



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEX CML 21.0170X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2022-02-09)

Status: **Current** Issue No: 1

Date of Issue: 2023-04-25

Applicant: **Endress+Hauser Optical Analysis Inc. / SpectraSensors Inc.**
11027 Arrow Route
Rancho
Cucamonga CA 91730
United States of America

Equipment: **Optical Oxygen Analyzer, OXY5500**

Optional accessory:

Type of Protection: **Increased Safety "ec"**

Marking: Ex ec IIC T3 Gc, IP66
Ta= Up to -20°C to +60°C
IP66

Approved for issue on behalf of the IECEx
Certification Body:

A Snowden

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

2023-04-25

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Manufacturer: **Endress+Hauser Optical Analysis Inc. / SpectraSensors Inc.**
11027 Arrow Route
Rancho
Cucamonga CA 91730
United States of America

Manufacturing
locations:

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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 Reports:

[GB/CML/ExTR22.0027/00](#)

[GB/CML/ExTR23.0103/00](#)

Quality Assessment Report:

[GB/CML/QAR21.0014/02](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Optical Oxygen Analyzer, OXY5500 is a device which allows the measurement of oxygen in natural gas using a flow through a fiber optic oxygen sensor, which is inserted into the process stream. In addition to the probe, there is a PT-100 4-wire temperature sensor connected to the controller. An optional pressure transducer may be fitted, and the measurement is fed back into the controller for pressure compensation and better accuracy of the oxygen measurement.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for specific conditions of use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above) Issue 1

This issue introduced the following modifications:

1. To allow the same gasket material used on the window to alternatively be used on the cover arrangement.
2. To allow a replacement power supply to be used.
3. To increase the IP rating from IP64 to IP66.
4. The Description, Marking and Conditions of Manufacture have been updated in accordance with the above modifications.

Annex:

[IECEX CML 21.0170X Iss. 1 Certificate Annex.pdf](#)

Annexe to: IECEx CML 21.0170X, Issue 1
Applicant: Endress+Hauser Optical Analysis Inc. / SpectraSensors Inc.
Apparatus: Optical Oxygen Analyzer, OXY5500

Description

The Optical Oxygen Analyzer, OXY5500 is a device which allows the measurement of oxygen in natural gas using a flow through a fiber optic oxygen sensor, which is inserted into the process stream. In addition to the probe, there is a PT-100 4-wire temperature sensor connected to the controller. An optional pressure transducer may be fitted, and the measurement is fed back into the controller for pressure compensation and better accuracy of the oxygen measurement.

The equipment consists of two enclosures which are nested into each other.

The inner enclosure houses the necessary transmitter electronic I/O ports and communication ports. This inner enclosure is mounted via cap rail to the outer enclosure which includes all modules. The outer enclosure is supplied with cable glands and entry accessories.

The analyser can be supplied by:

- AC voltage via an AC/DC power supply SIEMENS, type 6EP3333-6SC00-0AY0 or equivalent (IECEx, IIC, T3 Gc or better, Output, 24Vdc, $\geq 1A$, Tamb $-20^{\circ}C$ to $+70^{\circ}C$ minimum)
- DC voltage via a DC/DC power supply XP Power, type DDC15, 24Vdc (Nom.), Output, 24Vdc or equivalent (IECEx, IIC, T4/T3 Gc or better, Output, 24Vdc, $\geq 1A$, Tamb $-20^{\circ}C$ to $+50^{\circ}C$ minimum).

The cover of the analyzer has a window for the transmitter screen display and a foil keyboard.

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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.
- ii. According to IEC 60079-7, clause 7.1, each apparatus shall be submitted to a dielectric strength test (carried out in accordance with clause 6.1).
- iii. The manufacturer shall mark the ambient temperature based on the PSU fitted, as follows:

PSU	Maximum ambient
6EP3333-6SC00-0AY0	60°C
DDC15	50°C

Specific Conditions of Use

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

- i. The electrical installation to which the apparatus is connected must be protected against transients. The protective device has to be set at a level not exceeding 140% of the peak rated voltage values at the power supply terminals (according to clause H.2) of standard IEC 60079-7).
- ii. The user shall not open the enclosure/disconnect any sensors when an explosive atmosphere is present, or equipment is energized.
- iii. The non-metallic window in the enclosure has a potential static electrostatic charging hazard, see instructions.
- iv. The current output on the AC power supply shall not be altered from setting provided by the manufacturer.
- v. The equipment shall only be used in a location of not more than pollution degree 2, as defined in IEC 60664-1 (Clean and dry).
- vi. The equipment shall be wall mounted only, with the internal power supply connections facing upwards. Additionally, the equipment shall only be located in an area with a low impact risk and installer shall ensure adequate clamping of the supply cables.