



1 **EC-TYPE EXAMINATION CERTIFICATE**

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

5 EC-Type Examination Certificate Number : **BAS01ATEX7173**

6 Equipment or Protective System: **MTL4046P HIGH POWER ISOLATING DRIVER: 4/20mA**

7 Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

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

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

10 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)**

11 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.

12 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.

13 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.

14 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 0703/02/311

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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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7173

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Description of Equipment or Protective System

An MTL 4046P High Power Isolating Driver: 4/20mA is designed to provide a galvanically isolated channel to enable the interconnection of apparatus located in a hazardous area, with apparatus which is unspecified and located in a non-hazardous area. This is achieved by limiting the output voltage and current to intrinsically safe levels.

The apparatus comprises a number of electrical components, including isolating transformers, fuses, zener diodes and resistors, all mounted onto a printed circuit board and housed within a plastic enclosure.

Two polarised sockets of different shape and size provide the connection facilities for the external circuits.

CON2, pins 1, 2, 3, 4, 7 and 8

$$U_m = 250V$$

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

CON1, pins 2 and 3 w.r.t. pins 4 and 5

$$U_o = 28.0V$$

$$I_o = 116.4mA$$

$$P_o = 0.815W$$

$$C_i = 0$$

$$L_i = 0$$

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	0.083	1.82 (2.51)		44
IIB	0.650	5.46 (7.53)		168
IIA	2.150	14.5 (20.0)		354

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.



13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7173**

Equipment referred to in this certificate having the same type number as items in BASEEFA Certificate No Ex 94C2193 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

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
CI4046-1	2	5	09.01	MTL4046P Parts List
CI4046-1	3	4	09.97	MTL4046P Circuit Diagram
CI4046-1	4	4	09.97	MTL4046P Component Layout
CI4046-1	5	2	06.99	MTL4046P General Assembly
CI4046-1	6	2	06.99	MTL4046P Internal Construction
CI4046-1	7	4	09.97	MTL4046P PCB Track Layout
CI4046-1	8	1	04.94	MTL4046P Transformer Winding Details
CI4046-1	9	1	10.01	MTL4046P 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



1 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use  
in Potentially explosive atmospheres  
Directive 94/9/EC**

3 Supplementary EC-Type Examination Certificate Number: **BAS01ATEX7173/1**

4 Equipment or Protective System: **MTL4046P HIGH POWER ISOLATING DRIVER: 4/20mA**

5 Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

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

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS01ATEX7173 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

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File No: EECS 0703/02/311

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I M CLEARE  
DIRECTOR  
22 August 2002



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Schedule

14 SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7173/1

Description of the Variation to the Equipment or Protective System

VARIATION 1.1

To permit minor changes to the circuit and printed circuit board that do not affect the intrinsic safety assessment.

Report No.

Not applicable.

Special Conditions For Safe Use

Not applicable.

Essential Health and Safety Requirements

See original certificate.

DRAWINGS

Number	Sheet	Issue	Date	Description
CI4046-1	3	5	02.02	MTL4046P Circuit Diagram
CI4046-1	7	5	02.02	MTL4046P PCB Track Layout

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