

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: **Baseefa08ATEX0082**

4 Equipment or Protective System: **MTL5501-SR Failsafe 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, 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/ExTR08.0065/00

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


**EN 60079-0: 2006 EN 60079-11: 2007 EN 61241-11: 2006**

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 [Ex ia] IIC -20°C ≤ T<sub>a</sub> ≤ +60°C**  
**[Ex iaD]**

 **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. 07/0934

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**

Rockhead Business Park, Staden Lane,  
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601  
e-mail [info@baseefa.com](mailto:info@baseefa.com) web site [www.baseefa.com](http://www.baseefa.com)

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**R S SINCLAIR**

**DIRECTOR**  
On behalf of  
Baseefa



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## Schedule

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Certificate Number Baseefa08ATEX0082

### 15 Description of Equipment or Protective System

The MTL5501-SR Failsafe Switch / Proximity Detector Interface is designed to provide an interface between unspecified non-hazardous area apparatus and an intrinsically safe circuit in the 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. Line Fault Detection (LFD) in the apparatus is provided by volt-free relay contact output on the non-hazardous area side of the apparatus. Two transformers and a relay provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The apparatus comprises two isolating transformers, a relay, fuses, zener diodes and resistors 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 hazardous and non-hazardous area connections. LED indication is provided for power-on, the output status and line fault detection.

#### Input / Output Parameters

##### Non-Hazardous Area Terminals 7, 8, 10, 11, 13 & 14)

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

The circuit connected to non-hazardous area terminals 13 & 14 is designed to operate from a d.c. supply voltage of up to 35V.

The non-hazardous area terminals 10 & 11 are connected to relay contacts which can switch up to 253V r.m.s, 2A r.m.s and 100VA.

##### Hazardous Area Terminals 1 & 2

$$\begin{aligned} U_o &= \pm 9.7V & C_i &= 0 \\ I_o &= 30mA & L_i &= 0 \\ P_o &= 0.07W \end{aligned}$$

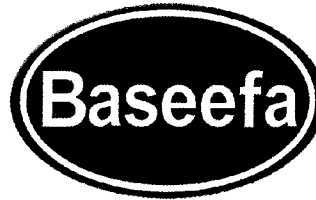
The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to the hazardous area terminals must not exceed the following values: -

GROUP	CAPACITANCE ( $\mu\text{F}$ )	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu\text{H}/\text{ohm}$ )
IIC	3.5	39		475
IIB*	24	145		1,829
IIA	170	299		3,093
I	95	501		6,414

\* 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 and capacitance, up to 50% of each of the L and C values is allowed.

**16 Report Number**

GB/BAS/ExTR08.0065/00

**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
CI4501-1	1 of 6	1	4.08	Parts List for the MTL4501-SR and MTL5501-SR
CI4501-1	2 of 6	1	03.08	Certification Diagram for MTL4501-SR MTL5501-SR
CI4501-1	3 of 6	1	5.08	MTL4501 Track Layout
CI4501-1	4 of 6	1	5.08	MTL4501 Component Layout
CI4501-1	5 of 6	1	4.08	PCB Detail for TPL308
CI4500-100	1 of 1	1	8.06	MTL 4500 Case
CI5501-1	1 of 1	1	4.08	MTL5501 Certification Label Details and DIN rail fittings – Baseefa

The above drawings are associated and held with IECEX Certificate No. IECEX BAS 08.0032