

OI-6000-X-X-X-X-O Sensor Assembly

Explosion Proof Wired Powered Ambient Air Hazardous Gas Detector

The Otis Instruments OI-6000 Series Ambient Air Hazardous Gas Detector is a versatile assembly that uses an eletrochemical, infrared, catalytic bead or PID sensor element to detect a variety of gases. Wired powered (12 to 35 VDC) with 4-20 mA analog and RS-485 Modbus outputs standard. Mangetic switches allow for non-intrusive calibration while in the field as well as full system settings and diagnostics.



Gas Type	Range	T90	Warranty
EC-AsH3	0-1 ppm	< 30 sec.	10 months
EC-CH2O	0-10ppm	< 30 sec.	12 months
EC-CH3SH	0-10 ppm	< 100 sec.	12 months
IR-CH4	0-100% vol.	< 30 sec.	60 months
EC-CL2	0-20 ppm	< 60 sec.	12 months
EC-CLO2	0-5 ppm	< 120 sec.	12 months
EC-CO	0-1000 ppm	< 30 sec.	24 months
IR-CO2	0-5% vol.	< 30 sec.	60 months
EC-ETO	0-10 ppm	< 80 sec.	12 months
EC-F2	0-1 ppm	< 80 sec.	12 months
EC-H2	0-4%	< 60 sec.	18 months
EC-H2S	0-100 ppm	< 30 sec.	24 months
EC-H2S2K	0-2000 ppm	< 25 sec.	24 months
EC-HBr	0-30 ppm	< 40 sec.	12 months
EC-HCL	0-30 ppm	< 300 sec.	12 months
EC-HCN	0-50 ppm	< 70 sec.	12 months
EC-HF	0-10 ppm	< 90 sec.	12 months
IR-LEL	0-100% LEL (0-5% vol.)	< 30 sec.	60 months
EC-NH3	0-100 ppm	< 90 sec.	12 months
EC-NH3300	0-300 ppm	< 120 sec.	12 months
EC-NH3A	0-1000 ppm	< 120 sec.	12 months
EC-NO	0-250 ppm	< 40 sec.	12 months
EC-NO2	0-20 ppm	< 25 sec.	12 months
EC-02	0-25% vol.	< 15 sec.	24 months
EC-03	0-5 ppm	< 60 sec.	12 months
EC-O3H	0-100 ppm	< 60 sec.	12 months
EC-PH3	0-5 ppm	< 30 sec.	12 months
EC-SO2	0-20 ppm	< 35 sec.	24 months
PID-VOC10	0-10 ppm	< 3 sec.	6 months / 24 months
PID-VOC20	0-20 ppm	< 3 sec.	6 months / 24 months
PID-VOC50	0-50 ppm	< 3 sec.	6 months / 24 months
PID-VOC1K	0-1000 ppm	< 3 sec.	6 months / 24 months
PID-VOC2K	0-2000 ppm	< 3 sec.	6 months / 24 months

Product Features

- Electrochemical, Infrared, Catalytic Bead or PID Sensor Element
- Wired Powered (3-Wire), 12 to 35 VDC Operating Voltage
- Operating Temperature Range of -40°C to +54°C
- Graphical LCD with LED Backlight
- 3 Push-Button Interface (ADD, MENU, SUB) with 3 Corresponding Magnetic, Non-Intrusive Switches
- 2 Individually Configurable Alarm Set-Points: Two Front Panel LED Indicators (Amber and Red); Optional 2 Dry-Contact Relays
- Output Options: 4-20 mA (3-Wire) Analog, RS-485 Modbus, Optional GEN II 900 MHz or GEN II 2.4 GHz Radio
- Sensor Element Warranty Subject to Otis Verification
- 1-Year Limited Hardware Warranty





OI-6000-X-X-X-X-O Sensor Assembly

Explosion Proof Wired Powered Ambient Air Hazardous Gas Detector

OI-6000-X-X-X-X-O Product Specifications

Sensor Type Eletrochemical, Infrared, Catalytic Bead or PID Operating Voltage Wired Powered (3-Wire) 12 to 35 VDC Power Drow 2 Watts Maximum Protection Protection Protection Power Eletromagnetic Interference (EMI) Filter 4-120 m/s Surge Suppression 10264 Resolution Graphical LCD Screen Transflective (Sunlight Readable) with White LED Backlight Interface 3 Push-Buttons (MENU, ADD and SUB) 3 Magnetic, Non-Intrusive Switches for Calibration 2 Individually-Configurable Alarm LED/Relay Set-Points Tene Temperature Range 4-0°C to +54°C Output (Digital) R5-485 Modius 4-20 mA (3-Wire) Fault Terminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses O1-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 250 Feet • PID Sensor Max. Length: 35 Feet • Catalytic Bead Sensor Max. Length: 15 Feet Product Dimensions 5.5 in. Tx 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments) Total Weight CSA Class I, Division 1, Groups C & D Ex d IIB TG Gb Tamb -49°C to +54°C ATEX Models w/ Radio Option Ex db mb ia [ia Ga] IIB TG Gb Tam -49°C to +54°C IECEX Models w/ Radio Option Ex db mb ia [ia Ga] IIB TG Gb Tam -49°C to +54°C IECEX Models w/ Radio Option Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG Gb Tam -49°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb IB TG	Product Specifications				
Power Draw 2 Watts Maximum Protection 2 Power Electromagnetic Interference (EMI) Filter 4-20 m A Surge Suppression RS-485 Suppression RS-485 Modbus 4-20 Extra Intrusive Switches for Calibration RS-485 Modbus 4-20 Extra Intrusive Switches for Calibration RS-485 Modbus 4-20 mA (3-Wire) Pault Terminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses O1-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 15 Feet Product Dimensions 5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments) Total Weight 5 ibs. CSA Class I, Division 1, Groups C & D Extra Ill B T6 Gb Class I, Core 1, AEx db Ill B T6 Gb Tam-40°C to +54°C IECS Models w/ Antenna Fitting Extra Models w/ Arienna	Sensor Type	Eletrochemical, Infrared, Catalytic Bead	Eletrochemical, Infrared, Catalytic Bead or PID		
Protection Power Eletromagnetic Interference (EMI) Filter 4-20 mA Surge Suppression R5-485 Surge Suppression Interface 102646 Resolution Graphical LCD Screen Transflective (Sunlight Readable) with White LED Backlight Interface 3 Push-Buttons (MENU, ADD and SUB) 3 Magnetic, Non-Intrusive Switches for Calibration Customizable Settings 2 Individually-Configurable Alarm LED/Relay Set-Points	Operating Voltage	Wired Powered (3-Wire) 12 to 35 VDC	Wired Powered (3-Wire) 12 to 35 VDC		
A-20 mA Surge Suppression	Power Draw	2 Watts Maximum			
Transflective (Sunlight Readable) with White LED Backlight Interface 3 Push-Buttons (MENU, ADD and SUB) 3 Magnetic, Non-Intrusive Switches for Calibration Customizable Settings 2 Individually-Configurable Alarm LED/Relay Set-Points Tamb Temperature Range -40°C to +54°C Output (Digital) RS-485 Modbus 4-20 mA (3-Wire) Fault Teminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses OI-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 35 Feet • Catalytic Bead Sensor Max. Length: 15 Feet Product Dimensions Total Weight 6 lbs. CSA Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone I, AEx db IIB T6 Gb Tamb −40°C to +54°C ATEX Models w/ Radio Option (⑤ II 2 (1) G Ex db mb IB T6 Gb Tam −40°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Tam −40°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C IECEX Models w/ Antenna Fitting Ex db mb IiB T6 Gb -40°C ≤ Ta ≤ +54°C	Protection	4-20 mA Surge Suppression			
Magnetic, Non-Intrusive Switches for Calibration	Display Screen				
Tamb Temperature Range -40°C to +54°C Output (Digital) RS-485 Modbus 4-20 mA (3-Wire) Fault Terminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses OI-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 40 Feet • PID Sensor Max. Length: 35 Feet • Catalytic Bead Sensor Max. Length: 15 Feet Product Dimensions 5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments) Total Weight 6 lbs. CSA Class I, Division 1, Groups C & D Ex d IIB 16 Gb Class I, Zone I, AEx db IIB 16 Gb Tamb -40°C to +54°C ATEX Models w/ Radio Option Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 16 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C IECE Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB 76 Gb Ta = -40°C to +54°C	Interface				
Output (Digital) RS-485 Modbus 4-20 mA (3-Wire) Fault Terminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses OI-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 40 Feet • PID Sensor Max. Length: 35 Feet • Catalytic Bead Sensor Max. Length: 15 Feet Product Dimensions Total Weight 6 lbs. CSA Class I, Division 1, Groups C & D EX d IIB T6 Gb Class I, Zone 1, AEX db IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting EX db mb IIB T6 Gb Ta= -40°C to +54°C	Customizable Settings	2 Individually-Configurable Alarm LED/Relay	2 Individually-Configurable Alarm LED/Relay Set-Points		
Wired (Analog) Output 4-20 mA (3-Wire) Fault Terminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses OI-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 40 Feet • PID Sensor Max. Length: 35 Feet • Catalytic Bead Sensor Max. Length: 15 Feet Product Dimensions 5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments) Total Weight 6 ibs. CSA Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone 1, AEx db IIB T6 Gb Tamb -40°C to +54°C ATEX Models w/ Radio Option ⑤ II 2 (1) G Ex db mb ia [ia Ga] IIB T6 Gb Ta = -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb -40°C ≤ Ta ≤ +54°C Hardware Warranty Part Number Formula OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O	Tamb Temperature Range	-40°C to +54°C	-40°C to +54°C		
Fault Terminal Optional 2 Dry-Contact Relays with Replaceable 4 Amp Fuses OI-501-5 Remote Sensor Kit with Enclosure (5 Pin) • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 40 Feet • PID Sensor Max. Length: 35 Feet • Catalytic Bead Sensor Max. Length: 15 Feet Product Dimensions 5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments) Total Weight CSA Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone 1, AEx db IIB T6 Gb Ta= -40°C to +54°C IECEx Models w/ Radio Option ⑤ II 2 (1) G Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb IB T6 Gb -40°C ≤ Ta ≤ +54°C Hardware Warranty Part Number Formula OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O	Output (Digital)	RS-485 Modbus			
Product Dimensions Froduct Dimensions 5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments) CSA Class I, Division 1, Groups C & D Ex d IIB T6 Gb Tamb -40°C to +54°C ATEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C Hardware Warranty 1-Year, Limited Product Dimensions • Electrochemical Sensor Max. Length: 250 Feet • Infrared Sensor Max. Length: 250 Feet • PID Sensor Max. Length: 40 Feet • PID Sensor Max. Len	Wired (Analog) Output	Fault Terminal			
Total Weight CSA Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone 1, AEx db IIB T6 Gb Tamb -40°C to +54°C ATEX Models w/ Radio Option (x) II 2 (1) G Ex db mb ia [ia Ga] IIB T6 Gb Ta = -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ta = -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ta = -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb IIB T6 Gb -40°C ≤ Ta ≤ +54°C Hardware Warranty 1-Year, Limited OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O		 Electrochemical Sensor Max. Length: 250 Feet Infrared Sensor Max. Length: 40 Feet PID Sensor Max. Length: 35 Feet 			
CSA Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone 1, AEx db IIB T6 Gb Tamb -40°C to +54°C ATEX Models w/ Radio Option (Ex) II 2 (1) G Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ex db mb IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb -40°C ≤ Ta ≤ +54°C Hardware Warranty 1-Year, Limited Sensor Element Warranty OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O	Product Dimensions	5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in.	5.5 in. T x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. with Attachments)		
Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone 1, AEx db IIB T6 Gb Tamb -40°C to +54°C ATEX Models w/ Radio Option (x) II 2 (1) G Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEx Models w/ Antenna Fitting Models w/out Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ex db mb ia [ia Ga] IIB T6 Gb Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEx Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb Ex db mb IIB T6 Gb	Total Weight				
Sensor Element Warranty Varies with Gas Type OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O		Class I, Division 1, Groups C & D Ex d IIB T6 Gb Class I, Zone 1, AEx db IIB T6 Gb Tamb -40°C to +54°C ATEX Models w/ Radio Option Ex II 2 (1) G Ex db mb ia [ia Ga] IIB T6 Gb Ta= -40°C to +54°C IECEX Models w/ Antenna Fitting Ex db mb ia [ia Ga] IIB T6 Gb	Ex II 2 G Ex db mb IIB T6 Gb Ta= -40°C to +54°C Models w/out Antenna Fitting Ex db mb IIB T6 Gb		
Sensor Element Warranty Varies with Gas Type OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O	Hardware Warranty	1-Year, Limited			
Part Number Formula OI-6000-[Sensor Type]-[Gas]-[Radio Option]-[Relay Option]-O	•				