



# EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC

EC-Type Examination Certificate Number : **BAS01ATEX7162**

Equipment or Protective System: **MTL4013 TWO CHANNEL SWITCH/PROXIMITY  
DETECTOR INTERFACE - SOLID STATE OUTPUT**

Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

Address: **Luton, Bedfordshire, LU1 3JJ**

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

The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

**01(C)0221 dated 17 May 2001 (held on EECS 0703/02/300)**

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 50014: 1997 + Amds 1 & 2                      EN 50020: 1994**

except in respect of those requirements listed at item 18 of the Schedule.

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

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

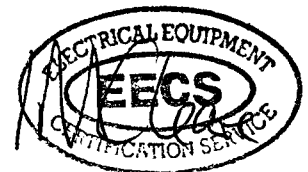
The marking of the equipment or protective system shall include the following:-

**Ex II (1) GD    [EEx ia] IIC    (-20°C ≤ T<sub>a</sub> ≤ +60°C)**

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0703/02/300

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



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**I M CLEARE**  
DIRECTOR  
13 December 2001



13 Schedule

14 EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7162

15 Description of Equipment or Protective System

An MTL4013 Two Channel Switch/Proximity Detector Interface - Solid State Output is designed to restrict the transfer of energy from unspecified safe-area apparatus to two independent intrinsically safe circuits by the limitation of voltage and current. Transformers and opto-isolators provide galvanic isolation between the hazardous and non-hazardous area circuitry.

Each channel of the MTL4013 monitors either a detector or a switch located in the hazardous area and controls a safe-area load via a solid state output.

Light Emitting Diode (LED) indication is provided to indicate power-on and the state of each output.

Each channel may be considered as a separate intrinsically safe circuit.

CON2, pins 7 to 14

$$U_m = 250V$$

The circuit connected to the safe area terminals CON2 is designed to operate from a d.c. supply voltage of up to 35V.

Channel 1 CON1, pins 2/3 wrt 1

Channel 2 CON1, pins 5/6 wrt 4

$$U_o = 10.5V$$

$$I_o = 14mA$$

$$P_o = 37mW$$

$$C_i = 0$$

$$L_i = 0$$

For each channel, the capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area load must not exceed the following values:

GROUP	CAPACITANCE in $\mu F$	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	2.41	175		983
IIB	16.8	680		1333
IIA	75.0	1000		1333

Equipment referred to in this certificate having the same type number as items in BASEEFA Certificate No Ex 92C2322 may be used as a direct substitute in a system provided that the cable parameters used are within the limits shown on this certificate.



13 Schedule

14 EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7162

16 Report No.

01(C)0221

17 Special Conditions For Safe Use

None.

18. Essential Health and Safety Requirements

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by standards listed in Section 9		
Clause	Subject	Compliance
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 01(C)0221 Clause 5.1.1.3
1.2.2	Components for incorporation or replacement	Report No 01(C)0221 Clause 5.1.2.2
1.2.5	Additional means of protection	Report No 01(C)0221 Clause 5.1.2.5
1.2.7	Protection against other hazards	Report No 01(C)0221 Clause 5.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 01(C)0221 Clause 5.1.4.2

19 DRAWINGS

Number	Sheet	Issue	Date	Description
CI4013-1	2	3	08.01	MTL4013 Parts List
CI4013-1	3	2	09.92	MTL4013 Circuit Diagram
CI4013-1	4	2	02.92	MTL4013 Component Layout
CI4013-1	5	2	09.92	MTL4013 General Assembly
CI4013-1	6	1	05.92	MTL4013 Internal Construction
CI4013-1	7	2	09.92	MTL4013 PCB Track Layout
CI4013-1	8	1	05.92	MTL4013 Transformer Winding Details
CI4013-1	9	1	10.01	MTL4013 Certification Label
*CI4000-1	1	2	11.92	MTL4000 Series 2-core IS Transformer
*CI4000-1	2	2	11.92	MTL4000 Series 2-core IS Transformer

Drawings marked \* are associated with and are held on BASEEFA Certificate BAS01ATEX7163

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