MX 43

- Analog and digital controller
- 4 or 8 lines / 16 to 32 detectors max
- Highly versatile controller
- SIL 1 reliability

Approvals

Controller presentation

The MX 43 is an analog and digital controller designed for the continuous measurement and control of the gases present in the atmosphere and for 4-20 mA or digital contact signal.
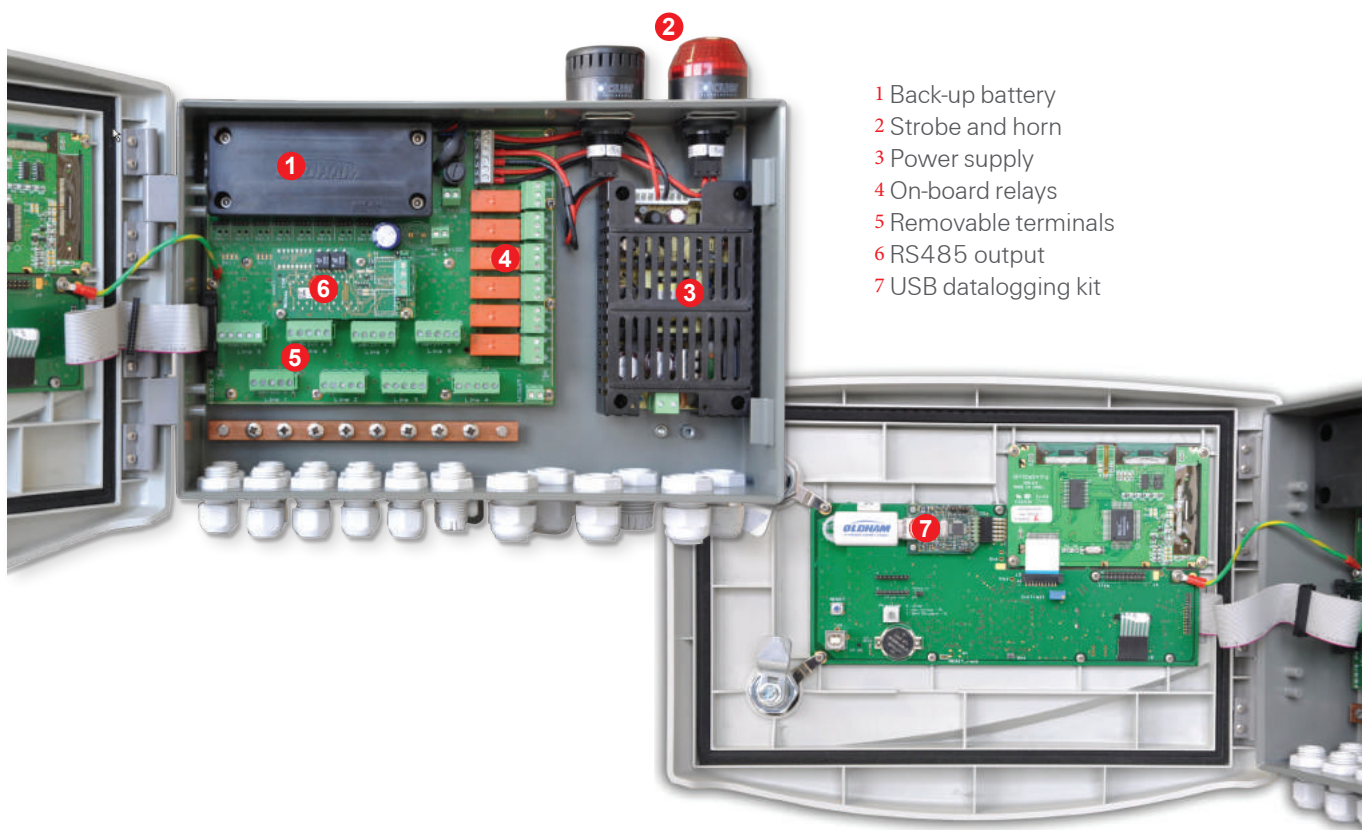
Large graphic display

Smart keys make embedded menus simple to use

Front panel LEDs allow a quick and basic overview of the installation.

MX 43 manages both digital lines and analog channels, and covers all needs for a wide variety of applications.

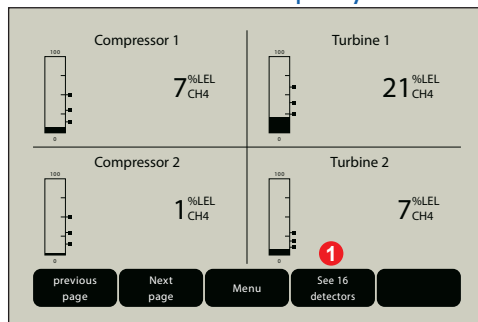The MX 43 digital technology allows up to 32 detectors to be distributed on 8 lines for increased cost savings.

1 Back-up battery
2 Strobe and horn
3 Power supply
4 On-board relays
5 Removable terminals
6 RS485 output
7 USB datalogging kit

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Normal Mode
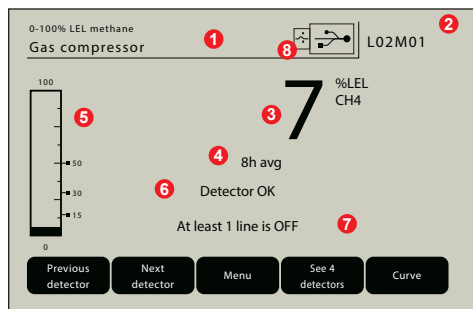
1 Measurement range, gas and detector tag

2 Detector addressa

3 Current value with unit and detected gas

4 Averaged value on the last 8 hours

5 Bar graph with alarm thresholds

6 Detector status (OK, OFF, fault)

7 MX 43 status information

8 Records on progress

Calibration Curve

Simplified procedure that enables time savings (i.e. non-intrusive and one-man calibration).

1 Calibration curve
2 Cursors for span settings
3 Measured value
4 Calibration gas value
5 Detector selection, zeroing and spanning

Alarm mode

Reverse video in alarm conditions for immediate identification of the concerned detector.

1 Current value with unit and detected gas

2 Averaged value on the last 8 hours

3 Detector status (OK, OFF, fault)

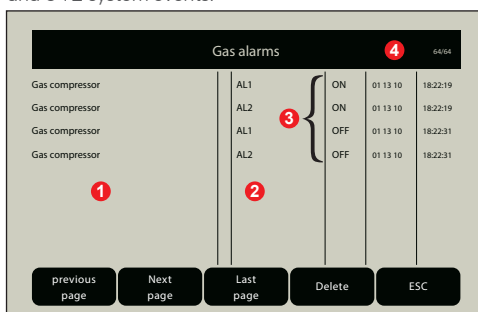4 MX 43 status information

5 Detector in alarm

In 4-channel display

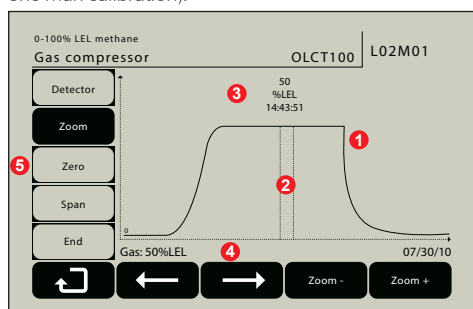1 Up to 16 detectors can be displayed simultaneously

Data-logging

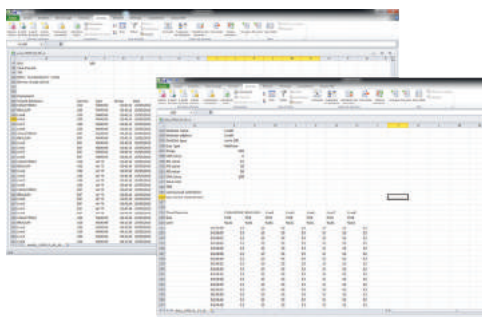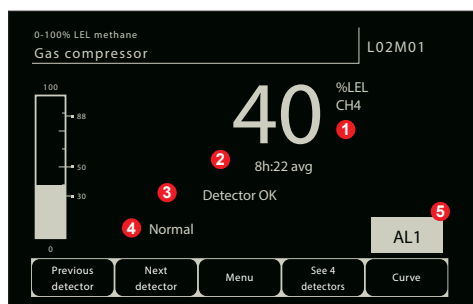By default, the MX 43 can store up to 512 alarm events, 512 fault events and 512 system events.

1 Detector tag

2 Event

3 Date and time of events appearance or clearance

4 Page number (up to 64 pages)

The USB option enables gas measurements to be saved at a sampling rate of 2 seconds to 15 minutes while events are saved when they happen.

The 4 Gb USB drive provides more than 2 years of storage in most of configurations. The USB option also delivers the ability to save and restore configuration and firmware files.
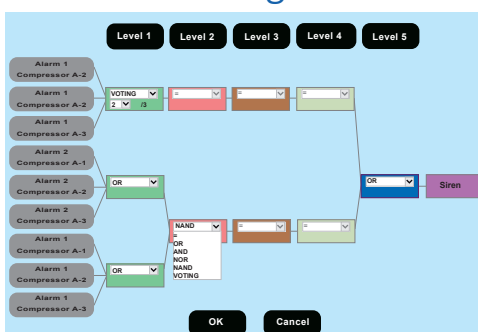
COM 43 configuration software

1 Simple relay programming

2 Up to 5 embedded functions: OR, AND, NOR, NAND, VOTING

3 Several timers available

4 Advanced management of audible alarms (acknowledgment, reactivation, evacuation)

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Modules

Different modules can be connected to the controller:

4 or 8-relay module

4 or 8-programmable-relay module can be located closer to the actuators for cost savings.

16-logic-input module

Addressable module of 16 logic input for recovery of digital information such as fire or intrusion alarms, emergency stop, limit switch activation, etc.

8-analog-input module

This module enables standard analog transmitters (gas or flame detectors for instance) to be connected on a digital line for cost savings.

4-analog-output module

Addressable 4- analog output module which delivers 4 analog 4-20mA signal outputs (detector output copy, min, max, average of a group of detectors) for connection to a datalogger, a PLC, a building Management System (BMS), etc.

Configuration example

MX43
Configuration PC with COM43 application
External power supply
2 logic inputs
USB
Digital detectors
4-relay module
8-relay module
16-logic-input module
Analog detectors
8-analog-inputs module
4-analog-output module
Analog recorders

— Analog signal
— Digital signal
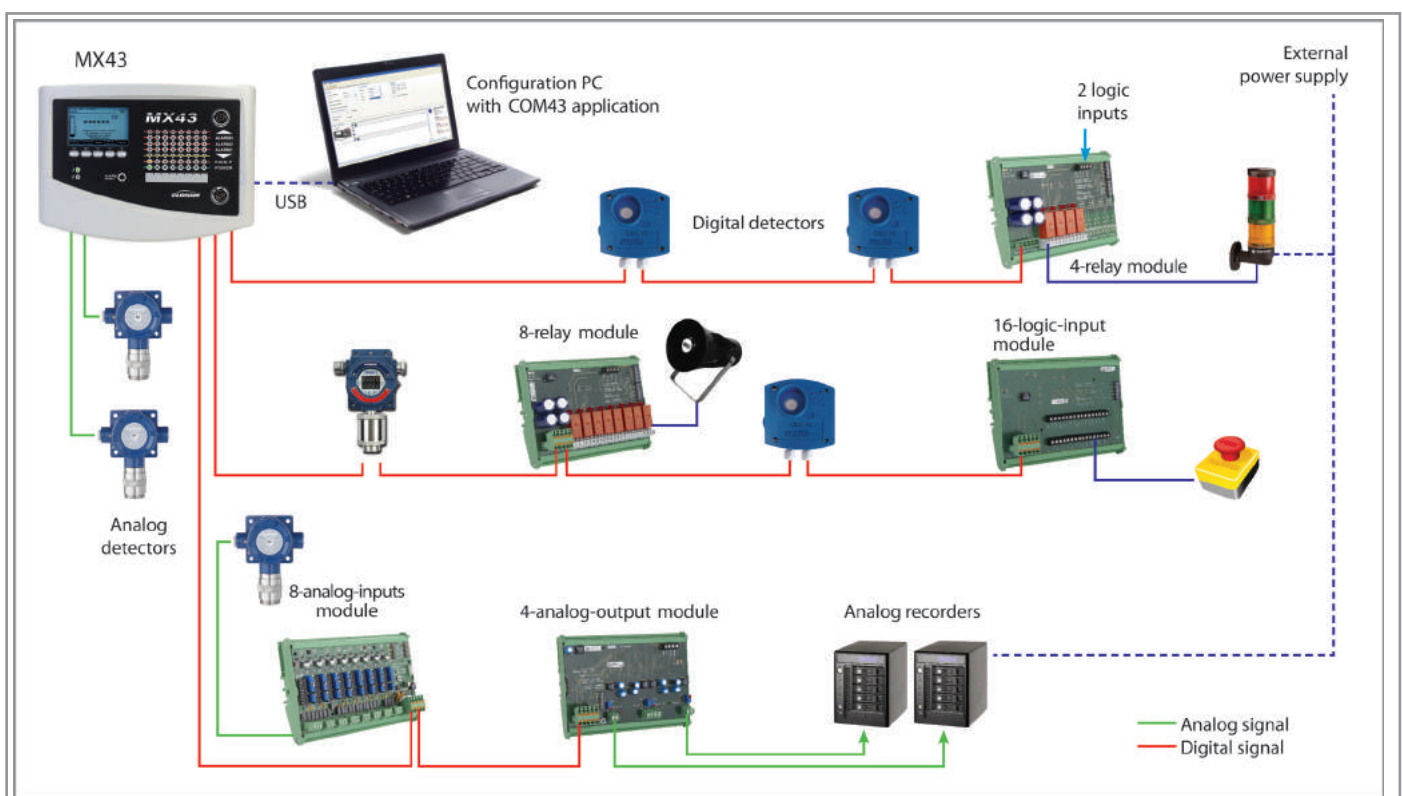
Model	MX 43 gas detection control panel
Dimensions (wall-mounted version)	370 x 299 x 109 mm (14.6 x 11.8 x 4.3 inches)
Dimensions (rack)	19", 4U ; 482.8 x 177 x 192.5 mm (19.1 x 7 x 7.6 inches)
Ingress protection	IP55 (wall-mounted), IP31 (rack)
Cable entries (wall-mounted version)	12 M16 cable glands, 4 to 8 mm² (8 to 11 AWG) outer diameter cable 6 M20 cable glands, 6 to 12 mm² (7 to 9 AWG) outer diameter cable
Display	LCD back-lit display + smart keys Display in video inverse in case of fault Customizable by user (display 1 to 16 channels simultaneously, fixed or scrolling, on events...) Bar graph with alarm threshold
Visual indicators	7 LEDs per line for detector status 1 common LED for Fault condition 1 common LED for Power indicator
Buttons	5 smart keys 1 audible alarm accept/reset button
Operating use	
Operating temperature	-20°C to +50°C
Storage temperature	-20°C to +50°C
Humidity	5 to 95% RH
Power	100-240 Vac 50-60 Hz or 21-28 Vdc, 112 W max
Battery	Embedded back up power supply in option (0.6 Ah)
Consumption	500 mA min (without module)
Measurement lines	
Digital lines	8 maximum RS-485 communication, proprietary protocol, 9600 Baud 2 twisted shielded-pair cable
Analog channels	8 maximum 0-23 mA analog signal input (4 to 20 mA reserved for measurement) 120 Ohm load resistance 2 or 3-core shielded cable
Voltage (typical)	21 to 28Vdc
Maximum current output per line	1.2 A (1.5 A intermittently)
Maximum current output in total	2.4 A permanent (3.2 A intermittently)
Alarms	
Per channel	5 alarm levels (A1, A2, A3, Overscale, Underscale) + Fault Non-ambiguity reading option for combustible gases monitoring
Programmable thresholds	On instantenous or averaged values, rising or falling alarms, manual or automatic acknowledgement
On-board relays	5 fully programmable alarm relays 1 fault relay (non-configurable) Dry contact relay DPCO relays with contact rating of 250 Vca 2 A (inductive)
Digital outputs	RS-485 Modbus RTU serial link
Approvals	
EMC	According to EN50270
ATEX	EN50271 and metrological performances according to EN60079-29-1
Low Voltage Directive	According to EN61010
CSA	Pending
Functional safety (Reliability data)	SIL1 capability according to EN50271:2010 λdu =2,29.10-6, PFDavg=1,03.10-2, Ti=1 year, MTBF=20 years, SFF 60% (data for 4 channel version, 24 Vdc powered)
MED	According to Marine Equiment Directive 96/98/EC. Fulfills the EMC requirements for installation in General Power Distribution Zone and/or Deck Zone.

Our fixed detector range

OLCT 10

OLCT 10N

CTX 300

OLCT 100

iTrans 2

OLCT 80

OLCT 60

OLCT 60 / OLCT IR

OLCT IR

Meridian

Spyglass

Flamevision