Multigas detector

MX 2100

- 5 gas simultaneous detection
  Up to 6 measurement ranges

- 0 zone operation

- Test and calibration station

- Graphical display

- Infrared port

- Smart interchangeable
  sensor blocks

ATEX CE CSA

OLDHAM *Group*

Gas detection/stack gas monitoring

New breath
for multigas detection

Effective protection of personnel working in areas at risk from explosive and toxic gases or insufficient oxygen requires the use of reliable, high-performance instruments : OLDHAM has more than 80 years experience in this field.

The MX 2100 is a 5-gas portable detector, designed for fire and rescue teams working in factories, underground structures, sewers, drilling platforms, ships and generally any confined environment where a risk exists.

Example of application : operation in confined area

All round high performance

Exceptional configuration

The MX 2100 multigas detector features a unique configuration allowing 4 measuring positions as standard for measuring 6 different parameters.

The MX 2100 adapts to the needs of your activity, providing the following detection combinations :

• 3 channels: toxic gases, CO_2, O_2
• 1 channel for explosive gases

Universal explosimetry reading

Fitted with a sensor specifically designed for measuring most common explosive gases on a scale of 0 to 100 % LEL, the MX 2100 is practically a universal explosimeter.

The MX 2100 also has a library of 32 pre-programmed gases for measurement of a dedicated gas.

Choice of toxic gas and oxygen measurement

With the possibility of changing sensor blocks without adjustment you can choose from a large selection of sensors and use 4 of them simultaneously (with the CO/H_2S option).

This feature makes the MX 2100 a genuine portable analysis laboratory.

Conformity with the ATEX Directive

The MX 2100 meets all the new requirements of the ATEX Directive 94/9/EC giving it a very high safety level. This Category 1 device can be operated in zone 0 and with any gas or vapour concentration. This special feature taken with its other characteristics makes it the best performing device on the market.

Total work environment monitoring

Graphical display

The LCD display unit features automatic back-lighting for alarms or faults. Its is a graphical display for easier measurement readout.

• Measurement display :
– display of 5 measurements with units and type of gas*
– warning if any channel needs to be calibrated
• Parameter display :
– date and time
– min. - max. (resettable)
– STEL and TWA
– remaining run time (bar graph)

Warning lights

A set of warning lights on the top of the unit displays alarms in all directions and in any work environment.

Review

The MX 2100 can be used to print a review of all events and measurements carried out. The variable storage interval can be set by the user who has the possibility of storing up to 200,000 records**. Work environment monitoring can be adapted to suit the activity.

The safety manager and user have all the advantages of a highly developed management tool.

Alarms

• Gas alarms :
– text messages for each channel on the display unit
– flashing light signal common to all channels
– audible signal
– alarm acknowledgement compliant with safety rules
• Alarm levels :
– 2 instantaneous thresholds per channel in EXPLO and TOX modes
– STEL/TWA in TOX mode
– running average over 15 minutes and 8 hours
– high and low thresholds (2 low thresholds as option) and 1 threshold for the catharometric channel

Trouble alarms

• Continuous luminous and audible signal common to all channels :
– 20 % over alarm in negative mode
– 120 % over alarm in TOX and oxygen mode
– 100 % over alarm in EXPLO mode

*4 simultaneous measurements or 5 with the CO/H2S alternative if this option is chosen.
**For example: 1 recording every 5 s on 5 measurement channels = 55 hours of recording

User-friendliness

- At a single press of a tactile pad the MX 2100 runs self-diagnostics and indicates any anomalies; it continuously analyses the gases for which it has been programmed. Auto-zero is possible on demand or as a charger output (option). A quick operation allows the user to change the gas to be detected. The data-logging function allows storage of events and measurements with variable storage interval. Multi-user location identification is available with 32 texts of 16 characters.

- COM 2100 software is used to supervise and maintain the device :
  – text display of measurements and channel parameters
  – troubleshooting if there is a problem
  – intuitive programming of the detector and measurement channels
  – option management
  – channel calibration via automated drop-down menu
  – printout of encrypted status sheet and test sheet
  – management, display and printout of stored events and measurements
  – protection by password

- The MX 2100 can be linked to a PC via an infrared port for use on a suitably equipped computer. An adaptor module is available for other computers.

Versatility and modularity

Detected gas	Standard range [1]	Resolution [2]	Repeatability [3]	Zero drift [4]	T50 [5]	T° [6]	Life span [7]
EXPLO	100 % LEL	1 % LEL or 3 %	1 % LEL	0,5 % LEL	10	-30 +55	48
O_2	2-30 % v/v	0,2 % v/v (2 to 10 %) or 2% (10 to 30 %)	0,1 % v/v	0,01 %	6	-20 +45	28
CO	1000	+/- 2 (between 0-50) or +/-5 %	1	0,2	10	-20 +50	48
H_2S	100	1,5 (between 0-30) or +/5 %	1	0,2	15	-20 +50	48
SO_2	30,0	0,9	2	0,2	15	-10 +50	36
NO	100	+/- 2	2	0,2	15	-15 +40	26
NO_2	30,0	0,9	2	0,15	15	-20 +40	26
Cl_2	10,0	0,5	2	0,15	30	-20 +40	26
HCL	30,0	0,5 (between 0-10) or +/- 5 %	3	0,15	50	-20 +40	26
HCN	30,0	0,3 (between 0-10) or +/- 3 %	3	0,15	40	-20 +40	24
NH_3	100, 1000	5 (between 0-100) or 5 % (100 to 1000)	5	0,25	40	-20 +40	26 (range 100)
H_2	2000	5 (between 0-100) or 5 %	2	0,5	50	-20 +40	26
ETO	30,0	0,5 (between0-10) or +/- 5 %	2	0,2	50	-20 +50	26
ASH_3	1,00	0,05	5	0,015	40	-20 +40	16
PH_3	1,00	0,05	5	0,015	40	-20 +40	16
SIH_4	50	0,5	3	0,2	40	-20 +40	16
$COCl_2$	1,00	0,05	5	0,015	60	10 +40	16
O_3	1,00	0,05	5	0,02	50	-10 +40	20
HF	10,00	0,5	5	0,1	60	-10 +30	16
ClO_2	3,00	0,3	2	0,05	30	-20 +40	26
CO_2	5,0 %vol	0,1% (between 0-2) or +/- 5%	2	0,015	12	-10 +40	60
CAT	CH4 100%vol	+-/ 2% v/v (between 0-40%) or +/- 5 %	1% VOL	0,50%	5	-20 +50	60

(1) in ppm except for explo, CO2, CAT and O2 (% vol)
(2) temperature at 20°C and atmospheric pressure, in unit (% LEL, ppm) or % of the lecture
(3) in % of the readind measure
(4) in ppm sif no other indication - and per month
(5) in seconds at 50% of the value
(6) in °C for cells
(7) average (in month)

All sensor blocks are pre-calibrated, smart and interchangeable*

* Outside danger area with detector switched off

Options and accessories
## *for many more functions*

Calibration station

- **Electric pump** : equipped for flow rate monitoring, this pump is powered via the MX 2100 and clips rapidly into place on top of the unit

- **Charger**

- **Plastic protective case**

- COM2100 and COM2100S **software** (server version)

- **Calibration station** : automatic gas injection system managed by PC and connected to the control equipment via the COM 2100 software. Status and test sheets are stored on PC

- **Test terminal** : reference gas injection system to trigger the alarms. The MX 2100 detects the presence of the station and displays any faulty channels.

- **Module for infrared link**

Portable gas detectors

Technical characteristics

Manufacturer :	• OLDHAM SA
Function :	• Multigas detector
Type :	• MX 2100
Configuration :	• 3 channels : toxic gases, CO_2, O_2
	• 1 channel for explosive gases
Gases detected :	• See table inserted in documentation
Measurement :	• Continuous
Sensor :	• Smart, pre-calibrated block interchangeable without adjustment
	• Automatic recognition of type of sensor
Display :	• Graphical LCD, text display of gas levels, backlighting
Switching :	• Automatic switching in catharometric mode to a % volume scale if high concentration
Auto-zero :	• At start-up and on demand (option)
	• Charger output (option)
Operating check :	• Self-test at start-up
	• Audible tone (factory-set interval)
	• No sensor stabilisation time
Trouble alarms :	• Continuous luminous and audible signal common to all channels :
	- 20% over alarm in negative mode
	- 120% over alarm in TOX and oxygen mode
	- 100% over alarm in EXPLO mode
Gas alarms :	• Text messages for each channel on the display unit :
	- Flashing light signal common to all channels
	- Audible signal
	- Alarm acknowledgement compliant with safety rules
	• Alarm levels :
	- 2 instantaneous thresholds per channel in EXPLO and TOX modes
	- STEL/TWA in TOX mode
	- running average over 15 minutes and 8 hours
	• High and low threshold (2 low thresholds as option) and 1 threshold for the catharometric channel
Warning lights :	• Visible in all directions
Buzzer :	• 95 db at 30 cm
Outputs (options) :	• RS 232 infrared link :
	- direct to printer for reviews
	- to PC, maintenance and supervision software, Excel data base

Power supply :	• 3 AAA alkaline batteries or coated NiMH battery pack
Reserve time :	• 14 hours standard
	• 8 hours with pump (4 hours' pump operation)
Charger :	• Built-in, smart
	• 12 to 30 VDC
Charging time :	• 3 hours
Operating temperature :	• -15ºC to +45ºC (continuous operation)
	• -25ºC to +50ºC (discontinuous operation)
Ingress protection :	• IP 66
Weight :	• 350 g
Dimensions :	• H 110 x W 80 x D 45
Certification :	• As per Explosive Atmospheres (ATEX) Directive :
	- ATEX 94/9/CE ⟨Ex⟩
	- I 1G EEx ia IIC T4
	- I M1 EEx i I or II 2G EEx iad IIC T4
	- I M2 EEx i I
	• As per Electromagnetic Compatibility Directive 89/336/EC, standard EN 50270

MX 2100

OLDHAM Group

Plant and head office : Z.I. Est - rue Orfila
B.P. 417 - 62 027 ARRAS Cedex FRANCE
Tel. : 33 3 21 60 80 80 Fax : 33 3 21 60 80 00
Web site : http://www.oldham.fr

AFAQ ISO 9001

Your agent or retailer