



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: **Baseefa07ATEX0210**
- 4 Equipment or Protective System: **MTL5510 / MTL5510B / MTL5513 Switch / Proximity Detector Interface**
- 5 Manufacturer: **Measurement Technology Limited**
- 6 Address: **Power Court, 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. **GB/BAS/ExTR07.0126/00**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0: 2006 EN 60079-11: 2007 EN 61241-0: 2006 EN 61241-11: 2005
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 [Ex ia] IIC -20°C ≤ T_a ≤ +60°C
[Ex iaD]

Ex I (M1) [Ex ia] I

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

Baseefa Customer Reference No. 0703

Project File No. 07/0625

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.

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

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Schedule

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Certificate Number Baseefa07ATEX0210

15 Description of Equipment or Protective System

The MTL5510 Switch / Proximity Detector Interface is designed to restrict the transfer of energy from the unspecified non-hazardous area apparatus to four intrinsically safe circuits by limitation of voltage and current. An isolating transformer and an opto-coupler provide galvanic isolation between the hazardous and non-hazardous area circuitry. Each channel of the MTL5510 monitors either a detector or a switch located in the hazardous area and controls a non-hazardous area load via a solid state output.

The apparatus comprise an isolating transformer, an opto-coupler, zener diode and resistors to provide voltage and current limitation. The above, together with other electronic components are mounted on a single printed circuit board (PCB) and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for hazardous and non-hazardous area connections. LED indication is provided to indicate power-on, the status of each output and Line Fault Detection (LFD).

The MTL5510B Multifunction Digital Input Interface has the same hazardous area circuitry and parameters as the MTL5510 but has a different configuration via the removal of a link in the non-hazardous area circuitry.

The MTL5513 Switch / Proximity Detector Interface is a depopulated version of the MTL5510, using the same PCB and enclosure having only two channels populated.

Input/Output Parameters

Non-Hazardous Area Terminals 7 to 14

$$U_m = 253V \text{ r.m.s.}$$

The circuit connected to non-hazardous area terminals 7 to 14 is designed to operate from a d.c. supply voltage up to 35V.

Hazardous Area Terminals 1 w.r.t. 2 (Channel 1)

Hazardous Area Terminals 3 w.r.t. 2 (Channel 2)

Hazardous Area Terminals 4 w.r.t. 5 (Channel 3)*

Hazardous Area Terminals 6 w.r.t. 5 (Channel 4)*

$$\begin{aligned} U_o &= 10.5V \\ I_o &= 14mA \\ P_o &= 37mW \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

* For MTL5510 & MTL5510B Models only.



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

GROUP	CAPACITANCE (μF)	INDUCTANCE OR (mH)	L/R RATIO ($\mu\text{H}/\text{ohm}$)
IIC	2.41	175	983
IIB**	16.8	680	1,333
IIA	75.0	1,000	1,333
I	73.1	1,000	1,333

** Group IIB parameters also applicable for associated apparatus [Ex iaD]

Note: The above load parameters apply where:

1. The external circuit contains no combined lumped inductance L_i and capacitance C_i greater than 1% of the above values
- Or 2. The inductance and capacitance are distributed as in a cable.
- Or 3. The external circuit contains either only lumped inductance or lumped capacitance in combination with a cable.

In all other situations e.g. the external circuit contains combined lumped inductance or lumped capacitance, up to 50% of each of the L and C values is allowed.

16 Report Number

GB/BAS/ExTR07.0126/00

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
CI4510-1	1 of 7	2	6.07	Parts List for MTL4510 and MTL4513
CI4510-1	2 of 7	2	05-07	Circuit Diagram for MTL4510 / 4513
CI4510-1	3 of 7	2	05-07	Circuit Diagram for MTL4510 / 4513
CI4510-1	4 of 7	2	5.07	MTL4510 Track Layout
CI4510-1	5 of 7	2	5.07	MTL4510 Component Layout
CI4510-1	6 of 7	2	1.07	PCB Detail for TPL308
CI4500-100	1 of 1	1	8.06	MTL4500 Case
CI5510-1	1 of 1	1	9.07	MTL5510 Certification Label Details and DIN rail fitting - BASEEFA

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 07.0066