



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 TRC 11.0012X Issue No: 4 Certificate history:
Status: **Current** Page 1 of 4 Issue No. 4 (2017-05-08)
Date of Issue: **2017-05-08** Issue No. 3 (2016-12-21)
Applicant: **Michell Instruments Ltd.,** Issue No. 2 (2015-09-18)
Unit 48, Lancaster Way Business Park, Issue No. 1 (2014-10-24)
Ely, Cambridgeshire, Issue No. 0 (2013-01-18)
CB6 3NW
United Kingdom

Equipment: **Moisture in Liquids Analyser, Liquidew**
Optional accessory:

Type of Protection: **Flameproof**

Marking: Ex d IIB+H2 T4 Gb (Tamb = -40°C to +60°C) Ex d IIB+H2 T5 Gb (Tamb = -40°C to +44°C)

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

Stephen Winsor

Position:

Certification 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:

Element Materials Technology
Unit 1 Pendle Place
Skelmersdale
West Lancashire
WN8 9PN





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Manufacturer: **Michell Instruments Ltd.**,
Unit 48, Lancaster Way Business Park,
Ely,
Cambridgeshire,
CB6 3NW
United Kingdom

Additional Manufacturing location(s):

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 60079-1 : 2007-04 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:6

*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/EMT/ExTR17.0007/00
GB/TRC/ExTR11.0014/02

GB/TRC/ExTR11.0014/00
GB/TRC/ExTR11.0014/03

GB/TRC/ExTR11.0014/01

Quality Assessment Report:

GB/BAS/QAR07.0018/08



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Liquidew EExd Dewpoint Analyser is designed for on-line measurement of the water dew point within a liquid hydrocarbon sample stream. A microprocessor controls all the functions associated with sampling and data processing. The equipment incorporates a display behind the main enclosure glass and proximity switches allow the user to control operation.

The Liquidew is housed within an ATEX / IECEx component certified flameproof enclosure (JCE model GUB5, certificate numbers IECEx TRC12.0002U / TRAC12ATEX0008U) and has been assessed for use with group IIB+H2 gases.

High pressure microbore process lines enter and exit the flameproof housing via suitably rated sintered elements used to prevent flame propagation from the enclosure to the process (either Michell FA/BR range or M.A.M FT/VS 16090 range). The flameproof enclosure also incorporates a breathing device with sintered element (either Michell FA/BR range or M.A.M FT/VS 16090 range), to prevent pressure build up within the main enclosure should there be a leak from the process lines.

The maximum allowable flow rate of the liquid hydrocarbon sample stream into the flameproof enclosure is 0.3 LPM, with a maximum pressure of 80 Bar. This limit ensures pressure build-up within the enclosure is below 100 mBar above atmospheric pressure in the event of a leak in the sample stream. The process line is purged to ensure the process gas/fluid is above the upper explosive limit before applying power to the system.

The equipment can be supplied either uncoated, painted or powder coated.
Electrical characteristics: Input 90 - 260 Vac 50/60 Hz 180W.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Do not open when an explosive gas atmosphere may be present.
2. External cables shall be compatible with a temperature of 93°C (T5) or 109°C (T4)
3. Maximum process pressure shall not exceed 80 bar. Maximum permissible process pressure is marked on the equipment.
4. Maximum combined process flow into the enclosure shall not exceed 0.3 LPM.
5. All process lines shall be purged to ensure the process gas or liquid is above its upper explosive limit before applying power.
6. Where painted or powder coated, the enclosures could present an electrostatic hazard. Clean only with a damp or anti-static cloth.
7. The enclosure is to be earthed externally using the earth point provided.
8. Only suitably IECEx certified (as appropriate) cable glands and blanking elements shall be used.



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

- Replacement of Killark flame arrestors and breathers with either Michell FA/BR range or M.A.M FT/VS 16090 range.
- Ammendments to the ambient range and temperature class of the complete equipment. Previously the maximum surface temperature was based on the temperature rise measured on the flame arrestors under their previous approval.
- Reduced input flow parameters as requested by the manufacturer.
- Update to Special Conditions of Safe Use in line with variation covered under the scope of this project.

Annex:

[Annex to IECEx TRC 11.0012X issue 4.pdf](#)