

OLC(T) 100

1. How can I detect an explosive gas which is not in the list?

When it is fitted with a catalytic sensor, the OLC/OLCT 100 allows detecting most of the explosive vapours. In order to help the inside sales and the manufacturing, we have created part numbers for the main combustible gases. If your gas is not on the list, please contact the product manager.

Concerning the infrared sensor, we will be limited to the gases listed in the price list.

2. Are there smart sensors (plugged-in, safe recognition...)?

NO. A CO sensor must be replaced by a CO sensor.

3. The CO sensor part number is the same for the following ranges: 100, 300 and 1000 ppm. Which concentration do I have to use for calibration?

It depends on the range which is mentioned on the cover of the transmitter. For example, if the output signal is set to 20mA for a 300 ppm concentration, the range is 0-300 ppm.

4. Can we place any sensor block in any detector?

No, a sensor block can only be associated with a defined detector. A guide pin ensures that the sensor block works correctly.

5. How to calibrate the OLC(T) 100?

The OLC 100 is calibrated from the control unit.

To calibrate the OLCT 100, 2 potentiometers are inside the detector. You will need a fire permit to open the detector in explosive atmospheres.

In combination with the MX43, the calibration will be non intrusive.

6. What are the ATEX approvals?

In explosion proof version, the approval is :

ATEX Ex II 2G

Ex d IIC T6 Gb Ex t IIIC T85°C Db

In intrinsically safe version, the approval is :

ATEX Ex II 2G

Ex ia IIC T4 Ex iaD 21 T135°C



7. Is the OLC/OLCT 100 SIL 2 approved?

Yes, it is SIL 2 approved. To maintain a SIL 2 level according to the European standard EN 50402, test period of gas detectors must be maximum 3 months long. Note that this period is 12 months long for the IR version. HT version is not SIL 2.

Here are the probability failures on demand :

Gas	Mesure	SIL Capability	Reduction Risk Factor	Test Period
Combustibles	Catalytic (C1000)	SIL 2	418	3 months
Combustibles CO ₂	Infrared	SIL 2	2857	12 months
Oxygen	Electrochemical	SIL 2	1234	3 months
CO	Electrochemical	SIL 2	840	3 months
H ₂ S	Electrochemical	SIL 2	306	3 months
NH ₃	Electrochemical	SIL 2	203	3 months

8. What are the OLC/OLCT 100 output signals?

The OLC100 has a Wheatstone bridge output.

The OLCT100 has an analogic output 4-20 mA.

9. What is the P1 potentiometer on the electronic board in the OLCT 100?

This potentiometer allows setting the current generator. This value is set at the factory and should not be changed on site. However, it is possible that the transmitter and the central unit may have to be matched. Once the value is set, you do not need to modify this parameter anymore.

10. Is there a high temperature version?

Yes, there is an OLCT 100 HT (high temperature) including the electronics of the OLCT 100 and a remote sensor (5, 10 or 15 meters), i.e. OLC 20D HT, which can be used at ambient temperatures from -20°C to +200°C.

That's why you do not need to use WB interface for the connection with an MX 62

11. Can we remote the sensor?

NO. The OLC/OLCT 100 is not available in remote version.

12. What are the advantages of the infrared sensor?

The expected timelife of the sensors is longer than for a catalytic sensor. Moreover, it is higher resistant to poison and H₂S. This sensor is 3 years warranty.

13. Does a poison resistant version exist ?

Yes, a poison resistant sensor is available but for a limited range of gases (ethylene, 2-butanone, acetylene, acetone). Those sensors are different from standard catalytic VQ1 sensors because there is no marker on it (see the technical manual for more information).

14. What is the detector warranty?

Whatever the version of the detector is, the electronic is 3 years guaranteed.

15. What is the maximum distance of cable?

The distances depends on the cable section and on the detector's version

Detector	Sensor	Maximum lenght (km) for cable with indicated section			Resistance to maximum charge 4-20 mA
		0.5 mm ²	0.9 mm ²	1.5 mm ²	
Voltage (Vcc)		24	24	24	
OLCT100 XP	Catalytic or semi-conductor	0.8	1.4	2.4	250
OLCT100 XP (1)	Electrochemical	< 4	< 4	< 4	
OLCT100 XP-IR	Infrared	1.4	2.6	4.4	250
OLCT100 IS (2)	Electrochemical	1.8	3.3	<4	
OLCT100 HT	Catalytic high temperature	0.8	1.4	2.4	250

(1) for resistance calculations, the assumed load is 120 Ω for 4-20mA.

(2) for resistance calculations, the assumed load is 120 Ω for 4-20mA and a 300 Ω blocking diode

Warning : The cable way has to follow the standards of installation, and has to be set in a written document for the IS installations.

16. What are the detected gases with the infrared sensor?

The gases detected by the infrared sensor are the following (and just these ones) :

Methane 0-100 % LEL (5% vol)	LPG 0-100 % LEL
Methane (4.4% vol)	Isobutane 0-100 % LEL
Methane 0-100 % vol	Ethanol 0-100 % LEL
Propane 0-100 % LEL	Pentane 0-100 % LEL
Butane 0-100 % LEL	Carbon Dioxide (CO ₂) 0-5% vol CO ₂

17. What are the gases detected by the semi-conductor sensor ?

The gases detected by the semi-conductor sensor are the following (and just these ones) :

Methyl Chlorure (CH ₃ Cl) 0-500 ppm	Methylene Chlorure (CH ₂ Cl ₂) 0-500 ppm
Freon R12, 0-1% vol	Freon R507, 0-2000 ppm
Freon R22, 0-2000 ppm	Freon R410a, 0-1000 ppm
Freon R123, 0-2000 ppm	Freon R32, 0-1000 ppm
Freon FX56, 0-2000 ppm	Freon R227, 0-1% vol
Freon R134a, 0-2000 ppm	Freon R407c, 0-1000 ppm
Freon R142b, 0-2000 ppm	Freon R408a, 0-4000 ppm
Freon R11, 0-1% vol	Ethanol, 0-500 ppm
Freon R23, 0-1% vol	Toluene, 0-500 ppm
Freon R141b, 0-2000 ppm	Isopropanol, 0-500 ppm
Freon R143a, 0-2000 ppm	2-Butanone (MEK), 0-500 ppm
Freon R404a, 0-2000 ppm	Xylene, 0-500 ppm

18. What are the operating temperatures for the various versions ?

The detector is certified from -50°C to +70°C. But the operating temperatures are the following :

- Toxic version (according sensors' characteristics)
- Catalytic version : -50°C to +70°C
- Infrared version : -20°C to +50°C
- Semi-conductor version : -20°C to +50°C
- High temperature version : -20°C to +200°C

19. Is the OLC(T) 100 detector supplied with cable gland ?

No, you need to order it separately.

20. Is there a stainless steel version ?

Yes, a stainless steel version will be added at the range later.

21. What is the difference between an OLCT IR and an OLCT 100 XP IR ?

In the OLCT IR, the electronics is not in contact with ambient environment. For the S4IR, the gas passes through the sintered metal disk and is in contact with the source and the pyrodetectors.

Despite strong tests, the S4IR cannot be subject to the same extreme conditions that the OLCT IR would be able to stand (e.g. very high concentration of H₂S in the order of several hundreds). It is nevertheless a good compromise for applications such as water treatment, detection of silicone and other poisons...



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