

1 **EC TYPE EXAMINATION CERTIFICATE**

2 Equipment or protective system intended for use in potentially explosive atmospheres –  
3 Directive 94/9/EC – Annex III

4 EC Type Examination **TRL06ATEX21093X (incorporating variation V1)**  
5 Certificate No.:

6 Equipment: **LIQUIDEW EExd Dewpoint Analyser**

7 Manufacturer: **Michell Instruments Limited**  
8 Address: **48 Lancaster Way Business Park**  
9 **Ely**  
10 **Cambridgeshire**  
11 **CB6 3NW**

12 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

1 TRL Compliance Ltd, Notified Body number 0891 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or protective system intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report **XU1325/6930**.


9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in section 18 of the schedule to this certificate, has been assured by compliance with:

**EN50014:1997/A2:1999 and EN50018:2000**

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 in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of this equipment or protective system shall include the following:

 **II 2 G EEx d IIB+H<sub>2</sub> T4 Tamb = -40 °C to +60 °C**

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the TRL ATEX Certification Scheme.



S K Barrowcliff, Director, Safety Division

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Distribution:  
Michell Instruments Ltd. and TRL Compliance Ltd.  
Form RF355 is11

13 **SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE**

14 **TRL06ATEX21093X (incorporating variation V1)**

15 **General description of equipment or protective system included within the scope of this certificate**

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, providing a fully automatic monitoring system. The LIQUIDEW EExd incorporates a display directly behind the main enclosure glass and proximity switches allow the user to control operation.

All equipment is housed within a component certified flameproof enclosure suitable for use with group IIB+H2 gases. High pressure microbore process lines enter the ATEX certified flameproof enclosure (certificate number ISSeP 03ATEX004U) via four suitably rated sintered elements used to prevent flame propagation from the enclosure to the process. The flameproof enclosure also incorporates a previously tested breathing device with sintered element to prevent pressure build up within the main enclosure should there be a leak from the process lines.

Maximum permissible process pressure of the liquid hydrocarbon sample stream is 50 Bar. Maximum process flow rate is 2.6 LPM. The equipment is not designed to be used with process lines which contain a potentially explosive atmosphere, and the system shall be purged to ensure that no flammable gas atmosphere exists within the process lines before power may be applied to the enclosure.

The system shall only be used with liquid hydrocarbons with a gas group classification of Group IIB or lower.

**Scheduled drawings and documents**

<u>Document</u>	<u>Revision</u>	<u>Date</u>	<u>Pages</u>	<u>Description</u>
Ex90316	03	22/05/08	2	LIQUIDEW EExd ATEX Certification Drawing
97097	01	30/03/06	1	INSTALLATION MANUAL APPENDIX D - CERTIFICATION

16 **Test report No.:** XU1325/6930

17 **Special conditions for safe use**

1. Do not open when an explosive gas atmosphere may be present.
2. External cables shall be compatible with a temperature of 180°C.
3. Maximum process pressure shall not exceed 50 Bar.
4. Maximum process flow rate shall not exceed 2.6 LPM.
5. All process lines shall be purged to ensure no flammable gas atmosphere exists within the process lines before power may be applied to the enclosure.
6. Power to the equipment shall be removed if a leak in the process is evident.

18 **Essential health and safety requirements**

Covered by application of the standards listed in section 9 of this certificate and the assessment conducted in the test report listed in section 16 of this certificate.

CONTINUATION OF SCHEDULE TO CERTIFICATE TRL06ATEX21093X V1




19 Additional information (including special conditions for manufacture)

1. The manufacturer shall perform routine end of line tests on the internal pipe work. A pressure of 75 Bar (being 1.5 times the maximum allowable process pressure) shall be applied for a period not less than 10 minutes. The test is deemed satisfactory if there is no damage, deformation or loss of applied pressure.

Photograph



Details of markings

 <b>MICHELL</b> Instruments	
Lancaster Way Business Park, Ely, CB6 3NW, U.K. Int. Tel: +44(0)1353 658000 Int. Fax: +44(0)1353 658199	
LIQUIDEW EExd Water Dewpointmeter	
	II 2 G EEx d IIB+H <sub>2</sub> T4 TRL06ATEX21093X Tamb -40°C +60°C IP 66
	SERIAL No. <input type="text"/>
<p>DO NOT OPEN WHEN EXPLOSIVE GAS ATMOSPHERE MAY BE PRESENT. EXTERNAL CABLES MUST BE COMPATIBLE WITH A TEMPERATURE OF 180°C PROCESS PRESSURE NOT TO EXCEED 50 Bar. PROCESS FLOW SHALL NOT EXCEED 2.6 LPM. POWER TO EQUIPMENT SHALL BE REMOVED IF A LEAK IN THE PROCESS IS EVIDENT. PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS.</p>	
90 - 260Vac 50/60Hz 180W <span style="float: right;">61717</span>	

## CONTINUATION OF SCHEDULE TO CERTIFICATE TRL06ATEX21093X V1

### Details of variations to this certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

#### Variation V1

1. To incorporate a change of company address.

### Notes to CE marking

In respect of CE Marking, TRL Compliance Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.