

UK Type Examination Certificate CML 24UKEX1183X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Gas Moisture Analyzer, OptiPEAK TDL600**
- 3 Manufacturer **Michell Instruments Ltd**
- 4 Address **48 Lancaster Way Business Park, Ely,
Cambridgeshire, CB6 3NW,
United Kingdom**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

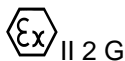
EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-11:2012

EN 60079-28:2015

10 The equipment shall be marked with the following:



Ex db ib op is IIC T5 Gb

Ta=-20°C to +60°C





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11 Description

The Michell Instruments OptiPEAK TDL600 is a Tuneable Diode Laser (TDL) Gas Analyzer, and it is designed for online measurements by means of a tuneable diode laser analyser that measures 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.

All the control, processing, power supply and laser signal generation functions of the OptiPEAK TDL600 analyser are housed within an ATEX component certified flameproof enclosure (JCE model GUB5, certificate number 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 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.

Notes:

- EMA21UKEX0003X. is superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by EMA21UKEX0003X.
- Where EMA21UKEX0003X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.



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12 Certificate history and evaluation reports

Issue	Date	Associated Report	Notes
1	04 Nov 2024	R17814A/00	Prime Issue

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

14 Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

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

Certificate Annex

Certificate Number CML 24UKEX1183X
Equipment Gas Moisture Analyzer, OptiPEAK TDL600
Manufacturer Michell Instruments Ltd



The following documents describe the equipment defined in this certificate:

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Drawing No	Sheets	Rev	Approved Date	Title
Ex90498	1 to 5	06	04 Nov 2024	OptiPEAK TDL600 GAS ANALYZER ATEX/IECEX/UKCA CERTIFICATION DRAWING LAYOUT DETAILS
Ex83357	1 of 1	03	04 Nov 2024	OptiPEAK TDL600 GAS ANALYZER ib PROTECTION CIRCUIT PCB DETAILS
Ex83886	1 of 1	03	04 Nov 2024	OptiPEAK TDL600 GAS ANALYZER ib PROTECTION CIRCUIT PCB DETAILS