

# 1 EU - TYPE EXAMINATION CERTIFICATE

## 2 Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III

3 EU - Type Examination Certificate No.: **TRAC11ATEX21319X V5 (incorporating variations V1 to V5)**

4 Product: **Condumax II : Hydrocarbon Dewpoint Analyser  
Promet EExd : Process Moisture Analyser**

5 Manufacturer: **Michell Instruments Ltd.**

6 Address: **Unit 48, Lancaster Way Business Park, Ely, Cambridgeshire,  
CB6 3NW, United Kingdom**

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 **TRA-024251-33-01A, TRA-024251-33-01B, TRA-031433-33-00A, TRA-035543-33-00A, TRA-005554-33-01A, TRA-024251-33-03A, TRA-024251-33-03B, TRA-035543-33-00A & TRA-050408-33-00A**



9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN IEC 60079-0:2018                      EN 60079-1:2014**

Except in respect of those requirements listed at section 18 of the schedule.

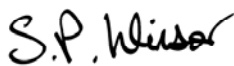
10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

	<b>II 2 G</b>	<b>Ex db IIB + H2 T6 Gb</b>	<b>(Tamb = -40 °C to +44 °C)</b>	Model Condumax II
		<b>Ex db IIB + H2 T5 Gb</b>	<b>(Tamb = -40 °C to +59 °C)</b>	Model Condumax II
		<b>Ex db IIB + H2 T3 Gb</b>	<b>(Tamb = -40 °C to +60 °C)</b>	Model Condumax II
		<b>Ex db IIB T4 Gb</b>	<b>(Tamb = -40 °C to +60 °C)</b>	Model Condumax II
	<b>II 2 G</b>	<b>Ex db IIB + H2 T5 Gb</b>	<b>(Tamb = -40 °C to +44 °C)</b>	Model Promet EExd
		<b>Ex db IIB + H2 T4 Gb</b>	<b>(Tamb = -40 °C to +60 °C)</b>	Model Promet EExd
		<b>Ex db IIB + H2 T3 Gb</b>	<b>(Tamb = -40 °C to +60 °C)</b>	Model Promet EExd
		<b>Ex db IIB T4 Gb</b>	<b>(Tamb = -40 °C to +60 °C)</b>	Model Promet EExd

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S P Winsor, Certification Manager

Issue date: 2020-07-14

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CSF355-NL 2.0

**13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**

**14 CERTIFICATE NUMBER TRAC11ATEX21319X (incorporating variations V1 to V5)**

**15 Description of Product**

The Condumax II and Promet EExd are a family of online gas measurement equipment designed for use in a potentially explosive gaseous atmosphere.

The Condumax II Hydrocarbon Dewpoint Analyser measures the hydrocarbon condensation temperature of natural gas.

The Promet EExd Process Moisture Analyser measures the water dew point within a gas sample stream.

The equipment architecture is an ATEX & IECEx component certified flameproof enclosure (JCE model GUB5, certificate numbers IECEx TRC12.0002U and TRAC12ATEX0008U) and has been assessed for use with group IIB + H<sub>2</sub> gases (IIB when using Killark KBQA M20 breather).

A microprocessor controls all the functions associated with sampling and data processing. Proximity switches and a display behind the main enclosure provide the user interface.

High pressure microbore process lines enter and exit the flameproof housing via suitably rated flame arrestors 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 suitably rated breathing devices(s) (either Michell FA/BR range, M.A.M FT/VS 16090 range or Killark KBQA M20 / ½" NPT). The purpose of the breathing device is to prevent pressure build up within the flameproof enclosure should there be a leak from the process lines.

The maximum allowable flow rate into the flameproof enclosure is 1.5 LPM, with a maximum pressure of 138 bar when Killark breathing used and 60 bars when M.A.M or Michell breathing used. These limits ensure pressure build-up within the enclosure is below 100 mbar 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 equipment can be supplied either uncoated, painted or powder coated.

Electrical characteristics Input: 90-260 V AC 50/60 Hz 125 W Condumax II.

90-260 V AC 50/60 Hz 180 W Promet EExd.

The Temperature class is dependent on which Breathing device is fitted see table.

Equipment	Breathing Device	T <sub>amb</sub>	T Class	Gas group	Max process pressure (bar)
Condumax II	M.A.M or Michell	-40 °C to +44 °C	T6	IIB + H <sub>2</sub>	60
		-40 °C to +59 °C	T5	IIB + H <sub>2</sub>	60
Promet EExd	M.A.M or Michell	-40 °C to +44 °C	T5	IIB + H <sub>2</sub>	60
		-40 °C to +60 °C	T4	IIB + H <sub>2</sub>	60
Condumax II & Promet EExd	Killark KBQA M20 or Killark KBQA ½" NPT	-40 °C to +60 °C	T4	IIB	138
		-40 °C to +60 °C	T3	IIB + H <sub>2</sub>	138

**16 Test Report No. (as added for this issue of the certificate): TRA-050408-33-00A**

## SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

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### 17 Specific Conditions of Use

1. Do not open when an explosive gas atmosphere may be present.
2. External cables shall be compatible with a temperature of 80 °C for T6; 95 °C for T5; 96 °C for T4/T3 for Condumax II and 93 °C for T5, 109 °C for T4/T3 for Promet EExd.
3. Maximum process pressure shall not exceed 138 bar when Killark breathing fitted or 60 bar when Michell/M.A.M breathing fitted.
4. Maximum combined process flow into the enclosure shall not exceed 1.5 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 ATEX / IECEx certified (as appropriate) cable glands and blanking elements shall be used.



Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

### 18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

### 19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

### 20 Routine Tests

1. The containment system shall withstand a test pressure of at least 207 bar when Killark breathing fitted and at least 90 bar when Michell/MAM breathing fitted for not less than 120 seconds in accordance with EN/IEC 60079-1 Clause G.4.1. There shall be no damage or deformation which may impair the explosion protection properties of the equipment.

### 21 Specific Conditions for Manufacture

None.

### 22 Photographs

Condumax II



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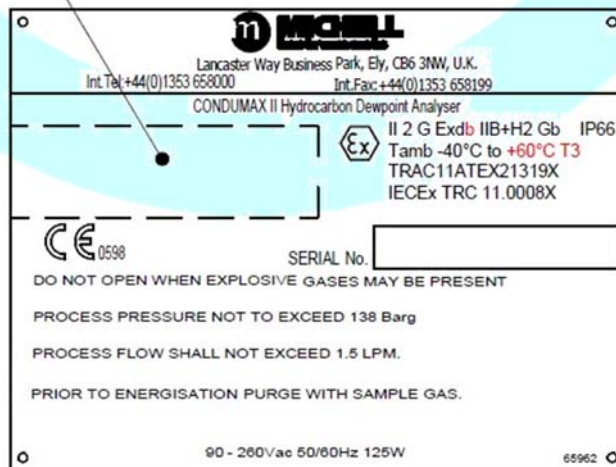
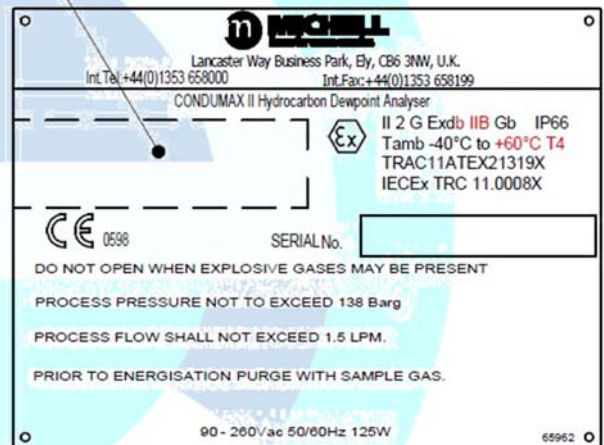
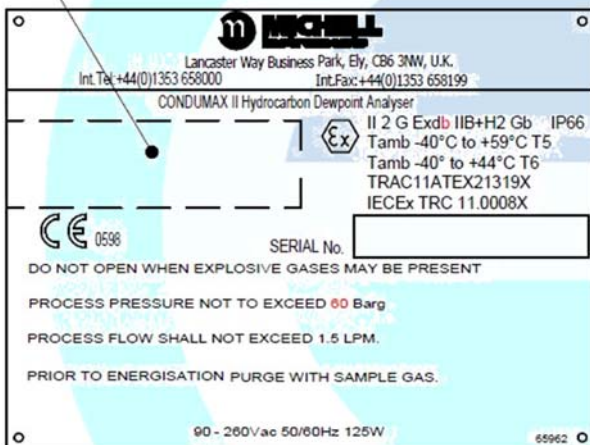
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Promet EExd



23 Details of Markings

CONDUMAX II





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PROMET EExd

**MICHELL**  
Lancaster Way Business Park, Ely, CB6 3NW, U.K.  
Int.Tel:+44(0)1353 658000 Int.Fax:+44(0)1353 658199

PROMET EExd Process Moisture Analyser

II 2 G Exdb IIB+H2 Gb IP66  
Tamb -40°C to +60°C T4  
Tamb -40° to +44°C T5  
TRAC11ATEX213219X  
IECEX TRC 11.0008X

CE 0598 SERIAL No. [ ]

DO NOT OPEN WHEN EXPLOSIVE GASES MAY BE PRESENT

PROCESS PRESSURE NOT TO EXCEED 60 Barg

PROCESS FLOW SHALL NOT EXCEED 1.5 LPM.

PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS.

90 - 260V/ac 50/60Hz 180W 65962

**MICHELL**  
Lancaster Way Business Park, Ely, CB6 3NW, U.K.  
Int.Tel:+44(0)1353 658000 Int.Fax:+44(0)1353 658199

PROMET EExd Process Moisture Analyser

II 2 G Exdb IIB Gb IP66  
Tamb -40°C to +60°C T4  
TRAC11ATEX21319X  
IECEX TRC 11.0008X

CE 0598 SERIAL No. [ ]

DO NOT OPEN WHEN EXPLOSIVE GASES MAY BE PRESENT

PROCESS PRESSURE NOT TO EXCEED 138 Barg

PROCESS FLOW SHALL NOT EXCEED 1.5 LPM.

PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS.

90 - 260V/ac 50/60Hz 180W 64995

**MICHELL**  
Lancaster Way Business Park, Ely, CB6 3NW, U.K.  
Int.Tel:+44(0)1353 658000 Int.Fax:+44(0)1353 658199

PROMET EExd Process Moisture Analyser

II 2 G Exdb IIB+H2 Gb IP66  
Tamb -40°C to +60°C T3  
TRAC11ATEX21319X  
IECEX TRC 11.0008X

CE 0598 SERIAL No. [ ]

DO NOT OPEN WHEN EXPLOSIVE GASES MAY BE PRESENT

PROCESS PRESSURE NOT TO EXCEED 138 Barg

PROCESS FLOW SHALL NOT EXCEED 1.5 LPM.

PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS.

90 - 260V/ac 50/60Hz 180W 64995

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#### 24 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 – Change of flame arrestors, update of special conditions for safe use.
- Variation V1 issue 2 – update of label. No other change.
- Variation V2 -- Addition of an Optics control pcb and update to drawings.
- Variation V3 -- Replacement of flame arrestors and breathers resulting in changes to ambient range, temperature class and an update to the special conditions of use
- Variation V4 – This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation.
- Variation V5 – Update to latest standards. Inclusion of additional options when fitted with a breather device. Addition of model Promet EExd previously listed under TRAC11ATEX21320X V2.

#### 25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

#### 26 Notes to this certificate

Element Materials Technology certification reference: ERO032645P30 (GU-MILQ-0004).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

#### 27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

- (i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.
- (ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

**SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE****CERTIFICATE NUMBER TRAC11ATEX21319X (incorporating variations V1 to V5)****APPENDIX A - TECHNICAL DOCUMENTS**

<b>Title:</b>	<b>Drawing No.:</b>	<b>Rev. Level:</b>	<b>Date:</b>
CONDUMAX II and PROMET EExd IECEX & ATEX CERTIFICATION DRAWING (8 sheets)	Ex90530	05	2020-05-15
PROMET EExd User's Manual (Pages 80 & 81)	97090	-	2020-05
Condumax II User's Manual (Pages 80 & 81)	97081	-	2020-05

*Note: The symbol " - " indicates that this information was not available.*