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FM Approvals®

Member of the FM Global Group

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

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
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.

FEP325abcdefghijklP1o0Yrs - 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,

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.

FEH325abcdefghijklP1o0Yrs 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.

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:

Class 3600	1998
Class 3611	2004
NEMA 250	1991

Original Project ID: 3034391   Approval Granted: *October 1, 2008*

Subsequent Revision Reports / Date Approval Amended

    Report Number   Date   Report Number   Date

FM Approvals LLC

J. E. Marquedant
Group Manager, Electrical

1 October 2008
Date

FM Approvals
Member of the FM Global Group

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

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
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.

FEP325abcdefghijklP1o0Yrs - 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

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.

FEH325abcdefghijklP1o0Yrs 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:

Class 3600	1998
Class 3611	2004
NEMA 250	1991
ISA 60079-15	2003
ISA 61241-0	2006
ISA 61241-1	2006

Original Project ID: 3034391   Approval Granted: December 17, 2008

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3030760			

FM Approvals LLC

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

17 December 2008
Date

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: **781 762 4300** F: 781-762-9375 www.fmapprovals.com

Member of the FM Global Group

FM Approvals®

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

FEH315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C;Type 4X, IP65, IP67
I / 1 / AEx d e ma ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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, 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

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ma ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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, 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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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, 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

FEP325abcdefghijklR1o0Yrs - ProcessMaster Electromagnetic Flowmeter – Remote version
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP68
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP68
21 / AEx tD iaD / 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

FEP325abcdefghijklR1o0Yrs - ProcessMaster Electromagnetic Flowmeter – Remote version

S-XP-IS / l / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP68
l / 1 / AEx d e ma ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP68
21 / AEx tD iaD / T* 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.
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

FET325jklR1opqr Field Mount Transmitter only

XP-IS / l / 1 / ABCD /T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
l / 1 / AEx d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD [iaD] / T70°C 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:

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

FM Class 3600	1998
FM Class 3610	2007
FM Class 3615	2006
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ANSI/ISA 60079-18	2005
FM Class 3810	2005
ANSI/NEMA 250	2003
ANSI/IEC 60529	2004

Original Project ID: 3032562   Approval Granted: *July 23, 2009*

Subsequent Revision Reports / Date Approval Amended

    Report Number   Date   Report Number   Date

FM Approvals LLC

J. E. Marquedant

J. E. Marquedant
Group Manager, Electrical

23 July 2009
Date

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T*; 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.*

FEP325abcdefghijklPno0Y0s - 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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68

21 / AEx / tD / 21 / T*; 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; 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.

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

21 / AEx / tD / 21 /T*; 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; 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.

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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx / tD / 21 /T*; 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; ~~AP or blank~~ 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.

FET325jk0P1opqrs 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/ AEx / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T*; 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

FEH315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C;Type 4X, IP65, IP67
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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,-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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia ma-IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD/ 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

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

FEP315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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

FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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

FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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, 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

S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD [iaD] / T70°C 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 For temperature class see Manufacturers Instructions.; Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

Class 3600	1998
Class 3610	2007
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ISA 60079-15	2003
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006

Original Project ID: 3034391   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		

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 (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

FEP315abcdefghijk0P1opqrst 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T*; 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.

FEP325abcdefghijklPno0Y0st - 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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68
21 / AEx / tD / 21 / T*; 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; 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.

FEH315abcdefghijk0P1opqrst 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 /T*; 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; 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.

FEH325abcdefghijklPno0Y0st 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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx / tD / 21 /T*; 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; ~~AP or blank~~ 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/ AEx / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T70°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.

FEH315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C;Type 4X, IP65, IP67
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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,-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

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia ma-IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD/ 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

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

FEP315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version *by Global Group*
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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

***FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote
version***
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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

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FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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, 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

S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD [iaD] / T70°C 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 For temperature class see Manufacturers Instructions.; Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

FM Approvals®

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic *Member of the FM Global Group* safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

Class 3600	1998
Class 3610	2007
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ISA 60079-15	2003
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006

Original Project ID: 3034391   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	*Sept. 4, 2009*		

FM Approvals LLC

Robert L. Martell, Jr.
Assistant Vice President

September 4, 2009
Date

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Member of the FM Global Group

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

FEP315abcdefghijk0P1opqrst 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T*; 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.

***FEP325abcdefghijklPno0Y0st - 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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68
21 / AEx / tD / 21 / T*; 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; 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.

FEH315abcdefghijk0P1opqrst 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 /T*; 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; 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.

FEH325abcdefghijklPno0Y0st 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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx / tD / 21 /T*; 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/ AEx / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T70°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.

FEH315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C;Type 4X, IP65, IP67
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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,-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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia ma-IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD/ 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

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

FEP315abcdefghijk0R1opqr ProcessMaster Electromagnetic Flowmeter – Integral version
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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

FEP325abcdefghijklRno0Y0s - ProcessMaster Electromagnetic Flowmeter – Remote version
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

21 / AEx tD iaD / 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, 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
S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD [iaD] / T70°C 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 For temperature class see Manufacturers Instructions.; Ambient Temperature -40°C to +60°C; Indoor and outdoor locations.

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

Class 3600	1998
Class 3610	2007
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ISA 60079-15	2003
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006

Original Project ID: 3034391   **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

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

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/ AEx nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx tD / T*; 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/ AEx nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68
21 / AEx tD / T*; 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, or 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.

FEH315abcdefghijk0Pnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal

FEH515abcdefghijk0Pnopqrst 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/ AEx nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx tD / T*; 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.

FEH325abcdefghijklPno0Yrst HygenicMaster Electromagnetic Flowmeter – Remote version
FEH525abcdefghijklPno0Yrst 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/ AEx nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx tD / T*; 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, 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
DIP / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
I / 2/ AEx / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T70°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

I =   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.

FEP315abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C;Type 4X, IP65, IP67
I / 1 / AEx d e ia ma / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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
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 Single Seal
FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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

FEP325abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
FEP525abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia ma / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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, 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

FEH315abcdefghijk0Rnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Rnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia ma / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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

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

FET325jklRnopqr Field Mount Transmitter only
FET525jklRnopqr Field Mount Transmitter only
S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD [iaD] / T70°C 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, 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; 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 For temperature class see Manufacturers Instructions.; Ambient Temperature -40°C to +60°C; Indoor and outdoor locations. Single Seal per ISA 12.27.01

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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

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

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ISA 60079-15	2003
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006
ISA 12.27.01	2003

Original Project ID: 3034391   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. Marquedant
Group Manager, Electrical

27 August 2010
Date

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

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/ AEx nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx tD / T*; Type 4X; IP65; IP67
NI/ I, II / 2 / ABCDFG / T* Ta = -40°C to + 60°C; FNICO, Type 4X; IP65; IP67
I / 2/ AEx nA nC / 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/ AEx nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67: IP68
21 / AEx tD / T*; 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, or 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.

FEH315abcdefghijk0Pnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Pnopqrst 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/ AEx nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx tD / T*; Type 4X; IP65; IP67
NI / I, II / 2 / ABCDFG / T* Ta = -40°C to + 60°C; FNICO, Type 4X; IP65; IP67
I / 2/ AEx nA nC / 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.

FEH325abcdefghijklPno0Yrst HygenicMaster Electromagnetic Flowmeter – Remote version
FEH525abcdefghijklPno0Yrst 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/ AEx nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx tD / T*; 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, 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
DIP / II, III / 1 / EFG / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
I / 2/ AEx / nA nC / IIC / T4 Ta = -40°C to +60°C; Type 4X; IP65; IP67
21 / AEx / tD / 21 / T70°C; Type 4X; IP65; IP67
NI/ I, II / 2 / ABCDFG / T4 Ta = -40°C to +60°C; FNICO, Type 4X; IP65; IP67
I / 2/ AEx / nA nC / 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.

FEP315abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C;Type 4X, IP65, IP67
I / 1 / AEx d e ia ma / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; FISCO,Type 4X, IP65, IP67
I / 1 / AEx 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, 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

FEP315abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67
I / 1 / AEx 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

FEP325abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
FEP525abcdefghijklRno0Yrst ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia ma / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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, 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

FEH315abcdefghijk0Rnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Rnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e ia ma / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD iaD / 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
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67
I / 1 / AEx 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, 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

FET325jklRnopqr Field Mount Transmitter only
FET525jklRnopqr Field Mount Transmitter only
S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
I / 1 / AEx d e [ia] IIC/T6 Ta = -40°C to +60°C; Type 4X, IP65, IP67
21 / AEx tD [iaD] / T70°C 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
S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; FISCO; Type 4X, IP65, IP67
I / 1 / AEx 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; 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 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

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

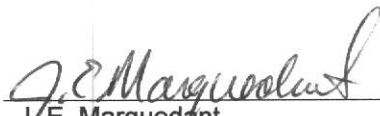|	
Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ANSI/ISA 60079-15	2003
ANSI/ISA 60079-27	2005
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006
ISA 12.27.01	2003

Original Project ID: 3034391   **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

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Member of the FM Global Group

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

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$^+$, 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 / AEx nA nC /IIC/T4   Ta = -40°C to +60°C; FNICO, Type 4X; IP65; IP67
21 / AEx / tD / T70°C / Ta = -40°C to +60°C; Type 4X; IP65:IP67
$^+$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
S-XP-IS / I / 1 / ABCD /T6 Ta = -40°C to +60°C; FISCO$^+$, Type 4X, IP65, IP67
I / 1 / AEx d e [ia] IIC/T6   Ta = -40°C to +60°C; FISCO$^+$, IP65, IP67
21 / AEx tD [iaD] / T70°C 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
$^+$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.

FEH315abcdefghijk0Pnopqrst HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Pnopqrst HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal

NI/ I, II / 2 / ABCDFG / T* Ta = -40°C to + 60°C; FNICO⁺, 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; FNICO⁺, Type 4X; IP65; IP67
21 / AEx / tD /~~24~~ / T*; 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; 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.

FEH325abcdefghijklPno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version single Seal
FEH525abcdefghijklPno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version single Seal

NI/ I, II / 2 / ABCDFG / T* Ta = -40°C to +60°C; ~~FNICO~~,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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; ~~FNICO~~, Type 4X; IP65; IP67; IP68
21 / AEx / tD / T*; 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, 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.

FEH315abcdefghijk0Rnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Rnopqrst HygenicMaster Electromagnetic Flowmeter – Integral version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; FISCO$^+$, Type 4X, IP65, IP67
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; FISCO$^+$, Type 4X, IP65, IP67
21 / AEx tD iaD / 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

$^+$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
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; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, J1, J2, J3, E0, E1, E2, M1,F1,R1,R2,R3,R4,R5,R6,T1,T2,T3,P1, W1 or Y0.
g = Process connection material; B, 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; AY or blank
t = Laid length; J1, J3, JA, JC or JN
* See Manufacturer's Instruction manual

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

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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, 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; 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

FEP325abcdefghijklRno0Yrst - ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
FEP525abcdefghijklRno0Yrst - ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tD iaD / 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, 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

FEP315abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version
Single Seal
FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version
Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; FISCO⁺, Type 4X, IP65, IP67
I / 1 / AEx d e ia IIC/T* Ta = -40°C to +60°C; FISCO⁺, Type 4X, IP65, IP67
21 / AEx tD iaD / 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
⁺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, M, 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
Single Seal
FEP515abcdefghijk0Rnopqrst ProcessMaster Electromagnetic Flowmeter – Integral version
Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; FISCO⁺, Type 4X, IP65, IP67
I / 1 / AEx d e ia ma IIC/T* Ta = -40°C to +60°C; FISCO⁺, Type 4X, IP65, IP67
21 / AEx tD iaD / 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
⁺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, 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; 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

***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[+], 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/ AEx / nA nC / IIC / T* Ta = -40°C to + 60°C; FNICO[+], Type 4X; IP65; IP67
21 / AEx / tD / T*; 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, 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; 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.*

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/ AEx / nA / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx / tD / T*; 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, 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

Special Condition of Use:
1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

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 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

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ANSI/ISA 60079-15	2003
ANSI/ISA 60079-27	2005
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006
ISA 12.27.01	2003

Original Project ID: 3034391   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

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

FEP315abcdefghijk0Pnopqrst.u ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
FEP515abcdefghijk0Pnopqrst.u ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal

NI / I, II / 2 / ABCDFG / T* Ta = -40°C to +60°C; FNICO [+] , 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[+], 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, 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; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, B3, B6, B7, B8, B9, C1, C2, C3, C4, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, E7, or E8
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
u = Transmitter housing design: H1 or H2
* 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[+], IP65, IP67
I / 1 / Ex d e ia ma IIC/T* Ta = -40°C to +60°C; FISCO[+], 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, 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; 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

FEP325abcdefghijklRno0Yrst - 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, 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; D0, D1, D2, D3, D4, D5, D6, A1, A3, A6, A7, A8, A9, B3, B6, B7, B8, B9, C1, C2, C3, C4, J0, J1, J2, J3, E0, E1, E2, E3, E4, E5, E6, E7, or E8
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

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, 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

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

FEH315abcdefghijk0Pnopqrst.u HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Pnopqrst.u HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal
NI / I, II / 2 / ABCDFG / T* Ta = -40°C to +60°C; FNICO [+], 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 [+], 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, 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; 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
u = Transmitter Housing design: H1 or H2
* 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.

FEH315abcdefghijk0R1opqrst.u 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/ 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, 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, S, or W.
e = Grounding accessories; 1, 2, 3, or 4.
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.
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
u = Transmitter Housing design: H1 or H2

* See Manufacturer's Instruction manual

FEH325abcdefghijk0Pno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version Single Seal
FEH525abcdefghijk0Pno0Yrst 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, 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; 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.

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[+], 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[+], Type 4X; IP65; IP67
[+] 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
u = Transmitter Housing design: H1 or H2

.

FET325jklRnopqr.H2 Field Mount Transmitter only
FET525jklRnopqr.H2 Field Mount Transmitter only
IPA-XP-IS / I / 1 / BCD /T6 Ta = -40°C to +60°C; FISCO[+]; 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
[+] 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.

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 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

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-1	2005
ANSI/ISA 60079-7	2002
ANSI/ISA 60079-11	2002
ANSI/ISA 60079-15	2003
ANSI/ISA 60079-27	2005
Class 3810	2005
NEMA 250	2003
ANSI/IEC 60520	2004
ISA 61241-0	2006
ISA 61241-1	2006
ISA 12.27.01	2003

Original Project ID: 3034391   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

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

FEP315abcdefghijk0Pnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
FEP515abcdefghijk0Pnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
NI / I, II / 2 / ABCDFG / T* Ta = -40°C to + 60°C; FNICO[+], 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/ AEx / nA nC mc / IIC / T* Ta = -40°C to + 60°C; FNICO[+], Type 4X; IP65; IP67
21 / AEx tb / IIIC / T*; 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, 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 orA7, 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

FM Approvals HLC
04/13

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.
2.   *The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.*

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
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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx tb / IIIC / T*; 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, C, E, F, H, M, P, S, U, or D.
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 orA7, 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.
2.   *The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.*

FEH315abcdefghijk0Pnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal
FEH515abcdefghijk0Pnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version Single Seal

NI/ I, II / 2 / ABCDFG / T* Ta = -40°C to + 60°C; FNICO[+], 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; FNICO[+], Type 4X; IP65; IP67
21 / AEx tb / IIIC / T*; 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, 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, 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.
2.   The painted surface of the HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

FEH325abcdefghijklPno0Yrst HygienicMaster Electromagnetic Flowmeter – Remote version single Seal
FEH525abcdefghijklPno0Yrst 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/ AEx / nA nC / IIC / T* Ta = -40°C to +60°C; Type 4X; IP65; IP67; IP68
21 / AEx tb / IIIC / T*; 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.

To verify the availability of the Approved product, please refer to 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/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
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.
2.   *The painted surface of the HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.*

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[+], 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 / AEx nA nC mc /IIC/T4 Ta = -40°C to +60°C; FNICO[+], Type 4X; IP65; IP67
21 / AEx tb / IIIC / T70°C / Ta = -40°C to +60°C; Type 4X; IP65:IP67
[+] 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, 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

Special Condition of Use
1.   Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2.   *The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.*

FEH315abcdefghijk0Rnopqr.AY.t.u HygenicMaster Electromagnetic Flowmeter – Integral version
Single Seal
FEH515abcdefghijk0Rnopqr.AY.t.u HygenicMaster Electromagnetic Flowmeter – Integral version

To verify the availability of the Approved product, please refer to www.approvalguide.com

Single Seal

S-XP-IS / I / 1 / ABCD /T* Ta = **to +60°C; FISCO[+] , Type 4X, IP65, IP67

I / 1 / AEx d e ia ma / IIC/T* Ta = ** to +60°C; FISCO[+] , Type 4X, IP65, IP67

21 / AEx tb / IIIC / T* Ta = ** to +60°C; Type 4X, IP65, IP67

DIP / II, III / 1 / EFG / T* 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; 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

Special Condition of Use

1.   The painted surface of the HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

FEP315abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version
Single Seal
FEP515abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version
Single Seal

S-XP-IS / I / 1 / ABCD / T* Ta = ** to +60°C; FISCO[+],Type 4X, IP65, IP67

I / 1 / AEx d e ia ma / IIC/ T* Ta = ** to +60°C; FISCO[+], Type 4X, IP65, IP67

21 / AEx ia tb / IIIC / T* Ta = ** to +60°C; Type 4X, IP65, IP67

DIP / II, III / 1 / EFG / T* 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; 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 charactersA7, A8, A9 H7, H8 or H9

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FM Approvals HLC
04/13

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

Special Condition of Use
1.   The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

FEP315abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
FEP515abcdefghijk0Rnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = ** to +60°C; FISCO$^+$, Type 4X, IP65, IP67
I / 1 / AEx d e ia / IIC/T* Ta = ** to +60°C; FISCO$^+$, Type 4X, IP65, IP67
21 / AEx tb / IIIC / T* Ta = ** to +60°C; Type 4X, IP65, IP67
DIP / II, III / 1 / EFG / T* 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

Special Condition of Use
1.   The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

FEP325abcdefghijklRno0Yr.AY.t.v.w - ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
FEP525abcdefghijklRno0Yr.AY.t.v.w - ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
21 / AEx tb / IIIC / 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, 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
v = Connection Box; UTA or UTS
w = Sensor Housing Material: SMA or SMS
* See Manufacturer's Instruction manual

Special Condition of Use
1.   The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

FEP325abcdefghijklRno0Yr.AY.t.v.w - ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
FEP525abcdefghijklRno0Yr.AY.t.v.w - ProcessMaster Electromagnetic Flowmeter – Remote version Single Seal
S-XP-IS / I / 1 / ABCD /T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68
I / 1 / AEx d e ia / IIC/T* Ta = -40°C to +60°C; Type 4X, IP65, IP67, IP68

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FM Approvals HLC
04/13

21 / AEx tb / IIIC / 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, 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
v = Connection Box: UTA or UTS
w = Sensor Housing Material: SMA or SMS
* See Manufacturer's Instruction manual

Special Condition of Use
1.   The painted surface of the ProcessMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

FET325jklRnopqr.u Field Mount Transmitter only
FET525jklRnopqr.u Field Mount Transmitter only
S-XP-IS / I / 1 / ABCD /T6 Ta = ** to +60°C; FISCO[+], Type 4X, IP65, IP67
I / 1 / AEx d e [ia] / IIC/T6 Ta = ** to +60°C; FISCO[+], IP65, IP67
21 / AEx tb [ia] / IIIC / T70°C Ta = ** to +60°C; Type 4X, IP65, IP67
DIP / II, III / 1 / EFG / T* 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

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

Special Condition of Use
1.   The painted surface of the FET325 may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge

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can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.

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 "t" for Zone 21. Temperature Class dependent on Ambient and Process Temperature 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

Explosionproof with intrinsic safety for Class I, Division 1, Groups A, B, C and D; Flameproof with intrinsic safety, increased safety and encapsulation for Class I, Zone 1, Group IIC; Protected by Enclosure and intrinsically safe for Zone 21; Indoor and Outdoor Hazardous (Classified) 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

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

Class 3600	2011
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3616	2011
Class 3810	2005
ANSI/ISA 60079-0	2013
ANSI/ISA 60079-1	2009
ANSI/ISA 60079-7	2008
ANSI/ISA 60079-11	2013
ANSI/ISA 60079-15	2012
ANSI/ISA 60079-18	2009
ANSI/ISA 61010-1	2004
NEMA 250	2003
ANSI/IEC 60529	2004
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		
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		
12013	November 8, 2012		
3050589	February 27, 2014		

FM Approvals LLC

J.E. Marquedant

J.E. Marquedant   27 February 2014

Group Manager, Electrical   Date