

EC - TYPE EXAMINATION CERTIFICATE

- 1
- 2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**
- 3 EC - Type Examination Certificate Number: **Baseefa02ATEX0155**
- 4 Equipment or protective system: **MTL5018AC Two Channel Switch/Proximity Detector Interface**
- 5 Manufacturer: **MTL Instruments Pvt. Limited**
- 6 Address: **Sholinganallur, Chennai-600 119, India**
- 7 This equipment 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)0330 dated 20th November 2002
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014: 1997 + Amendments 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 of 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. **2372**

Project File No. **02/0330**

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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Derbyshire, SK17 9BJ

R S SINCLAIR

DIRECTOR

On behalf of

Baseefa (2001) Ltd.

Re-issued 22nd May 2003

Schedule

15 Description of Equipment or Protective System

The MTL5018AC Two Channel Switch/Proximity Detector Interface is designed to permit two safe area loads to be controlled via relay outputs by two switches or proximity detectors located in the hazardous area. Independent phase reversal control allows an alarm condition to be signalled for either state of the sensor. A selectable line fault detect (LFD) facility detects an open or short circuit in either field circuit.

The interface restricts the transfer of energy from unspecified safe-area apparatus to an intrinsically safe circuit by the limitation of voltage and current. A transformer and two opto-isolators provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The apparatus comprises a transformer, duplicated zener diodes and current limiting 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 the hazardous and non-hazardous connections.

Safe Area Terminals 7 to 9; Terminals 10 to 12 and Terminals 13 & 14

$$U_m = 265V$$

The circuit connected to the safe area terminals 1 & 4 is designed to operate from an a.c. supply voltage of up to 265V from 45 to 65Hz maximum.

Terminals 7 to 9 and 10 to 12 associated with relay contacts must be limited to either 250V ac or 125Vdc, 2000VA maximum.

Channel 1, Hazardous Area Terminals 1 to 3 or Channel 2, Hazardous Area Terminals 4 to 6

$$U_o = 10.5V$$

$$I_o = 14mA$$

$$P_o = 37mW$$

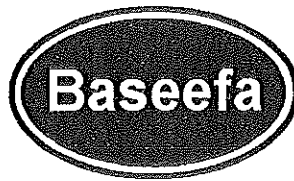
$$C_i = 0$$

$$L_i = 0$$

Each channel may be considered as a separate intrinsically safe circuit

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 for each output:

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu H/ohm$)
IIC	2.41	175		967
IIB	16.8	680		3870
IIA	75	1000		7740



16 Report No.

02/0330

17 Special Conditions for Safe Use

None

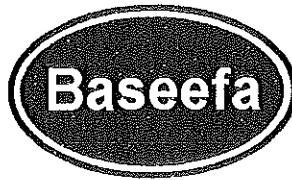
18 Essential Health and Safety Requirements

None additional to those covered by the standards listed at item 9

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
MTLI/CI50-018-01/1	1	2	11.02	MTL5018ac – Contents sheet
MTLI/CI50-018-01/1	2	2	11.02	MTL5018ac – Parts List
MTLI/CI50-018-01/1	3	2	11.02	MTL5018ac – Circuit Diagram
MTLI/CI50-018-01/1	4	2	11.02	MTL5018ac – Circuit Diagram
MTLI/CI50-018-01/1	5	2	11.02	MTL5018ac – PCB Track Layout
MTLI/CI50-018-01/1	6	2	11.02	MTL5018ac – Component Layout
MTLI/CI50-018-01/1	7	2	11.02	MTL5018ac – GA and Label
MTLI/CI50-018-01/1	8	2	11.02	MTL5018ac – Transformer Details
*CI4000-1	1	2	11.92	MTL4000 Series 2-core IS Transformer
*CI4000-1	2	2	11.92	MTL4000 Series 2-core IS Transformer

Drawings marked * are associated with and are held on BASEEFA Certificate BAS01ATEX7163



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: **Baseefa02ATEX0155/1**

4 Equipment or Protective System: **MTL5018AC Two Channel Switch/Proximity Detector Interface**

5 Manufacturer: **MTL INSTRUMENTS PVT LIMITED**

6 Address: **Sholinganallur, Chennai-600 119, India**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0155 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. 2372

Project File No. 03/0380

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.

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

Baseefa (2001) Ltd.

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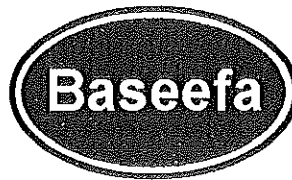
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R S SINCLAIR

DIRECTOR

On behalf of

Baseefa (2001) Ltd.



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Schedule

14

Certificate Number Baseefa02ATEX0155/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To permit the inclusion of two metal oxide varistors near to the safe area input to provide surge protection. The addition of these components to do alter 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
MTLI/CI50-018-01	1	3	04.03	MTL5018ac – Contents sheet
MTLI/CI50-018-01	3	3	04.03	MTL5018ac – Circuit Diagram
MTLI/CI50-018-01	4	3	04.03	MTL5018ac – Circuit Diagram
MTLI/CI50-018-01	5	3	04.03	MTL5018ac – PCB Track Layout
MTLI/CI50-018-01	6	3	04.03	MTL5018ac – Component Layout



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: **Baseefa02ATEX0155/2**

4 Equipment or Protective System: **MTL5018AC Two Channel Switch/Proximity Detector Interface**

5 Manufacturer: **MTL Instruments PVT Limited**

6 Address: **No 3 Old Mahabalipuram Road, Sholinganallur, Chennai 600 119, India**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0155 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.

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Baseefa Customer Reference No. **2372**

Project File No. **10/0593**

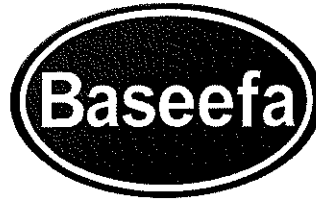
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e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

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

R/S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

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Certificate Number Baseefa02ATEX0155/2

15 Description of the variation to the Equipment or Protective System

Variation 2.1

To permit the use of an alternative PCB design and minor drawing changes that do not affect the original 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
MTLI/C150-018-01/3	1 of 8	4	06.10	MTL5018AC – Contents Sheet
MTLI/C150-018-01/3	3 & 4 of 8	4	06.10	MTL5018AC – Circuit Diagram
MTLI/C150-018-01/3	5 of 8	4	06.10	MTL5018AC – PCB Track Layout
MTLI/C150-018-01/3	6 of 8	4	06.10	MTL5018AC – PCB Component Layout
MTLI/C150-018-01/3	7 of 8	3	06.10	MTL5018AC – G.A and Label

These drawings are common to and held with IECEX BAS 05.0008 Iss 3