

Series 80

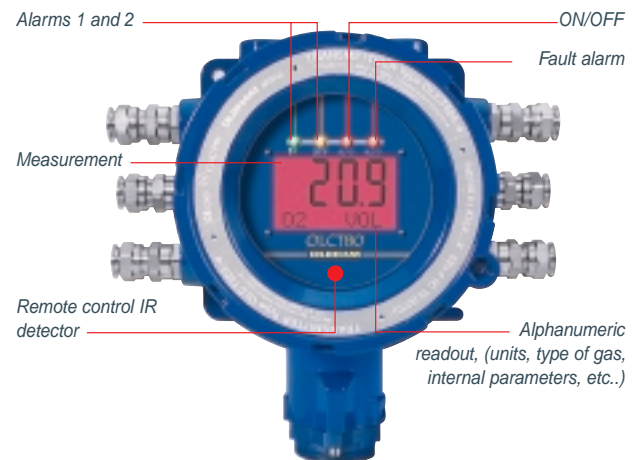
Detectors-Transmitters for Flammable, Toxic Gases and Oxygen

- Stand-alone operation ability
- Large LCD display
- Low power consumption
- Reduced wiring cost
- Non-intrusive operation via intrinsically safe infrared remote control
- Integrated relays
- Direct link, 4-20 mA, loop and isolated sensor mode



Developed in compliance with the strictest specifications, OLCT 80 transmitters are the standard in the gas detection market.

Designed to meet the demanding needs of the largest industrial companies, the OLCT 80 is a major achievement in terms of technical performance and cost optimization.



Series 80

ADVANTAGES

Unique advantages providing the solution you need

Design advantages:

Pre-calibrated sensors for detection of:

- combustible gases: LEL catalytic and IR
- toxic gases
- oxygen

Series 80 detectors are compatible with all Industrial Scientific sensors. Series 20, "Smart" Sensors are pre-calibrated.

Alarms:

- 2 integrated gas alarms with relays
- 1 fault alarm with relay

Inputs:

Series 80 sensors have up to 9 glands dedicated to cable wiring.

The minimum configuration includes:

- 1 electrical input dedicated to a sensor.
- two 4-20 mA or binary inputs. This configuration allows any other sensor from the network to be recognized (e.g. temperature sensor, emergency stop, flame detector, smoke detector).

Outputs:

- 4/20 mA with smart signal processing
- analog signal 4-20 mA
- data signals between 0 and 4 - 20 and 25mA

The transmitted signal, between 0 and 3.2 mA and above 20 mA, can be processed to interpret and identify a wide range of trouble parameters such as: line faults, sensor faults, embedded electronics faults, ambiguity resolution, inhibition of calibration, maintenance call (initial drift or drift over time).

- RS 485 (1200 bauds, 38kb Modbus ASCII for MX 62).
The RS 485 link gives access to :
 - sensor measurement
 - status and default
 - internal relay management

Relays:

The relays are 2A / 250 VAC type with potential free SPDT contacts.

Two types of relays:

- 2 gas alarm relays or supplementary inputs
- 1 fault relay

The relays are actuated either:

- directly by the sensor electronics or supplementary inputs,

or

- from the MX62 central unit or the control system to which the sensor is connected.

The relays can be:

- in safety mode or not,
- triggered on increasing or decreasing alarms,
- manually* or automatically acknowledged.

** By remote control, by pressing an external pushbutton connected to the dedicated binary input, by acknowledging on the MX 62 unit or the control system to which the sensor is connected.*

Technical advantages:

Stand-alone central unit:

For relay control, the OLCT 80 can operate as a stand-alone unit: an indisputable advantage in a classified explosion risk zone.

Flexibility of connection modes:

OLCT 80 sensors can be connected either:

- in loop (opto-isolated - up to 16 sensors),
- 4-20 mA,
- under direct power and operate as a central unit.

Operation traceability:

The operator can check records locally for the most recent time-date stamped events.

Communication:

Remote dialogue with the sensor using IR remote control.

Measurement power supply redundancy:

Independent ports allow a redundant connection to the measurement unit.

Low power requirements:

The leading edge technology used in the OLCT80 transmitter makes it very energy efficient.

This major advantage means that more sensors can be connected, with smaller wire cross-sections and over greater distances.

Logistic advantages:

Loop arrangement

The transmitter is perfectly adapted to mounting and connection to the digital fieldbus loop of the MX 62 unit.

Supporting 1 to 3 digital addresses:

- the sensor block (detection element),
- the two 4-20 mA auxiliary inputs.

Series 80

Certification

The OLC T 80 Series is certified to the specifications required by standards EN 50054, 45544 and 50104 (environmental standards, explosive and toxic gases and oxygen) and to the specifications of standards EN 50270, EN 60529 (electromagnetic compatibility, ingress protection).

OLCT 80 uses digital logic and software technologies. The sensors are protected and in compliance with the specifications of standard EN 51271:

- analog and digital values track each other
- homogeneity of digital resolution and response time with the specifications required
- internal self-diagnostics

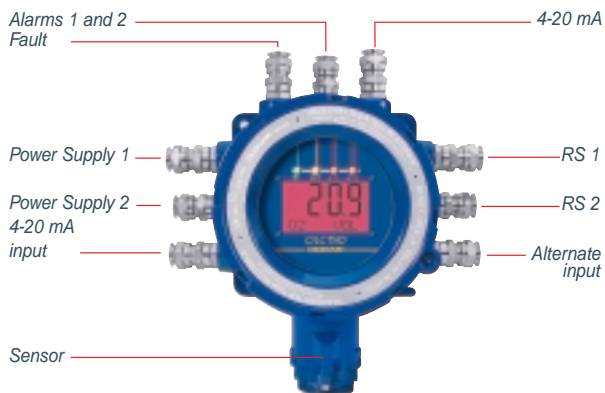
Accessories

1. Infrared remote control
2. Tool kit
3. Bypass adapter
4. Cover key
5. Calibration cup
6. Splash guard
7. Remote gas introduction device
8. Gas collector

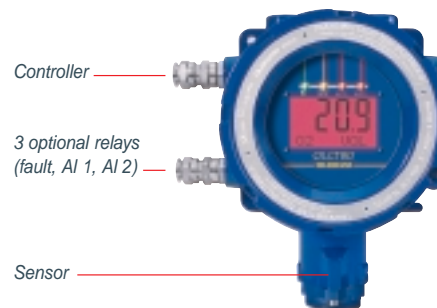


Configuration Options

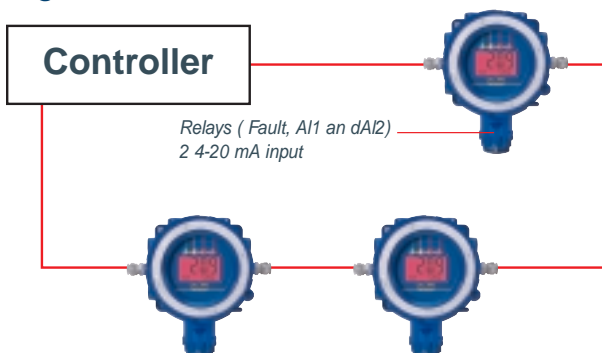
Many Possibilities



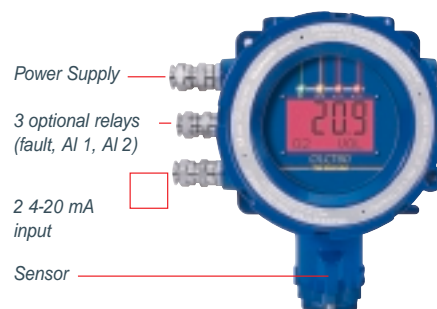
Standard Version



Digital Version



Stand Alone Version



Series 80

SPECIFICATIONS

| Gases | Type of sensor | Range (ppm) | Operating temperature* | Relative humidity uncondensed |
|------------------------|-----------------|-------------------|------------------------|-------------------------------|
| O ₂ | electrochemical | 30,00% | -20°C to +50°C | 10% to 95% RH |
| CO | electrochemical | 100, 300 and 1000 | -20°C to +50°C | 10% to 95% RH |
| H ₂ S | electrochemical | 30, 100 and 1000 | -20°C to +50°C | 10% to 95% RH |
| NO | electrochemical | 100, 300 and 1000 | -20°C to +50°C | 10% to 95% RH |
| NO ₂ | electrochemical | 10 and 30,0 | -20°C to +50°C | 10% to 95% RH |
| SO ₂ | electrochemical | 10,0 30,0 and 100 | -10°C to +50°C | 10% to 95% RH |
| Cl ₂ | electrochemical | 10,0 | -20°C to +50°C | 10% to 95% RH |
| H ₂ | electrochemical | 2000 | -20°C to +50°C | 10% to 95% RH |
| HCl | electrochemical | 30,0 and 100 | -20°C to +40°C | 10% to 95% RH |
| HCN | electrochemical | 10,0 and 30,0 | -20°C to +40°C | 10% to 95% RH |
| NH ₃ | electrochemical | 100 | -20°C to +40°C | 10% to 95% RH |
| | | 1000 | -20°C to +40°C | 10% to 95% RH |
| O ₃ | electrochemical | 1,00 | -10°C to +40°C | 10% to 95% RH |
| PH ₃ | electrochemical | 1,00 | -20°C to +40°C | 10% to 95% RH |
| ClO ₂ | electrochemical | 3,00 | -20°C to +50°C | 10% to 95% RH |
| SiH ₄ | electrochemical | 50 | -20°C to +40°C | 10% to 95% RH |
| AsH ₃ | electrochemical | 1,00 | -10°C to +40°C | 20% to 95% RH |
| CH ₄ | catharometre | 0-100%vol | -20°C to +50°C | 10% to 95% RH |
| H ₂ | catharometre | 0-100%vol | -20°C to +50°C | 10% to 95% RH |
| NH ₃ | catalytic | 0-5000 | -20°C to +50°C | 10% to 95% RH |
| Flammable gas | catalytic | 0-100% LIE | -20°C to +70°C | 10% to 95% RH |
| | | | -20°C to 200°C | 10% to 95% RH |
| VOC | semi-conductor | 500 ppm | -20°C to +50°C | 10% to 95% RH |
| CO/H ₂ null | electrochemical | 1000 ppm | -20°C to +50°C | 10% to 95% RH |
| CO sensor | | | | |

* Temperature at 20°C and at Atmospheric Pressure



SPECIFICATIONS

| Pressure | Accuracy at full scale (at atmospheric pressure) | Life span (in month) | T (50) | IP | IS | AD |
|-------------|---|-------------------------|--------|----|-----|-----|
| Atm +/- 10% | from 5 to 30% = 0,4%vol | 28 | 6 | 66 | YES | YES |
| Atm +/- 10% | +/- 2 ppm (range 0-100) | 48 | 10 | 66 | YES | YES |
| Atm +/- 10% | +/- 1,5 ppm (between 0-30 ppm) | 48 | 15 | 66 | YES | YES |
| Atm +/- 10% | +/- 2 ppm (range 0-100) | 36 | 15 | 66 | YES | YES |
| Atm +/- 10% | +/- 0,8 ppm | 26 | 20 | 66 | YES | NO |
| Atm +/- 10% | +/- 0,7 ppm range 0-10 | 36 | 15 | 66 | YES | NO |
| Atm +/- 10% | +/- 0,5 ppm | 26 | 50 | 66 | YES | NO |
| Atm +/- 10% | +/-5 ppm range 0-100 | 26 | 50 | 66 | YES | YES |
| Atm +/- 10% | +/- 0,5 ppm range 0-10 | 26 | 50 | 66 | YES | NO |
| Atm +/- 10% | +/- 0,3 ppm range 0-10 | 26 | 40 | 66 | YES | NO |
| Atm +/- 10% | +/- 5 ppm | 26 | 50 | 66 | YES | YES |
| Atm +/- 10% | +/- 10 ppm range 0-1000 | 26 | 50 | 66 | YES | YES |
| Atm +/- 10% | +/-0,05 ppm | 20 | 50 | 66 | YES | NO |
| Atm +/- 10% | +/- 0,05 ppm | 20 | 40 | 66 | YES | NO |
| Atm +/- 10% | +/- 0,3 ppm | 26 | 50 | 66 | YES | NO |
| Atm +/- 10% | +/- 1 ppm | 20 | 40 | 66 | YES | NO |
| Atm +/- 10% | +/- 0,05 ppm | 26 | 40 | 66 | YES | NO |
| Atm +/- 10% | 1% vol | 60 | 5 | 66 | | |
| Atm +/- 10% | 1% vol | 60 | 5 | 66 | YES | YES |
| Atm +/- 10% | 100 ppm | 36 | 8 | 66 | YES | YES |
| Atm +/- 10% | 1% IIE between 0- 60%LIE | 60 | 5 | 66 | | |
| Atm +/- 10% | 1% IIE between 0- 60%LIE | 60 | 5 | 66 | | |
| Atm +/- 10% | 100 ppm +/-5 ppm | 30 | 25 | 66 | NO | YES |
| Atm +/- 10% | +/- 4 ppm if measure < 200 ppm | 36 | 25 | 66 | YES | YES |
| | +/-20 ppm if measure>200 ppm | | | | YES | YES |



Series 80

SPECIFICATIONS

Type: Transmitter-sensor
Detected gases: Explosive, toxic and oxygen
Detection principles: Catalytic, Electrochemical, IR, Semiconductor
Measuring ranges: See chart inside
Sensor block: Pre-calibrated
Housing Sensor: Stainless steel 316L
Enclosure: Aluminium
Visualisation: 4-digit LCD display for measurement and one alphanumeric line for texts,
Pictograms - backlighting
4 indicator lamps : one green : "Operation OK",
one yellow : "Fault",
2 red : "Alarm 1" and "Alarm 2"

Power supply to sensor terminals: Two independent inputs :
16 to 28 VDC (catalytic / IR / SM cells)
12 to 28 VDC (electrochemical cell)

Maximum power with digital link: 0.2 W (electrochemical cell) - 1.3 W (catalytic / SM)
- 4.5 W (IR)

with I output at 25 mA : 0.9 W (electrochemical cell) - 2 W (catalytic / SM)
- 5.2 W (IR)

with I output at 25 mA and relays activated: 2.4 W (electrochemical cell) - 3.5 W (catalytic / SM)
- 6.7 W (IR)

Inputs: Two analog inputs 4-20 mA
(load resistance 120 Ω , can be used as binary)

Signal outputs

Logic (relay contacts): Relay
Analog: Standardised 4-20 mA output
Digital: Two independent opto-isolated RS 485 ports
Signal faults: $I < 0.5$ mA
Alarms: 2 programmable thresholds per channel

Relays

Type: SPDT
Number: 3
Contact: RCT changer-over
Breaking capacity: 2A / 250 VAC / 30 VDC

Wiring / connection: Basic version, 6 inputs : 4 M20 and 2 M25
On request : 3 additional, 2 M20 and 1 M25

Load resistance on the 4-20 mA: 500 Ω

loop resistance: Under central unit 21 VDC: 128 ohms (electrochemical cell) -
32 Ω (catalytic / SM) - 16 Ω (IR)

Fastening system: See drawings

Protection number: IP 66

Operating temperatures: - 25 $^{\circ}$ C to +55 $^{\circ}$ C
(electronics, see table for detection cells)

Dimensions: See drawings

Weight: OLCT 80 : 3,5 kg OLCT80 version IR : 5,3 kg

Certification Atex : OLCT 80 d OLCT 80 id
(with intrinsic safety sensor block)

II 2GD II 2GD

EEx d IIC T5(T100 $^{\circ}$ C)
or T6 (T85 $^{\circ}$ C) EEx d [ia] ia IIC T4
(T135 $^{\circ}$ C)

INERIS 03ATEX0240X INERIS 03ATEX0240X

Electromagnetic compatibility: Complies with EN 50270

