



## EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : **BAS01ATEX7179**

Equipment or Protective System: **MTL4083 VOLTAGE ISOLATOR**

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<sub>a</sub> ≤ +60°C)**

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

File No: EECS 0703/02/317

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° BAS01ATEX7179**

15 **Description of Equipment or Protective System**

An MTL 4083 Voltage Isolator is designed to take a low level d.c. signal from a voltage source in a hazardous area, isolate it and pass it to receiving apparatus located in a non-hazardous area. It is intended for use with instruments such as strain-gauges, slide-wire transducers and various voltage sources.

The apparatus comprises two isolating transformers, a single detection circuit with fuses, resistors and zener diodes all mounted onto a single printed circuit board (PCB) and housed within a plastic enclosure.

Polarised plugs and sockets provide the connection facilities to the hazardous area and the non-hazardous area circuits.

CON 2

$$U_m = 250V$$

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

CON 1, Pins 5 and 6

$$U_o = 16V$$

$$I_o = 17mA$$

$$P_o = 68mW$$

$$C_i = 0$$

$$L_i = 0$$

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 $\mu F$	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	0.46	120		523
IIB	2.75	458		1063
IIA	11.0	855		1063

Equipment referred to in this certificate having the same type number as items in BASEEFA Certificate No Ex 97D2139 may be used as a direct substitute in a system provided that the cable parameters used are within the limits shown on this certificate.

16 **Report No**

01(C)0221



13 Schedule

14 EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7179

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
CI4083	1	1	02.97	MTL4083 Parts List
CI4083	2	1	02.97	MTL4083 Circuit Diagram
CI4083	3	1	02.97	MTL4083 Component Layout
CI4083	4	1	02.97	MTL4083 General Assembly
CI4083	5	1	02.97	MTL4083 Internal Construction
CI4083	6	3	05.01	MTL4083 PCB Track Layout
CI4083-1	7	1	02.97	MTL4083 Transformer Winding Details
CI4083-1	8	1	10.01	MTL4083 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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BASEEFA List Keywords  
2ISOLBAR