



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: **Baseefa07ATEX0211**
- 4 Equipment or Protective System: **MTL5511 / MTL5514 / MTL5516C / MTL5517 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/ExTR07.0127/00**

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 :

⊕ II (1) GD [Ex ia] IIC $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
[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. **07/0626**

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.

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 web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address



13

Schedule

14

Certificate Number Baseefa07ATEX0211

15 Description of Equipment or Protective System

The MTL5511 / MTL5514 / MTL5516C / MTL5517 Switch / Proximity Detector Interface are designed to restrict the transfer of energy from unspecified non-hazardous area apparatus to up to two intrinsically safe circuits by limitation of voltage and current. A transformer and relays provide galvanic isolation between the hazardous and non-hazardous area circuitry.

Each channel of the interface monitors either a detector or switch located in the hazardous area and controls non-hazardous area loads via relays. Some models of the interface are fitted with independent phase reverse controls and Line Fault Detection (LFD) circuitry allowing an alarm condition to be signalled for either state, set by switches on the side of the interface.

The apparatus comprises an isolating transformer, relays, zener diodes and current limiting resistors to provide voltage and current limitation. These, together with other electronic components are mounted on a single printed circuit board and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for connection to the hazardous and non-hazardous area. LED indication is provided to indicate Power-on, state of the outputs and LFD status.

The above listed models are all built on a common printed circuit board. The differences between the models relate to the configuration of the relays and non-hazardous connections via the fitting and removal of relays and soldered and component links. The model configurations are as follows: -

MTL5511	Single Channel Switch / Proximity Detector Interface
MTL5514	Single Channel Switch / Proximity Detector Interface with Line Fault Detection (LFD) Alarm
MTL5516C	Dual Channel Switch / Proximity Detector Interface
MTL5517	Dual Channel Switch / Proximity Detector Interface with Line Fault Detection (LFD) Alarm

Input/Output Parameters

Non-Hazardous Area Terminals 7 to 14

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

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

Non-hazardous area terminals 7 to 12 are connected to relay contacts which can switch up to 250V r.m.s or 5A r.m.s or 100VA

Hazardous Area Terminals 1 w.r.t. 2 / 3 (Channel 1)

Hazardous Area Terminals 4 w.r.t. 5 / 6 (Channel 2)*

$U_o = 10.5\text{V}$
 $I_o = 14\text{mA}$
 $P_o = 37\text{mW}$
 $C_i = 0$
 $L_i = 0$

- For MTL5516C & MTL5517 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 to 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/ExTR07.0127/00

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
CI4516-1	1 of 6	1	9.06	Parts List for MTL4516
CI4516-1	2 of 6	3	09.07	Circuit Diagram for MTL4516
CI4516-1	3 of 6	2	5.07	MTL4516 Track Layout
CI4516-1	4 of 6	3	9.07	MTL4516 Component Layout
CI4516-1	5 of 6	2	1.07	PCB Detail for TPL308
CI4500-100	1 of 1	1	8.06	MTL 4500 Case
CI5516-1	1 of 1	1	9.07	MTL5516C Certification Label Details and DIN rail fittings - Baseefa

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 07.0067



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: Baseefa07ATEX0211/1**
- 4 Equipment or Protective System: MTL5511 / MTL5514 / MTL5516C / MTL5517 Switch / Proximity Detector Interface**
- 5 Manufacturer: Measurement Technology Limited**
- 6 Address: Power Court, Luton, Bedfordshire LU1 3JJ**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa07ATEX0211 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 Customer Reference No. 0703

Project File No. 07/1051

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
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
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R S SINCLAIR
DIRECTOR
On behalf of
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Schedule

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Certificate Number Baseefa07ATEX0211/1

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

Variation 1.1

To permit minor changes to the PCB layout not affecting the previous 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
CI4516-1	3 of 6	3	12.07	MTL4516 Track Layout

The above drawing is associated and held with IECEx Certificate No. IECEx BAS 06.0041/4