

1 **UNITED KINGDOM CONFORMITY ASSESSMENT**

2 **UK TYPE EXAMINATION CERTIFICATE**

3 **Product or Protective System Intended for use in Potentially Explosive Atmospheres**

4 **SI 2016:1107 (as amended by SI 2019:696) – Schedule 3A, Part 1**

5 Type Examination Certificate No.: **EMA21UKEX0002X**

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

7 Manufacturer: **Michell Instruments Ltd.,**

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

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

10 Element Materials Technology, Approved Body number 0891, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, SI 2016:1107 (as amended by SI 2019:696), 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 Schedule 1 of the Regulations.

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


11 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.

12 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.

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

14 The marking of this product shall include the following:

 **II 2 G** followed by the detail from the table under section 15

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S.P. Winsor

S P Winsor, Certification Manager

Issue date: 2021-01-15

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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 + H₂ 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 as per this table:

Equipment	Breathing Device	T _{amb}	T Class	Gas group	Max process pressure (bar)
Condumax II	M.A.M or Michell	-40 °C to +44 °C	T6	IIB + H ₂	60
		-40 °C to +59 °C	T5	IIB + H ₂	60
Promet EExd	M.A.M or Michell	-40 °C to +44 °C	T5	IIB + H ₂	60
		-40 °C to +60 °C	T4	IIB + H ₂	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 ₂	138

Hence the marking of this product shall include the following:

 II 2 G	Ex db IIB + H ₂ T6 Gb	(T _{amb} = -40 °C to +44 °C)	Model Condumax II
	Ex db IIB + H ₂ T5 Gb	(T _{amb} = -40 °C to +59 °C)	Model Condumax II
	Ex db IIB + H ₂ T3 Gb	(T _{amb} = -40 °C to +60 °C)	Model Condumax II
	Ex db IIB T4 Gb	(T _{amb} = -40 °C to +60 °C)	Model Condumax II
 II 2 G	Ex db IIB + H ₂ T5 Gb	(T _{amb} = -40 °C to +44 °C)	Model Promet EExd
	Ex db IIB + H ₂ T4 Gb	(T _{amb} = -40 °C to +60 °C)	Model Promet EExd
	Ex db IIB + H ₂ T3 Gb	(T _{amb} = -40 °C to +60 °C)	Model Promet EExd
	Ex db IIB T4 Gb	(T _{amb} = -40 °C to +60 °C)	Model Promet EExd

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16 Test report No. (associated with this certificate issue): 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

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 (Regulations Schedule 1)

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.

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22 Photographs

Condumax II



Promet EExd



23 Details of Markings

Details appearing in this box are unconnected with TRaC ATEX & IECEx assessment

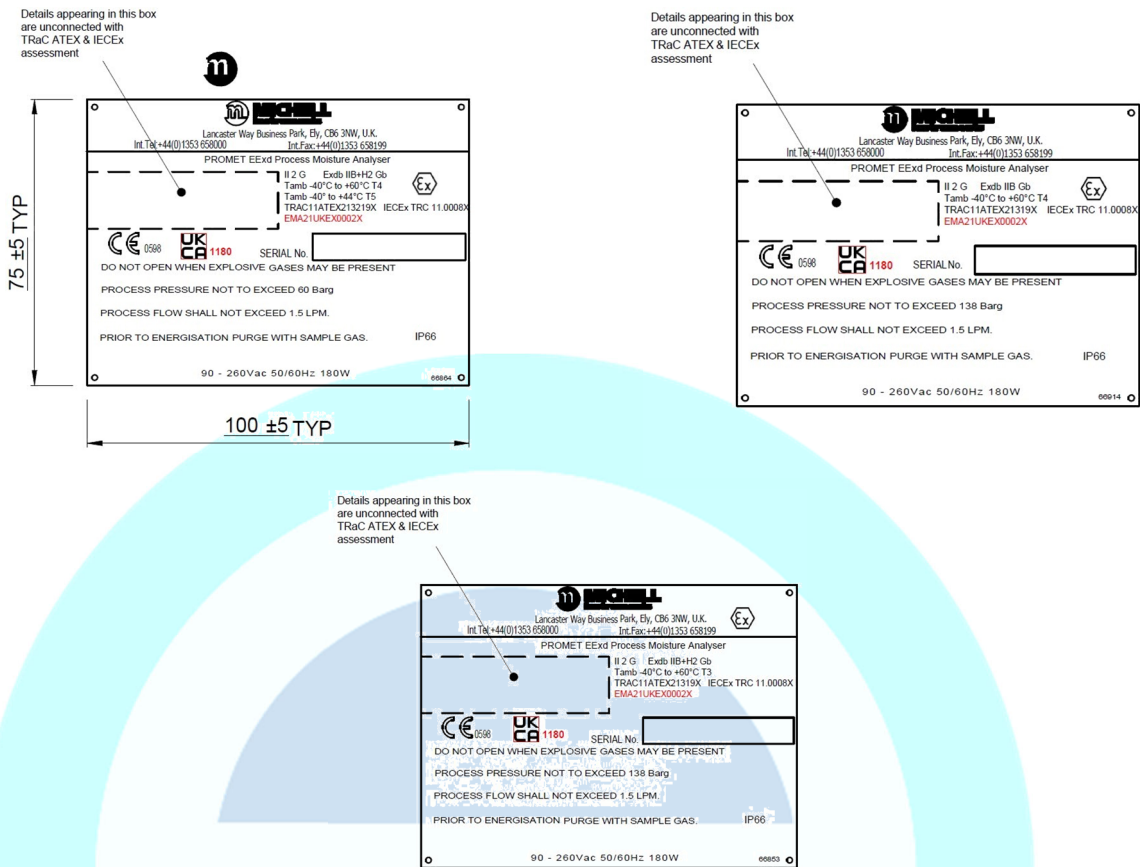
Details appearing in this box are unconnected with TRaC ATEX & IECEx assessment

75 ±5 TYP	<p>Lancaster Way Business Park, Ely, CB6 3NW, U.K. Int. Tel: +44(0)1353 658000 Int. Fax: +44(0)1353 658199</p> <p>CONDUMAX II Hydrocarbon Dewpoint Analyser</p> <p>II 2 G Exd II B+H2 Gb Tamb: -40°C to +59°C T5 Tamb: -40° to +44°C T5 TRAC11ATEX01319X IECEx TRC 11.0008X EMA21UKEX0002X</p> <p>CE 0598 UK CB 1180 SERIAL No. []</p> <p>DO NOT OPEN WHEN EXPLOSIVE GASES MAY BE PRESENT</p> <p>PROCESS PRESSURE NOT TO EXCEED 60 Barg</p> <p>PROCESS FLOW SHALL NOT EXCEED 1.5 LPM.</p> <p>PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS. IP66</p> <p>90 - 260Vac 50/60Hz 12SW 00013 0</p>	<p>Lancaster Way Business Park, Ely, CB6 3NW, U.K. Int. Tel: +44(0)1353 658000 Int. Fax: +44(0)1353 658199</p> <p>CONDUMAX II Hydrocarbon Dewpoint Analyser</p> <p>II 2 G Exd II B Gb Tamb: -40°C to +60°C T4 TRAC11ATEX01319X IECEx TRC 11.0008X EMA21UKEX0002X</p> <p>CE 0598 UK CB 1180 SERIAL No. []</p> <p>DO NOT OPEN WHEN EXPLOSIVE GASES MAY BE PRESENT</p> <p>PROCESS PRESSURE NOT TO EXCEED 138 Barg</p> <p>PROCESS FLOW SHALL NOT EXCEED 1.5 LPM.</p> <p>PRIOR TO ENERGISATION PURGE WITH SAMPLE GAS. IP66</p> <p>90 - 260Vac 50/60Hz 12SW 00015 0</p>
	100 ±5 TYP	

Details appearing in this box are unconnected with TRaC ATEX & IECEx assessment

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24 Certificate History

Original certificate 2021-01-15 First issue.

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations and amendments.

25 Notes to UKCA marking

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

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26 Notes to this certificate

Element Materials Technology certification reference: TRA-052656-01 (GU-MILQ-0006).

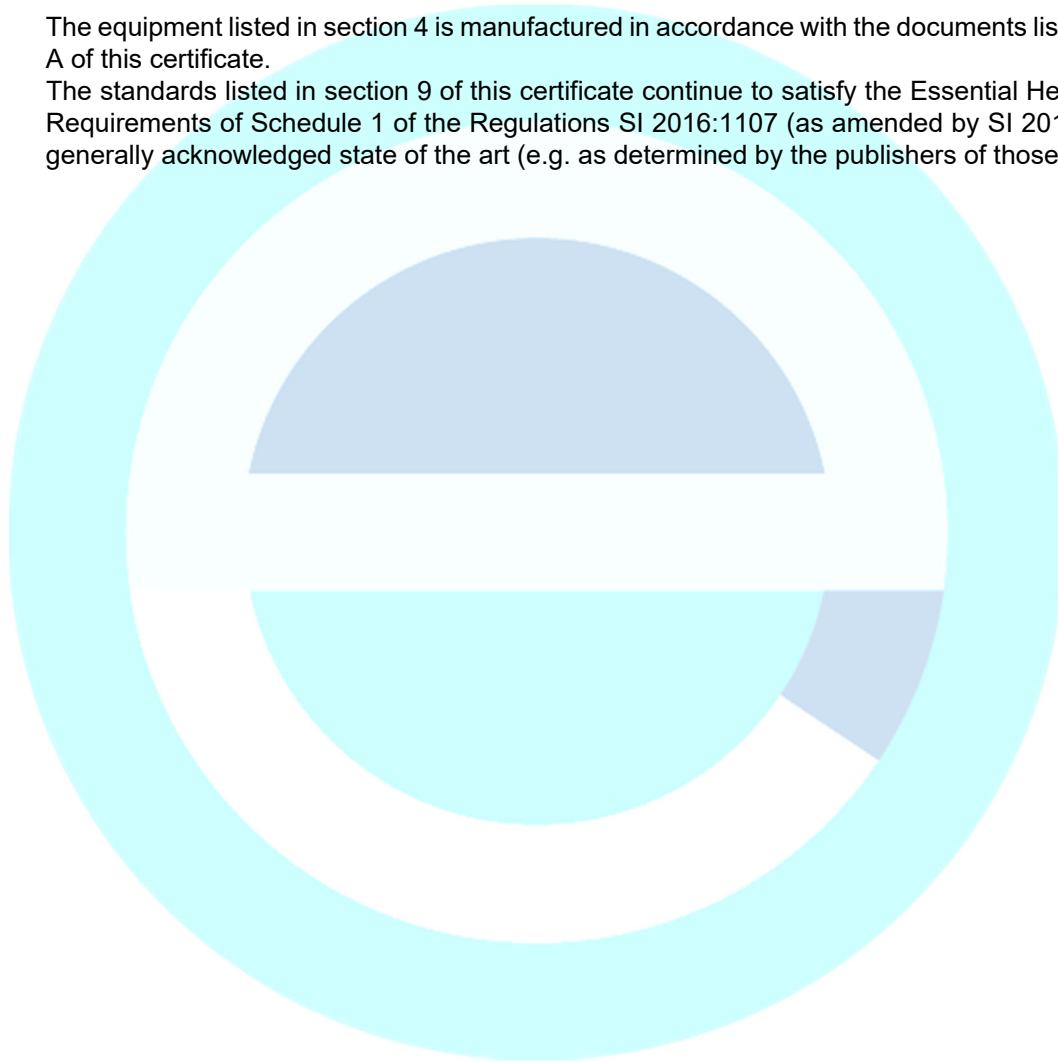
Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Approved Body 0891 is the designation for Element Materials Technology Warwick Ltd.

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 Schedule 1 of the Regulations SI 2016:1107 (as amended by SI 2019:696) and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).



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APPENDIX A - TECHNICAL DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
CONDUMAX II and PROMET EExd IECEX & ATEX CERTIFICATION DRAWING (8 sheets)	Ex90530	06	2020-11-25
PROMET EExd User's Manual – Appendix G (2 sheets)	97090	16.4	2021-01
Condumax II User's Manual – Appendix G (2 sheets)	97081	29.4	2021-01

