



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.: issue No.:

Status:

Date of Issue: **2009-11-10** Page 1 of 5

Applicant: **Moore Industries International Inc**
16650 Schoenborn Street
Sepulveda
California 91343-6196
United States of America

Electrical Apparatus: **Trunkguard TG200 Series Device Coupler**
Optional accessory:


Type of Protection: **Type 'n'**

Marking: **Ex nA[nL] IIC T5**
Ta = -40°C to +70°C

Approved for issue on behalf of the IECEx Certification Body: **C Ellaby**

Position: **Certification Officer**

Signature:
(for printed version)



2009-11-10

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](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



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Manufacturer: **Moore Industries International Inc**
16650 Schoenborn Street
Sepulveda
California 91343-6196
United States of America

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 electrical 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 60079-15 : 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:

[GB/SIR/ExTR09.0164/00](#)

Quality Assessment Report:

[US/FMG/QAR07.0001/01](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The TG200 Series Device Coupler is designed to facilitate the connection of multiple process measurement and control devices using Fieldbus technology into Fieldbus segments. The unit is rated 9 V to 32 V DC and has the designation TG2XX-DIN where XX may be two digits that indicate there may be up to 32 spurs.

The TG200 unit comprises a printed circuit board populated with components and terminal blocks, this is then fitted in a plastic case with end brackets and a top cover. The unit is filled with encapsulant such that the terminal blocks and light emitting diodes (LEDs) protrude through the encapsulant. The LEDs are visible through windows in the top cover label. The end brackets may have integral mouldings for mounting on DIN rail or flat brackets for surface mounting. The unit is provided with shrouds (covers) and fillers for the Trunk In and Trunk Out terminal blocks such that accidental contact with non-energy limited live parts is prevented, achieving a minimum of IP30 protection. The spur terminal blocks provide connections to the energy limited circuits, these may be removed in the hazardous area while the unit is energised. Installation of the covers and fillers on the Trunk In and Trunk Out terminals permits the external enclosure to be opened in the hazardous area whilst the TG200 unit is energised.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The Trunkguard TG200 Series Device Couplers shall be installed in an enclosure which maintains an ingress protection rating of at least IP54 and meets the enclosure requirements of IEC 60079-0 and IEC 60079-15.
2. A minimum clearance of 1 mm between live parts and earthed metal shall be maintained.
3. If other electrical circuits are fitted into the enclosure, then they shall be suitably approved for the hazardous area of installation and all live parts shall be protected to a minimum of IP30 when the enclosure is opened.
4. The label supplied with the Trunkguard TG200 Series Device Couplers shall be affixed to the exterior of the enclosure.
5. If external maintenance devices are connected to the test points, they shall be suitably certified for use in the hazardous area; in addition, the output parameters of these devices shall not exceed those of the spur circuit, i.e. $U_o = 32 \text{ V}$ and $I_o = 50 \text{ mA}$. The covers for the test points shall only be removed for the minimum time necessary for the maintenance operations and shall be replaced after use



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EQUIPMENT(continued):

Each TG200 unit has a segment input (Trunk In), and provides multiple device connection points (Spurs) together with onward segment transmission (Trunk Out). The TG200 unit is to be installed inside an external enclosure that is suitably certified for Zone 2 use, this may be selected by the installer subject to a Condition of Certification.

Electrical Parameters

| Trunk | Spurs |
|---|--|
| Trunk in = Trunk out $U_i \leq 32 \text{ V}$ $I_i \leq 1.5 \text{ A}$ | $U_o = U_i$ (This refers to the input voltage into the Trunk) $I_o = 50 \text{ mA}$ $C_i = 0$ $L_i = 0$ |

External circuits should be limited to the following:

| Group | Maximum External Capacitance, C_o | Maximum External Inductance, L_o |
|-------|-------------------------------------|------------------------------------|
| IIC | 180 nF | 30 mH |
| IIB | 1230 nF | 120 mH |
| IIA | 4600 nF | 240 mH |

Wiring access to the Trunk In and Trunk Out connections in the hazardous area is only permitted when the TG200 unit is de-energised.



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Additional information:

Conditions of Manufacture

The Manufacturer shall comply with the following condition of manufacture:

1. The manufacturer shall take all reasonable steps to ensure that the user/installer complies with the Conditions of Certification.
2. The following routine test is to be performed on each product manufactured:
An electric strength test of 500 V ac, shall be applied between circuit and the casing covered in metal foil for at least 1 minute as required by IEC 60079-15:2005 clause 6.8.1. No breakdown shall occur.
Alternatively the test shall be carried out at 600V rms for 100ms.
3. If the manufacturer supplies the Trunkguard TG200 Series Device Couplers already fitted in a terminal enclosure, then this enclosure shall maintain an ingress protection rating of at least IP54 and meet the enclosure requirements of IEC 60079-0 and IEC 60079-15.
4. The manufacturer shall supply the user/installer with a suitable label.