



# 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](http://www.iecex.com)

Certificate No.: IECEx BAS 05.0011 Issue No: 2 Certificate history:  
Status: **Current** Page 1 of 4 [Issue No. 2 \(2009-05-06\)](#)  
Date of Issue: **2009-05-06** [Issue No. 1 \(2005-06-01\)](#)

Applicant: **Measurement Technology Limited**  
Great Marlings  
Butterfield  
Luton  
Bedfordshire  
LU2 8DL  
**United Kingdom**

Electrical Apparatus: **MTL5082 Resistance Isolator**  
*Optional accessory:*

Type of Protection: **Intrinsic Safety**

Marking: IECEx BAS 05.0011  
[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](#).

Certificate issued by:

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





# IECEX Certificate of Conformity

Certificate No: IECEx BAS 05.0011 Issue No: 2

Date of Issue: 2009-05-06 Page 2 of 4

Manufacturer: **Measurement Technology Limited**  
Great Marlings  
Butterfield  
Luton  
Bedfordshire  
LU2 8DL  
**United Kingdom**

Additional Manufacturing  
location(s):

**MTL Instruments PVT Limited**  
No 3 Old Mahabalipuram Road  
Sholinganallur  
Chennai  
India

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:  
UK/BAS/04/0866/4

File Reference:  
04/0866



# IECEx Certificate of Conformity

Certificate No: IECEx BAS 05.0011

Issue No: 2

Date of Issue: 2009-05-06

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The MTL5082 Resistance Isolator is designed to restrict the transfer of energy from unspecified non-hazardous area apparatus to a resistor in the hazardous area by the limitation of voltage and current. A transformer and an opto-isolator provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The apparatus comprises an isolating transformer, an opto-isolator and a detection circuit protected by zener diodes / resistance combination to provide voltage and current limitation. A jack-socket is provided on the hazardous area side of the circuit for connection of a suitably certified data terminal for programming the apparatus. All of 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.

For apparatus parameters see data in Annexe.

**CONDITIONS OF CERTIFICATION: NO**



# IECEX Certificate of Conformity

---

Certificate No: IECEx BAS 05.0011

Issue No: 2

Date of Issue: 2009-05-06

Page 4 of 4

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

**Variation 2.1**

This document permits existing information (for example on Schedule Drawings) to be replaced by the revised certificate holders address. No other changes may be made to the certified design.

**Annex:**

[IECEX BAS 05.0011 Annex.pdf](#)

MTL5082 Resistance IsolatorApparatus ParametersNon-Hazardous Area Terminals 9 & 10, Terminals 11 & 12 & Terminals 13 & 14

$$U_m = 250V$$

The circuit connected to non-hazardous area terminals 9 & 10, terminals 11 & 12 and terminals 13 & 14 are designed to operate from a d.c. supply voltage of up to 35V.

Where fitted, terminals 10 & 11 associated with the relay contact are rated at 35V a.c. / d.c. and 1A.

Hazardous Area Terminals 1, 3, 4 & 5

$$U_o = 6.6V$$

$$I_o = 27mA$$

$$P_o = 0.05W$$

$$C_i = 0$$

$$L_i = 0$$

Hazardous Area Terminal 3 w.r.t. Terminal 1

$$U_o = 1.1V$$

$$I_o = 4mA$$

$$P_o = 1mW$$

$$C_i = 0$$

$$L_i = 0$$

Hazardous Area Connector CON6 (Jack Socket)

$$U_o = 7.2V$$

$$I_o = 15mA$$

$$P_o = 26mW$$

$$C_i = 0$$

$$L_i = 0$$

# Baseefa (2001) Ltd.

Rockhead Business Park  
Staden lane, Buxton  
Derbyshire  
SK17 9RZ  
United Kingdom



ANNEX to IECEx BAS 05.0011

Issue No. 0

Date: 2005/03/31

## Cable Parameters

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to terminals 1, 3, 4 & 5 must not exceed the following values:

GROUP	CAPACITANCE ( $\mu$ F)	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu$ H/ohm)
IIC	22	48.7		332
IIB	100	178.4		1,250
IIA	1,000	363.7		1,705

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to terminals 3 w.r.t. 1 and Connector CON6 must not exceed the following values: -

GROUP	CAPACITANCE ( $\mu$ F)	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu$ H/ohm)
IIC	13.5	153.5		998
IIB	240	591.4		1,563
IIA	1,000	1,000		1,563