CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM17US0161X**
3. **Equipment:** **Model THZ³ Temperature Transmitter**
   (Type Reference and Name) **Model STZ Temperature Transmitter**
4. **Name of Listing Company:** **Moore Industries-International, Inc.**
5. **Address of Listing Company:** **16650 Schoenborn Street**
   North Hills, CA 91343
   USA
6. The examination and test results are recorded in confidential report number:

   3058468 dated 6th September 2017
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM Class 3600:2011, FM Class 3610:2015, FM Class 3611:2016, FM Class 3810:2005, ANSI/ISA 60079-0:2013, ANSI/UL 60079-11:2014, ANSI/ISA 60079-15:2012, ANSI/ISA 61010-1:2004
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:

    Associated Apparatus providing Intrinsically Safe (Entity) connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Tamb = -40˚C to +85˚C; in accordance with Control Drawing No. 100-100-86 or 100-100-87.

    Nonincendive for us in Class I, Div 2, Groups A, B, C and D providing Intrinsically Safe (Entity) connections to

Certificate issued by:

J.E. Marquedant
VP, Manager, Electrical Systems

6 September 2017
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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

SCHEDULE

US Certificate Of Conformity No: FM17US0161X

Class I, II, III, Division 1 , Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -40˚C to +85˚C; in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Associated Apparatus providing Intrinsically Safe (Entity) Connections to Class I, Zone 0 Group IIC; Tamb = -40˚C to +85˚C; in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Non-Sparking apparatus for us in Class I, Zone 2 providing Intrinsically Safe (Entity) connections to Class I, Zone 0 Group IIC; Temperature Class T4 Tamb = -40˚C to +85˚C in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Hazardous (Classified) Locations/Explosive Atmospheres..

11. The marking of the equipment shall include:

[AEx ia] IIC

Associated Apparatus providing I.S. connections to Class I, II, III, Division 1, Groups A-G

Class I, Zone 2, AEx nA [ia Ga] IIC T4 Gc

Class I, Div 2, Groups A-D, providing I.S. connections to Class I, II, III, Division 1, Groups A-G

Install per control drawing Control Drawing No. 100-100-86 or 100-100-87

12. **Description of Equipment:**

General - The Moore Industries Models THZ³ and Model STZ Temperature Transmitters accept one or two sensor inputs for measuring process temperatures. Simple apparatus sensors are meant to be connected to the temperature transmitters. A 4-20mA signal provides the information back to the control equipment.

The Temperature Transmitters are for installation in the non-hazardous location, Division 2 location or Zone 2 location with Intrinsically Safe connections of simple apparatus sensors to the Zone 0 or Division 1 location.

The electronics of the Models THZ³ and Model STZ Temperature Transmitters are installed in an aluminum DIN mount housing. The housing is approximately 5.3” in length by 3.84” in height by 1.11” wide. The front side of the housing contains an exposed pluggable connector for the power wires and also an exposed fixed connector for sensor wire connections. The DIN mount housing is required to be installed in a final enclosure to complete the installation.

The Model STZ Temperature Transmitter has the same electronics as the THZ³ Temperature Transmitter and is offered with the same housing options. The STZ Temperature Transmitter is a “Safety Transmitter with HART” and includes a third party assessment to the IEC 61508 standard. This assessment was not included under the FM Approvals scope of work and the product was not assessed by FM to this standard. Software related to SIL levels and FMEDA differentiate the Model STZ transmitter from the Model THZ³ transmitter.

Ratings - The nominal power input of the Models THZ³ and Model STZ Temperature Transmitters is 12-42Vdc, 4-20mA. The ambient operating temperature range of the Model THZ³ and Model STZ Temperature Transmitters is -

40°C to +85°C.

The following Intrinsically Safe (Sensor) entity parameters are
Uo = 7.94V, Io = 71.43mA, Po = 141.8mW
Group IIC, Co = 8.32µF, Lo = 6.96mH
Group IIB, Co = 99.92µF, Lo = 27.87mH
Group IIA, Co = 999.92µF, Lo = 55.74mH

THZ³/a/b/c/-AIS d [e]. Dual Sensor Smart Hart Temperature Transmitter.
a= Input: PRG, J-, K-, E-, T-, R-, S-, N-, B-, C-, MV, R1-, R2-, R3-, R4-, R5-, R6-, R7-, R8-, R9-, R10-, R11-, R12-, R13-, R14-, R0-, or POT-.
b= Output: 4-20mA.
c =Power: 12-42Vdc.
d = Options: -RF, -VTD, or -VTB.
e = DIN or FLB.

STZ/a/b/c/-AIS d [e]. Dual Sensor Smart Hart Temperature Transmitter.
a= Input: PRG, J-, K-, E-, T-, R-, S-, N-, B-, C-, MV, R1-, R2-, R3-, R4-, R5-, R6-, R7-, R8-, R9-, R10-, R11-, R12-, R13-, R14-, R0-, or POT-.
b= Output: 4-20mA.
c =Power: 12-42Vdc.
d = Options: -EMP, -VTD, or -VTB.
e = DIN or FLB.

13. **Specific Conditions of Use:**

1. When installed in the unclassified location, the Models THZ³ and STZ Temperature Transmitters shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and is capable of accepting the applicable wiring methods per the National Electrical Code®. The enclosure shall, at a minimum, meet the requirements of IP20.
2. When installed in Zone 2, the Models THZ³ and STZ Temperature Transmitters shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA-60079-0, ANSI/ISA-60079-15 and ANSI/ISA 61010-1 and is capable of accepting the applicable wiring methods wiring methods per the National Electrical Code®. The enclosure shall, at a minimum, meet the requirements of IP54.
3. When installed in Division 2, the Models THZ³ and STZ Temperature Transmitters shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and is capable of accepting the applicable wiring methods wiring methods per the National Electrical Code®.
4. Programming of the the Models THZ³ and STZ Temperature Transmitters through the communication port shall only be done in the unclassified location using the Moore Industries USB cable, Part Number 804-030-26.
5. The non-metallic parts incorporated in the Models THZ³ and STZ Temperature Transmitter's DIN mount housing may generate an ignition-capable level of electrostatic charge. When installed in a Zone 2 location, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.
6. Using the box provided on the nameplate, the user shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.

7. When installed in Zone 2, the Models THZ³ and STZ Temperature Transmitters shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals does not exceed 119Vac peak or 119Vdc.

SCHEDULE

US Certificate Of Conformity No: FM17US0161X

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
6th September 2017	Original Issue.

CERTIFICATE OF CONFORMITY

1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** **FM17CA0086X**
3. **Equipment:** **Model THZ³ Temperature Transmitter**
   (Type Reference and Name) **Model STZ Temperature Transmitter**
4. **Name of Listing Company:** **Moore Industries-International, Inc.**
5. **Address of Listing Company:** **16650 Schoenborn Street**
   North Hills, CA 91343
   USA
6. The examination and test results are recorded in confidential report number:

   3058468 dated 6th September 2017
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   CAN/CSA C22.2 No. 60079-0:2015, CAN/CSAC22.2 No. 60079-11:2014,
   CAN/CSAC22.2 No. 60079-15:2016, CSA C22.2 No. 213:2016, C22.2 No. 1010.1:2004
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:

    Associated Apparatus providing Intrinsically Safe (Entity) connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Tamb = -40˚C to +85˚C; in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Certificate issued by:

J.E. Marquedant
VP, Manager, Electrical Systems

6 September 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

Nonincendive for us in Class I, Div 2, Groups A, B, C and D providing Intrinsically Safe (Entity) connections to Class I, II, III, Division 1 , Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -40˚C to +85˚C; in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Associated Apparatus providing Intrinsically Safe (Entity) Connections to Class I, Zone 0 Group IIC; Tamb = -40˚C to +85˚C; in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Non-Sparking apparatus for us in Class I, Zone 2 providing Intrinsically Safe (Entity) connections to Class I, Zone 0 Group IIC; Temperature Class T4 Tamb = -40˚C to +85˚C in accordance with Control Drawing No. 100-100-86 or 100-100-87.

Hazardous Locations/Explosive Atmospheres.

11. The marking of the equipment shall include:

[Ex ia] IIC

Associated Apparatus providing I.S. connections to Class I, II, III, Division 1, Groups A-G

Ex nA [ia Ga] IIC T4 Gc

Class I, Div 2, Groups A-D, providing I.S. connections to Class I, II, III, Division 1, Groups A-G

Install per control drawing Control Drawing No. 100-100-86 or 100-100-87

12. **Description of Equipment:**

General - The Moore Industries Models THZ³ and Model STZ Temperature Transmitters accept one or two sensor inputs for measuring process temperatures. Simple apparatus sensors are meant to be connected to the temperature transmitters. A 4-20mA signal provides the information back to the control equipment.

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SCHEDULE

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STZ/a/b/c/-AIS d [e]. Dual Sensor Smart Hart Temperature Transmitter.
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SCHEDULE

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