

# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM18US0054X
3. **Equipment:** \*D0-TI\* Temperature Multi-Input Device for Fieldbus  
**(Type Reference and Name)**
4. **Name of Listing Company:** Pepperl + Fuchs GmbH
5. **Address of Listing Company:** Lilienthalstrasse 200  
D-68307 Mannheim, Germany
6. The examination and test results are recorded in confidential report number:  
  
3025732 dated 19<sup>th</sup> June 2006
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,  
ANSI/UL 60079-0:2013, ANSI/UL 60079-7:2017, ANSI/UL 60079-11:2014, ANSI/ISA 12.12.01:2015,  
ANSI/NEMA 250:1991, ANSI/IEC 60529:2004, ANSI/ISA 61010-1:2012
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.
10. **Equipment Ratings:**  
  
Intrinsically safe, Entity and FISCO, for Class I, Division 1, Groups A, B, C and D, T4 Ta = -40°C to 70°C;  
Intrinsically safe "ia", Entity and FISCO, for Class I, Zone 1, Group IIC, T4 Ta = -40°C to 70°C;  
  
Nonincendive for Class I, Division 2, Groups A, B, C and D, T4 Ta = -40°C to 70°C  
Increased Safety "ec" for Class I, Zone 2, Group IIC, T4 Ta = -40°C to 70°C

## Certificate issued by:

  
J.E. Marquedant

VP, Manager, Electrical Systems

21 September 2018

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



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Associated Intrinsically safe for Class I,II,III, Division 1, Groups A, B, C, D, E, F, G, Ta = -40°C to 70°C, Entity  
Associated Intrinsically safe, "ia", for Zone 0, Group IIC, Ta = -40°C to 70°C, Entity  
Associated Intrinsically safe, "ia", for Zone 20, Group IIIC, Ta = -40°C to 70°C, Entity

Enclosure ratings are as follows:

For option R: None

For option F2: Type 4X and IP 54 indoor and outdoor locations.

11. The marking of the equipment shall include:

IS, Class I, Division 1, Groups A, B, C, D; T4 Ta = -40°C to 70°C, Entity, FISCO  
Class I, Zone 1, AEx ia IIC T4 Ta = -40°C to 70°C Gb, Entity, FISCO

NI, Class I, Division 2, Groups A, B, C, D; T4 Ta = -40°C to 70°C  
Class I, Zone 2 AEx nA T4 Ta = -40°C to 70°C Gc

Associated Apparatus for:

Class I,II,III, Division 1, Groups A, B, C, D, E, F, G, Ta = -40°C to 70°C, Entity

Class I, Zone 0, [AEx ia Ga] IIC, Ta = -40°C to 70°C, Entity

Class II, Zone 20, [AEx ia Da] IIIC, Ta = -40°C to 70°C, Entity

Install per 16-473FM-12A

12. **Description of Equipment:**

**General** - The Temperature Multi Input Device, \*D0-TI\* is used to measure analog signals and for the bi-directional transfer of PROFIBUS or Foundation Fieldbus signals.

The Temperature Multi Input Device, \*D0-TI\* is equipped with 8 analog input circuits where resistance type sensors (e.g. RTDs, potentiometers) or voltage sources (e.g. thermocouples, active voltage sources) can be connected.

The Temperature Multi Input Device can be operated as an intrinsically safe apparatus or as an associated apparatus.

As an intrinsically safe apparatus for the use inside the explosive hazardous area the Temperature Multi Input Device is supplied by a certified intrinsically safe circuit (PROFIBUS PA or Foundation Fieldbus).

When operated as an associated apparatus for use outside the explosion hazardous area, the Temperature Multi Input Device may be supplied by a nonintrinsically safe circuit (PROFIBUS PA or Foundation Fieldbus).

**Construction** - Two versions of the Temperature Multi Input Device are available:

Version 1, type RD0-TI\*, consists only of the electronic part (RD0-TI\*).

Version 1 is required to be installed in any housing suitable for this purpose.

Version 2, type F2D0-TI\*, consists of an enclosure (field housing type F2\*\*\*) and an electronic part (RD0-TI\*).

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## ***aD0-TI-Exb.cdefg Temperature Multi-Input Device for Fieldbus.***

a = Type of housing: F2 or R  
b = Number of analog inputs: 0-8  
c = Type of Fieldbus: FF, PA or blank  
d = Connection of trunk cable: CG, CGB, CGS, C, CGAB  
e = Connection of spur cable: blank or CG, CGB, CGS, CGAB, M12B, M12S, 7/8S  
f = Type of terminal: ST or SC  
g = TAG plate and TAG programming: Blank or customer specific letter/number combination (not affecting design)

### **Intrinsically Safe Equipment:**

Entity and FISCO parameters for use as intrinsically safe apparatus (block BUS, terminals +,-):  
V<sub>Max</sub> , U<sub>i</sub> = 24 V, I<sub>Max</sub> , I<sub>i</sub> = 380 mA, P<sub>i</sub> = 5.32 W, L<sub>i</sub> = 0, C<sub>i</sub> = 0

### **Nonincendive Equipment:**

Nonincendive/energy-limited field wiring parameters for Division 2, Zone 2 (block BUS, terminals +,-):  
V<sub>Max</sub> = 35 V, L<sub>i</sub> = 0, C<sub>i</sub> = 0.

### **Associated Apparatus:**

Entity parameters for use as associated apparatus (blocks CH1 to CH8, terminals +,H,L,-):  
V<sub>oc</sub> , U<sub>o</sub> = 7.2 V, I<sub>sc</sub> , I<sub>o</sub> = 6.5 mA, P<sub>o</sub> = 11.7 mW  
C<sub>a</sub> , C<sub>o</sub> Groups A, B, IIC: 13.5 uF  
C<sub>a</sub> , C<sub>o</sub> , Groups C-G, IIB, IIA: 240 uF  
L<sub>a</sub> , L<sub>o</sub> , Groups A-G, IIC-IIA: 100 mH

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

1. Intrinsically safe analog inputs (terminal blocks CH1 through CH8) are not electrically isolated from each other. Install each analog input as a separate intrinsically safe circuit.
2. Option CG is not permitted for use in Zone 2 AEx nA ec installations.
3. To maintain Type 4X and IP54 ratings, the F2 enclosure option shall be mounted to a solid plate or panel.
4. Equipment configured with enclosure option R and installed in Zone 2 shall be mounted within an enclosure which meets a minimum requirement of IP20 for indoor/dry locations and IP54 outdoor/wet locations and is be capable of accepting one of the Class I, Zone 2 wiring methods specified in the National Electrical Code (NFPA 70).
5. Equipment configured with enclosure option R and installed in Division 2 shall be mounted within an enclosure which is be capable of accepting one of the Class I, Division 2 wiring methods specified in the National Electrical Code (NFPA 70).
6. For Zone 2 installations, the user shall ensure that the field wiring insulation temperature rating is appropriate for the ambient temperature in which the equipment is installed.
7. Options M12B, M12S and 7/8S are not permitted for use in Zone 2 installations not using nonincendive / energy-limited field wiring.

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

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

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## 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:

<b>Date</b>	<b>Description</b>
19 <sup>th</sup> June 2006	Original Issue.
30 <sup>th</sup> July 2018	<u>Supplement 1:</u> Report Reference: – PR448773 dated 30 <sup>th</sup> July 2018. Description of the Change: Update certificate to new format. Update standards to current versions as part of reexamination.
21 <sup>st</sup> September 2018	<u>Supplement 2:</u> Report Reference: – RR215569 dated 21 <sup>st</sup> December 2018. Description of the Change: Make corrections to model number, model code, and Specific Conditions of Use.

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