IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx FMG 07.0002X

Issue No: 4

Status: **Current**

Date of Issue: **2018-09-25**

Certificate history:
Issue No. 4 (2018-09-25)
Issue No. 3 (2012-12-27)
Issue No. 2 (2010-03-19)
Issue No. 1 (2007-10-25)
Issue No. 0 (2007-06-29)

Applicant: **Moore Industries-International, Inc.**
16650 Schoenborn Street
North Hills, CA 91343
United States of America

Equipment: **Model TDZ2 and THZ2 Temperature Transmitters**

Optional accessory:

Type of Protection: **Intrinsic Safety "i" & Type "n" Electrical Apparatus**

Marking:

Model TDZ2 Temperature Transmitter.
Ex ia IIC T4 Ta = -40˚C to 85˚C
Ex nA IIC T4 Ta = -40˚C to 85˚C
Model THZ2 Temperature Transmitter.
Ex ia IIC T5 Ta = -40˚C to 85˚C; T6 Ta = -40˚C to 60˚C
Ex nA IIC T5 Ta = -40˚C to 85˚C; T6 Ta = -40˚C to 60˚C

Approved for issue on behalf of the IECEx Certification Body: J.E.Marquedant

Position: VP, Manager - Electrical Systems

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

FM Approvals LLC
1151 Boston-Providence Turnpike
Norwood, MA 02062
United States of America

FM Approvals
Member of the FM Global Group

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Manufacturer: **Moore Industries-International, Inc.**
16650 Schoenborn Street
North Hills, CA 91343
United States of America

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition:4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition:5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2005-03 Edition:3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

US/FMG/ExTR07.0002/00

Quality Assessment Report:

GB/FME/QAR18.0009/00

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Model TDZ2/a/4-20mA/b/-c [d]. Temperature Transmitter. Energy Limitation Parameters: Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.83nF, Li =0mH. Field Sensor Energy Limitation Parameters: Uo = 6.51V, Io = 35.39mA, Po = 57.6mW, Co = 20µF, Lo = 25mH (Group IIC). Uo = 6.51V, Io = 35.39mA, Po = 57.6mW, Co = 498µF, Lo = 100mH (Group IIB). Uo = 6.51V, Io = 35.39mA, Po = 57.6mW, Co = 1,000µF, Lo = 200mH (Group IIA). a= Input: TPRG, HLRPG, 2TPRG, C, B, E, J, K, N, R, S, T, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO or POT. b= Power: 12-42DC or 13-30DC. (12-42DC not for Intrinsically Safe Installations) c= Options: TROP, HS, VTB, VTD, FMEDA. d= Housing options: FL, FLD, HP, HPDY, TW or VDN. **Model THZ2/a/4-20mA/b/-c [d]. Temperature Transmitter.** Energy Limitation Parameters: Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.83nF, Li =0mH. Field Sensor Energy Limitation Parameters: Uo = 6.51V, Io = 35.39mA, Po = 57.6mW, Co = 20µF, Lo = 25mH (Group IIC). Uo = 6.51V, Io = 35.39mA, Po = 57.6mW, Co = 498µF, Lo = 100mH (Group IIB). Uo = 6.51V, Io = 35.39mA, Po = 57.6mW, Co = 1,000µF, Lo = 200mH (Group IIA). a= Input: TPRG, HLRPG, 2TPRG, C, B, E, J, K, N, R, S, T, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO or POT. b= Power: 12-42DC or 13-30DC. (12-42DC not for Intrinsically Safe Installations) c= Options: VTB, VTD, FMEDA. d= Housing options: HPP, HPPD, HPPDN or CH6.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Specific Conditions of Certification: 1. The temperature transmitters shall be installed in an enclosure which maintains an ingress protection rating of IP20 for type “ia” protection. 2. The temperature transmitters shall be installed in a final enclosure rated for a minimum of IP54 for type “n” protection. 3. The temperature transmitters shall contain external transient protection not to exceed 46.2V including tolerance for type “n” protection. 4. For Zone 0 installations, the final enclosure shall not contain more than 10% in total of aluminum, magnesium, titanium and zirconium, or 7.5% in total of magnesium, titanium and zirconium; For Zone 1 installations, the final enclosure shall not contain 7.5% in total of magnesium. 5. Using the box provided on the nameplate, the user shall permanently mark the protection type chosen for the specific installation. Once the type of protection has been marked it shall not be changed.

6. The COM port shall not be used in the hazardous area.

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EQUIPMENT (continued):

The Model TDZ^2 and THZ^2 are 2-wire, loop powered, user-configurable HART® based temperature transmitters. The transmitters use either RTD, T/C, Ohms, mV or potentiometer input sensors. The transmitters can be configured in the unclassified location using either a PC's RS-232 serial port or by a HART communicator.

The Model TDZ^2 and THZ^2 Temperature Transmitters are powered with a nominal 12V to 42V and 4-20mA. The transmitters operate in a maximum ambient of 85˚C.

The Model THZ^2 Temperature Transmitter's circuitry is contained on three printed circuit boards which are fully encapsulated in RTV627 by manufactured by GE Silicones. The electronics and encapsulation are enclosed by a polymeric hockey puck style enclosure approximately 2" in diameter. The top of the housing contains exposed terminal for configuration programming, power terminals and the sensor terminals. The back of the enclosure contains a metallic plate for mounting. The housing is intended to be installed in a final assembly enclosure.

The Model TDZ^2 Temperature Transmitter's circuitry is contained on three printed circuit boards and a display. The electronics are enclosed by a oval style housing approximately 3" by 2.45". The housing is metallic expect for the top display portion which is polymeric. The top of the housing also contains exposed terminals for configuration programming, power, and the sensors. The housing is intended to be installed in a final assembly enclosure.

The manufacturer has made available all necessary component information, system specification and test procedures, which have been examined. Installation and operation manuals are available, which thoroughly describe each major assembly, initial installation, testing and trouble shooting techniques.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Update Certificate with the latest QAR number