



## EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : **BAS98ATEX7136**

Equipment or Protective System: **MTL 5314 STANDARD IS TRIP AMPLIFIER SUPPLY**

Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

Address: **Power Court, 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)0199 dated 30 July 1998**

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


**EN50014: 1992      EN50020: 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:-

 **II [1] G      [EEEx ia] IIC T4 (T<sub>a</sub> = 60°C)**

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

File No: EECs 0703/02/258

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  
6 August 1998



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### Description of Equipment or Protective System

The MTL5314 apparatus is comprised of one isolating transformer and two opto-isolators which provide galvanic isolation between the hazardous area and the non-hazardous area circuitry and a zener diode/resistance combination 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 3,4 and 5. The segregation of the non-hazardous area and the hazardous area circuits meets the requirements for 375V peak.

### Input/Output Parameters

#### Connector CON3, 4 and 5

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

#### Connector CON 1 terminals 1,2 and 3

$U_o = 28V$

$I_o = 93mA$

$P_o = 0.65W$

$C_i = 0$

$L_i = 0$



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### EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX7136

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 $\mu F$	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	0.08	4.3		56
IIB	0.65	17.7		210
IIA	2.15	36		444

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#### Report No

98(C)0199

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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
1.0.2	Analysis of possible operating faults	Report No 98(C)0199 Clause 7.1.0.2
1.0.4	Surrounding area conditions	Report No 98(C)0199 Clause 7.1.0.4
1.0.5	Marking	Report No 98(C)0199 Clause 7.1.0.5
1.0.6	Instructions	Report No 98(C)0199 Clause 7.1.0.6
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 98(C)0199 Clause 7.1.1.3
1.2.2	Components for incorporation or replacement	Report No 98(C)0199 Clause 7.1.2.2
1.2.4	Dust deposits	Report No 98(C)0199 Clause 7.1.2.4
1.2.5	Additional means of protection	Report No 98(C)0199 Clause 7.1.2.5
1.2.7	Protection against other hazards	Report No 98(C)0199 Clause 7.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 98(C)0199 Clause 7.1.4.2
1.6.4	Hazards arising from connections	Report No 98(C)0199 Clause 7.1.6.4
2.1.1	Category IG	Report No 98(C)0199 Clause 7.2.1.1



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### 19 DRAWINGS

Drawing No.	Sheet	Issue	Date	Description
CI5314-1	1	1	2.98	Parts list
CI5314-1	2	1	2.98	Circuit diagram
CI5314-1	3	1	2.98	Component layout
CI5314-1	4	1	2.98	General assembly & label
CI5314-1	5	1	2.98	PCB track layout
CI5314-1	6	1	2.98	Transformer winding details
CI5000-9	1	1	2.98	TFR316 Assembly details
CI5000-9	2	1	2.98	TFR316 Assembly details

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BASEEFA List Keywords  
ISOLBAR



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: BAS98ATEX7136/1**

4 **Equipment or Protective System: TYPE 5314 STANDARD IS TRIP AMPLIFIER SUPPLY**

5 **Manufacturer: MEASUREMENT TECHNOLOGY LIMITED**

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

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS98ATEX7136 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 0703/02/258

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**I M CLEARE**  
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9 June 1999



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**EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX7136/1**

**Description of the Variation to the Equipment or Protective System**

**VARIATION 1.1**

To permit the specification of separate output parameters for pin 1 with respect to pin 3 of connector CON1.

**Output Parameters**

Connector CON1 pin 1 with respect to pin 3

$U_o = 1.0V$

$I_o = 88mA$

$P_o = 22mW$

Although the MTL 5314 does not itself comply with the requirements of Clause 5.4 of EN 50020: 1994, when CON1 pins 1 and 3 are connected in an intrinsically safe circuit the internal stored energy, voltage and current of the interface unit will not add more than the values specified in Clause 5.4 of EN 50020: 1994 to the parameters of the circuit into which it is connected.

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to CON 1 pins 1 and 3 must not exceed the following values:-

GROUP	CAPACITANCE in $\mu F$	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIC	100	5		1621
IIB	1,000	20		6485
IIA	1,000	40		12970

The output parameters for CON 1 pins 1 and 2 are those given in the original schedule for pins 1, 2 and 3.

**Report Nos.**

None

**SPECIAL CONDITIONS FOR SAFE USE**

None



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**EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX7136/1**

**Essential Health and Safety Requirements**

See original certificate.

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