

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM17US0333X
3. **Equipment:** T32.ab.OIS-c and T32.ab.OIC-c Temperature Transmitter
(Type Reference and Name) Temperature Transmitter
4. **Name of Listing Company:** WIKA Alexander Wiegand SE & Co. KG.
5. **Address of Listing Company:** Alexander-Wiegand-Strasse
Klingberg D-63911
Germany
6. The examination and test results are recorded in confidential report number:
3034620 dated 24th July 2009
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:
FM Class 3600:1998, FM Class 3810:2005, FM Class 3610:2007, FM Class 3611: 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.
10. Equipment Ratings:

Model code options OIS
Intrinsically Safe and Nonincendive apparatus for use in Class I, Divisions 1 and 2, Groups A, B, C and D;
and Class I, Zone 0, AEx ia IIC; Class I Zone 2 Hazardous (Classified) Locations with entity parameters in
accordance with control drawing 11396220

Model code options OIC
Nonincendive apparatus for use in Class I, Divisions 2, Groups A, B, C and D;
and Class I, Zone 2, IIC; Hazardous (Classified) Locations with Non-Incendive Field Wiring parameters in
accordance with control drawing 11396220.

Certificate issued by:

J. E. Marquedant
VP, Manager, Electrical Systems

20 November 2017

Date

To verify the availability of the Approved product, please refer to 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
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

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11. The marking of the equipment shall include:

Class I Division 1, Groups A, B, C, D; T4@ Ta= 85 °C; T5@ Ta= 75 °C; T6@ Ta= 60°C

Class I, Zone 0, AEx ia IIC; T4@ Ta= 85 °C; T5@ Ta= 75 °C; T6@ Ta= 60°C

Class I Division 2, Groups A, B, C, D; T4@ Ta= 85 °C; T5@ Ta= 75 °C; T6@ Ta= 60°C

Class I, Zone 2, IIC; T4@ Ta= 85 °C; T5@ Ta= 75 °C; T6@ Ta= 60°C

12. **Description of Equipment:**

General - The T32.ab.0IS Temperature Transmitters are designed for universal use in the process control industry. The T32.ab.0IS Temperature Transmitters convert a resistance, potentiometer position or voltage into a 4 to 20 mA current (for temperature sensors proportional to temperature). Terminal designations are "+" and "-" which connect to an FM Approved Intrinsically Safe Barrier, and terminals "1 thru 4" that are designated for connection to simple apparatus such as a thermocouple, potentiometer or RTD. The housing for the T32.3.0IS is approximately 114 mm high, 99 mm wide and 18 mm thick DIN rail mountable design while the T32.1.0IS is a circular puck shape approximately 50 mm in diameter and 29 mm high. Both models consist of a main board and a terminal board housed in a plastic enclosure, the main board is fully potted in casting compound.

Construction – The plastic housing for the T32.3.0IS is approximately 114 mm high, 99 mm wide and 18 mm thick DIN rail mountable design while the T32.1.0IS is a circular puck shape approximately 50 mm in diameter and 29 mm high. Both models consist of a main board and a terminal board housed in a plastic enclosure, the main board is fully potted in casting compound.

Ratings - When use in maximum ambient of 60°C, 75°C and 85°C the following T-classes are established for this apparatus. The T-Class is T6@ Ta= 60°C, T5@ Ta= 75°C and T4@ Ta= 85°C.

T32.ab.0IS-c Temperature Transmitters are supplied from FM Approved intrinsic safety barriers or Non-Incendive Field Wiring barriers with the following parameters:

Entity Parameters / NIFW;

Terminals + and -: Vmax 30V, Imax = 130 mA, Pmax = 800mW, Ci = 7.8nF, Li = 100µH

Terminals 1 thru 4: Voc = 6.5V, Isc = 9.3 mA, Pmax = 15.2mW, Ca = 24µF, La = 365mH

T32.ab.0IC-c Temperature Transmitters are supplied from FM Approved Non-Incendive Field Wiring barriers with the following parameters, or a voltage supply of up to 30VDC.

NIFW Parameters;

Terminals + and -: Vmax 30V, Imax = 130 mA, Pmax = 800mW, Ci = 7.8nF, Li = 100µH

Terminals 1 thru 4: Voc = 6.5V, Isc = 9.3 mA, Pmax = 15.2mW, Ca = 325µF, La = 821mH

T32.ab.0IS-c Temperature Transmitter.

a = 1 (head mounting) or 3 (DIN rail mounting)

b = A (Active), S (Smart) or R (Rapid)

c = Z (Normal applications) or S (Safety Applications (Not FM verified))

T32.ab.0IC-c Temperature Transmitter

a = 1 (head mounting) or 3 (DIN rail mounting)

b = A (Active), S (Safe) or R (Rapid)

c = Z (Normal applications) or S (Safety applications (not FM verified))

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13. Specific Conditions of Use:

Applies to T32.ab.0IC-c Temperature Transmitter Only!

- 1) When NIFW are not used the T32.ab.0IC-c Temperature Transmitter shall be installed in a final equipment enclosure using division 2 wiring methods in compliance with the enclosure, mounting and segregation requirements of the ultimate application.

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
24 th July 2009	Original Issue.
15 th April 2010	<u>Supplement 1:</u> Report Reference: – Project ID 3034620 REV100204 dated 4 th February 2010 Description of the Change: Minor drawing changes. Change to model code in listing added the model “c” line options.
20 th November 2017	<u>Supplement 2:</u> Report Reference: – Project ID 3034620 RR211403 dated 20 th November 2017 Description of the Change: Addition to model code in listing T32.ab.0IC-c Temperature Transmitter model option for Div 2 and Zone 2 only . Four (4) drawings revised and (4) new drawings added.
28 th November 2017	<u>Re issued</u> Description of the Change: Correction of typos 365uH to 365mH and 821uF to 325uF

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