



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 13.0031 Issue No: 0 Certificate history:
Issue No. 0 (2013-04-26)

Status: **Current** Page 1 of 3

Date of Issue: **2013-04-26**

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

Equipment: **MTL2213 3 Channel Switch / Proximity Detector Relay**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **[Ex ia Ga] IIC (-20°C to 60°C)**

Approved for issue on behalf of the IECEx
Certification Body:

R.S. Sinclair

Position:

General Manager

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:

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





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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 600119
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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*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

Test Report:

[GB/BAS/ExTR13.0084/00](#)

Quality Assessment Report:

[GB/BAS/QAR06.0022/03](#)

[GB/BAS/QAR07.0017/03](#)



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Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The MTL2213 3 Channel Switch / Proximity Detector Relay is designed to enable the independent control of three non-hazardous area loads by three switches or certified proximity detectors in a hazardous area and to restrict the transfer of energy from a non-intrinsically safe power source to these circuits by the limitation of voltage and current. Relays and a transformer provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The equipment comprises an isolating 120V / 240V a.c mains transformer, relays, zener diodes and current limiting resistors to provide voltage and current limitation. These, together with other electronic components are mounted on four printed circuit boards (PCB's) and housed in a plastic DIN rail mounted enclosure. External connection to the equipment is made via screw terminals on either side of the enclosure. LED indication is provided on the top of the enclosure to indicate the status of each channel.

The MTL2213 can be fitted with an alternative primary circuit and transformer to form a 24V d.c. powered variant of the equipment. This variant is housed in the same type of enclosure and has the same secondary circuit and external connections as the 120V / 240V a.c. variant. In terms of input and output parameters, both variants are identical.

See Certificate annex for electrical data.

CONDITIONS OF CERTIFICATION: NO

Annex:

[IECEx BAS 13.0031 Annex.pdf](#)

MTL2213 3 Channel Switch / Proximity Detector Relay

Non-Hazardous Area Supply Terminals 15 & 16:

$U_m = 253V_{r.m.s.}$

On the d.c version of the equipment, the circuit connected to terminals 15 & 16 is designed to operate from a d.c. supply voltage of up to 24V.

Non-Hazardous Area Relay Contact Terminals 9 to 14:

$U_m = 253V_{r.m.s.}$

The relay contact terminals 9 to 14 can switch up to 253V r.m.s, 5A r.m.s. and 100VA.

Hazardous Area Terminals 1 & 2, 3 & 4 and 5 & 6:

$U_o = 10.5V$ $C_i = 0$
 $I_o = 14mA$ $L_i = 0$
 $P_o = 37mW$

Hazardous Area Terminals 7 & 8:

$U_o = 10.5V$ $C_i = 0$
 $I_o = 1.1mA$ $L_i = 0$
 $P_o = 2.9mW$

Load Parameters

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

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu H/\Omega$)
Hazardous Area Terminals 1 & 2, 3 & 4 and 5 & 6				
IIC	2.41	175		967
IIB	16.8	680		3,869
IIA	75.0	1,000		7,739
Hazardous Area Terminals 7 & 8				
IIC	2.41	1,000		12,313
IIB	16.8	1,000		49,254
IIA	75.0	1,000		98,508

Notes:

- 1) The above load parameters apply when one of the two conditions below is given:
 - the total L_i of the external circuit (excluding the cable) is < 1% of the L_o value or
 - the total C_i of the external circuit (excluding the cable) is < 1% of the C_o value.

- 2) The above parameters are reduced to 50% when both of the two conditions below are given:
 - the total L_i of the external circuit (excluding the cable) is \geq 1% of the L_o value and
 - the total C_i of the external circuit (excluding the cable) is \geq 1% of the C_o value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups IIB & IIA and 600nF for Group IIC.