

# 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.

## Features

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

# OLCT 700/710

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### Series OLCT 700/710

The 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 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



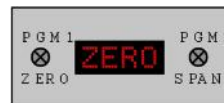
Infrared Technology  
Combustible Hydrocarbon Gas Sensor  
2-year Sensor Warranty

### Sensors for Carbon Dioxide

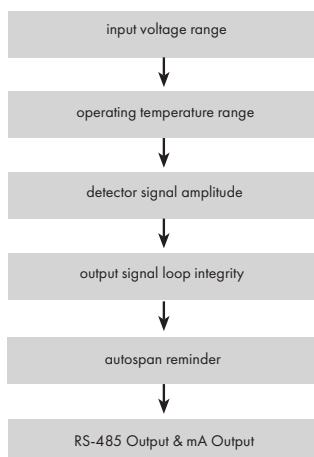


Infrared Technology  
Selective CO<sub>2</sub> Gas Sensor  
2-year Sensor Warranty

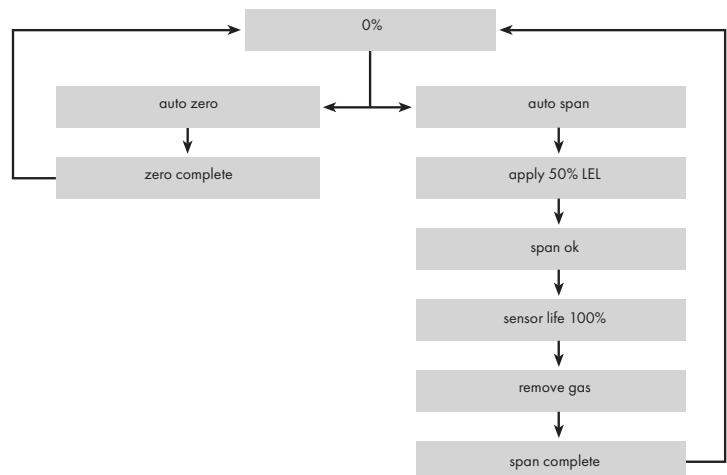
### Scrolling Full Message/Text Display



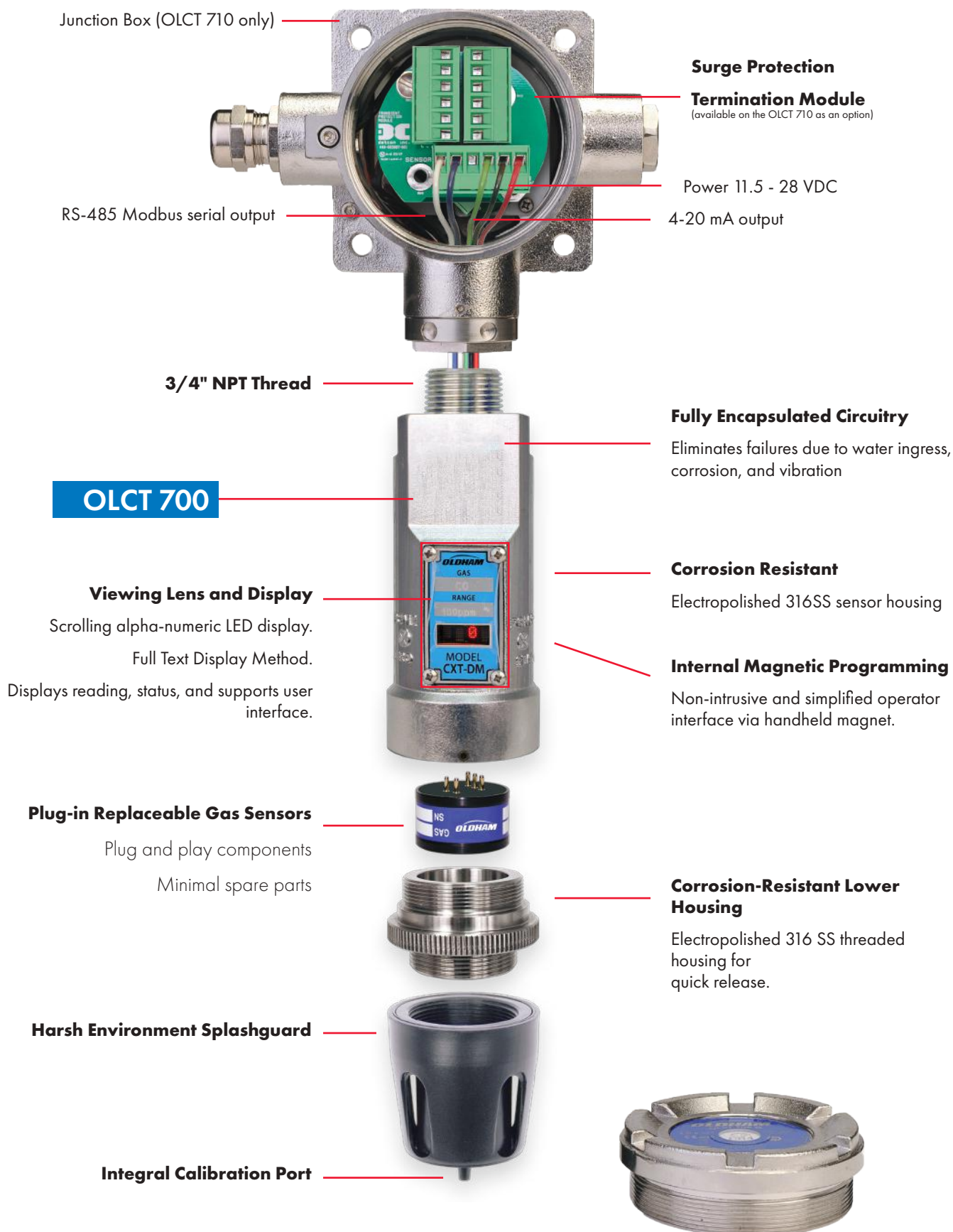
### Pre-emptive Fault Diagnostics



### Auto Zero/Auto Span Sequence



### Anatomy of the OLCT 700/710



# OLCT 700/710

## Fixed Gas Detection

### Spécifications

#### Combustible Hydrocarbon & Carbon Dioxide Gas Detectors

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

\*Standard Range

#### Hydrogen Sulfide Gas Detector (solid state metal oxide semiconductor)

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

#### Combustible Gas Detector (matched pair catalytic bead)

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

#### OLCT 700

#### OLCT 710

|  |  |  |
|--|--|--|
| <b>Input Voltage</b>                         | 11.5 - 28 VDC standard   |  |
| <b>Power Consumption</b>                     | < 2 watts typical  |  |
| <b>Outputs</b>                               | Linear 4-20 mA DC<br>RS - 485 Modbus™ RTU  |  |
| <b>Dimensions</b>                            | 178mm (7") Height x 65mm (2.2") Ø  | 349mm (13.74") Height x 127 mm (5") Width x 130 mm (5.12") Depth           |
| <b>Weight</b>                                | 1.14 kg (2.5 lbs)  | Aluminum 3.36 kg (7.40 lbs)<br>Stainless steel version 7.44 kg (16.40 lbs) |
| <b>Approvals</b>                             | ATEX II 2G<br>Ex d IIB+H2 T4 Gb  |  |
| <b>Functional Safety</b>                     | SIL2 as per IEC 61508 (except CO2)   |  |
| <b>Performance Approvals</b>                 | OLCT 700 IR, OLCT 700 FP to ISA 12.13, CSA #152  |  |
| <b>Accuracy / Repeatability</b>              | OLCT 700/710 FP and IR:<br>±3% LEL 0-50% LEL; ±5% LEL 50-100% LEL<br>OLCT 700 TP:<br>±10% of reading or ±2 ppm (greater of)<br>OLCT 700 IR-CO2: ±5% full scale                           |  |
| <b>Response / Clearing Time</b>              | OLCT 700/710 FP and IR-CH:<br>T50 <10 s; T90 <30s (respectively 6s and 10s as tested with 1 LPM flow rate)<br>OLCT 700 TP: T50 <30 s; T80 <60 s<br>OLCT 700 IR-CO2: T50 <15 s; T90 <40 s |  |
| <b>Operating Humidity Range (Continuous)</b> | OLCT 700 FP: 0-99% RH non-condensing<br>OLCT 700 TP: 15-100% RH non-condensing<br>OLCT 700 IR: 0-99% RH non-condensing   |  |

Contact factory for specific gases

sales@norrscope.com