

EC - TYPE EXAMINATION CERTIFICATE

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

- 3 EC - Type Examination Certificate Number: **Baseefa03ATEX0297**
- 4 Equipment or Protective System: **MTL411** Switch/Proximity Detector Interface**
- 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. 02(C)0444
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + Amds 1 & 2 EN 50020:2002
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 :

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

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

Baseefa (2001) Ltd. Customer Reference No. 0703

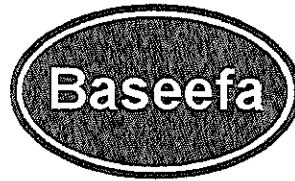
Project File No. 02/0444

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.

Baseefa (2001) Ltd.

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



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Schedule

14

Certificate Number Baseefa03ATEX0297

15 Description of Equipment or Protective System

The MTL411** Switch/Proximity Detector Interface is designed to provide an interface between unspecified non-hazardous area apparatus and intrinsically safe circuits in a hazardous area. The apparatus is intended to provide a galvanically isolated fail-safe safe-area output whilst monitoring a fail-safe proximity switch detector located in the hazardous area.

The apparatus consists of an electronic printed circuit board containing two galvanically isolated transformers and an opto-isolator.

The apparatus comes in various options which are identified by the last digits of the type number, as follows:

MTL411**

MTL411	*	*
	3 – with line fault detection	P = for use with P&F sensors
	4 – without line fault detection	T = for use with Turck sensors

The MTL4114* is identical to the MTL4113* but the line fault detection circuitry has not been fitted. For the MTL4113* the safe area output for the line fault detection is provided via voltage-free relay contact. Terminals 10 & 11 rated at 35V a.c./d.c. and 1A.

The differences between the P & T versions have no intrinsic safety implications.

Input/Output Parameters

$$U_m = 253V$$

The circuit connected to the safe area pins 7, 8, 10, 11, 13 and 14 are designed to operate from a d.c. supply voltage of up to 35V.

Pins 1 and 2

$$U_o = \pm 9.7V$$

$$I_o = 30mA$$

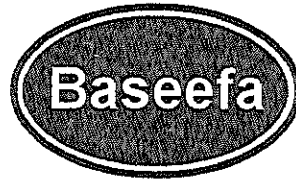
$$P_o = 0.07W$$

$$C_i = 33nF$$

$$L_i = 0$$

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 ($\mu H/ohm$)
IIC	3.46	39		475
IIB	23.96	145		1829
IIA	169.96	299		3093



16 Report Number

02(C)0444

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

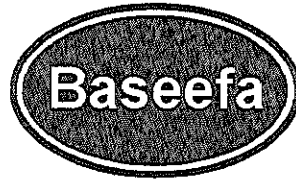
All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
CI4113-1	1	1	05.03	MTL4113 Parts List
CI4113-1	2	1	05.03	MTL4113 Circuit Diagram
CI4113-1	3	1	05.03	MTL4113 PCB Component Layout
CI4113-1	4	1	05.03	MTL4113 PCB Track Layout
CI4113-1	5	1	05.03	MTL4113 General Assembly and label
CI4113-1	6	1	05.03	MTL4113 Transformer TFR307 details
CI4113-1	7	1	05.03	MTL4113 Transformer TFR316 details
CI5000-7*	1	2	03.99	Transformer TFR307
CI5000-7*	2	2	03.99	Transformer TFR307
CI5000-9**	1	1	02.98	Transformer TFR316
CI5000-9**	2	1	02.98	Transformer TFR316
CI4114-1	1	1	05.03	MTL4114 General Assembly and label

Drawings marked * are held on Certificate No. BAS99ATEX7069

Drawings marked ** are held on Certificate No. BAS98ATEX7136



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: **Baseefa03ATEX0297/1**

4 Equipment or Protective System: **MTL411** Switch/Proximity Detector Interface**

5 Manufacturer: **Measurement Technology Limited**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0297 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.

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

Baseefa (2001) Ltd. Customer Reference No. 0703

Project File No. 02/0444

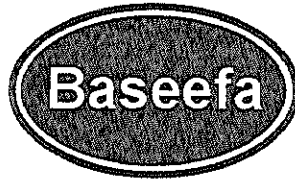
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A handwritten signature in black ink, appearing to read "R S Sinclair".

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



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Schedule

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Certificate Number Baseefa03ATEX0297/1

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

Variation 1.1

To permit minor changes to the printed circuit board which do not affect the intrinsic safety 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
CI4113-1	2	2	06.03	MTL4113 Circuit Diagram
CI4113-1	3	2	06.03	MTL4113 PCB Component Layout
CI4113-1	4	2	06.03	MTL4113 PCB Track Layout