



**KDBEX**

## [1] EU TYPE EXAMINATION CERTIFICATE

- [2] Protective equipment and systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU (Rozporządzenie Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817)
- [3] EU type examination certificate (module B):  
**KDB 20ATEX0003X** 0 edition
- [4] Equipment:  
**GasEye Cross Duct Ex1**  
**Versions: Single Gas, Multi Gas**
- [5] Manufacturer:  
**Airoptic Sp. z o.o.**
- [6] Address:  
**ul. Rubież 46B, 61-612 Poznań, Poland**
- [7] The protective equipment or system and any acceptable variations thereto are specified in the schedule to this certificate.
- [8] Central Mining Institute, Notified Body no 1453 according to Directive 2014/34/EU of February 26, 2014, approves that the protective equipment or system specified in this certificate has been found to comply with the essential health and safety requirements for the design and construction of protective equipment and systems intended for use in potentially explosive atmosphere given in Annex II to Directive 2014/34 /EU (Załącznik nr 2 Rozporządzenia Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817). The results of the assessment and examinations as well as the list of agreed documentation are recorded in the confidential Report **KDB No 20.003 [T-7616]**
- [9] The essential health and safety requirements have been met by compliance with the requirements of the following standards:  
**EN IEC 60079-0:2018; EN 60079-2:2014; EN 60079-26:2015;**  
**EN 60079-28:2015;**
- [10] If sign "X" is placed after the certificate number, this means the specific conditions of use set out in the schedule to this certificate.
- [11] This EU type examination certificate relates only to the construction, assessment and testing of the specified product in accordance with Directive 2014/34 /EU (Rozporządzenie Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817). The certificate shall not cover the remaining requirements of the Directive regarding the manufacturing process and placing the protective equipment or system on the market.
- [12] The marking of the equipment shall include the following:



**II (1)/2G Ex pxb [op is Ga] IIC T6 Gb**  
**II (1)/2D Ex pxb [op is Da] IIIC T85°C Db**

Inż. Andrzej Trębaczewski  
ATEX Certification  
Expert



Główny Instytut Górnictwa  
Jednostka Oceny Zgodności  
p.o. KIEROWNIKA  
dr inż. Dariusz Stefaniak

Date of issue: **09.01.2020**

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Central Mining Institute, 40-166 Katowice, Plac Gwarków 1, Poland, [www.gig.eu](http://www.gig.eu)  
Conformity Assessment Body, 43-190 Mikołów, ul. Podleska 72, [www.gigcert.com](http://www.gigcert.com)  
Certification Body accredited by PCA [Polish Centre for Accreditation], No AC038.

This certificate may only be reproduced in its entirety together with schedules. The document without signatures and stamps shall be not valid.

PC-ATEX-01/ExXen ed.1, 03.2019



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**SCHEDULE**  
EU type examination certificate  
**KDB 20ATEX0003X 0 edition**



**[15] Description:**

The laser based GasEye Cross Duct Ex 1 spectrometer is a versatile gas analyzer 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 Ex 1 gas analyzer consists of a pair of cross-duct sensors - a transmitter unit (TX) and a receiver unit (RX) mounted directly on the process flanges. 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 concentration of the gas(es) is determined by the level of received optical power by the receiver unit (RX).

**GasEye Cross Duct Ex 1** versions are described below:

**GasEye Cross Duct Single Gas** version has one laser placed in transmitter unit. The system consists of receiver and transmitter enclosures, main system electronics is placed in transmitter enclosure.

The receiver unit is connected to the transmitter unit by means of a hybrid loop cable (included). Single Gas system is used to analyze one or more gases which absorption line wavelengths lies in a spectrum range that can be covered by a single laser module.

**GasEye Cross Duct Multi Gas** 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.

The receiver unit is connected to the central unit by means of a hybrid loop cable whereas the transmitter unit is connected to the central unit by means of two electrical cables (included). Multi Gas system is used to analyze two or more gases of interest in case their absorption line wavelengths lie in spectral range exceeding the range of a single laser module.

**Technical parameters:**

Power input Un:	24VDC
Power consumption:	< 25VA
Degree of protection:	IP 65
Ambient temperature:	-20°C ÷ +55°C
Pre-purge time:	≥ 7 min.
Inlet pressure:	2 bar
Minimal pressure:	not less than 2.3 mbar during continuous system work after initial purging.





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SCHEDULE  
EU type examination certificate  
KDB 20ATEX0003X 0 edition



Additional equipment of GasEye Cross Duct Ex1 spectrometer system:

**1. Purging system controller**

Producer: Pepperl+fuchs  
Model: 6500-01-EXT1-PNO-LNO  
Number of ATEX certificate: UL/DEMKO 16ATEX1640X  
Marking:



II 2G Ex eb q ib [ib pxb] IIC T4 Gb  
II 2D Ex tb ib [ib pxb] IIIC T135°C Db  
II 2G Ex eb q ib [ib pyb] IIC T4 Gb  
II 2D Ex tb ib [ib pyb] IIIC T135°C Db

(Ta: -20°C÷+70°C)

**2. Purging system vent**

Producer: Pepperl+fuchs  
Model: EPV-6500-07  
Number of ATEX certificate: DEMKO 15ATEX1622X  
Marking:



II 2G Ex ib [pxb] IIC T4 Gb  
II 2D Ex ib [pxb] IIIC T135°C Db  
II 2G Ex ib [pyb] IIC T4 Gb  
II 2D Ex ib [pyb] IIIC T135°C Db

(Ta: -20°C÷+70°C)

**3. Solenoid operator**

Producer: Nass magnet  
Type: 1259 30 / 5146  
Number of ATEX certificate: PTB 02ATEX2154  
Marking:



II 2G Ex ia IIC T6 Gb  
or  
II 2G Ex ia IIB T6 Gb

(Ta: -40°C÷+50°C)

or

Producer: Nass magnet  
Type: 1262 50 / W5146  
Number of ATEX certificate: PTB 09ATEX2001  
Marking:



II 2G Ex ia IIC T6 Ga  
or  
II 2G Ex ia IIB T6 Ga  
or  
II 2D Ex ia IIIC T6 Ga

(Ta: -40°C÷+85°C)





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**SCHEDULE**  
EU type examination certificate  
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**[16] Test Report:**

"ATEX assessment report" KDB No 20.003

**[17] Special conditions of use:**

- 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.

**[18] Essential health and safety requirements:**

Met by fulfilling the requirements of the following standards:

EN IEC 60079-0:2018 (PN-EN IEC 60079-0:2018-09);  
EN 60079-2:2014 (PN-EN 60079-2:2015-02);  
EN 60079-26:2015 (PN-EN 60079-26:2015-04);  
EN 60079-28:2015 (PN-EN 60079-28:2015-12);

**Document history:**

- EU type examination certificate KDB 20ATEX0003X, 0 edition of 09.01.2020, initial certification

