



EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : **BAS01ATEX7163**

Equipment or Protective System: **MTL4016 TWO CHANNEL SWITCH/PROXIMITY
DETECTOR INTERFACE -DUAL RELAY 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 [EEEx ia] IIC (-20°C ≤ T_a ≤ +60°C)

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

File No: EECS 0703/02/301

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
26 July 2001



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Description of Equipment or Protective System

An MTL4016 Two Channel Switch/Proximity Detector Interface -Dual Relay 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 interface monitors either a detector or a switch located in the hazardous area and controls two safe-area loads via relay outputs.

Independent phase-reverse controls allow an alarm condition to be signalled for either state of a sensor by means of two switches on the top of the unit.

A further two switches are provided to permit the optional use of a line fault detection system on each channel.

LED indication is provided to indicate power-on and the state of each output.

Connector CON2, pins 7 to 14

$U_m = 250V$

Connector CON1, pins 2/3 w.r.t. 1

Connector CON1, pins 5/6 w.r.t. 4

$U_o = 10.5V$

$I_o = 14mA$

$P_o = 37mW$

$C_i = 0$

$L_i = 0$

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 μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	2.41	175		983
IIB	16.80	680		1333
IIA	75.00	1000		1333

VARIATION 0.1

To permit the removal of components associated with the second channel of the MTL 4016 Two Channel Switch/Proximity Detector - Dual Relay Output. The new variant is designated as an MTL 4015 Single Channel Switch/Proximity Detector, Dual Contact Output.



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Connector CON2, pins 7 to 14

$U_m = 250V$

Connector CON1, pins 5/6 wrt 4

$U_o = 10.5V$

$I_o = 14mA$

$P_o = 37mW$

$C_i = 0$

$L_i = 0$

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 μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	2.41	175		983
IIB	16.80	680		1333
IIA	75.00	1000		1333

16 **Report No.**

01(C)0221 (held on EECS 0703/02/300)

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



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19 DRAWINGS

Number	Sheet	Issue	Date	Description
CI4016-1	2	6	05.01	MTL4016 Parts List
CI4016-1	3	5	07.97	MTL4016 Circuit Diagram
CI4016-1	4	6	07.97	MTL4016 Component Layout
CI4016-1	5	2	03.92	MTL4016 General Assembly
CI4016-1	6	1	11.91	MTL4016 Internal Construction
CI4016-1	7	6	05.99	MTL4016 PCB Track Layout
CI4016-1	8	1	11.91	MTL4016 Transformer Winding Details
CI4016-1	9	1	05.01	MTL4016 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 a number of MTL 4000 Series Isolating I.S. Interface Units

DRAWINGS ASSOCIATED WITH VARIATION 0.1

Number	Sheet	Issue	Date	Description
CI4015-1	2	3	05.01	MTL4015 Parts List
CI4015-1	3	2	08.97	MTL4015 Circuit Diagram
CI4015-1	4	3	05.01	MTL4015 Component Layout
CI4015-1	5	1	08.96	MTL4015 General Assembly
CI4015-1	6	1	08.96	MTL4015 Internal Construction
CI4015-1	7	3	05.99	MTL4015 PCB Track Layout
CI4015-1	8	1	08.96	MTL4015 Transformer Winding Details
CI4015-1	9	1	05.01	MTL4015 Certification Label

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BASEEFA List Keywords
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