



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 KDB 19.0004X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2019-10-23\)](#)
[Issue 0 \(2019-05-31\)](#)
Date of Issue: 2023-03-31
Applicant: **Airoptic Sp. z o.o.**
ul. Rubież 46B
61-612 Poznań
Poland
Equipment: **GasEye Cross Duct versions: SG, MG**
Optional accessory:
Type of Protection: **Equipment protection by pressurized enclosure "pzc" and optical radiation "op is"**
Marking: Ex op is pzc IIC T6 Gc
Ex op is pzc IIIC T85°C Dc

Approved for issue on behalf of the IECEx
Certification Body:

mgr inż. Piotr Madej

Position:

Head of ExCB

Signature:
(for printed version)

Date:
(for printed version)

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:

Główny Instytut Górnictwa, Kopalnia Doświadczalna "BARBARA"
(Central Mining Institute Experimental Mine "Barbara")
ul. Podleska 72
43-190 Mikołów
Poland





IECEX Certificate of Conformity

Certificate No.: **IECEX KDB 19.0004X**

Page 2 of 4

Date of issue: 2023-03-31

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Manufacturer: **Airoptic Sp. z o.o.**
ul. Rubież 46B
61-612 Poznań
Poland

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 60079-2:2014](#) Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"
Edition:6

[IEC 60079-28:2015](#) Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

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 Report:

[PL/KDB/ExTR19.0004/02](#)

Quality Assessment Report:

[PL/KDB/QAR19.0001/02](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX KDB 19.0004X**

Page 3 of 4

Date of issue: 2023-03-31

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The laser based GasEye Cross Duct spectrometer is a versatile analyzing tool for industrial process applications. It can be configured to operate in the near-infrared (NIR), mid-infrared (MIR) and infrared (IR) wavelength range thereby covering the majority of all gases of interest in the industrial process monitoring.

The GasEye Cross Duct gas analyzer consists of a pair of cross-duct sensors - a transmitter unit (TX) and a receiver unit (RX). The transmitter unit emits laser radiation directly through the process containing the constituents of interest. The receiver unit collects the radiation on the other side of the process duct. The receiver unit is connected to the transmitter unit by means of a hybrid loop cable (included). The GasEye Cross Duct utilizes an internal in-line reference gas cell or a reference gas in the process for real time verification of the calibration status.

GasEye Cross Duct SG version has one laser placed in central-unit tube. The system consists of receiver and central-unit enclosures, main system electronics are placed in central-unit enclosure with laser in its tube. Single Gas system is used to analyze one or more gases which absorption wavelengths lines lie in a spectrum range that can be covered by a single laser module.

GasEye Cross Duct MG version has two lasers placed in transmitter enclosure. The system consists of receiver, transmitter (with two lasers and no other electronics) and central-unit enclosure which contains only main electronics and no lasers. MG system is used to analyze two or more gases which absorption wavelengths lines lie too far to each other to use only one laser.

Additional equipment of GasEye Cross Duct spectrometer system:

Purging system (IECEX UL 14.0019X)

Model: 5500-SS-E-VDC-PBC-LBC
Type Z / Ex pzc

Ex ic ec nC [ic pzc] IIC T4 Gc (Ta: -20°C++50°C)
Ex ic ec nC [ic pzc] IIC T6 Gc (Ta: -20°C++40°C)
Ex ic ec nC [ic pzc IIIC] IIIB T80°C Gc (Ta: -20°C++60°C)
Ex ic ec nC [ic pzc IIIC] IIIB T60°C Gc (Ta: -20°C++40°C)

Nass magnet (IECEX PTB 04.0002X)

Type: 1215 30.1-00/6896

Ex mb IIC T5 Gb
Ex mb tb IIIC T95°C

Technical parameters of GasEye Cross Duct:

Power input: Un = 24VDC
Power consumption: < 25VA
Degree of protection: IP 66
Ambient temperature: -20°C++55°C
Pre-purge time: ≥ 7min
Inlet pressure: 2 bar
Minimal pressure: not less than 1.3 mbar during continuous system work after initial purging.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- External parts made of plastic should be cleaned with a damp cloth, with the addition of antistatic fluids.
- Enclosure should be installed in a way that prevents electrostatic charging, in accordance with the instructions.
- Maximum inlet pressure to the containment system should not exceed 2bar



IECEX Certificate of Conformity

Certificate No.: **IECEX KDB 19.0004X**

Page 4 of 4

Date of issue: 2023-03-31

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

The marking has been corrected.

New issue of QAR report has been added.

New complementary tests have been carried out.