



TRL Compliance
part of TRAC global

1 **EC TYPE EXAMINATION CERTIFICATE**

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

3 EC Type Examination **TRL04ATEX11060X (incorporating variations V1 and V2)**
Certificate No.:

4 Equipment: **CONDUMAX II**

5 Manufacturer: **Michell Instruments Limited**
6 Address: **48 Lancaster Way Business Park**
Ely
Cambridgeshire
CB6 3NW

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

8 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 reports **XU1139/5685** and **XU1603/8563**.

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+H2 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

Issue date: 14 July 2008

Copy No.: 1e

Page 1 of 4

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

● Moss View, Nipe Lane, Up Holland, West Lancashire, WN8 9PY, UK.
● T +44 (0)1695 556666
● F +44 (0)1695 557077
● E test@trlcompliance.com

TRAC
Testing, regulatory and compliance

13 **SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE**

14 **TRL04ATEX11060X (incorporating variation V1)**

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

The Condumax II Hydrocarbon Dewpoint Analyser is designed for reliable, accurate, on-line measurement of the hydrocarbon condensation temperature of natural gas. A microprocessor controls all the functions associated with sampling and data processing, providing a fully automatic and objective monitoring system.

The Condumax II is housed within a component certified flameproof enclosure suitable for use with IIB+H₂ gases. High pressure process lines (microbore) enter the flameproof housing via four suitably rated sintered elements (breathing devices) used to prevent flame propagation from the enclosure to the process. The flameproof enclosure also incorporates a breathing device with sintered element to prevent pressure build up within the main enclosure should there be a leak from the process lines.

The maximum allowable flow rate into the flameproof enclosure is 10 LPM, with a maximum pressure of 206 Bar for the water dewpoint circuit and 100 Bar for the hydrocarbon dewpoint circuit; these limits ensure pressure build-up within the enclosure is below 100mBar above atmospheric pressure. The process line is purged to ensure the process gas/fluid is above the upper explosive limit before applying power to the system

The Condumax II incorporates a display behind the main enclosure glass and proximity switches allow the user to control the operation.

CERTIFICATION PARAMETERS

Pi = 125 W

Process ratings: Maximum Pressure = 206 Bar
Maximum process Flow rate = 10 LPM

Scheduled drawings and documents

<u>Document</u>	<u>Revision</u>	<u>Date</u>	<u>Pages</u>	<u>Description</u>
Ex90289	4	25 Mar 08	3	CONDUMAX II CERTIFICATION DRAWING
97085	1	28 Sep 04	2	Hydrocarbon And Water Dewpoint Analyser, Installation And Maintenance Information

16 **Test report No.:** XU1603/8563

17 **Special conditions for safe use**

1. After de-energisation wait 45 Minutes before opening the enclosure.
2. External cables shall be compatible with a temperature of 120°C
3. Maximum process pressure shall not exceed 100 Bar for the hydrocarbon dewpoint circuit.
4. Maximum process pressure shall not exceed 206 Bar for the water dewpoint circuit.
5. Maximum combined process flow into the enclosure shall not exceed 10 LPM.
6. All process lines shall be purged to ensure the process gas or liquid is above its upper explosive limit before applying power.
7. 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 TRL04ATEX11060X

19 Additional information (including special conditions for manufacture)




1. Manufacturer shall perform routine end of line tests on the internal pipe work:

- The Hydrocarbon Dew point circuit shall be tested by applying a pressure of 150 Bar g for 10 minutes. The test is deemed satisfactory if there is no damage, deformation or loss of applied pressure.
- For Product applications up to a maximum 138 bar of the Water Dew point circuit shall be tested by applying a pressure of 207 Bar g for 10 minutes. The test is deemed satisfactory if there is no damage, deformation or loss of applied pressure.
- For Product applications up to a maximum 206 Bar of the Water Dew point circuit shall be tested by applying a pressure of 309 Bar g for 10 minutes. The test is deemed satisfactory if there is no damage, deformation or loss of applied pressure.

Photographs



Details of markings

 Lancaster Way Business Park, Ely, CB6 3NW, U.K. Int. Tel: +44(0)1353 658000 Int. Fax: +44(0)1353 658188	
CONDUMAX II Hydrocarbon Dewpointmeter	
	II 2 G EEx d IIB+H ₂ T4 TRL04ATEX11060X Tamb -40°C +60°C IP 66
	SERIAL No. <input type="text"/>
AFTER DE ENERGISATION WAIT 45 MINUTES BEFORE OPENING ENCLOSURE. EXTERNAL CABLES MUST BE COMPATIBLE WITH A TEMPERATURE OF 120°C PROCESS PRESSURE NOT TO EXCEED <input type="text"/> Bar. PROCESS FLOW SHALL NOT EXCEED 10LPM. POWER TO EQUIPMENT SHALL BE REMOVED IF A LEAK IN THE PROCESS IS EVIDENT. PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS.	
90 - 280Vac 50/60Hz 125W	61854

CONTINUATION OF SCHEDULE TO CERTIFICATE TRL04ATEX11060X

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. A Change to Bill of Material to allow additional option of Senstronics pressure transmitters.
2. The Keypad PCB aperture has changed from 80 mm x 52 mm to 100 mm x 52 mm.

- **Variation V2**

1. A change of company address.
2. The fitting of an alternative flow switch (Model 125, manufactured by GTE) as an alternative to the existing unit (Model LPH 125, manufactured by GTE).

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.