



EU Type Examination Certificate CML 19ATEX1483X Issue 0

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Toxic Gas Detector, Models OI-5900, OI-6000 and OI-6900**
- 3 Manufacturer **OTIS Instruments Inc.**
- 4 Address **301 South Texas Ave.
Bryan, TX 77803, USA**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, 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 equipment 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.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018


EN 60079-1:2014

EN 60079-11:2012

EN IEC 60079-18:2015+A1:2017

- 10 The equipment shall be marked with 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



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11 Description

Toxic Gas Detector, Models, OI-6000 and OI-6900 are toxic gas detectors and Model OI-5900 is a Transmitter for use in a gas detection network.

The models are constructed using two cylindrical flameproof enclosures, namely, windowed main enclosure (OI-4000) and sensor enclosure (OI-2000) that threads into the OI-4000 enclosure through one of three ¾" – 14 NPT entries.

The models OI-5900, OI-6000 and OI-6900 are configured and rated as follows:

Model number	Description	Rating	Ambient Temperature
OI-5900-X-X-O	Explosion-Proof Wire Powered 4-20 mA Transmitter with 4-20 mA input and radio/wireless output.	12-35 Vdc, 1 A max	-40°C to +54°C
OI-6000-X-X-X-O	Explosion-Proof Wire Powered Gas Detector Unit with 4-20 mA output and Modbus, and optional radio/wireless output.		
OI-6900-X-X-O-X	Explosion-Proof Battery Powered Gas Detector with radio/wireless output.	3.6 Vdc Lithium D-Cell	

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 rectangular PCB, depending on the configuration.

The radio option uses a certified Antenna Coupler threaded into one of the three OI-4000 ¾" – 14 NPT entries for connection to provide connection to an Antenna.

The OI-2000 sensor enclosure houses a sensor PCB and a sensor of the following types protected by a sintered cover:

- Electrochemical
- Catalytic Bead
- Element Infrared
- Solid State
- Photo Ionization Detector

Nomenclature

OI-5900 - [Radio Option] - [Accessory Option] - [Enclosure]

OI-6000 - [Sensor Type] - [Gas Type] - [Radio Option] - [Relay Option] - [Enclosure]

OI-6900 - [Gas Type] - [Radio Option] - [Enclosure] - 2B

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	08 Jan 2020	R12876A/00	Issue of Prime Certificate

Note: Drawings that describe the equipment or component are listed in the Annex.



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13 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 shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. When certified equipment is installed, the manufacturer shall provide to the user, copies of certificates and manufacturer's instructions.
- iii. The Toxic Gas Detector, Models OI-5900, OI-6000 and OI-6900 shall be designed in accordance with general electrical safety standards.

14 Specific Conditions of Use (Special Conditions)

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

- i. 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.
- ii. The equipment shall be installed in such a way that the OI-2000 sensor housing is pointing down towards the ground.

Certificate Annex

Certificate Number CML 19ATEX1483X

Equipment Toxic Gas Detector, Models OI-5900, OI-6000 and OI-6900

Manufacturer OTIS Instruments Inc.



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
163-201-147	1 of 1	A	08 Jan 2020	Extrusion Cover BH Housing
201-236-01	1 of 1	E	08 Jan 2020	Aluminium Specifications
208-241-01	1 to 2	A1	08 Jan 2020	Enclosure, Machined OEM-OTIS
208-236-02	1 of 1	B1	08 Jan 2020	Base Plate, Plain OEM-OTIS
208-241-03	1 of 1	A	08 Jan 2020	Enclosure Assembly OEM-OTIS
Moore_Set_Screw	1 of 1	0	08 Jan 2020	Moore_Set_Screw – Mechanical
205-231-06	1 of 1	D	08 Jan 2020	Cover Plug, Glass BH Housing
205-247-07	1 of 1	A	08 Jan 2020	Retaining Ring, BH Housing
205-247-08	1 of 1	B	08 Jan 2020	Cover, Painted BH Housing
205-247-09	1 of 1	B1	08 Jan 2020	Cover Assembly, Glass, THZ-BH
208-241-00	1 to 3	C	08 Jan 2020	Enclosure Top, Assembly, OEM-OTIS
208-241-00-Tolerance	1 of 1	0	08 Jan 2020	Tolerance Analysis
15593000600	1 of 1	J	08 Jan 2020	TL-5930/F Battery
OI-4000-Exploded	1 of 1	1	08 Jan 2020	OI-4000 Enclosure Exploded View
OI-XXXX_Exploded	1 of 1	1	08 Jan 2020	PCB Options – Exploded View
1-002228	1 of 1	2.6	08 Jan 2020	ATEX_IECEX Main Enclosure Label
3-000200	1 to 5	2.4	08 Jan 2020	Guidelines for Gen II Ex Equipment (OI-6000, OI-6900, OI-5900) Manual
2-390111	1 of 1	0	08 Jan 2020	SCH-GEN II 900MHz 4-20mA BD
BOM 2-390111	1 of 1	0	08 Jan 2020	BOM
2-390034	1 to 4	9.1	08 Jan 2020	SCH-GEN II 2.4GHz Radio Relay BD
2-390032	1 of 1	9.1	08 Jan 2020	BOM (2.4GHz Radio Relay BD)
2-390037	1 of 1	3	08 Jan 2020	SCH-GEN II 900 MHz BD
BOM 2-390037	1 of 1	3	08 Jan 2020	BOM
2-390040	1 of 1	7	08 Jan 2020	SCH-GEN II 2.4GHz BD
2-390038	1 of 1	7.0.1	08 Jan 2020	BOM (GEN II 2.4GHz BD)
2-390030	1 to 4	3	08 Jan 2020	SCH-GEN II 900 MHz RADIO-RELAY BD
BOM 2-390030	1 of 1	5	08 Jan 2020	BOM
2-390023	1 to 5	9	08 Jan 2020	SCH-390 BATT-PWR CONTROL BD

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Manufacturer OTIS Instruments Inc.



Drawing No	Sheets	Rev	Approved date	Title
BOM 2-390021	1 of 1	9.0.1	08 Jan 2020	BOM
2-390002	1 of 1	4	08 Jan 2020	SCH-GEN II CONTROL WIRED-PWR BD
BOM 2-390000	1 to 2	4	08 Jan 2020	BOM
Flexible antenna data sheet	1 to 2	-	08 Jan 2020	Datasheet-ANF52-Antenna
J-pole antenna data sheet	1 to 2	-	08 Jan 2020	Datasheet-ANH73-Antenna
3-000066	1 of 1	1.0	08 Jan 2020	Gen II Radio Power
2-390002_BL	1 of 1	4	08 Jan 2020	2-390002 Board Layout
2-390023_BL	1 of 1	9	08 Jan 2020	2-390023 Board Layout
2-390030_BL	1 of 1	0	08 Jan 2020	2-390030 Board Layout
2-390034_BL	1 of 1	9.1	08 Jan 2020	2-390034 Board Layout
2-390037_BL	1 of 1	0	08 Jan 2020	2-390037 Board Layout
2-390040_BL	1 of 1	7	08 Jan 2020	2-390040 Board Layout
2-390111_BL	1 of 1	0	08 Jan 2020	2-390111 Board Layout
2-390020	1 of 1	2.1	08 Jan 2020	SCH-390 Sensor Analog PID BD
2-390020	1 of 1	2.1.4	08 Jan 2020	BOM (Analog PID Board)
2-390117	1 of 1	3	08 Jan 2020	SCH-GEN II sensor analog Oxygen Board
2-390115	1 of 1	3.0.1	08 Jan 2020	BOM (SCH-GEN II sensor analog Oxygen Board)
OI-2000-Base (H00147)	1 of 1	1.4	08 Jan 2020	CHS-GEN II Sensor Housing Base
H00148	1 of 1	1.7	08 Jan 2020	GEN 2 - Sensor Housing Cap
OI-2000-Base-Potting	1 of 1	0	08 Jan 2020	Potting Diagram
3-000152	1 of 1	2.0	08 Jan 2020	Procedure-2000 Ex Potting
OI-2000_Assembled	1 of 1	0	08 Jan 2020	Sensor Housing-Exploded View
3-000070	1 of 1	1.0	08 Jan 2020	Gen II Flame Arrestor/Sensor Housing Evaluation
OI-390-FA(1-001040)	1 of 1	0	08 Jan 2020	Flame Arrestor-90uM 1"OD .84"ID 0.5L ATEX
2-390108	1 of 1	2	08 Jan 2020	SCH-GEN II SENSOR ANALOG LOW POWER EC BD
BOM 2-390106	1 of 1	2	08 Jan 2020	BOM

Certificate Annex

Certificate Number CML 19ATEX1483X

Equipment Toxic Gas Detector, Models OI-5900, OI-6000 and OI-6900

Manufacturer OTIS Instruments Inc.



Drawing No	Sheets	Rev	Approved date	Title
2-390105	1 of 1	1.1	08 Jan 2020	SCH-GEN II SENSOR DIGITAL LOW POWER BD
BOM 2-390104	1 of 1	1.1.5	08 Jan 2020	BOM
2-390017	1 of 1	0	08 Jan 2020	SCH-390 SENSOR ANALOG MOS BD
BOM 2-390015	1 of 1	0	08 Jan 2020	BOM
2-390011	1 of 1	2.1	08 Jan 2020	SCH-390-SENSOR ANALOG IR BD
BOM 2-390010	-	2.1.3	08 Jan 2020	BOM
2-390005	1 of 1	6.1	08 Jan 2020	SCH-390-SENSOR DIGITAL BD
BOM 2-390004	-	6.1.5	08 Jan 2020	BOM
2-390005_BL	1 of 1	0	08 Jan 2020	2-390005 Board Layout
2-390011_BL	1 of 1	0	08 Jan 2020	2-390011 Board Layout
2-390017_BL	1 of 1	0	08 Jan 2020	2-390017 Board Layout
2-390105_BL	1 of 1	0	08 Jan 2020	2-390105 Board Layout
2-390108_BL	1 of 1	0	08 Jan 2020	2-390108 Board Layout
2-390008	1 of 1	7	08 Jan 2020	SCH-390-SENSOR ANALOG NEGATIVE EC BD
BOM 2-390006	1 of 1	7.0.5	08 Jan 2020	BOM
2-390145	1 of 1	6.1	08 Jan 2020	SCH-390-SENSOR ANALOG BIASED EC BD
BOM 2-390145	1 of 1	0.0.1	08 Jan 2020	BOM
2-390219	1 of 1	0	08 Jan 2020	SCH-390-SENSOR ANALOG PID BOARD FOR BATTERY
BOM 2-390217	1 of 1	0.0.1	08 Jan 2020	BOM
2-390020	1 of 1	2.1	08 Jan 2020	SCH-390-SENSOR ANALOG PID BOARD FOR WIRED
BOM 2-390020	1 of 1	2.1.4	08 Jan 2020	BOM
BOM0115	1 of 1	3.0.1	08 Jan 2020	BOM
2-390120	1 of 1	4	08 Jan 2020	SCH-390-SENSOR ANALOG LOW POWER IR BD