

# 1 TYPE EXAMINATION CERTIFICATE



## 2 Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 94/9/EC

3 Type Examination Certificate No: **FM08ATEX0050X**  
4 Equipment or protective system: **TS20W and TS206 TRUNKSAFE Device Couplers**  
(Type Reference and Name)  
5 Name of Applicant: **Moore Industries-International, Inc.**  
6 Address of Applicant: **16650 Schoenborn Street**  
**North Hills, CA 91343**  
**USA**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in confidential report number 3032513EC dated 3 August 2009.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents: EN 60079-0:2006 and EN 60079-15:2005

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 3 G Ex nA nC [nL] IIC T4 Ta = -40°C to +70°C

**Andrew Was**  
**Certification Manager, FM Approvals Ltd.**



Issue date: 3<sup>rd</sup> August 2009

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# SCHEDULE



to Type Examination Certificate No. **FM08ATEX0050X**

## 13 **Description of Equipment or Protective System:**

The Models TS20W and TS206 are device couplers which maintain continuous communications between field devices and a distributed control system (DCS) in the event of any single point failure such as a short or open. The Model TS20W device couplers contain 12 spur outputs and the Model TS206 device coupler contains 6 spur outputs. The device couplers contain either Foundation Fieldbus™ or Profibus communication. The Model TS20W and TS206 device couplers are required to be powered by the Moore Industries Model TPS202 Fieldbus Power Supply. The Moore Industries Model TPS202 Fieldbus Power Supply is not approved or certified.

The Models TS20W and TS206 Device Couplers have two inputs which are supplied power by the Moore Industries Model TPS202 Fieldbus Power Supply. The device couplers have redundant power supplies so that if one supply fails the device coupler will continue to work via the second supply.

The Model TS Series TrunkSafe circuitry is contained on one printed circuit board. The electronics are fully potted in part number PC 5976 G Base/PC 5686 Activator manufactured by Greenfield Polymers Limited. Potting is needed for the reduction of surface temperature.

The Model TS Series TrunkSafe electronics are located in a painted aluminium Alloy DIN style rectangular enclosure. The enclosure is approximately 8" x 3" x 1" for the 12 spur option and 4" x 2" x 1" for the 6 spur option. The top of the housing contains 2 trunk in power connectors and either 6 or 12 connectors for the spur outputs.

The Energy Limitation Parameters of the Model TS Series TrunkSafe are as follows:  
 $U_o = 24V$ ,  $I_o = 50mA$ ,  $P_o = 1.2W$ ,  $C_o = 150nF$ ,  $L_o = 6mH$ .

## 14 **Special Conditions for Safe Use:**

1. *When the apparatus 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. *The outputs of the Model TS206 and Model TS20W Device Couplers are non-linear.*
3. *The Model TS206 and Model TS20W Device Couplers shall be powered by the Moore Industries Model TP202 Power Supply.*

## 15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

## 16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

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## 17 Approved Drawings

Drawing No:	Revision	Title / Description
100-100-76	A	Field Installation Diagram TS200 Device Coupler
163-201-170	B	Extrusion, Device Coupler, Hawke
200-251-2325	A	Label TS200, Model/Serial
200-251-2326	A	Label TS200, Certification
208-213-00	C	Enclosure Assy, Power Module TPS202, Trunksafe
208-216-00	B	Case Assembly, TS200 Series
208-216-01	A	Rear Panel, Device Coupler, Trunksafe
208-216-02	B	Rear Panel, Device Coupler, Trunksafe TS206-DIN Hawke
208-216-03	B	Side Panel, Right, Device Coupler, TS206-DIN Hawke
259-406-00	C	PC1 Power Module, Trunksafe
259-420-00	C	Schematic, PC1 Device Coupler 6-Spur Trunk Safe
259-432-00	C	Schematic, PC1 Device Coupler 12-Spur Device Coupler
259-520-00	B	PC Assembly, PC1, Device Coupler, TS206
259-532-00	C	PC1, TS20W Device Coupler
259-820-00	B	TS206 Device Coupler, PC1 List of Materials
259-832-00	C	TS20W Device Coupler, PC1 List of Materials
509-538-01	B	PC Fabrication PC1 Device Coupler TS206
509-538-02	B	PC1 6 Spur Device Coupler Artwork
509-560-01	B	PC1 TS20W Device Coupler
509-560-02	B	PC1 TS20W 12 Spur Device Coupler Artwork
920156	A	TS Series TRUNKSAFE™ Fault-Tolerant Fieldbus System Data Sheet
920222	B	TS Series TRUNKSAFE™ Fault-Tolerant Fieldbus System Manual
TS206-DIN	A	TS206-DIN Device Coupler, Mech Assembly List of Materials
TS20W-DIN	A	TS20W-DIN Device Coupler, Mech Assembly List of Materials

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