



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX SIR 16.0020X** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2016-09-15** Page 1 of 4

Applicant: **Neo Monitors AS**
Prost Stabels vei 22
N-2019 Skedsmokorset
Norway

Equipment: **LaserGas iQ2 Gas Analyser**
Optional accessory:

Type of Protection: **Pressurised**

Marking: Ex pxb IIC T6 Gb
Ex pxb IIIC T85°C Db
Ta = -40°C to +55°C

Approved for issue on behalf of the IECEx Certification Body: **N Jones**

Position: **R.A. CRAIG**
18 Certification Manager

Signature:
(for printed version)

Date:

2016-09-15

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





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Manufacturer: **Neo Monitors AS**
Prost Stabels vei 22
N-2019 Skedsmokorset
Norway

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-2 : 2014-07 Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"
Edition: 6

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
[GB/SIR/ExTR16.0228/00](#)

Quality Assessment Report:
[NO/DNV/QAR12.0012/02](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The LaserGas iQ² gas analyser is an optical instrument utilising a transmitter and receiver unit in one enclosure, with a separate mirror unit used to reflect the transmitted infrared laser light back to the receiver unit. The light, having made two separate passes through the process gas, is then analysed using a process of single-line absorption spectroscopy.

The LaserGas iQ² is comprised of a main purged enclosure with a glass window, and is supplied with a mirror unit accessory.

The equipment may also be supplied with a junction box for connection of external circuits, however that is not assessed in this report or included within the scope of this certificate.

The main enclosure is constructed of an aluminium frame with aluminium side panels and silicone rubber gaskets forming the purged enclosure. The enclosure also has a secondary aluminium cover for additional mechanical protection.

The main enclosure has a cylindrical protrusion from the front end which houses the glass transmitter and receiver lens. This may be equipped with either a flanged joint or a window protector guard for use in industrial stacks or open-path areas respectively.

The main enclosure houses all the electronics and controllers, including transmitter PCB, receiver PCB, LAN switch, laser modules and span check cell.

The equipment is supplied with a mirror unit accessory, intended to be mounted directly opposite the window of the main enclosure to reflect the instrument lasers.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The temperature of the protective gas shall not exceed 40°C.
2. This enclosure contains an internal component which may exceed the marked temperature class, therefore it shall not be opened for at least 5 minutes after power has been removed.
3. Power shall not be restored after the equipment has been opened until all combustible dust accumulations within the enclosure have been removed, and the enclosure has been purged for at least 8 minutes at a flow rate of 20 l/min.
4. The end user shall ensure that any alarms provided with the purge controller (such as overpressure or under pressure alarms) are connected in accordance with the manufacturer's instructions.



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EQUIPMENT(continued):

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The equipment shall be supplied with a suitably certified purge controller, which shall exhibit the following characteristics:
 - Maintain an overpressure of ≥ 0.8 mbar within the purged enclosures.
 - Purge with air or an inert gas for a duration of at least 8 minutes at a flow rate of at least 20 L/min before energisation, and thereafter maintain the minimum overpressure within the enclosure.
 - Prevent the internal overpressure exceeding 10 mbar.
 - In addition, the manufacturer shall take all reasonable steps to ensure that the user/installer complies with any restrictions and special conditions for certification associated with the purge controller; they shall also provide an appropriate copy of the certificate that is applicable to the device.
2. The system comprising the LaserGas iQ² gas analyser and the purge controller shall be tested by the manufacturer after assembly to check the operation of all features necessary for safe use, particularly:
 - Under pressure - The low pressure switch shall operate if the enclosure overpressure falls below the minimum specified above.
 - Purge flow failure - The purging system (including the timer) shall reset to the beginning of the purge cycle if the purging air flow rate (measured at the outlet) falls below the minimum specified above.
3. Each and every LaserGas iQ² gas analyser shall be subjected to a routine overpressure test of 15 mbar for a period of 2 min \pm 10 s, in accordance with Clause 16.2 of IEC 60079-2:2014. There shall be no permanent deformation.
4. Each and every LaserGas iQ² gas analyser shall be subjected to a routine leakage test, in accordance with Clause 16.3 of IEC 60079-2:2014. The leakage flow rate shall not exceed 2 litre/min.
5. There shall be no intervening valves between the overpressure safety device and the enclosure and it shall be located such that it is possible to show correct operation.