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 10.0012X

Issue No: 3

Certificate history:
Issue No. 3 (2018-09-25)
Issue No. 2 (2015-04-06)
Issue No. 1 (2012-12-27)
Issue No. 0 (2010-07-27)

Status: **Current**

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

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

Equipment: **Model TCM Temperature Concentrator Module**
Optional accessory:

Type of Protection: **Intrinsically Safe and Type 'n' electrical apparatus**

Marking:
Ex ia IIC T4 Ga
Ex nA [nL] IIC T4 Gc
Ta = -40˚C to 85˚C
Install Per control Drawing 100-100-74

Approved for issue on behalf of the IECEx Certification Body: James 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
IEC 60079-26 : 2006 Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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/ExTR10.0014/00 US/FMG/ExTR10.0014/01

Quality Assessment Report:

GB/FME/QAR18.0009/00

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

TCM/a/HART/15-30Vdc/b/DIN. Temperature Concentrator Module.

Ex ia IIC Ga T4 Ta = -40˚C to 85˚C Energy Limitation Parameters: Ui = 30V, Ii = 110mA, Pi =825mW, Ci= 0, Li = 0. Energy Limitation Parameters: Field Sensor Terminals: Uo = 4V, Isc = 254.14mA, Po = 717.38mW, Co = 396µF, La = 9.4µH. a= Input: TPRG, J-, K-, E-, T-, R-, S-, N-, B-, C-, MV, R1-, R2-, R3-, R4-, R5-, R6-, R7-, R8-, R9-, R10-, R11-, R12-, R13-, R14-, RO, POT. b= Options: -TROP or-VTD.

TCM/a/HART/15-42Vdc/b/DIN. Temperature Concentrator Module. *Ex nA [nL] IIC T4 Ta = -40˚C to 85˚C Field Sensor Terminals: Uo = 4V, Isc = 254.14mA, Po = 717.38mW, Co = 396µF, La = 9.4µH. a= Input: TPRG, J-, K-, E-, T-, R-, S-, N-, B-, C-, MV, R1-, R2-, R3-, R4-, R5-, R6-, R7-, R8-, R9-, R10-, R11-, R12-, R13-, R14-, RO, POT. b= Options: -TROP or-VTD.*

SPECIFIC CONDITIONS OF USE: YES as shown below:

Ex ia IIC Conditions of Certification: 1. The Model TCM Temperature Concentrator Module shall be installed in an enclosure which maintains an ingress protection rating of IP20. 2. For Zone 0 and Division 1 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. 3. If the final enclosure is non-metallic, under certain extreme circumstances, the non- metallic parts incorporated in the final enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore particularly when it is used for applications that specifically require Group II, Zone 0 and Division 1 located equipment, that 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. 4. 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. 5. The COM port shall not be used in the explosive area. Ex nA [nL] IIC Conditions of Certification 1. If the Model TCM Temperature Concentrator Module is installed as Category 3 equipment, it shall be installed in an enclosure which maintains an ingress protection rating of IP54 and meets the enclosure requirements of EN60079-0 and EN60079-15. 2. If the final enclosure is non-metallic, under certain extreme circumstances, the non-metallic parts incorporated in the final enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore particularly when it is used for applications that specifically require II, Zone 0 located equipment, that 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. 3. The Model TCM Temperature Concentrator Module shall contain external transient protection to prevent the supply voltage from exceeding 46.2V including tolerance. 4. 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. 5. The COM port shall not be used in the hazardous area.

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

Update Certificate with the latest QAR number