



1 **EC-TYPE EXAMINATION CERTIFICATE**

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

3 EC-Type Examination Certificate Number : **BAS01ATEX7149**

4 Equipment or Protective System: **MTL5022 LOOP POWERED SOLENOID/ALARM DRIVER**

5 Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

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

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

8 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)0220 dated 18 December 2001 (held on EECS 0703/02/299)

9 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.

10 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.

11 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.

12 The marking of the equipment or protective system shall include the following:-

⊕ II (1) GD [EE_x ia] IIB (-20°C ≤ T_a ≤ +60°C)

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

File No: EECS 0703/02/324

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
29 April 2002**



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Schedule

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Description of Equipment or Protective System

An MTL5022 Loop Powered Solenoid / Alarm Driver enables a device located in the hazardous area to be controlled by a switch in the safe area. The MTL5022 restricts the transfer of energy from unspecified safe-area apparatus to an intrinsically safe circuit by the limitation of voltage and current.

A transformer and an opto-isolator provide galvanic isolation between the hazardous and non-hazardous area circuitry. The output channel is protected by duplicated zener diodes chains and a current limiting resistor 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 and non-hazardous area connections.

CON 3, Pins 7, 8

$$U_m = 250V$$

The circuit connected to the safe area terminals on CON 3 are designed to operate from a d.c. supply voltage of up to 35V.

CON 1, Pin 2 & 3 w.r.t. Pin 1

$$U_o = 25V$$

$$I_o = 188mA$$

$$P_o = 1.17W$$

$$C_i = 0$$

$$L_i = 0$$

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 $\mu H/ohm$
IIB	0.84	4.55		131
IIA	2.97	9.08		265

Equipment referred to in this certificate having the same type number as items in BASEEFA Certificate No Ex 95D2428 may be used as a direct substitute in a system provided that the cable parameters used are within the limits shown on this certificate.



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VARIATION 0.1

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 MTL5022. Blanking covers may be removed if necessary.

Hazardous Area Terminal	MTL5022 pins	1, 2, 3
	HAZ-RT-1-3	1, 2, 3
Safe Area Terminal	MTL5022 pins	11, 12
	SAF-RT-11-12	7, 8

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Special Conditions For Safe Use

None.

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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)0220 Clause 5.1.1.3
1.2.2	Components for incorporation or replacement	Report No 01(C)0220 Clause 5.1.2.2
1.2.5	Additional means of protection	Report No 01(C)0220 Clause 5.1.2.5
1.2.7	Protection against other hazards	Report No 01(C)0220 Clause 5.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 01(C)0220 Clause 5.1.4.2

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DRAWINGS

Number	Sheet	Issue	Date	Description
CI5022-1	2	2	11.01	MTL5022 Parts List
CI5022-1	3	2	02.96	MTL5022 Circuit Diagram
CI5022-1	4	3	12.01	MTL5022 Component Layout
CI5022-1	5	1	06.95	MTL5022 General Assembly
CI5022-1	6	2	11.01	MTL5022 Internal Construction
CI5022-1	7	2	02.96	MTL5022 PCB Track Layout
CI5022-1	8	2	11.01	MTL5022 Transformer Winding Details
*CI5000-5	1	4	10.00	IS Transformer TFR305
*CI5000-5	2	4	10.00	IS Transformer TFR305



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Drawings marked * are held on BASEEFA Certificate No BAS01ATEX7148

Drawing associated with Variation 0.1

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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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: **BAS01ATEX7149/1**
- 4 Equipment or Protective System: **MTL5022 Loop Powered Solenoid / Alarm Driver**
- 5 Manufacturer: **Measurement Technology Limited**
- 6 Address: **Power Court, Luton, Bedfordshire, LU1 3JJ**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. BAS01ATEX7149 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.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa, Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

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

Baseefa Customer Reference No. 0703

Project File No. 08/0216

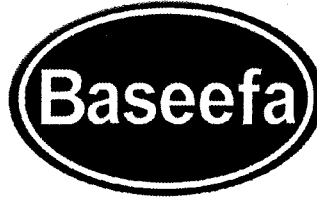
This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

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Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

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Certificate Number BAS01ATEX7149/1

15 **Description of the variation to the Equipment or Protective System**

Variation 1.1

To permit a minor component change not affecting the original assessment.

16 **Report Number**

None.

17 **Special Conditions for Safe Use**

None

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
CI5022-1	2 of 8	3	4.08	MTL5022 Loop- Powered Solenoid / Alarm Driver IIB Parts List

The drawing is associated and held with IECEx Certificate No. IECEx BAS 05.0066/1