



EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : **BAS98ATEX2227**

Equipment or Protective System: **MTL5040 4/20mA LOOP 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°

98(C)0537 dated 8 October 1998

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

EN 50014: 1997

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:-



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[EEEx ia] IIC (T_{amb} = 60°C)

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

File No: **EECS 0703/02/261**

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.



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244

I M CLEARE
DIRECTOR
24 November 1998



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15 Description of Equipment or Protective System

The MTL5040 apparatus restricts the transfer of energy from unspecified safe area apparatus to intrinsically safe circuits by the limitation of voltage and current.

The MTL5040 apparatus is comprised of four isolating transformers which provide galvanic isolation between the hazardous area and the non-hazardous area circuitry and a zener diode/resistance combination on each output channel to provide voltage and current limitation. The above, together with other electronic components are mounted on a printed circuit board and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for the hazardous area and non-hazardous area connections.

The apparatus is designed to operate from a d.c. supply of up to 35V on CON 5. The segregation of the non-hazardous area and the hazardous area circuits meets the requirements for 375V peak.

Input/Output Parameters

Connectors CON3, 4 and 5

$U_m = 250V$ d.c. or r.m.s.

Connector CON1 terminals 1, 2 and CON2 terminals 4, 5

$U_o = 28V$

$I_o = 93mA$

$P_o = 0.65W$

$C_i = 0$

$L_i = 0$

The capacitance and either the inductance or the inductance to resistance ratio (L_o/R_o) of the load connected to the output terminals must not exceed the following values:-

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	0.083	4.3		56
IIB	0.650	17.7		210
IIA	2.150	36.0		444

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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
1.0.2	Analysis of possible operating faults	Report No 98(C)0537 Clause 7.1.0.2
1.0.4	Surrounding area conditions	Report No 98(C)0537 Clause 7.1.0.4
1.0.5	Marking	Report No 98(C)0537 Clause 7.1.0.5
1.0.6	Instructions	Report No 98(C)0537 Clause 7.1.0.6
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 98(C)0537 Clause 7.1.1.3
1.2.2	Components for incorporation or replacement	Report No 98(C)0537 Clause 7.1.2.2
1.2.4	Dust deposits	Report No 98(C)0537 Clause 7.1.2.4
1.2.5	Additional means of protection	Report No 98(C)0537 Clause 7.1.2.5
1.2.7	Protection against other hazards	Report No 98(C)0537 Clause 7.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 98(C)0537 Clause 7.1.4.2
1.6.4	Hazards arising from connections	Report No 98(C)0537 Clause 7.1.6.4
2.1.1	Category IG	Report No 98(C)0537 Clause 7.2.1.1

19 DRAWINGS

Number	Sheet	Issue	Date	Description
CI5040-1	1	1	5.98	Parts list
CI5040-1	2	1	5.98	Circuit diagram
CI5040-1	3	1	5.98	Component layout
CI5040-1	4	1	5.98	General assembly & label
CI5040-1	5	1	5.98	PCB track layout
CI5040-1	6	1	5.98	Transformer winding details

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BASEEFA List Keywords
2ISOLBAR



SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE

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

Supplementary EC-Type Examination Certificate Number: **BAS98ATEX2227/1**

Equipment or Protective System: **MTL5040 4/20mA LOOP ISOLATOR**

Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

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

This supplementary certificate extends EC-Type Examination Certificate No. BAS98ATEX2227 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 0703/02/261

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DIRECTOR
30 April 2002



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Schedule

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SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX2227/1

Description of the Variation to the Equipment or Protective System

VARIATION 1.1

To permit the connection of MTL5000 Ring Terminal assemblies in place of the safe and hazardous area screw terminals. The enclosure remains IP20 whether or not the Ring Terminal is fitted. The following MTL5000 Ring Terminals may be connected to the MTL5040. Blanking covers may be removed if necessary.

Hazardous Area Terminal	MTL5040 pins	1, 2, 4, 5
	HAZ-RT-1-5	1, 2, 3, 4
Safe Area Terminal	MTL5040 pins	8, 9, 11, 12
	SAF-RT-8-12	5, 6, 7, 8

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
*CI5000-12	1 to 4	1	02.02	MTL5000 Ring Terminal

Drawing marked * is associated with and held on BASEEFA Certificate BAS01ATEX7144

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