



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BAS 05.0008 Issue No: 3 Certificate history:
Status: **Current** Page 1 of 4 Issue No. 3 (2010-09-14)
Date of Issue: **2010-09-14** Issue No. 2 (2009-05-06)
Applicant: **MTL Instruments PVT Ltd** Issue No. 1 (2005-04-20)
No 3 Old Mahabalipuram Road
Sholinganallur
Chennai
India
Electrical Apparatus: **MTL5018ac Two Channel Switch / Proximity Detector Interface**
Optional accessory:
Type of Protection: **Intrinsic Safety**
Marking: IECEx BAS 05.0008
[Ex ia] IIC
-20°C ? Ta ? +60°C

*Approved for issue on behalf of the IECEx
Certification Body:*

R S Sinclair

Position:

Managing Director

*Signature:
(for printed version)*

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Baseefa
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom





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Certificate No: IECEx BAS 05.0008 Issue No: 3
Date of Issue: 2010-09-14 Page 2 of 4
Manufacturer: **MTL Instruments PVT Ltd**
No 3 Old Mahabalipuram Road
Sholinganallur
Chennai
India

Additional Manufacturing
location(s):
Measurement Technology Limited
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2000 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition:3.1
IEC 60079-11 : 1999 Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
Edition:4

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

IECEX ATR: File Reference:
UK/BAS/04/0866/1 04/0866



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

MTL5018ac Two Channel Switch / Proximity Detector Interface is designed to permit two loads in the non-hazardous area to be controlled via relay outputs by two switch / 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 detector (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 the intrinsically safe circuits by limitation of voltage and current.

The MTL5018ac Two Channel Switch/Proximity Detector Interface comprise electronic circuitry including a transformer, opto-isolators, duplicated zener diodes and current limiting resistors to provide voltage and current limitation. All are mounted on a printed circuit board and housed in a plastic enclosure. Polarised plug and sockets are provided for hazardous and non-hazardous area connections

See Annex for electrical data.

CONDITIONS OF CERTIFICATION: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 3.1

To permit the use of an alternative PCB design and minor drawing changes that do not affect the original assessment.

ExTR: **GB/BAS/ExTR10.0208/00**

File Reference: **10/0593**

Annex:

[IECEx BAS 05.0008 Annex.pdf](#)

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ANNEX to IECEx BAS 05.0008

Issue No. 0

Date: 2005/03/31

MTL5018ac Two Channel Switch / Proximity Detector Interface

Non-hazardous Area Terminals 7 to 9; Terminals 10 to 12 and Terminals 13 & 14

$$U_m = 265V$$

The circuit connected to the non-hazardous area terminals 13 and 14 is designed to operate from an a.c. supply voltage of up to 265V from 45 to 65Hz.

Terminals 7 to 9 and 10 to 12 associated with the relay contacts must be limited to either 250V a.c. or 125V d.c. 100VA 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 circuit 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 hazardous area load connected to each channel must not exceed the following values:

GROUP	CAPACITANCE (μ F)	INDUCTANCE (mH)	OR	L/R RATIO (μ H/ohm)
IIC	2.41	175		967
IIB	16.8	680		3,870
IIA	75.0	1,000		7,740