

# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** FM18US0231X

3. **Equipment:** JDF300 Field Indicator  
(Type Reference and Name)

4. **Name of Listing Company:** ABB SpA

5. **Address of Listing Company:** Via L Vaccani 4  
Tremezzina Ossuccio Como 22016  
Italy

6. The examination and test results are recorded in confidential report number:

PR450563 dated 29<sup>th</sup> May 2019

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3610:2018, FM Class 3611:2018, FM Class 3615:2018,  
FM Class 3616:2011, FM Class 3810:2018, ANSI/ISA 60079-0:2013, ANSI/UL 60079-1:2015,  
ANSI/UL 12.12.01:2015, ANSI/ISA 60079-11:2014, ANSI/ISA 60079-15:2013, ANSI/ISA 60079-31:2015,  
ANSI/UL 61010-1:2012, ANSI/NEMA 250:2014, and ANSI/IEC 60529:2004

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

**Certificate issued by:**

J.E. Marquedant  
VP, Manager - Electrical Systems

29 May 2019

Date

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

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

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# SCHEDULE



US Certificate Of Conformity No: FM18US0231X

## 10. Equipment Ratings:

Intrinsically Safe for Class I, II, III Division 1, Groups A, B, C, D, E, F, and G and Class I, Zone 0, Group IIC hazardous (classified) locations in accordance with drawing 3KXP000074U0109; Nonincendive apparatus for Class I, Division 2, Groups A, B, C and D hazardous (classified) locations; Explosionproof for Class I, Division 1, Groups A, B, C and D, hazardous (classified) locations; Dustignitionproof for Class II, and III, Groups E, F and G hazardous (classified) locations; Flameproof for Class I, Zone 1 Group IIC hazardous (classified) locations; Type of Protection 'nC' for Class I, Zone 2, Group IIC hazardous (classified) locations; and Protection by enclosure for Zone 20 and 21, Group IIC hazardous (classified) locations. Indoor and outdoor locations ratings Type 4X and IP66 / IP67.

## 11. The marking of the equipment shall include:

Intrinsically safe for Class I, II, or III, Division 1, Groups A, B, C, D, E, F or G, T6...T4;  $-50^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$ ; FISCO

Intrinsically safe for Class I, Zone 0, AEx ia IIC T6...T4;  $-50^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$ ; FISCO

Nonincendive for Class I, Division 2, Groups A, B, C or D, T6...T4;  $-50^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$ ; NIFW

Class I, Zone 2 AEx nC IIC T6...T4;  $-50^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$  :NIFW

Explosionproof for Class I, Division 1, Groups A, B, C or D, T4;  $-50^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$

Flameproof for Class I, Zone 1 AEx db IIC T4;  $-50^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$

Dustignitionproof for Class II, III, Division 1 Groups E, F, G, T5;  $-50^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$

Type 4X, IP66/67

## 12. Description of Equipment:

**General** - The Series 2600T model JDF300 Field Indicators are designed for remote indication in a Fieldbus system. The Multivariable Field Indicator Type JDF300 is an accessory device of the 2600T Series Transmitters and communicates with any host interface supporting Foundation Fieldbus protocols.

**Construction** - The JDF300 enclosure is the Type 2 ABB enclosure made of aluminium or stainless steel. The enclosure has an Enclosure rating of Type 4X and an Ingress Protection rating of IP66/67.

**Ratings** - The Model JDT300 Field Indicators are rated for use in an ambient temperature range of  $-50^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  or  $+85^{\circ}\text{C}$  depending on the concept of protection.

### Electrical Ratings (Intrinsic safety)

FF-816  $U_i = 24\text{Vdc}$ ,  $I_i = 250\text{mA}$ ,  $P_i = 1.2\text{W}$ ,  $C_i \leq 5\text{nF}$ ,  $L_i \leq 20\mu\text{H}$

FISCO  $U_i = 17.5\text{Vdc}$ ,  $I_i = 380\text{mA}$ ,  $P_i = 5.32\text{W}$ ,  $C_i \leq 5\text{nF}$ ,  $L_i \leq 10\mu\text{H}$

T-Class: T4 @  $-50^{\circ}\text{C} < T_{amb} < +85^{\circ}\text{C}$  T5 @  $-50^{\circ}\text{C} < T_{amb} < +40^{\circ}\text{C}$  T6 @  $-50^{\circ}\text{C} < T_{amb} < +40^{\circ}\text{C}$   
T85°C @  $-50^{\circ}\text{C} < T_{amb} < +75^{\circ}\text{C}$

### Electrical ratings (Explosionproof, AEx d and DIP)

$U_i = 32\text{Vdc}$   $P_i = 2\text{W}$

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# SCHEDULE



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## **Electrical Ratings (Nonincendive and AEx nC)**

FF-816  $U_i = 32\text{Vdc}$ ,  $I_i = 250\text{mA}$ ,  $P_i = 1.2\text{W}$ ,  $C_i \leq 5\text{nF}$ ,  $L_i \leq 20\mu\text{H}$

FISCO  $U_i = 17.5\text{Vdc}$ ,  $I_i = 380\text{mA}$ ,  $P_i = 5.32\text{W}$ ,  $C_i \leq 5\text{nF}$ ,  $L_i \leq 10\mu\text{H}$

T-Class: T4 @  $-50^\circ\text{C} < T_{\text{amb}} < +85^\circ\text{C}$  T5 @  $-50^\circ\text{C} < T_{\text{amb}} < +40^\circ\text{C}$  T6 @  $-50^\circ\text{C} < T_{\text{amb}} < +40^\circ\text{C}$   
T85°C @  $-50^\circ\text{C} < T_{\text{amb}} < +75^\circ\text{C}$

## **Series 2600T model JDF300a3L1bS2c**

a = Housing; A, B, S or T

b = Approvals: E4, EA, EB, EC or EU

c = Other options; Not relevant for Ex

### **13. Specific Conditions of Use:**

1. The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
2. When the manufacturer of the equipment has not identified the type of protection on the label, the user shall, on installation, mark the label with the type of protection used.
2. The JDF300 enclosure option a = A or B contains aluminium and is considered to present a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.
3. For areas subject to explosive dust atmospheres the painted surface of the JDF300 may store electrostatic charge and become a source of ignition in applications with a low relative humidity  $< \sim 30\%$  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 IEC TS 60079-32-1. Cleaning of the painted surface shall only be done in accordance with the manufacturers instructions.

### **14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

### **15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

### **16. Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
29 <sup>th</sup> May 2019	Original Issue.

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