



Member of the FM Global Group

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

# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

***FCa3cdY0fghijklm.n.o.p CoriolisMaster - Integral transmitter/sensor – single seal***

XP-IS / I / 1 / ABCD / T\* Ta = 60°C - Type 4X, IP65, IP67

DIP / II / 1 / EFG / T\*;

DIP / III / 1, 2 / T\* Ta = 60°C - Type 4X, IP65, IP67

NI / I, II, III / 2 / ABCDEFG / T\* Ta = 60°C - Type 4X, IP65, IP67

I / 1 / AEx d ia / IIC / T\* Ta = 60°C - Type 4X, IP65, IP67

21 / AEx ia tb / IIIC / T\* Ta = 60°C - Type 4X, IP65, IP67

I / 2 / AEx nA nR / IIC / T\* Ta = 60°C - Type 4X, IP65, IP67

\*See instructions for the T-Class at different process temperatures.

a = Product Family; B or H

c = Tiers: 30 or 50

d = Explosion Protection Certification: Y0, F1, or F2.

f = Meter Size: 015E1, 015R0, 015R1, 025E1, 025R0, 025R2, 050E1, 050R0 or 050R1, 080E1, 080R0, 080R1, 100E1, 100R0, 100R1, 150E1, 150R0 or 150R1..

g = Process Connection Type: D2, D4, D5, D6, D7, E1, A1, A3, A6, A7, A8, A9, J1, J2, J3, M1, F1, T1, T2, T3, N3, or P1.

h = Material wetted parts; A1, A2, H1, H2, C1, C2, T1 or L1.

i = Flow calibration: Any single letter

j = Density calibration: Any single letter

k = Connection Design/Transmitter Housing type/Transmitter housing material/Cable glands: D1, or D2

l = Outputs: A1, A2, A3, H1, H2, H3 or Y0.

m = Power Supply: A, B or Y

n = Ambient temperature range: Blank, TA1, or TA4

o = Fluid temperature range : Blank or TF1

p = Extended Tower length: Blank or TE1

For d = Y0, F2, or F1

Y0 = Associated apparatus  
 F2 = Class I Div. 2 / Zone 2  
 F1 = Class I Div. 1 / Zone 1

*Special Conditions of Use*

1) *The CoriolisMaster is not fitted with a dedicated test port for Restricted Breathing: see the Manufacturers Instructions for the routine tests.*

**Fca3cdefghijY0Y0Y.n.o.p CoriolisMaster – sensor only – single seal**

IS / I, II, III / 1 / ABCDEFG / T\* Ta = 60°C - Type 4X, IP65, IP67  
 NI / I, II, III / 2 / ABCDEFG / T\* Ta = 60°C - Type 4X, IP65, IP67  
 I / 0 / AEx ia / IIC / T\* Ta = 60°C - Type 4X, IP65, IP67  
 20 / AEx ia / IIIC / T\* Ta = 60°C - Type 4X, IP65, IP67  
 I / 2 / AEx nA / IIC / T\* Ta = 60°C - Type 4X, IP65, IP67  
 21 / AEx tb / IIIC / T\* Ta = 60°C - Type 4X, IP65, IP67

\*See instructions for the T-Class at different process temperatures.

a = Product Family; B or H  
 c = Tiers: 30 or 50  
 d = Explosion Protection Certification: Y0, F1, or F2.  
 e = Connection Design: A1 or A2.  
 f = Meter Size: 015E1, 015R0, 015R1, 025E1, 025R0, 025R2, 050E1, 050R0 or 050R1, 080E1, 080R0, 080R1, 100E1, 100R0, 100R1, 150E1, 150R0 or 150R1..  
 g = Process Connection Type: D2, D4, D5, D6, D7, E1, A1, A3, A6, A7, A8, A9, J1, J2, J3, M1, F1, T1, T2, T3, N3, or P1.  
 h = Material wetted parts; A1, A2, H1, H2, C1, C2, T1 or L1.  
 i = Flow calibration: Any single letter  
 j = Density calibration: Any single letter  
 n = Ambient temperature range: Blank, TA1, or TA4  
 o = Fluid temperature range : Blank or TF1  
 p = Extended Tower length: Blank or TE1

For d = Y0, F2, or F1

Y0 = Associated apparatus  
 F2 = Class I Div. 2 / Zone 2  
 F1 = Class I Div. 1 / Zone 1

**FCT3cdklm.n CoriolisMaster – Transmitter only**

XP-IS / I / 1 / ABCD / T6 Ta = 60°C - Type 4X, IP65, IP67  
 DIP / II / 1 / EFG / T6;  
 DIP / III / 1, 2 / T6 Ta = 60°C - Type 4X, IP65, IP67  
 NI / I, II, III / 2 / ABCDEFG / T6 Ta = 60°C - Type 4X, IP65, IP67  
 I / 1 / AEx d ia / IIC / T6 Ta = 60°C - Type 4X, IP65, IP67  
 20 / AEx ia tb / IIIC / T85°C Ta = 60°C - Type 4X, IP65, IP67

c = Tiers: 30 or 50  
 d = Explosion Protection Certification: Y0, or F1.  
 k = Connection Design/Transmitter Housing type/Transmitter housing material/Cable glands: R1, or R2,  
 l = Outputs: A2, A3, H2, or H3.  
 m = Power Supply: A, or B  
 n = Ambient temperature range = TA1 or TA4

For d = Y0, A2, or A1

Y0 = Associated apparatus  
F2 = Class I Div. 2 / Zone 2  
F1 = Class I Div. 1 / Zone 1

**FCT3cF2klm.n CoriolisMaster – Transmitter only**

NI / I, II, III / 2 / ABCDEFG / T6 Ta = 60°C - Type 4X, IP65, IP67  
DIP / II / 1 / EFG / T6;  
DIP / III / 1, 2 / T6 Ta = 60°C - Type 4X, IP65, IP67  
I / 2 / AEx nA nR [ia] / IIC / T6 Ta = 60°C - Type 4X, IP65, IP67  
I / 1 / AEx d ib [ia] / IIC / T6 Ta = 60°C - Type 4X, IP65, IP67  
21 / AEx tb [ia] / IIIC / T85°C Ta = 60°C - Type 4X, IP65, IP67  
21 / AEx ib tb [ia] / IIIC / T85°C Ta = 60°C - Type 4X, IP65, IP67

c = Tiers: 30 or 50

k = Connection Design/Transmitter Housing type/Transmitter housing material/Cable glands: F1, F2, R1, or R2

l = Outputs: A1, A2, H1, or H2.

m = Power Supply: A, or B

n = Ambient temperature range = TA1 or TA4

*Special Conditions of Use*

*1) The CoriolisMaster is not fitted with a dedicated test port for Restricted Breathing: see the Manufacturers Instructions for the routine tests.*

Equipment Ratings:

For the transmitter alone as:

- Explosionproof for Class I, Division 1, Groups A, B, C, and D, hazardous (classified) locations with intrinsically safe outputs.
- Dust Ignitionproof for Class II, Division 1, Group E, F and G; and Class III hazardous (classified) locations with intrinsically safe outputs.
- Flameproof for Class I, Zone 1, Group IIC, with intrinsically safe 'ia IIC' outputs.
- Protected by enclosure for Zone 21 Group IIIC hazardous (classified) locations with intrinsically safe 'ia IIIC outputs.
- Nonincendive for Class I, II, and III, Division 2, Groups A, B, C, D, E, F, and G hazardous (classified) locations.
- Type of protection 'n' for Class I, Zone 2, Group IIC hazardous (classified) locations.

For the Sensor alone as:

- Intrinsically safe for Class I, II and III, Division 1, Groups A, B, C, D, E, F, and G hazardous (classified) locations.
- Nonincendive for Class I, II and III, Division 2, Groups A, B, C, D, E, F, and G hazardous (classified) locations.
- Protected by enclosure for Zone 21 Group IIIC hazardous (classified) locations.
- Type of protection 'n' for Class I, Zone 2, Group IIC hazardous (classified) locations.

For the integral transmitter and sensor;

- Explosionproof for Class I, Division 1, Groups A, B, C, and D, hazardous (classified) locations with intrinsically safe outputs.



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- Dust Ignitionproof for Class II, Division 1, Group E, F and G; and Class III hazardous (classified) locations
- Nonincendive for Class I, II, and III, Division 2, Groups A, B, C, D, E, F, and G hazardous (classified) locations.
- Type of protection 'n' for Class I, Zone 2, Group IIC hazardous (classified) locations.

#### FM Approved for:

ABB Automation Products GmbH  
Gottingen, 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 3610	2011
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3616	2011
Class 3810	2005
NEMA 250	1991
ANSI/IEC 60529	2004
ANSI/ISA 60079-0	2009
ANSI/ISA 60079-1	2009
ANSI/ISA 60079-11	2011
ANSI/ISA 60079-15	2009
ANSI/ISA 12.27.01	2003

Original Project ID: 0003046185

Approval Granted: August 2, 2012

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
121003	October 8, 2012		
3047118	December 14, 2012		
3047118 R1	May 7, 2013		

FM Approvals LLC

J.E. Marquedant  
Group Manager, Electrical

7 May 2013

Re-Issued Date