

# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM16US0085X
3. **Equipment:** Model MTL4500Y Series Isolators  
**(Type Reference and Name)**
4. **Name of Listing Company:** Eaton Electric Ltd
5. **Address of Listing Company:** Great Marlings, Butterfield  
Luton, Bedfordshire, LUS 8DL  
United Kingdom
6. The examination and test results are recorded in confidential report number:  
  
3057037 dated 28<sup>th</sup> March 2017
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
FM Class 3600:2011, FM Class 3610:2010, FM Class 3611:2004, FM Class 3810:2005,  
ANSI/ISA 60079-0:2013, ANSI/ISA 60079-11:2014, ANSI/ISA 60079-15:2012
8. 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.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

**Certificate issued by:**

J. E. Marquedant  
Manager, Electrical Systems

28 March 2017

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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# SCHEDULE



US Certificate Of Conformity No: FM16US0085X

10. Equipment Ratings:

Model MTL4514N

Associated Apparatus providing Intrinsically Safe Circuits for Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G when installed per control drawing SCI-1076; Non-incendive for Class I, Division 2, Groups A, B, C, and D; Associated Apparatus providing Intrinsically Safe ia Circuits for Class I, Zone 0 IIC Ga when installed per control drawing SCI-1076; Enclosed Break for Class I, Zone 2 IIC Gc hazardous (classified) locations with an ambient temperature rating of -20°C to +60°C.

Models MTL4521Y, MTL4523Y, MTL4541Y, MTL4541YA, MTL4545Y, MTL4573Y

Associated Apparatus providing Intrinsically Safe Circuits for Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G when installed per control drawing show below; Non-incendive for Class I, Division 2, Groups A, B, C, and D, T4; Associated Apparatus providing Intrinsically Safe ia Circuits for Class I, Zone 0 IIC Ga when installed per control drawing show below; Non Sparking for Class I, Zone 2 IIC Gc hazardous (classified) locations with an ambient temperature rating of -20°C to +60°C.

Control Dawing	Models
SCI-1077	MTL4521Y, MTL4523Y
SCI-1078	MTL4541Y
SCI-1079	MTL4541YA
SCI-1080	MTL4545Y
SCI-1081	MTL4573Y

11. The marking of the equipment shall include:

Model MTL4514N

Provides Intrinsically Safe Circuits for Class I, II, III Division 1, Groups A, B, C, D, E, F, G  
Class I, Division 2, Groups A, B, C, D; T4  
Class I, Zone 0, [AEx ia] IIC  
Class I, Zone 2, AEx nC IIC T4  
Ta = -20°C to +60°C  
Per control drawing SCI-1077

Model MTL4521Y, MTL4523Y, MTL4541Y, MTL4541YA, MTL4545Y, MTL4573Y

Provides Intrinsically Safe Circuits for Class I, II, III Division 1, Groups A, B, C, D, E, F, G  
Class I, Division 2, Groups A, B, C, D; T4  
Class I, Zone 0, [AEx ia] IIC  
Class I, Zone 2, AEx nA IIC T4  
Ta = -20°C to +60°C  
Per control drawing (see section 10 for actual drawing number)

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## 12. Description of Equipment:

**General** – The MTL4514N Switch / Proximity Detector Interface with Line Fault Detection alarm is designed to restrict the transfer of energy from unspecified non-hazardous area equipment to an intrinsically safe circuit by limitation of voltage and current. Relays and a transformer provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The MTL4521Y & MTL4523Y Solenoid / Alarm Drivers are designed to control and monitor a device located in the hazardous area and restrict the transfer of energy from unspecified equipment in the non-hazardous area to an intrinsically safe circuit in the hazardous area by the limitation of voltage and current. Opto-isolators and a transformer provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The MTL4541Y Repeater Power Supply, 4/20mA for 2 or 3-Wire Transmitters is designed to provide a floating d.c. supply for energising a conventional 2 or 3-Wire 4/20mA Transmitter in the hazardous area and repeat these currents in the non-hazardous area, whilst restricting the transfer of energy from unspecified non-hazardous area equipment to the intrinsically safe circuits by means of limitation of current and voltage. The equipment also allows bi-directional signal communication between the hazardous and non-hazardous area by connection of a hand-held communicator (HHC).

The MTL4541YA Single Channel Current Repeater, 4/20mA Passive Input for Smart Transmitters is designed to repeat a current signal from a separately powered 4/20mA transmitter located in the hazardous area to unspecified equipment location in the non-hazardous area, whilst restricting the transfer of energy from the unspecified non-hazardous area equipment to the intrinsically safe equipment by means of current and voltage limitation. The equipment also allows bi-directional signal communication between hazardous and non-hazardous area by connection of a hand-held communicator (HHC).

The MTL4545Y Isolating Driver, 4/20mA for Smart I/P Converters accepts a 4/20mA signal from a controller located in the non-hazardous area to drive a load in the hazardous area. It permits bi-directional transmissions of a digital signal to and from an operator station or hand-held communicators. The equipment restricts the transfer of energy from unspecified non-hazardous area equipment to an intrinsically safe circuit by limitation of voltage and current. Three transformers provide galvanic isolation between the hazardous and non-hazardous circuitry.

The MTL4573Y Temperature Converter is designed for connection to thermocouples or two, three or four wire RTD's situated in the hazardous area. The apparatus converts the low level d.c. signal from the sensor mounted in the hazardous area into a 4/20mA current for driving a load in the non-hazardous area. An optional cold junction compensation (CJC) plug can be fitted to the hazardous area connection which alters the internal connections and affects the output parameters.

**Construction** - The MTL4500Y series isolator's electronics are housed in a molded polymeric enclosure. The safe area terminals are on the bottom of the enclosure and connect using mechanical retention to a Base Plate. The intrinsically safe terminals are pluggin blue connectors on the top of the enclosure.

**Ratings** – The MTL4500Y series isolators operate at 20-35 Vdc. The transmitters are rated for use in an ambient temperature range of -20°C to +60°C.

MTL4514N Switch/Proximity Detector Interface  
MTL4521Y Solenoid Alarm Driver

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MTL4523Y Solenoid Alarm Driver with Line Fault Detection Alarm  
MTL4541Y Repeater Power Supply  
MTL4545Y Isolating Driver, 4/20mA for smart I/P converters  
MTL4573Y Temperature Converter

13. **Specific Conditions of Use:**

1. When installed in a hazardous area, the MTL4500Y series module series shall be used with Yokogawa A2BN4D Base Plate.
2. When installed as Class I Division 2 equipment, the apparatus shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I Division 2 wiring methods per the National Electric Code (ANSI/NFPA 70).
3. When installed as Class I, Zone 2 equipment, the apparatus shall be mounted within a tool-secured enclosure which meets the requirements of IP54 and is capable of accepting one or more of the Class I, Zone 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70).

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
28 <sup>th</sup> March 2017	Original Issue.

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