



FM Approvals  
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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:

### I. Intrinsically Safe Version (Division 1/Zone 0)

**FAM54 abcdefghijk. FAM54 Series Variable Area Flowmeter.**

IS/I,II,III/1/ABCDEFGH/T6...T1;  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; SDM-10-A0253, SDM-10-A0275; Entity; Type 4X; IP65/67

I/O/AEx ia/IIC/T6...T1;  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; SDM-10-A0253, SDM-10-A0275; Entity; Type 4X; IP65/67

DIP/II,III/1/EFG/T6...T1;  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; SDM-10-A0275; Type 4X; IP65/67

See Control Drawings For Entity Parameters.

- a = Product Type: 1, 4, 5 or 6.
- b = Display Type / Output Signal: A, B, C or D.
- c = Housing Material / Cable Gland: 2 or 4.
- d = Explosion Protection Certification: F.
- e = Explosion Protection Certification: 3 or 4.
- f/g = Process Connection: C1, C2, F1, F2, S1, T1, T2, W1 or W2.
- h = Meter Size: A, B, C, D, E, M or N.
- i = Float Design: 1, 2 or 3.
- j/k = Pressure Rating: A1, A3, A6, D1, D2, D3, D4, D5 or D6.

**FAM54 abcdefghijk. FAM54 Series Variable Area Flowmeter.**

IS/I,II,III/1/ABCDEFGH/T4...T1;  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; SDM-10-A0253, SDM-10-A0275; Entity; Type 4X; IP65/67

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DIP/II,III/1/EFG/T6...T1;  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; SDM-10-A0275; Type 4X; IP65/67

See Control Drawings For Entity Parameters.

- a = Product Type: 1, 4, 5 or 6.
- b = Display Type / Output Signal: E or F.
- c = Housing Material / Cable Gland: 2 or 4.
- d = Explosion Protection Certification: F.
- e = Explosion Protection Certification: 3 or 4.
- f/g = Process Connection: C1, C2, F1, F2, S1, T1, T2, W1 or W2.

h = Meter Size: A, B, C, D, E, M or N.  
 i = Float Design: 1, 2 or 3.  
 j/k = Pressure Rating: A1, A3, A6, D1, D2, D3, D4, D5 or D6.

*Special Conditions of Use:*

1. Model Configuration Drawing No. SDM-10-A0275 details Temperature Classification & Ambient Temperature pairings, as influenced by Process Medium Temperatures.

II. Explosionproof & Flameproof Version (Division 1/Zone 1)

**FAM54 abcdefghijk. FAM54 Series Variable Area Flowmeter.**

XP/II/1/ABCD/T6... T1;  $-50\text{ °C} \leq T_a \leq +70\text{ °C}$ ; SDM-10-A0275; Type 4X; IP65/67  
 I/1/AEx d/II/T6... T1;  $-50\text{ °C} \leq T_a \leq +70\text{ °C}$ ; SDM-10-A0275; Type 4X; IP65/67  
 DIP/II,III/1/EFG/T6... T1;  $-50\text{ °C} \leq T_a \leq +70\text{ °C}$ ; SDM-10-A0275; Type 4X; IP65/67

a = Product Type: 1, 4, 5 or 6.  
 b = Display Type / Output Signal: A, B, C, D, E or F.  
 c = Housing Material / Cable Gland: 2.  
 d = Explosion Protection Certification: F.  
 e = Explosion Protection Certification: 3.  
 f/g = Process Connection: C1, C2, F1, F2, S1, T1, T2, W1 or W2.  
 h = Meter Size: A, B, C, D, E, M or N.  
 i = Float Design: 1, 2 or 3.  
 j/k = Pressure Rating: A1, A3, A6, D1, D2, D3, D4, D5 or D6.

*Special Conditions of Use:*

1. Model Configuration Drawing No. SDM-10-A0275 details Temperature Classification & Ambient Temperature pairings, as influenced by Process Medium Temperatures.

III. Nonincendive & Non-Sparking Version (Division 2/Zone 2)

**FAM54 abcdefghijk. FAM54 Series Variable Area Flowmeter.**

NI/II/2/ABCD/T5... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67  
 NI/II/2/II/T5... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67  
 S/II,III/2/FG/T5... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67  
 I/2/AEx nA/II/T5... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67

a = Product Type: 1, 4, 5 or 6.  
 b = Display Type / Output Signal: A, B, C or D.  
 c = Housing Material / Cable Gland: 2 or 4.  
 d = Explosion Protection Certification: F.  
 e = Explosion Protection Certification: 3 or 4.  
 f/g = Process Connection: C1, C2, F1, F2, S1, T1, T2, W1 or W2.  
 h = Meter Size: A, B, C, D, E, M or N.  
 i = Float Design: 1, 2 or 3.  
 j/k = Pressure Rating: A1, A3, A6, D1, D2, D3, D4, D5 or D6.

**FAM54 abcdefghijk. FAM54 Series Variable Area Flowmeter.**

NI/II/2/ABCD/T4... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67  
 NI/II/2/II/T4... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67  
 S/II,III/2/FG/T4... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67  
 I/2/AEx nA/II/T4... T1;  $-40\text{ °C} \leq T_a \leq +60$ ; SDM-10-A0275; Type 4X; IP65/67

a = Product Type: 1, 4, 5 or 6.  
 b = Display Type / Output Signal: E or F.

c = Housing Material / Cable Gland: 2 or 4.  
d = Explosion Protection Certification: F.  
e = Explosion Protection Certification: 3 or 4.  
f/g = Process Connection: C1, C2, F1, F2, S1, T1, T2, W1 or W2.  
h = Meter Size: A, B, C, D, E, M or N.  
i = Float Design: 1, 2 or 3.  
j/k = Pressure Rating: A1, A3, A6, D1, D2, D3, D4, D5 or D6.

*Special Conditions of Use:*

1. *Model Configuration Drawing No. SDM-10-A0275 details Temperature Classification & Ambient Temperature pairings, as influenced by Process Medium Temperatures.*

## Equipment Ratings:

### I. Intrinsically Safe Version (Division 1/Zone 0)

Intrinsically Safe for use in Class I, II & III, Division 1, Groups A, B, C, D, E, F & G, in accordance with manufacturer's Control Drawing No. SDM-10-A0253; Intrinsically Safe AEx ia T4...T1 for use in Class I, Zone 0, Group IIC, in accordance with manufacturer's Control Drawing No. SDM-10-A0253; Dust-Ignitionproof for Class II & III, Division 1, Groups E, F & G Hazardous (Classified) indoor/outdoor (Type 4X & IP65/67) Locations

### II. Explosionproof & Flameproof Version (Division 1/Zone 1)

Explosionproof for use in Class I, Division 1, Groups A, B, C & D; Flameproof AEx d T6...T1 for use in Class I, Zone 1, Group IIC; Dust-Ignitionproof for Class II & III, Division 1, Groups E, F & G Hazardous (Classified) indoor/outdoor (Type 4X & IP65/67) Locations

### III. Nonincendive & Non-Sparking Version (Division 2/Zone 2)

Nonincendive for use in Class I, Division 2, Groups A, B, C & D, and Class I, Zone 2, Group IIC; Suitable for Class II & III, Division 2, Groups F & G; Non-Sparking AEx nA T5...T1 for use in Class I, Zone 2, Group IIC Hazardous (Classified) indoor/outdoor (Type 4X & IP65/67) Locations

## FM Approved for:

ABB Automation Products GmbH  
Dransfelder Strasse 2  
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 3616	DRAFT
Class 3810	2005
ANSI/ISA-12.00.01	2005
ANSI/ISA-12.02.01	2002
ANSI/ISA-12.12.02	2003
ANSI/ISA-12.22.01	2005
ANSI/ISA-82.02.01	2004
ANSI/IEC 60529	2004
ANSI/NEMA 250	2003

Original Project ID: 3033042

Approval Granted: *February 6, 2009*

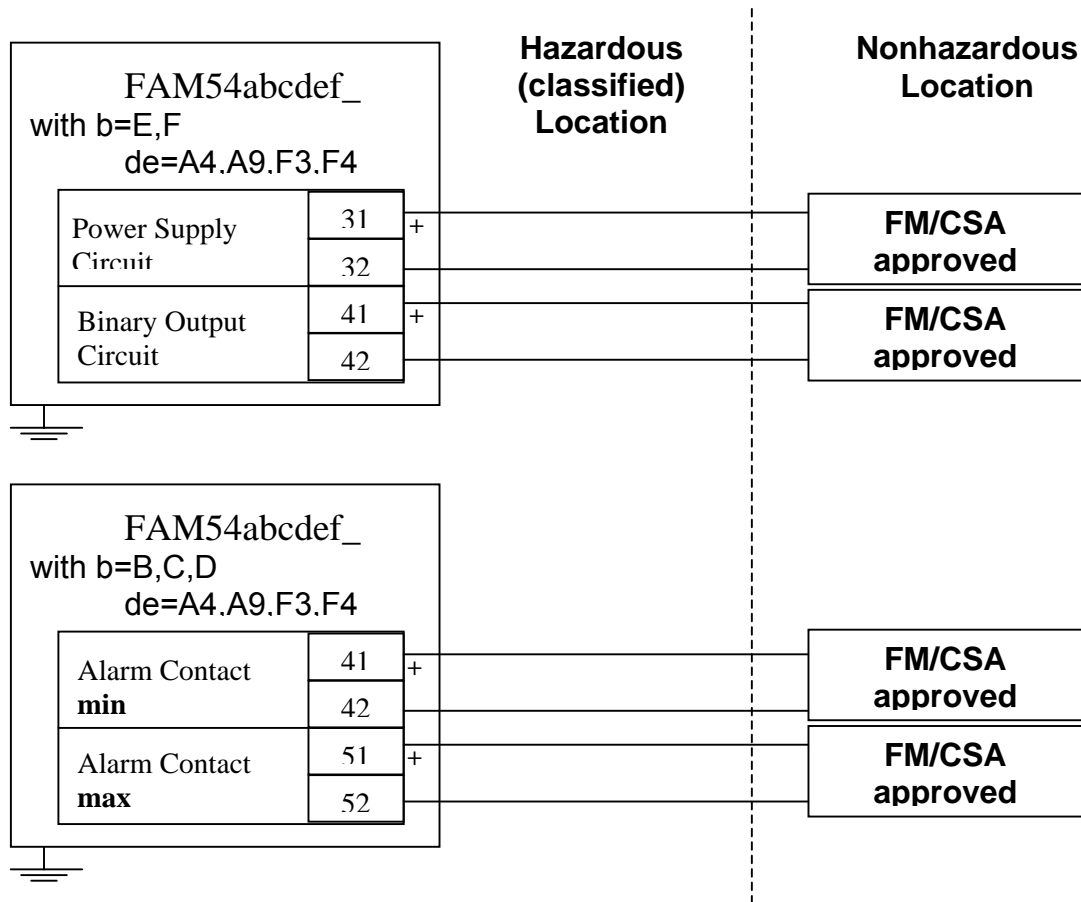
Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC

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

*6 February 2009*  
 \_\_\_\_\_  
 Date



**CAUTION:**  
**SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY:**  
**DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF**  
**OR THE AREA IS KNOWN TO BE NON-HAZARDOUS:**

**Notes:**

1. The Intrinsic Safety Entity concept allows the interconnection of FM and CSA Approved Intrinsically safe devices with entity parameters not specifically examined in combination as a system when:
2. Dust-tight conduit seal must be used when installed in Class II and Class III environments.
3. Control equipment connected to the Associated Apparatus must not use or generate more than 250Vrms of Vdc.
4. Installation should be in accordance with the ANSI/ISA RP12.6 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code® (ANSI/NFPA 70) Section 504, 505 and CEC.
5. The configuration of the associated Apparatus must be Factory Mutual Research or CSA Approved under Entity Concept.
6. Associated Apparatus manufacturer's installation drawing must be followed when installing this equipment.
7. No revision do drawing without prior Factory Mutual Research and CSA Approval

EX CERTIFICATED PRODUCT  
 NO MODIFIKATIONS  
 PERMITTED  
 WITHOUT REFERENCE TO  
 THE CERTIFICATION BODY

**Intrinsic Safety Control Drawing**  
**SDM-10-A0253, Rev. 01**