



EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : **BAS01ATEX7171**

Equipment or Protective System: **MTL4043 REPEATER POWER SUPPLY: 4/20mA**

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 0703/02/309

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



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15 Description of Equipment or Protective System

MTL4043 Repeater Power Supply : 4/20mA designed to provide a floating d.c. supply for energising a 4/20mA transmitter in the hazardous area and repeating this current in the safe area whilst restricting the transfer of energy from unspecified safe-area apparatus to an intrinsically safe circuit by the limitation of voltage and current. Three transformers provide galvanic isolation between the hazardous and non-hazardous area circuitry.

LED indication is provided to indicate power-on.

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.

CON1, pins 2/3 wrt 4/5

$$U_o = 28V$$

$$I_o = 93mA$$

$$P_o = 0.65W$$

CON1, pins 6 wrt 4/5

$$U_o = 1.1V$$

$$I_o = 53mA$$

$$P_o = 15mW$$

$$C_i = 0$$

$$L_i = 0$$

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	0.083	3.05 (4.20)		56
IIB	0.650	9.15 (12.6)		210
IIA	2.150	24.4 (33.6)		444

When the external circuit contains no lumped inductance greater than $10\mu H$ i.e. the L_i of any attached apparatus is less than $10\mu H$, the cable inductance may be increased to the values within parentheses.



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Equipment referred to in this certificate having the same type number as items in BASEEFA Certificate No Ex 97D2264 may be used as a direct substitute in a system provided that the cable parameters used are within the limits shown on this certificate.

VARIATION 0.1

To permit the connection of an external intrinsically safe source with output parameters $U_o = 30V$, $I_o = 121mA$, having a source resistance of U_o/I_o , to pin 6 with respect to pins 4 and 5. Output Pins 2 and 3 must not be used when this external source is connected to Pin 6 w.r.t. 4/5.

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the values as detailed in the certificate relating to the external intrinsically safe source.

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
CI4043	1	3	10.01	MTL4043 Parts List
CI4043	2	2	01.98	MTL4043 Circuit Diagram
CI4043	3	2	01.98	MTL4043 Component Layout
CI4043	4	1	08.97	MTL4043 General Assembly
CI4043	5	1	08.97	MTL4043 Internal Construction
CI4043	6	2	01.98	MTL4043 PCB Track Layout



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Number	Sheet	Issue	Date	Description
CI4043	7	1	08.97	MTL4043 Transformer Winding Details
CI4043	8	1	10.01	MTL4043 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
**CI4000-2	1	2	11.92	MTL4000 Series 2-core IS Transformer
**CI4000-2	2	2	11.92	MTL4000 Series 2-core IS Transformer

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

Drawings marked ** are associated with and are held on BASEEFA Certificate BAS01ATEX7169

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