

CERTIFICATE OF CONFORMITY



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

2. **Certificate No:** FM18US0182X
3. **Equipment:** TT301abc Intelligent Temperature Transmitter
(Type Reference and Name) Temperature Transmitter

4. **Name of Listing Company:** Nova Smar S/A

5. **Address of Listing Company:** Av Dr Antonio Furlan Jr 1028
Sertaozino SP 14170-480
Brazil

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

3W0A4.AX dated 3rd September 1993

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 3810:2018, ANSI/NEMA 250:1991

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 for Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G, in accordance with drawing 102A-0005; Explosionproof for Class I, Division 1, Groups B, C and D; Dust-ignitionproof for Class II, Division 1, Groups E, F and G; Class III; Nonincendive with Nonincendive Field Wiring for Class I, Division 2, Groups A, B, C and D in accordance with drawing 102A-0005; indoor and outdoor hazardous (classified) locations locations (Type 4X, 6) with an ambient temperature rating of -25°C to +60°C.

Certificate issued by:

J.E. Marquedant
Vice President, Manager, Electrical Systems

25 July 2018

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

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SCHEDULE

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11. The marking of the equipment shall include:

XP Class I Division 1, Groups B, C, D; T4;
DIP Class II, Class III Division 1, Groups E, F, G
I.S. Class I, II, III Division 1, Groups A, B, C, D, E, F, G
Class I, Division 2, Groups A, B, C, D; NIFW
Tamb = +60°C Max; Type 4, 4X, 6

12. **Description of Equipment:**

General - The TT301 Temperature Transmitter is a microprocessor based programmable unit which can be used with temperature sensors such as thermocouples, RTD's, millivolt or ohmic signals from position indicators. A PT100 Reference Junction sensor is encapsulated in the well. The TT301 generates a 4-20 mA output signal proportional to the temperature range on a 2-wire measurement loop.

Construction - The enclosure for the TT301 Temperature Transmitter consists of a two compartment painted aluminum or stainless steel housing with a threaded window cover on one side and a threaded solid cover on the other side. The enclosure is provided with two (2) ½ inch NPT openings.

Ratings - The ambient operating temperature range of the TT301 Intelligent Temperature Transmitter is -25°C to 60°C.

Electrical parameters: 30Vdc

Entity Parameters/Nonincendive Field Wiring Parameters:

Supply terminals: Vmax = 30 V dc, Imax = 110 mA, Pi = 825mW, Ci = 0.005 µF, Li = 0.

Sensor terminals: Voc = 6.51V, Isc 42mA, Pi = 68mW, Ca= 21µF, La =19mH

Model TT301abc Intelligent Temperature Transmitter.

Entity Parameters:

a = Display 0 or 1.

b = Mounting bracket 0 or 1.

c = Adjustment 0 or 1.

13. **Specific Condition of Use:**

1. The enclosure contains aluminum and is considered to present a potential risk of ignition by impact or friction. Care must be taken during installation and use to prevent impact or friction.

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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
3 rd September 1993	Original Issue.
22 nd June 2004	<u>Supplement 1:</u> Report Reference: – 3020638 Description of the Change: Re-Examination to the 1999 editin of FM3611 as Nonincendive for use in Class I Division 2 . GroupsA . B. C and D Hazardous (Classified) Locations
25 th July 2018	<u>Supplement 2:</u> Report Reference: - 3054320 dated 25 th July 2018 –Description of the Change: Re-Examination to the 2010 editin of FM3610 as Intrinsically Safe apparatus. Update editions of FM 3600 to 2018, FM 3611 to 2018, FM3615 to 2018 and FM 3810 to 2018.

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