3M™ Oldham™
BM 25 & BM 25 Wireless
Transportable Gas Detection

Presentation

The BM 25 packs the benefits of a fixed system area monitor into a rugged, user-friendly and transportable instrument.

It was designed to detect one to five gases for mobile or temporary work applications, team protection, area surveillance, or places where fixed detection systems are not suitable.

- Detect up to 5 gases simultaneously
- 103 dB at 3 feet audible alarm
- Ultra-bright flashing signal at 360°
- Run time of 170 hours
- Resistant to harsh environment
- Easily transportable - less than 15 lbS
- 30 devices per network
- 16 independent networks
- More than 0.5 mile RF line of sight
- Data acquisition to a controller
Available as an option, the radio communication allows several BM 25 devices to communicate on the same network or to send information wirelessly to a controller.

### A scalable network
Adding a BM 25 on an existing network has never been so easy as you just need to turn it on. The BM 25 is automatically added on the network
- Up to 30 BM 25 can be meshed on the same network
- Up to 16 networks can coexist with no interference

### Alarm Transfer
If a BM 25 goes into gas alarm, all BM25s in the network will report a corresponding alarm.

### Safety Function Remains
If a BM 25 does not respond or if the network is split, then it is possible to continue to work by the time of the restoration of the network. The gas detection remains effective and each BM 25 would still locally alarm in the presence of gas.

### Network Self-Healing
When the obstacle is gone, the communication resumes automatically. The two groups merge together to form only one group again.

#### How does the MESH network, work?
Hosts are connected peer-to-peer manner, forming a net-like structure
- No central hierarchy
- Each node can receive, send and relay data
- If a node is down, it goes through another route
- Maximum distance between two communicating devices is 0.6 mile line of sight

#### Benefits of Mesh Topology:
- Fast and simple deployment
- High coverage versatility
- High fault tolerance
- Significantly reduces installation and network operating costs

#### Alarm & Datalogging Capabilities:
- 360° flashing signal
- 103 dB at 3 feet audible alarm.
- STEL and TWA values are available
- Datalogging capacity of more than four months (for 5 gases configuration).

#### Batteries
- Provide up to 170 hours of continuous runtime
- Full recharge in only 4 1/2 hours
- Safe trickle charger for long-term monitoring in classified zones.

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Trickle charge for long term area monitoring
**Smartwireless HMI**

BM 25s send fault status, alarm status and gas measurements to the controller. As soon as one BM 25 fires an alarm, the controller relays the information to all BM 25s on the same network that then turn in Alarm Transfer mode.

**MX40 Controller**

The SmartWireless® MX 40 Controller provides operator interface to the network and real time status display of all network devices. Flexible and expandable, a MX 40 network consists of any combination of (up to 16) BM 25 wireless and/or (up to 32) wireless and/or wired sensors, one or more control panels, and alarm warning devices. Command functions include alarm reset, alarm acknowledge, alarm test and radio silence. The control panel displays real time gas concentrations, field device status, battery levels, network RF signal quality and fault diagnostic conditions. Display indications include alarm status, channel, gas reading, battery life & link signal strength. Standard features include removable SD card with datalogging.

The Model MX 40 also allows for expanded use of Oldham addressable I/O modules that include a 4-channel 4-20mA input module (DA-4), a 4-alarm relay output module (RL-4), a 4-channel 4-20mA output module (AO-4), and a 4-relay contact input module (DI-4). Oldham modules can be mounted within the main system enclosure or installed remotely to simplify field wiring.
Technical specification

Instrument Warranty: Two-year warranty, excluding consumables (sensors, filters, etc.)

Case Material: IP66 - Impact resistant polycarbonate

Dimensions: 470 x 180 x 190 mm (16.7" x 7.1" x 7.5")

Weight: 6.8 kg (15 lbs)

Display: Graphic liquid crystal display with backlight

Measuring ranges:
- Combustible Gases – Catalytic Diffusion
- Methane, Propane, Butane, Isobutane, LPG, Ethanol, Pentane – Infrared
- Oxygen and Toxic Gases – Electrochemical
- CO2 – Infrared
- Isobutylene – PID

Power Source (Run Time):
- NiMH (up to 170 hours operating time, 135 hours in wireless mode)

Recharge Time:
- 4.5 hours, typical

Datalogging Capacity:
- Channel, Gas Reading, Battery Life & Signal Strength

Display Indicates:
- Field Device Location
- Alarm Status
- Alarm and Fault Condition LEDs

Configurable up to eight zones

Communication distance:
- 0.6 mile line of sight

Certifications

ATEX & IECEx VERSIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard Version</th>
<th>Without IR sensor</th>
<th>With IR sensor</th>
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<tbody>
<tr>
<td>BM 25</td>
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<td>Ex ia IIC T4 Ga</td>
<td>Ex ia I Ma</td>
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<td>II 2G / I M2</td>
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<td>BM 25W</td>
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CSA VERSION

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<td>Ex ia I Mb</td>
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<td>BM 25W</td>
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NEMETRO VERSION

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EAC VERSION

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Wireless Network:
- 2.4 GHz - 100 mW - IEEE 802.15.4
- 30 devices per network
- 16 independent networks
- Communication distance: 0.6 mile line of sight

MX 40:
- Up to 32 Devices, Wired or Wireless Up to 16 BM 25
- NEMA4X Package
- Configurable up to eight zones
- Alarm and Fault Condition LEDs
- Display Indicates: Field Device Location, Alarm Status, Channel, Gas Reading, Battery Life & Signal Strength

Datalogging Capacity:
- 200,000 measurements

Audible Alarm:
- 103 dB @ 1 meter

Visual Alarm:
- Ultrabright LED beacon visible 360 degrees

Operating Temperature Range:
- -20°C to +50°C (-4°F to 122°F)

Operating Humidity Range:
- 1% to 99% RH sensor dependent

Power Source (Run Time):
- NiMH (up to 170 hours operating time, 135 hours in wireless mode)

Recharge Time:
- 4.5 hours, typical