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:	**Baseefa03ATEX0179**
4	Equipment or Protective System:	**MTL5349 Twin Channel, 4-20mA, Current Repeater**
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 Baseefa (2001) Ltd. Notified body number 1180, 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 No.**03(C)0127**

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

EN 50014:1997 + Amds 1 & 2 EN 50020:2002 EN 50284:1999

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. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

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

⟨Ex⟩ II (1) GD [EEx ia] IIC ($-20°C \leqslant T_a \leqslant +60°C$)

Baseefa (2001) Ltd. Customer Reference No. **0703** Project File No. **03/0127**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

pp. R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

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13 **Schedule**

14 **Certificate Number Baseefa03ATEX0179**

15 **Description of Equipment or Protective System**

The MTL5349 Twin Channel, 4-20mA, Current Repeater provides isolation for two conventional 4-20mA transducers which are located in the hazardous area. The current signal is set by a 4- 20mA source connected to the safe area terminals and repeated in the floating circuit to drive a transducer. It restricts the transfer of energy from unspecified safe-area apparatus to an intrinsically safe circuit by the limitation of voltage and current. Four transformers provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The apparatus comprises of two power transformers, two current transformers, and two output channels each protected by duplicated zener diodes chains on 2mm track and resistive current limiting components to provide voltage and current limitation. A further set of zener diodes positioned after the current limiting resistors provides a trapezoidal output characteristic 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.

CON3, CON4 and CON5

U_m = 253V

The circuit connected to the safe area terminals CON3, CON4 and CON5 is designed to operate from a d.c. supply voltage of up to 35V.

Either CON1 pins 1 & 2
or CON2 pins 4 & 5

U_o = 17V
I_o = 50mA
P_o = 0.3W

C_i = 0
L_i = 0

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

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR	L/R RATIO (µH/ohm)
IIC	0.375	14.64		118
IIB	2.200	55.40		433
IIA	9.000	116.9		870

16 **Report Number**

03(C)0127

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
CI5349-1	1	1	02.03	MTL5349 Parts List
CI5349-1	2	1	02.03	MTL5349 Circuit diagram
CI5349-1	3	1	02.03	MTL5349 PCB component layout
CI5349-1	4	1	02.03	MTL5349 General assembly
CI5349-1	5	1	02.03	MTL5349 General assembly and label
CI5349-1	6	1	02.03	MTL5349 PCB Track layout
CI5349-1	7	1	02.03	MTL5349 transformer winding details
*CI 5000-1	1	1	05.95	I.S. Transformer TFR301
*CI 5000-1	2	1	05.95	I.S. Transformer TFR301
*CI 5000-2	1	1	05.95	I.S. Transformer TFR300
*CI 5000-2	2	1	05.95	I.S. Transformer TFR300

Drawings marked * are held on EECS Certificate BAS01ATEX7157