

FAQ MX 40 Wireless

1. Why choose the MX 40 ?

The MX 40 is a gas detection unit that communicates via radio to the BM 25 wireless units. This makes it possible to centralize all of the measurements recorded by the BM 25s in one location and to adjust settings.

2. How many BM 25 units can connect to the MX 40 ?

The MX 40 controller can manage up to 16 wireless BM 25 units, including up to 32 measurement channels. A unit equipped with LEL, NH₃ and O₂ cells will occupy 3 measurement channels. Therefore, a maximum of 10 units of this type could be connected to the same MX 40.

3. I need several MX 40 units at the same site. Can there be multiple coexisting networks ?

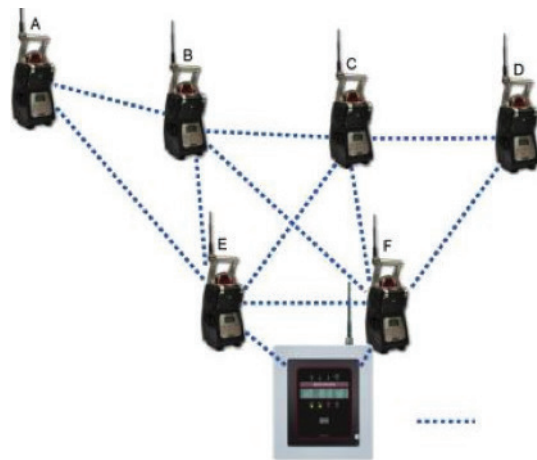
Absolutely. The wireless network has 16 different channels. To allow the units to communicate, without interference from other units communicating on another channel, simply set the same channel number for each unit in a given system.



4. My BM 25 has a CO/H₂S Combo sensor installed.

What will the MX 40 display ?

The CO/H₂S sensor will occupy two measurement channels. The CO and H₂S readings will be shown simultaneously on two different lines on the display.



5. What type of network is it ?

The technology used is a mesh network. With this type of network, all of the hosts are interconnected, forming a net-like structure. Each network node can receive, send, and relay data. This avoids the problem of sensitive points in the network, which, in the case of an outage, would cut the connection to a part of the network. If a node is out of service, the neighboring nodes will relay the messages via another route.

6. What is the network range ?

The maximum range between network nodes is 1000 meters, open-field. Because the same message can be relayed 4 times, the maximum distance between a node and an MX 40 unit can reach up to 5000 meters.

7. What frequency is used ?

The frequency is 2.4 GHz. This frequency is the most popular because it is license-free in most places in the world, unlike the 868 MHz and 900 MHz bandwidths. To be precise, communication is carried out on the ISM (Industrial, Scientific and Medical) radio band which is located between 2.4 and 2.4835 GHz.

8. Is the network secure ?

The radio communication is secure and conforms to IEEE standard 802.15.4, issued in June 2005. This standard uses DSSS (Direct-Sequence Spread Spectrum) signaling, which outlines strict rules for transmission and coding. In this signaling process, each bit to be transmitted is transformed into a set of n bits. The main advantage is the assurance of redundancy in the transmission of information, so that transmission errors are controlled and corrected. DSSS has been used by the military since the 1940s.

9. Can I mix BM 25s with other detectors ?

Absolutely. Up to a maximum of 32 measurement points, the MX 40 can combine with BM25 wireless units, 4-20 mA analog detectors, RS485 700-series digital detectors, and other wireless systems from our sister company DETCON.

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10. What input/output modules does the MX 40 use ?

The I/O modules communicate over the MX 40's RS485 network. They are mounted on the DIN rail on the MX 40 enclosure or they may be located remotely, up to 1000 meters from the controller.

Type	Module Name	Description	Maximum capacity
DA-4	DA-4 Analog Inputs	Each module has 4 4-20 mA inputs (2 or 3 lines) and supplies 24 Vcc power to the detectors.	8 per system
DI-4	Logic Inputs	Each module has 4 dry-contact inputs.	8 per system
AO-4	Analog Outputs	Each module has 4 4-20 mA outputs to repeat the 4-20 mA signal from up to 4 separate detectors.	8 per system
RL-4	Relay Outputs	Each module has 4 RCT relays (AI1, AI2, AI3 and Fault) with programmable settings: <ul style="list-style-type: none">• positive or negative security• manual or automatic acknowledgment• buzzer function	16 per system

11. What is the difference between the MX40-32 and the MX40-08 ?

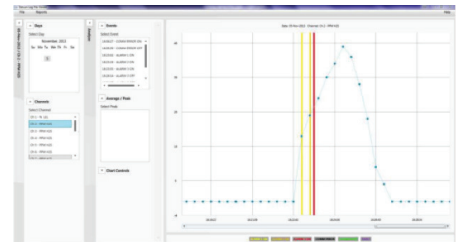
The MX40-08 is in a smaller enclosure than the MX40-32. This is the only difference. Due to the dimensions of the enclosure, the maximum number of modules is limited to 6 for the MX40-08, versus 12 for the MX40-32 version.

12. What happens when an alarm goes off ?

When an alarm goes off, the MX 40 activates its relays according to your settings. You can also remotely control the BM 25s that are connected wirelessly to the network. In this way, the BM 25s are not only detectors (gas inputs) but also alarm stations (output).

13. Does the MX 40 have a data recording function ?

Yes. The MX 40 comes standard equipped with an SD memory card for recording measurements, min/max, averages, and fault, alarm and calibration events. The data can be read directly on the unit or, for improved usability, on a PC, using the Log File Viewer data retrieval and processing software.



14. What are the primary characteristics of the MX 40?

- Up to 32 gas measurements
- Compatible with 4-20 mA analog detectors, 700-series digital detectors, or BM 25 wireless detectors
- Up to 16 BM 25 wireless units
- Up to 64 programmable relays
- Back-lit LCD display: measurement, channel name, channel status, battery level, wireless signal strength (up to 8 channels simultaneously)
- 3 LED visual alarms and 1 fault indicator
- IP 54 / NEMA 4X protection rating
- Operating temperatures of -20°C to +70°C
- Up to 1000 meters, open-field, between network nodes
- Up to 5000 meters, open-field, to the furthest network node
- Standard RS-485 Modbus RTU output
- Buzzer (90 dB to 60 cm) and Flash (1,75J – choice of 6 colors) (optional)
- Standard SD memory card for saving measurements and alarm events in .csv format
- Data retrieval and processing software (graph format) (Log File Viewer software - can be downloaded free of charge from our website)
- Optional Ethernet or GSM modem for sending SMS messages and emails in the event of an alarm or fault
- Integrated web page for remote access to measurements and channel statuses in real time.