



1 EU-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No:** FM13ATEX0012X

4 **Equipment or protective system:
(Type Reference and Name)** Model SDY Signal Isolator and Model TDY Temperature
Transmitter

5 **Name of Applicant:** Moore Industries-International, Inc.

6 **Address of Applicant:** 16650 Schoenborn Street
North Hills, CA, 91343
United States of America

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 Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26th February 2014, 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:

3045718 dated 05th July 2013

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 60079-0:2012+A11:2013 and EN 60079-11:2012

10 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.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. 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 1 G Ex ia IIC T4 Ga Tamb = -40 to +85°C

Damien McArdle

Damien Mc Ardle
Certification Manager, FM Approvals Europe Ltd

Issue date: 22nd December 2020

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SCHEDULE

to EU-Type Examination Certificate No. FM13ATEX0012X

13 Description of Equipment or Protective System:

The Model TDY is a two wire loop temperature transmitter. The sensor terminals receive input from simple apparatus such as a thermocouple, RTD, direct resistance, potentiometer etc. The electronics convert the sensor signal input to a 4-20mA current signal which is transferred to control room equipment.

The Model SDY is a two wire loop transmitter signal isolator/converter. The sensor terminals receive input from a certified millivolt or current source. The electronics convert the millivolt or current sensor input to a 4-20mA current signal which is transferred to control room equipment.

The electronics of the Model TDY Temperature Transmitter and the Model SDY Signal Isolator are almost identical. The electronics are located on two circuit boards consisting of a main board and a display board.

Both the Model TDY Temperature Transmitter and the Model SDY Signal Isolator have a communication port for programming by the end user. The programming port is not for use in hazardous locations. The programming port is required to be used in accordance with control drawing 100-100-54.

The electronics for the Model TDY Temperature Transmitter and SDY Signal isolator are located inside of an oval aluminum enclosure approximately 3" in diameter with an approximate height of 1.75". The enclosure has exposed power and sensor terminals as well as a window display. The enclosure is required to be mounted inside of a final housing.

Operation Temperature Ranges:

The ambient operating temperature range of the transmitter is -40°C to 85°C.

Electrical data:

In type of protection intrinsic safety, connection can only be made to a certified intrinsically safe circuit:

$U_i = 30Vdc$; $I_i = 110mA$; $P_i = 825mW$; $C_i = 10.34nF$; $L_i = 0mH$

Listing Options:

Model SDY/a/4-20mA/10-30VDC/-b [c]. Signal Isolator.

Entity Parameters:

$U_i = 30V$, $I_i = 110mA$, $P_i = 825mW$, $C_i = 10.34nF$, $L_i = 0mH$.

Sensor Terminals:

U_o	I_o	P_o	C_o	L_o	Group
6.51V	61.1mA	100mW	21.9 μ F	9.52mH	IIC
			499.9 μ F	38.09mH	IIB
			999.9 μ F	76.19mH	IIA
U_i	I_i	P_i	C_i	L_i	Group
1V	50mA	50mW	66nF	0mH	IIC

a = Input: PRG or 0-50mA.

b = Options: -ISF, ISC, ISE, TROP and/or VTD.

c = Housings and options: DN, FL, FLD, HP, TW and/or VDN.

SDY/a/4-20mA/10-30Vdc/-b [c]. Signal Isolator.

Entity Parameters:

$U_i = 30V$, $I_i = 110mA$, $P_i = 825mW$, $C_i = 10.34nF$, $L_i = 0mH$.

Sensor Terminals:

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to EU-Type Examination Certificate No. FM13ATEX0012X

Uo	Io	Po	Co	Lo	Group
6.51V	61.1mA	100mW	21.9µF	9.52mH	IIC
			499.9µF	38.09mH	IIB
			999.9µF	76.19mH	IIA
Ui	Ii	Pi	Ci	Li	Group
7.9V	8µA	64µW	66nF	0mH	IIC

a = Input: PRG or 0-7.9VDC.

b = Options: -ISF, ISC, ISE, TROP and/or VTD.

c = Housings and options: DN, FL, FLD, HP, TW and/or VDN.

TDY/PRG/4-20mA/10-30VDC/-a [b]. Temperature Transmitter.

Entity Parameters:

Ui= 30V, Ii = 110mA, Pi = 825mW, Ci = 10.34nF, Li = 0mH.

Sensor Terminals:

Uo	Io	Po	Co	Lo	Group
6.51V	61.1mA	100mW	21.9µF	9.52mH	IIC
			499.9µF	38.09mH	IIB
			999.9µF	76.19mH	IIA

a = Options: -ISF, ISC, ISE, TROP and/or VTD.

b = Housings and options: DN, FL, FLD, HP, TW, VDN.

14 Specific Conditions of Use:

1. The Model SDY Signal Isolator and Model TDY Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20.

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 EU-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 Europe 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 Europe Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 Certificate History

Details of the supplements to this certificate are described below:

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SCHEDULE



Member of the FM Global Group

to EU-Type Examination Certificate No. FM13ATEX0012X

Date	Description
10 th July 2013	Original Issue.
30 th June 2017	Supplement 1: Report Reference: – RR210001 dated 22 nd June 2017. Description of the Change: Minor documentation updates and update certificate to EU format.
22 nd December 2020	Supplement 2: Report Reference: – RR225761 dated 22 nd December 2020. Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809. Marking and instruction updates including update of identification number of Notified Body performing quality assessment to 2809. Removed EN 60079-26:2007 from the list of applied standards as it was determined to not be applicable.



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