

1 UNITED KINGDOM CONFORMITY ASSESSMENT

UK TYPE EXAMINATION CERTIFICATE

2 **Product or Protective System Intended for use in Potentially Explosive Atmospheres**
SI 2016:1107 (as amended by SI 2019:696) – Schedule 3A, Part 1

3 Type Examination Certificate No.: **EMA21UKEX0003X**

4 Product: **Gas Moisture Analyzer, OptiPEAK TDL600**

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, 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-009172-33-00A, TRA-015648-33-00A, TRA-026382-32-00, TRA-044475-33-00A & TRA-051458-33-00A.**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-11:2012

EN 60079-28:2015

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

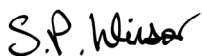
10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This 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.

12 The marking of this product shall include the following:

 **II 2 G Ex db ib op is IIC T5 Gb Ta = -20 °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 Element Materials Technology Ex Certification Scheme.



S P Winsor, Certification Manager

Issue date: 2021-01-15

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13 SCHEDULE TO UK TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER EMA21UKEX0003X

15 Description of Product

The Michell Instruments OptiPEAK TDL600 is a Tuneable Diode Laser (TDL) Gas Analyzer is designed for online measurements by means of a tuneable diode laser analyzer to measure gas composition, typically of natural gas. The optical analysis technique provides a non-contact sensor measurement of the sample gas stream. A microprocessor controls all functions associated with sampling and data processing, providing a fully automatic and objective monitoring system.

The all of the control, processing, power supply and laser signal generation functions of the analyzer of the OptiPEAK TDL600 are housed within an ATEX and IECEx component certified flameproof enclosure (JCE model GUB5, certificate numbers IECEx TRC12.0002U / TRAC12ATEX0008U) suitable for use with IIC gases. Mounted directly behind, and inside of the flameproof enclosure glass window, is a controlling interface operated by through glass proximity switches and a display module.

A tubular cylinder, separate from the flameproof enclosure, provides the location at which an analysis measurement is made. A flexible conduit connects the flameproof enclosure to the tubular cylinder. The flexible conduit is terminated at the entry of the flameproof enclosure via an ATEX / IECEx certified barrier conduit gland. Through the flexible conduit passes an optical fibre transmitting the laser generated optical output signal and a hardwired photo-detected input signal. The tubular cylinder consists of a sealed cylindrical chamber with gas in and out ports through which passes the gas stream to be measured. At one end of the measurement chamber an additional segregated sealed chamber is provided in which is housed the connection for the flexible conduit, and the mount & termination points for the optical fibre and photo detector device.

The optical signal is emitted through a sealed window along the length of the chamber containing the gas sample stream. A passive optical device returns the optical signal back through the sealed window on to the photo detector device. A filter connected to the inlet port of the measurement cylinder removes any particulate matter greater than 1.0 micrometre.

The equipment can be supplied either uncoated, painted or powder coated.

Electrical input rating 90-260 Vac 50/60Hz 180W

16 Test report No. (associated with this certificate issue): TRA-009172-33-00A, TRA-015648-33-00A, TRA-026382-32-00, TRA-044475-33-00A & TRA-051458-33-00A.

17 Specific Conditions of Use

1. Do not open when an explosive gas atmosphere may be present.
2. Do not open when energised.
3. External cables shall be compatible with a maximum temperature of 90 °C.
4. Only suitably IECEx or ATEX certified (as appropriate to the equipment application) cable glands, conduit entry devices and blanking elements shall be used.
5. The enclosure must be earthed externally using the earth point provided.
6. Where painted or powder coated, the enclosures could present an electrostatic hazard. Clean only with a damp or anti-static cloth.



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

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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

None.

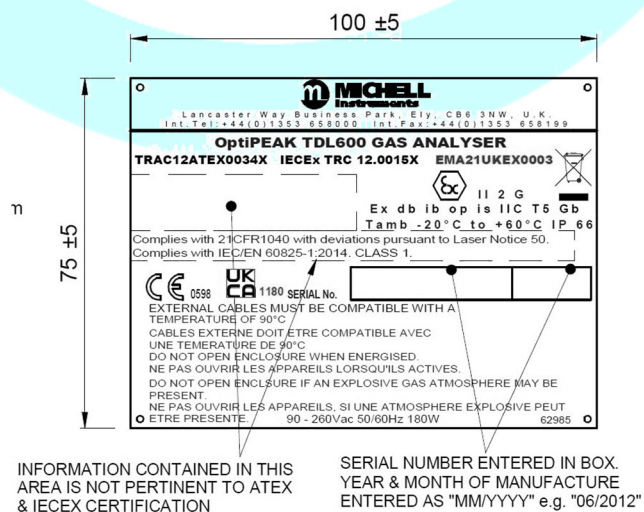
21 Specific Conditions for Manufacture

None.

22 Photographs



23 Details of Markings



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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.

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:
OptiPEAK TDL600 Gas Analyser IECEx and ATEX Certification Drawing (4 pages)	Ex90498	5	2020-11-20
TDL600 OptiPEAK - User's Manual – Appendix G (2 pages)	97319	4.6	2021-01
“ib” Protection circuit PCB details	Ex83357	2	2018-11-22
OptiPEAK TDL600 ib protection circuit PARTS LIST	Ex83357	2	2018-11-22
Signal Input ib protection circuit PARTS LIST	EX83886	2	2018-11-22
ib PROTECTION CIRCUIT PCB DETAILS	Ex83886	2	2018-11-22