



Gas & Flame Detection

3M™ Oldham™ OLCT 700 / 710

Fixed Gas Detection



Presentation

Model Series OLCT 700/710 industrial gas detection sensors are a new generation of intelligent sensor modules that incorporate and integrate several leading edge improvements.

The sensors are specifically designed for harsh and extreme locations. This new and superior level of environmental durability in sensor design includes an electropolished 316 stainless steel housing, multi-layered transient spike protection circuitry and 100% encapsulated electronics.

The sensor electronics are completely protected and immune to water ingress and corrosion. The gas detector sensor elements are all plug-in components and can easily be replaced in the field.

Operator interface is non-intrusive via a small handheld magnet. Configuration and routine calibration is intuitive and menu driven with fully scripted instructions. Sensor status is displayed on a built-in alphanumeric LED display. Model Series OLCT 700/710 intelligent sensor modules feature dual outputs, a linear 4-20 milliamp analog signal and a Modbus RS-485 serial output.

It is becoming increasingly important that safety systems meet the Safety Integrity Level (SIL) requirements of IEC 61508 and IEC 61511. The SIL rating can only be determined by considering the complete safety system.

Certifications



- 316 SS Construction
- IP 66
- Multi-Layer Surge Protection
- SIL2 Certified
- Environmentally Bulletproof



3M™ Oldham™ OLCT 80

Fixed Gas Detection

Series OLCT 700/710

The Oldham SERIES OLCT 700/710 sensor modules are designed with this in mind and feature a new and unmatched level of pre-emptive fault diagnostics. Application variables like input voltage range, operating temperature range, maintenance schedule, detector reliability and output integrity are all monitored and reported via the 4-20 mA and RS-485 serial output. As a component of a SIL rated system, the Safe Failure Fraction (SFF) of Oldham SERIES OLCT 700/710 sensors are designed to meet the requirements for any SIL 2 rated system.

SERIES OLCT 700's sensors utilize distinctive gas detection technologies to satisfy a wide range of industrial applications that require monitoring of, toxic and flammable gases.

Sensors for Hydrogen Sulfide



CHEMFET MOS Solid State Technology
Harsh and Extreme Locations
Wide Temperature & Humidity Range
5-year Sensor Warranty

Sensors for Combustible Gas



Catalytic Technology
Non-selective Combustible Gas Sensor
2-year Sensor Warranty
Rugged Construction



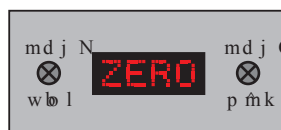
Infrared Technology
Combustible Hydrocarbon Gas Sensor
2-year Sensor Warranty

Sensors for Carbon Dioxide

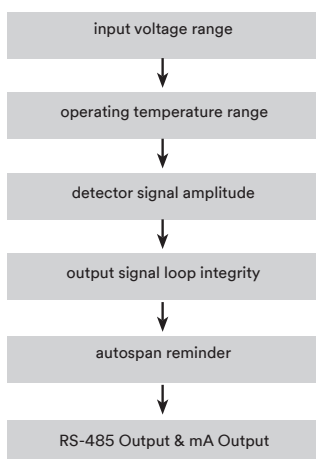


Infrared Technology
Selective CO2 Gas Sensor
2-year Sensor Warranty

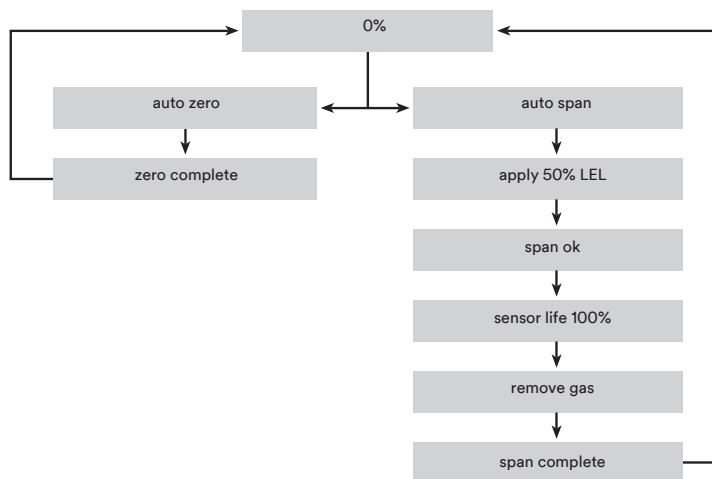
Scrolling Full Message/Text Display



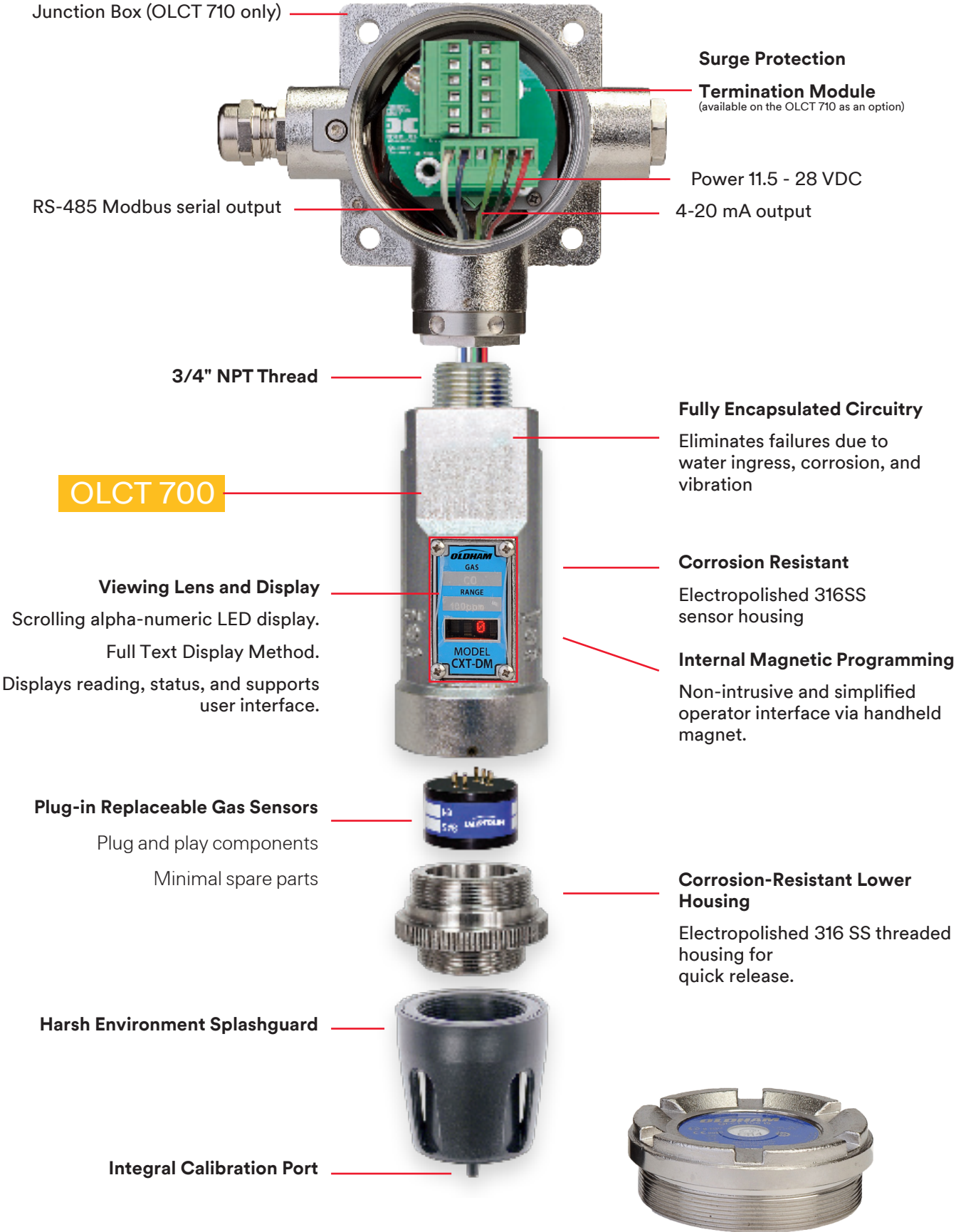
Pre-emptive Fault Diagnostics



Auto Zero/Auto Span Sequence



Anatomy of the OLCT 700/710



OLCT 700

Junction Box (OLCT 710 only)

Surge Protection

Termination Module
(available on the OLCT 710 as an option)

RS-485 Modbus serial output

Power 11.5 - 28 VDC

4-20 mA output

3/4" NPT Thread

Fully Encapsulated Circuitry

Eliminates failures due to water ingress, corrosion, and vibration

OLCT 700

Viewing Lens and Display

Scrolling alpha-numeric LED display.

Full Text Display Method.

Displays reading, status, and supports user interface.

Corrosion Resistant

Electropolished 316SS sensor housing

Internal Magnetic Programming

Non-intrusive and simplified operator interface via handheld magnet.

Plug-in Replaceable Gas Sensors

Plug and play components

Minimal spare parts

Corrosion-Resistant Lower Housing

Electropolished 316 SS threaded housing for quick release.

Harsh Environment Splashguard

Integral Calibration Port

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Spécifications

Combustible Hydrocarbon & Carbon Dioxide Gas Detectors

Model	OLCT 700/710 IR
Gas	Combustible Hydrocarbons or CO ₂
Range	0-100 % LEL* or 0-5% vol.* CO ₂
Temperature	-40°C to +75°C
Warranty	2 years on electronics, 2 years on sensor

*Standard Range

Hydrogen Sulfide Gas Detector (solid state metal oxide semiconductor)

Model	OLCT 700/710 TP
Gas / Symbol	Hydrogen Sulfide/H ₂ S
Range	0-20 ppm, 0-50 ppm, 0-100 ppm*, 0-200 ppm
Temperature	-40°C to +75°C
Warranty	2 years on electronics, 5 years on sensor

Combustible Gas Detector (matched pair catalytic bead)

Model	OLCT 700/710 FP
Gas / Symbol	Combustible Gas
Range	0-100 % LEL
Temperature	-40°C to +75°C
Warranty	2 years on electronics, 2 years on sensor

OLCT 700

OLCT 710

Input Voltage	11.5 - 28 VDC standard	
Power Consumption	< 2 watts typical	
Outputs	Linear 4-20 mA DC RS - 485 Modbus™ RTU	
Dimensions	178mm (7") Height x 65mm (2.2") Ø	349mm (13.74") Height x 127 mm (5") Width x 130 mm (5.12") Depth
Weight	1.14 kg (2.5 lbs)	Aluminun 3,36 kg (7.40 lbs) Stainless steel version 7.44 kg (16.40 lbs)
Approvals	ATEX II 2G Ex d IIB+H2 T4 Gb	
Functional Safety	SIL2 as per IEC 61508 (except CO2)	
Performance Approvals	OLCT 700 IR, OLCT 700 FP to ISA 12.13, CSA #152	

Accuracy / Repeatability	OLCT 700/710 FP and IR: ±3% LEL 0-50% LEL; ±5% LEL 50-100% LEL OLCT 700 TP: ±10% of reading or ±2 ppm (greater of) OLCT 700 IR-CO ₂ : ±5% full scale
Response / Clearing Time	OLCT 700/710 FP and IR-CH: T50 <10 s; T90 <30s (respectively 6s and 10s as tested with 1 LPM flow rate) OLCT 700 TP: T50 <30 s; T80 <60 s OLCT 700 IR-CO ₂ : T50 <15 s; T90 <40 s
Operating Humidity Range (Continuous)	OLCT 700 FP: 0-99% RH non-condensing OLCT 700 TP: 15-100% RH non-condensing OLCT 700 IR: 0-99% RH non-condensing

Contact factory for specific gases

As an ISO 9001 & ISO 14001 approved company, OLDHAM quality assurance programmes demand the continuous assessment and improvement of all OLDHAM products. Information in this leaflet could thus change without notification and does not constitute a product specification. Please contact OLDHAM or their representative if you require more details.

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