TELEDYNE OLDHAM SIMTRONICS
Everywhereyoulook™

# BM 25A & BM 25A Wireless

Transportable Gas Detection


## Presentation

The BM 25A 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

# BM 25A & BM 25A Wireless

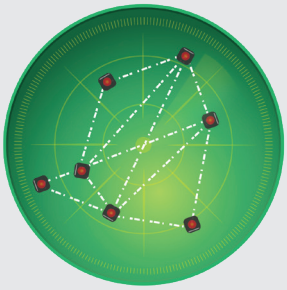
Transportable Gas Detection

Available as an option, the radio communication allows several BM 25A devices to communicate on the same network or to send information wirelessly to a controller.

### A scalable network

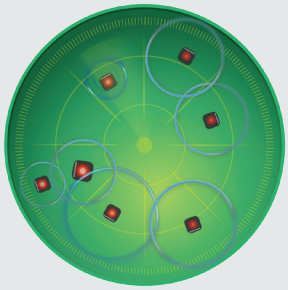
Adding a BM 25A on an existing network has never been so easy as you just need to turn it on. The BM 25A is automatically added on the network

- Up to 30 BM 25A can be meshed on the same network
- Up to 16 networks can coexist with no interference



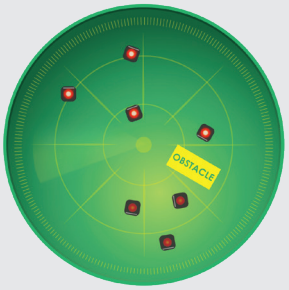
### Alarm Transfer

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



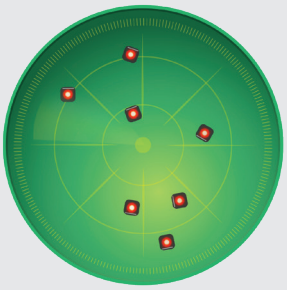
### Safety Function Remains

If a BM 25A 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 25A 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:

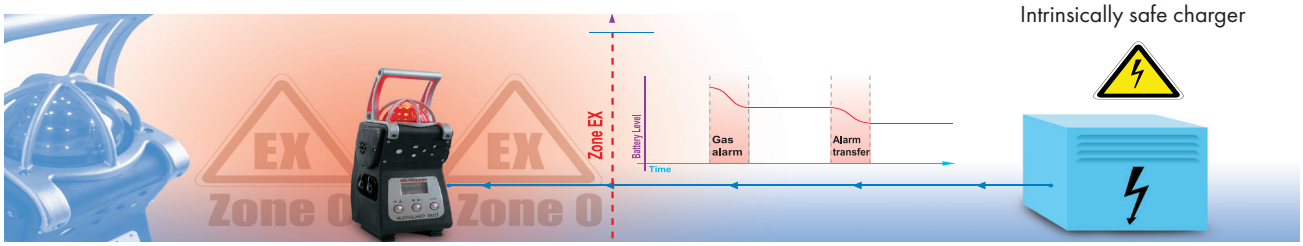
- Fast and simple deployment
- High coverage versatility
- High fault tolerance
- Significantly reduces installation and network operating costs

## 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

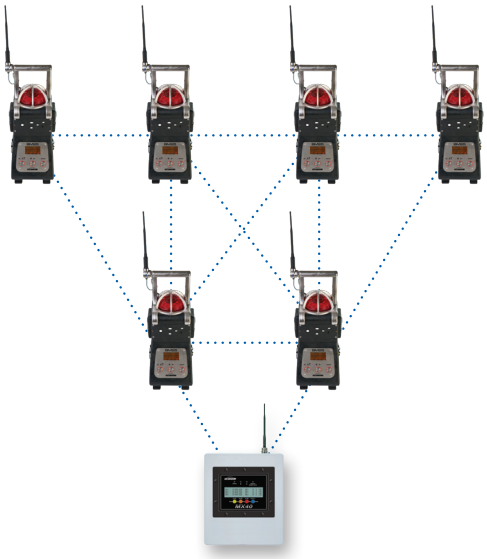
- Provide up to 170 hours of continuous runtime
- Full recharge in only 4 1/2 hours
- Safe trickle charger for long-term monitoring in classified zones.




Trickle charge for long term area monitoring

## Smartwireless HMI

BM 25As send fault status, alarm status and gas measurements to the controller. As soon as one BM 25A fires an alarm, the controller relays the information to all BM 25As 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 25A 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.

# BM 25A & BM 25A Wireless

Transportable Gas Detection

| 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 | |
| Sensors: | Combustible Gas – Catalytic Diffusion<br>Methane, Propane, Butane, Isobutane, LPG, Ethanol, Pentane – Infrared<br>Oxygen and Toxic Gases – Electrochemical<br>CO2 – Infrared<br>Isobutylene – PID | |
| Measuring ranges: | Combustible Gases: | 0-100% LEL in 1% increments |
| | Methane: | 0-100% LEL in 1% increments – Infrared |
| | Methane: | 0-100% of volume in 1% increments – Infrared |
| | Propane: | 0-100% LEL in 1% increments – Infrared |
| | Butane: | 0-100% LEL in 1% increments – Infrared |
| | Isobutane: | 0-100% LEL in 1% increments – Infrared |
| | LPG: | 0-100% LEL in 1% increments – Infrared |
| | Ethanol: | 0-100% LEL in 1% increments – Infrared |
| | Pentane: | 0-100% LEL in 1% increments – Infrared |
| | Oxygen: | 0-30% Volume in 0.1% increments |
| | Carbon Monoxide: | 0-100 ppm in 1 ppm increments |
| | Carbon Monoxide: | 0-1000 ppm in 1 ppm increments |
| | Hydrogen Sulfide: | 0-100 ppm in 1 ppm increments |
| | Hydrogen: | 0-2000 ppm in 1 ppm increments |
| | Sulfur Dioxide: | 0-30 ppm in 0.1 ppm increments |
| | Chlorine: | 0-10 ppm in 0.1 ppm increments |
| | Nitrogen Dioxide: | 0-30 ppm in 0.1 ppm increments |
| | Nitric Oxide: | 0-300 ppm in 1 ppm increments |
| | Hydrogen Chloride: | 0-30 ppm in 0.1 ppm increments |
| | Hydrogen Cyanide: | 0-30 ppm in 0.1 ppm increments |
| | Ammonia: | 0-100 ppm in 1 ppm increments |
| | Ammonia: | 0-1000 ppm in 1 ppm increments |
| | Phosphine: | 0-1 ppm in 0.01 ppm increments |
| | Arsine: | 0-50 ppm in 0.1 ppm increments |
| | Silane: | 0-30 ppm in 0.1 ppm increments |
| | Ethylene Oxide: | 0-5% of volume in 0.1% increments |
| | Carbon Dioxide: | 0-150 ppm in 1 ppm increments |
| | Isobutylene: | 0-10 ppm 0.1 ppm increments |
| | Fluorhydric Acid : | 0-1 ppm 0.01 ppm increments |
| | Ozone: | 0-1 ppm 0.01 ppm increments |
| | Phosgene: | 0-3 ppm 0.01 ppm increments |
| | Chlorine Dioxide : | 0-3 ppm 0.01 ppm increments |
| | Hydrazine : | 0-1 ppm 0.01 ppm increments |
| WIRELESS NETWORK: | » 2.4 GHz - 100 mW - IEEE 802.15.4<br>» 30 devices per network<br>» 16 independent networks<br>» Communication distance : 0.6 mile line of sight | |
| MX 40: | Up to 32 Devices, Wired or Wireless Up to 16 BM 25A<br>NEMA4X Package<br>Configurable up to eight zones<br>Alarm and Fault Condition LEDs<br>Display Indicates: Field Device Location, Alarm Status,<br>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) sensor dependent | |
| 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 | |

| certifications | |
|---|---|
| ATEX & IECEx VERSIONS | |
| BM 25A (standard version) | |
| Without IR sensor: | II 2G / I M1<br>Ex db ia IIC T4 Gb / Ex ia I Ma |
| With IR sensor: | II 2G / I M2<br>Ex db ia IIC T4 Gb / Ex db ia I Mb |
| BM 25 AW (wireless version) | |
| Without IR sensor: | II 2G / I M1<br>Ex db ia IIC T4 Gb / Ex ia I Ma |
| With IR sensor | II 2G / I M2<br>Ex db ia IIC T4 Gb / Ex db ia I Mb |
| INMETRO VERSION | |
| BM 25A (standard version) | |
| Without sensor IR: | Ex ia I Ma<br>Ex db ia IIc T4 Gb<br>IP66<br>-20 °C ≤ Ta ≤ +55 °C |
| With sensor IR: | Ex db ia I Mb<br>Ex db ia IIC T4 Gb<br>IP66<br>-20 °C ≤ Ta ≤ +55 °C |
| BM 25AW (wireless version) | |
| Without sensor IR: | Ex ia I Ma<br>Ex db ia IIC T4 Gb<br>IP66<br>-20 °C ≤ Ta ≤ +55 °C |
| With sensor IR: | Ex db ia I Mb<br>Ex db ia IIC T4 Gb<br>IP66<br>-20 °C ≤ Ta ≤ +55 °C |



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