



QPS Evaluation Services Inc



(1) EU-Type Examination Certificate

(2) **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

(3) EU-Type Examination Certificate Number: **QPS 23ATEX5008X** Issue Number: 0

(4) Product: **Toxic Gas Detector, Models OI-5900, OI-6000, and OI-6900**

(5) Manufacturer: **OTIS Instruments Inc.**

(6) Address: **301 South Texas Avenue, Bryan Texas, 77803 USA**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) QPS Evaluation Services Inc. 81 Kelfield St., Units 7-9, Toronto, ON M9W 5A3, Canada, Notified Body Number 2900, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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 Annex II to the Directive.

The examination and test results are recorded in confidential test report number ATX1421-1
Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

(9)

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-11:2012

EN IEC 60079-18:2015+A1:2017

Except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive 2014/34/EU article 13 apply to the manufacturing process and supply of this product. These are separately certified and not covered by this certificate.

(12) The marking of the product shall include the following:



With Radio Option:

II 2 (1) G

Ex db mb ia [ia Ga] IIB T6 Gb

Ta = -40°C to +54°C

Without Radio Option:

II 2 G

Ex db mb IIB T6 Gb

Ta = -40°C to +54°C

Date of certification: 28/03/2023

Robert Kohuch
Senior Engineer
QPS Evaluation Services Inc.



EU-Type Examination Certificate without signature shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by QPS Evaluation Service Inc. The SCC Accreditation Symbol is an official symbol of the accreditation body and notifying authority, used under license.

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(13) **SCHEDULE**(14) **to EU-Type Examination Certificate QPS 23ATEX5008X**

Issue No. 0

(15) **Description and Electrical data**

Toxic Gas detection Models OI-5900, OI-6000 and OI-6900 units are comprised of two cylindrical flame proof enclosures: a windowed main enclosure (OI-4000) and a sensor enclosure (OI-2000) that threads into the OI-4000 enclosure through one of three ¾" – 14 NPT entries.

Models OI-5900 and OI-6000 are DC powered by means of wire connection and Model OI-6900 is battery powered by dual non-rechargeable 3.6V Lithium D-Cell. Models OI-5900 and OI-6900 are provided with an antenna coupler manufactured by Solexy wireless models (RXN3S0208RXN or RXN3S0208RXO) associated apparatus with an IECEX certification from Ex-Agencija. (IECEX EXA 15.0005), Ex db mb [ia Ga] IIA/IIB/IIC T5/T6 Gb. Model OI-6000 the antenna coupler manufactured by Solexy wireless models (RXN3S0208RXN or RXN3S0208RXO) associated apparatus with an IECEX certification from Ex-Agencija. (IECEX EXA 15.0005), Ex db mb [ia Ga] IIA/IIB/IIC T5/T6 Gb, is optional.

An alternate flameproof enclosure manufactured by Limatherm, model number XD-lwin certified under FTZU 03ATEX0207U (IECEX FTZU 12.0017U) may be used for the OI-4000 enclosure.

The OI-4000 main enclosure houses two PCB's a Control PCB (circular PCB) with an LCD display and either a relay or relay/radio board (rectangular PCB) depending on the configuration. The relay or relay/radio board mounts perpendicular to the control PCB and secured using L brackets. The PCB assembly is secured in the enclosure using two banana plugs/posts screwed in the Base Plate. If the radio option is used a IECEX Certified antenna coupler is threaded into one of the three OI-4000 ¾" – 14 NPT entries.

The OI-2000 enclosure with sintered element integral to sensor cover and houses a sensor PCB and is electrically connected to the Control board by means of a ribbon cable.

The sensor detects the gas presence by a variety of means:

- Electrochemical – electrochemical reaction which produces a current proportional to the gas concentration.
- Catalytic Bead - that burns a little of the gas and produces a proportional electrical change in the sensor.
- Element Infrared – uses light spectrum analysis to determine the target gas concentration.
- Solid State – gas permeates the solid state material and changes the electrical characteristics of the material.
- Photo Ionization Detector – Uses photo ionization to detect volatile organic compounds and produces a proportional electrical change in the sensor.

(16) **Report Number:**

ATX1421-1



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate QPS 23ATEX5008X**

Issue No. **0**

(17) **Specific conditions of use:**

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

1. When the equipment is supplied with a non-metallic aerial connected to the antenna coupler, this aerial shall only be cleaned with a damp cloth
2. The equipment shall be installed in such a way that the OI-2000 sensor housing is pointing down towards the ground.
3. For more information on the dimensions of the flameproof joints, the manufacturer shall be contacted.

(18) **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

(19) **Remarks and additional information:**

(20) **Certificate history**

Issue 0 - 2023/03/28; Initial certificate.