Y.  
h = Usage certifications; any single number  
i = Calibration type; any single letter  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single letter  
l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8  
n = Protection class: 1, 2, 3 or 4  
o = Cable Conduits; A, B, or C.  
r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories; AY or AP  
t = Laid length; J1, J3, JA, JC or JN

\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. *Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.*

**FEH315abcdefghijk0Rnopqrs HygienicMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

**FEH515abcdefghijk0Rnopqrs HygienicMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -50°C to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67

I / 1 / Ex d e ia ma IIC/T\* Ta = -50°C to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

\* when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, or P or T.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.

g = Process connection material; C, D, E, F, G, H, W, or Y.

h = Usage certifications; any single number

i = Calibration type; any single letter

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

n = Protection class: 1 or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories: AY or blank

t = Laid length: J1, J3, JA, JC or JN

\* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**





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**FEP525abcdefghijkIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.
- b = liner material; A, E, F, H, P, S, or U or D, T or W.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, or E2, E3, E4, E5, E6 or E7.
- g = Process connection material; B, C, or D.
- h = Usage certifications; any single number
- i = Calibration type; any single letter
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; any single letter
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2, 3 or 4
- o = Cable Conduits; A, B, or C.
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4
- s = Accessories; AY or AP
- t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Yrst - ProcessMaster Electromagnetic Flowmeter – Remote version  
FEP525abcdefghijkIRno0Yrst - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material; A, E, F, H, P, S, U or D, T or W.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.
- g = Process connection material; B, C, or D.
- h = Usage certifications; any single number
- i = Calibration type; any single letter
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; any single letter
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, and 8.
- n = Protection class: 1, 2, 3 or 4
- o = Cable Conduits; A, B, or C.
- r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.
- s = Accessories; AY or AP
- t = Laid length; J1, J3, JA, JC or JN

\* See Manufacturer's Instruction manual



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**FEP315abcdefghijk0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

**FEP515abcdefghijk0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material; A, E, F, H, P, S, U or D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.

g = Process connection material; B, C, or D.

h = Usage certifications; any single number

i = Calibration type; any single letter

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

n = Protection Class: 1 or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories; AY or blank

t = Laid length; J1, J3, JA, JC or JN

\* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEP325abcdefghijkIPno0Yrst – ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

**FEP525abcdefghijkIPno0Yrst – ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material; A, E, F, H, P, S, U, D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.



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- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.
- g = Process connection material; B, C, or D.
- h = Usage certifications; any single number
- i = Calibration type; any single letter
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; any single letter
- l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.
- n = Protection class: 1, 2, 3 or 4
- o = Cable Conduits; A, B, or C.
- r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.
- s = Accessories; AY or AP
- t = Laid length; J1, J3, JA, JC or JN
- \* see Manufacturer's Instruction manual

**FEP315abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

\* when option q = E or F

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,
- b = liner material; A, E, F, H, P, S, U or D, T or W.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7
- g = Process connection material; B, C, or D.
- h = Usage certifications; any single number
- i = Calibration type; any single letter
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; any single letter
- n = Protection Class: 1 or 4
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, D, E or F.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or JN

\* See Manufacturer's Instruction manual

**FEP315abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version**

**FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

\* when option q = E or F



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- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, U, D, T or W.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; any single number
  - i = Calibration type; any single letter
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; any single letter
  - n = Protection Class: 1 or 4
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, D, E or F.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
  - s = Accessories; AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Ignition Protected Apparatus for Class II, Division 2 Groups F and G; Ignition Protected Apparatus for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY



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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005
ISA 12.27.01	2003
CAN/CSA 60079-27	2009

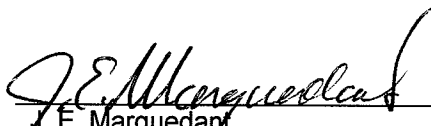
Original Project ID: 3034391C

Approval Granted: October 1, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	September 4, 2009		
091009	October 27, 2009		
3034172	March 30, 2010		
3039797	August 27, 2010		
3040021	September 16, 2010		
110120	July 15, 2011		

FM Approvals LLC

  
 J. E. Marquedant  
 Group Manager, Electrical

15 July 2011  
 Date

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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FET325jk0Pnopqr Field Mount Transmitter only***

***FET525jk0Pnopqr Field Mount Transmitter only***

NI / I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

S / III / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex nA nC / IIC / T4 / Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

n = Protection Class: 1 or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

***FET325jklRnopqr Field Mount Transmitter only***

***FET525jklRnopqr Field Mount Transmitter only***

IPA-XP-IS / I / 1 / BCD / T6 Ta = -40°C to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67

I / 1 / Ex d e [ja] IIC / T6 Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

<sup>+</sup> when option q = E or F

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

l = Cable length; 0, 1 or 2

n = Protection Class: 1, or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

**FEH315abcdefghijklm0Pnopqrst HygienicMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

**FEH515abcdefghijklm0Pnopqrst HygienicMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

S / III / 1 / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, or P or T.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1, or Y0.

g = Process connection material; C, D, E, F, G, H, W, or Y.

h = Usage certifications; any single number

i = Calibration type: any single letter

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

n = Protection Class: 1, or 4

o = Cable Conduits; A, B, or C.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

s = Accessories; AP or blank

t = Laid length; J1, J3, JA, JC or JN

\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijklm0Pno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

**FEH525abcdefghijklm0Pno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

I / 2 / Ex / nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, or P or T.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, E0, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, P1, W1, or Y0.

g = Process connection material; C, D, E, F, G, H, W, or Y.  
h = Usage certifications; any single number  
i = Calibration type; any single letter  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single letter  
l = Signal Cable length and type; 0, 1, 2, 3, 4, 5, 6, 7, or 8  
n = Protection class: 1, 2, 3 or 4  
o = Cable Conduits; A, B, or C.  
r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories; AY or AP  
t = Laid length; J1, J3, JA, JC or JN

\* see Manufacturer's Instruction manual

*Special Condition of Use*

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH315abcdefghijklmnopqrstuvwxyz0Rnopqrs HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal**

**FEH515abcdefghijklmnopqrstuvwxyz0Rnopqrs HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -50°C to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67

I / 1 / Ex d e i a m a IIC/T\* Ta = -50°C to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67

\* when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.  
b = liner material; A, or P or T.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, S, or W.  
e = Grounding accessories; 1, or 2.  
f = Process connection type; D2, D4, D5, D6, A1, A3, J1, J2, J3, M1, F1, R1, R2, R3, R4, R5, R6, T1, T2, T3, W1, or Y0.  
g = Process connection material; C, D, E, F, G, H, W, or Y.  
h = Usage certifications; any single number  
i = Calibration type; any single letter  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single letter  
n = Protection class: 1 or 4  
o = Cable Conduits; A, B, or C.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, or D.  
r = Configuration type/Diagnostics; 1, 2, 3 or 4.  
s = Accessories: AY or blank  
t = Laid length: J1, J3, JA, JC or JN  
\* See Manufacturer's Instruction manual

**FEP325abcdefghijklmnopqrstuvwxyzIRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**



**FEP525abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.

b = liner material; A, E, F, H, P, S, or U or D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, or E2, E3, E4, E5, E6 or E7.

g = Process connection material; B, C, or D.

h = Usage certifications; any single number

i = Calibration type; any single letter

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.

n = Protection class: 1, 2, 3 or 4

o = Cable Conduits; A, B, or C.

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4

s = Accessories; AY or AP

t = Laid length; J1, J3, JA, JC or blank

\* See Manufacturer's Instruction manual

**FEP325abcdefghijklRno0Yrst - ProcessMaster Electromagnetic Flowmeter – Remote version**

**FEP525abcdefghijklRno0Yrst - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material; A, E, F, H, P, S, U or D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.

g = Process connection material; B, C, or D.

h = Usage certifications; any single number

i = Calibration type; any single letter

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single letter

l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, and 8.

n = Protection class: 1, 2, 3 or 4

o = Cable Conduits; A, B, or C.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.

s = Accessories; AY or AP

t = Laid length; J1, J3, JA, JC or JN

\* See Manufacturer's Instruction manual

**FEP315abcdefghijk0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

**FEP515abcdefghijk0Pnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67  
 S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67  
 I / 2 / Ex / nA nC / IIC / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67  
 \* when option q = E or F

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material; A, E, F, H, P, S, U or D, T or W.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.
- g = Process connection material; B, C, or D.
- h = Usage certifications; any single number
- i = Calibration type; any single letter
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
- k = Name plate language and type; any single letter
- n = Protection Class: 1 or 4
- o = Cable Conduits; A, B, or C.
- p = Power supply; 1, 2, 3, or 4.
- q = Input and output signal type; A, B, C, D, E or F.
- r = Configuration type/Diagnostics; 1, 2, 3 or 4.
- s = Accessories; AY or blank
- t = Laid length; J1, J3, JA, JC or JN
- \* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEP325abcdefghijkIPno0Yrst – ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

**FEP525abcdefghijkIPno0Yrst – ProcessMaster Electromagnetic Flowmeter – Remote version  
Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 S / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
 I / 2 / Ex / nA nG / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material; A, E, F, H, P, S, U, D, T or W.
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.
- e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.  
 g = Process connection material; B, C, or D.  
 h = Usage certifications; any single number  
 i = Calibration type; any single letter  
 j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
 k = Name plate language and type; any single letter  
 l = Signal Cable length and type 0, 1, 2, 3, 4, 5, 6, 7, or 8.  
 n = Protection class: 1, 2, 3 or 4  
 o = Cable Conduits; A, B, or C.  
 r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
 s = Accessories; AY or AP  
 t = Laid length; J1, J3, JA, JC or JN  
 \* see Manufacturer's Instruction manual

**FEP315abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version  
 Single Seal**

**FEP515abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version  
 Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

I / 1 / Ex d e ia ma IIC/T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

\* when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,  
 b = liner material; A, E, F, H, P, S, U or D, T or W.  
 c = Electrode design; 1, 2, 5, or 6.  
 d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.  
 e = Grounding accessories; 1, 2, 3, or 4.  
 f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7  
 g = Process connection material; B, C, or D.  
 h = Usage certifications; any single number  
 i = Calibration type; any single letter  
 j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
 k = Name plate language and type; any single letter  
 n = Protection Class: 1 or 4  
 o = Cable Conduits; A, B, or C.  
 p = Power supply; 1, 2, 3, or 4.  
 q = Input and output signal type; A, B, C, D, E or F.  
 r = Configuration type/Diagnostics; 1, 2, 3 or 4.  
 s = Accessories; AY or blank  
 t = Laid length; J1, J3, JA, JC or JN

\* See Manufacturer's Instruction manual

**FEP315abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version**

**FEP515abcdefghijkl0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

I / 1 / Ex d e ia IIC/T\* Ta = -40°C to +60°C; FISCO<sup>+</sup>, IP65, IP67

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67

\* when option q = E or F

- a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 600, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
  - b = liner material; A, E, F, H, P, S, U, D, T or W.
  - c = Electrode design; 1, 2, 5, or 6.
  - d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W
  - e = Grounding accessories; 1, 2, 3, or 4.
  - f = Process connection type; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, or E7.
  - g = Process connection material; B, C, or D.
  - h = Usage certifications; any single number
  - i = Calibration type; any single letter
  - j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.
  - k = Name plate language and type; any single letter
  - n = Protection Class: 1 or 4
  - o = Cable Conduits; A, B, or C.
  - p = Power supply; 1, 2, 3, or 4.
  - q = Input and output signal type; A, B, C, D, E or F.
  - r = Configuration type/Diagnostics; 1, 2, 3 or 4.
  - s = Accessories; AY or blank
  - t = Laid length; J1, J3, JA, JC or JN
- \* See Manufacturer's Instruction manual

## Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Ignition Protected Apparatus for Class II, Division 2 Groups F and G; Ignition Protected Apparatus for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

## FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY

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

C22.2 No. 213	1987
C22.2 No. 25	1966
C22.2 No. 142	1987
C22.2 No. 1010.1	1992
CSA 60079-0	2007
CSA 60079-15	2002
CSA 61241-1-1	2002
CSA-C22.2 No. 0.4-04	2004
CSA-C22.2 No. 0.5	1982
CSA-C22.2 No. 30	1986
CSA-C22.2 No. 94	1991
CSA-C22.2 No. 157	1992
CAN/CSA E60079-1	2002
CAN/CSA E60079-7	2003
CAN/CSA E60079-11	2002
CAN/CSA E79-18-95	1995
CSA-C22.2 No. IEC 60529	2005
ISA 12.27.01	2003
CAN/CSA 60079-27	2009

Original Project ID: 3034391C

Approval Granted: October 1, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008		
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	September 4, 2009		
091009	October 27, 2009		
3034172	March 30, 2010		
3039797	August 27, 2010		
3040021	September 16, 2010		
110120	July 15, 2011		
120113	November 8, 2012		

FM Approvals LLC

  
\_\_\_\_\_  
J.E. Marquedant  
Group Manager, Electrical

8 November 2012  
Date

FM Approvals  
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P.O. Box 9102 Norwood, MA 02062 USA  
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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***FEP315abcdefghijklm0Pnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal***

***FEP515abcdefghijklm0Pnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal***

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

DIP / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex nA nC / IIC / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material; A, E, F, H, M, P, S, U, D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/CI600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9

g = Process connection material; any single character.

h = Usage certifications; any single character.

i = Calibration type; any single character.

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character.

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

t = Laid length; J1, J3, JA, JC or JN

u = Transmitter housing design: H1, H2 or H4

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)



w = Sensor Housing Material; SMA or SMS  
 \* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEP325abcdefghijklPno0Yr.s.t.v.w – ProcessMaster Electromagnetic Flowmeter – Remote version  
 Single Seal**

**FEP525abcdefghijklPno0Yr.s.t.v.w – ProcessMaster Electromagnetic Flowmeter – Remote version  
 Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

I / 2 / Ex nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material; A, E, F, H, M, P, S, U, D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8, or H9.

g = Process connection material; any single character

h = Usage certifications; any single character.

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character

l = Signal Cable length and type any single character.

n = Protection class: 1, 2, 3 or 4

o = Cable Conduits; A, or B.

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

s = Accessories; AY or AP

t = Laid length; J1, J3, JA, JC or JN

v = Connection Box: UTA or UTS

w = Sensor Housing Material; SMA or SMS

\* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH315abcdefghijkl0Pnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version  
 Single Seal**

**FEH515abcdefghijkl0Pnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version  
 Single Seal**

NI / I, II / 2 / ABCDFG / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

DIP / III / 1 / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67

I / 2 / Ex nA nC / IIC / T\* Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, P or T.

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W.  
e = Grounding accessories; 1, or 2.  
f = Process connection type; Up to PN100/CI600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9.  
g = Process connection material; any single character.  
h = Usage certifications; any single character.  
i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single character.  
n = Protection Class: 1, or 4  
o = Cable Conduits; A, or B.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, D, E or F.  
r = Configuration type/Diagnostics; 1, 2, 3 or 4.  
t = Laid length; J1, J3, JA, JC or JN  
u = Transmitter Housing design: H1, H2 or H4  
\* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**FEH325abcdefghijklmnopqrstuvwxyzPno0Yr.s.t HygienicMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEH525abcdefghijklmnopqrstuvwxyzPno0Yr.s.t HygienicMaster Electromagnetic Flowmeter – Remote version Single Seal**

NI/ I, II / 2 / ABCDFG/ T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
DIP / III / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
DIP / II, III / 1 / EFG / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
I / 2/ Ex nA / IIC / T\* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68  
a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.  
b = liner material; A, P or T.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W.  
e = Grounding accessories; 1, or 2.  
f = Process connection type; Up to PN100/CI600 or equivalent pressure rating any two characters.  
g = Process connection material; any single character.  
h = Usage certifications; any single character.  
i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single character  
l = Signal Cable length and type; any single character  
n = Protection class: 1, 2, 3 or 4  
o = Cable Conduits; A, or B.  
r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories; AY or AP  
t = Laid length; J1, J3, JA, JC or JN  
\* see Manufacturer's Instruction manual

**Special Condition of Use**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)



**FET325jk0Pnopqr.u Field Mount Transmitter only**

**FET525jk0Pnopqr.u Field Mount Transmitter only**

NI/ I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X: IP65: IP67

DIP / III / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67

IPA / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X: IP65: IP67

I / 2/ Ex nA nC nL/ IIC/ T4/ Ta = -40°C to +60°C; FNICO<sup>+</sup>, Type 4X; IP65; IP67

<sup>+</sup> when option q = E or F

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4

u = Transmitter Housing design: H1 or H2

**FEP315abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

**FEP515abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version  
Single Seal**

IPA-XP-IS / I / 1 / BCD / T\* Ta = \*\* to +60°C; FISCO<sup>+</sup>, IP65, IP67

I / 1 / Ex d e ia m / IIC/T\* Ta = \*\* to +60°C; FISCO<sup>+</sup>, IP65, IP67

DIP/II,III/1/EFG / Ta = \*\* to +60°C; Type 4X, IP65, IP67

<sup>+</sup> when option q = E or F

\*\* -20 °C when option u = H2; -40 °C when option u = H4

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300,

b = liner material; A, E, F, H, M, P, S, U, D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9

g = Process connection material; any single character.

h = Usage certifications; any single character.

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

t = Laid length; J1, J3, JA, JC or JN

u = Transmitter Housing design; H2 or H4

w = Sensor Housing Material; SMA, or SMS

\* See Manufacturer's Instruction manual

**FEP315abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

**FEP515abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = \*\* to +60°C; FISCO<sup>+</sup>, IP65, IP67

I / 1 / Ex d e ia / IIC/T\* Ta = \*\* to +60°C; FISCO<sup>+</sup>, IP65, IP67

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

DIP/II,III/1/EFG / Ta = \*\* to +60°C; Type 4X, IP65, IP67

+ when option q = E or F

\*\* -20 °C when option u = H2; -40 °C when option u = H4

a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material; A, E, F, H, M, P, S, U, D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9.

g = Process connection material; any single character.

h = Usage certifications; any single character.

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, D, E or F.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

t = Laid length; J1, J3, JA, JC or JN

u = Transmitter Housing design; H2 or H4

w = Sensor Housing Material; SMA or SMS

\* See Manufacturer's Instruction manual

**FEP325abcdefghijkIRno0Yr.AY.t.v.w ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

**FEP525abcdefghijkIRno0Yr.AY.t.v.w ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal**

IPA-XP-IS / I / 1 / BCD /T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

I / 1 / Ex d e ia m / IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

DIP/II,III/1/EFG / Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, or 300.

b = liner material; A, E, F, H, M, P, S, U, D, T or W.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T or W.

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9

g = Process connection material; any single character.

h = Usage certifications; any single character.

i = Calibration type; any single character.

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character

l = Signal Cable length and type any single character.

n = Protection class: 1, 2, 3 or 4

o = Cable Conduits; A, or B.

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4

t = Laid length; J1, J3, JA, JC or JN

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

v = Connection Box: UTA or UTS  
w = Sensor Housing Material; SMA or SMS  
\* See Manufacturer's Instruction manual

**FEP325abcdefghijklRno0Yr.AY.t.v.w - ProcessMaster Electromagnetic Flowmeter – Remote version**  
**FEP525abcdefghijklRno0Yr.AY.t.v.w - ProcessMaster Electromagnetic Flowmeter – Remote version**

IPA-XP-IS / I / 1 / BCD / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
I / 1 / Ex d e i a / IIC/T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68  
DIP/II,III/1/EFG / T\* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

a = 3 digit number representing the bore diameter; 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.  
b = liner material; A, E, F, H, M, P, S, U, D, T or W.  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, D, E, F, G, H, J, K, N, R, S, T, or W.  
e = Grounding accessories; 1, 2, 3, or 4.  
f = Process connection type; Up to PN100/CI600 or equivalent pressure rating any two characters and A7, A8, A9, H7, H8, or H9.  
g = Process connection material; any single character.  
h = Usage certifications; any single character.  
i = Calibration type; any single character.  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single character  
l = Signal Cable length and type any single character.  
n = Protection class: 1, 2, 3 or 4  
o = Cable Conduits; A, or B.  
r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.  
t = Laid length; J1, J3, JA, JC or JN  
v = Connection Box: UTA or UTS  
w = Sensor Housing Material; SMA or SMS  
\* See Manufacturer's Instruction manual

**FET325jklRnopqr.u Field Mount Transmitter only**  
**FET525jklRnopqr.u Field Mount Transmitter only**

IPA-XP-IS / I / 1 / BCD / T6 Ta = \*\* to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67  
I / 1 / Ex d e [ia] / IIC/T6 Ta = \*\* to +60°C; FISCO<sup>+</sup>; Type 4X, IP65, IP67  
DIP/II,III/1/EFG / T\* Ta = \*\* to +60°C; Type 4X, IP65, IP67  
<sup>+</sup> when option q = e or F  
\*\* -20 °C when option u = H2; -40 °C when option u = H4

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.  
k = Name plate language and type; any single character  
l = Cable length; any single character  
n = Protection Class: 1, or 4  
o = Cable Conduits; A, or B.  
p = Power supply; 1, 2, 3, or 4.  
q = Input and output signal type; A, B, C, D, E or F.  
r = Configuration type/Diagnostics; 0, 1, 2, 3 or 4.  
u = Transmitter Housing design; H2 or H4

**FEH315abcdefghijkl0Rnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**  
**Single Seal**  
**FEH515abcdefghijkl0Rnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

### Single Seal

IPA-XP-IS / I / 1 / BCD / T\* Ta = \*\* to +60°C; FISCO<sup>+</sup> ; Type 4X, IP65, IP67

I / 1 / Ex d e ia ma / IIC/T\* Ta = \*\* to +60°C; FISCO<sup>+</sup> ; Type 4X, IP65, IP67

DIP/II,III/1/EFG / T\* Ta = \*\* to +60°C; Type 4X, IP65, IP67

<sup>+</sup> when option q= E or F

\*\* -20 °C when option u = H2; -40 °C when option u = H4

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100.

b = liner material; A, P or T.

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W.

e = Grounding accessories; 1, or 2.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters.

g = Process connection material; any single character.

h = Usage certifications; any single character.

i = Calibration type; any single character.

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4.

k = Name plate language and type; any single character.

n = Protection class: 1 or 4.

o = Cable Conduits; A, or B.

p = Power supply; 1, 2, 3, or 4.

q = Input and output signal type; A, B, C, or D.

r = Configuration type/Diagnostics; 1, 2, 3 or 4.

t = Laid length: J1, J3, JA, JC or JN

u = Transmitter Housing design; H2 or H4

\* See Manufacturer's Instruction manual

### Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D; Ignition Protected Apparatus for Class II, Division 2 Groups F and G; Ignition Protected Apparatus for Class III, Divisions 1 and 2; Dust ignition Protected for Class II and III, Division 1, Groups E, F and G. Type of Protection "n" for Class I, Zone 2, Groups IIC\*. Temperature Class dependent on Ambient and Process Temperature (see Manufacturer's Instruction manual) Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

Ignition Protected Apparatus, explosionproof and intrinsically safe apparatus for Class I, Division 1 Groups B, C and D; Flameproof with increased safety and intrinsic safety for use in Class I, Zone 1 Group IIC; Dust ignition proof for Class II, and III, Division 1 Groups E, F and G: indoor and outdoor Hazardous Locations. For temperature class see Manufacturers Instructions. Ambient Temperature -40°C to +60°C for stainless steel enclosure options and -20°C to +60°C for aluminum enclosure options Indoor and outdoor locations. FISCO Communication options. Single Seal per ISA 12.27.01

### FM Approved for:

ABB Automation Products GmbH  
D-37079 Göttingen GERMANY

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

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

C22.2 No. 213	1987
C22.2 No. 25	2009
C22.2 No. 142	2009
C22.2 No. 1010.1	2004
CSA 60079-15	2002
CSA-C22.2 No. 0.4-04	2013
CSA-C22.2 No. 0.5	2012
CSA-C22.2 No. 30	2012
CSA-C22.2 No. 94	2011
CSA-C22.2 No. 157	2012
CAN/CSA 60079-0	2011
CAN/CSA 60079-1	2011
CAN/CSA 60079-7	2012
CAN/CSA 60079-11	2011
CAN/CSA 60079-18	2012
CSA-C22.2 No. IEC 60529	2010
ISA 12.27.01	2003

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Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760	December 17, 2008	3050589	February 27, 2014
3032562	July 23, 2009		
090730	August 13, 2009		
3037527	September 4, 2009		
091009	October 27, 2009		
3034172	March 30, 2010		
3039797	August 27, 2010		
3040021	September 16, 2010		
110120	July 15, 2011		
120113	November 8, 2012		

FM Approvals LLC



J. E. Marquedant  
Group Manager, Electrical

27 February 2014

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)