TELEDYNE OLDHAM SIMTRONICS
Everywhereyoulook™

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

BM 25 & BM 25 Wireless

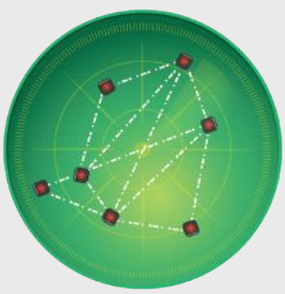
Transportable Gas Detection

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

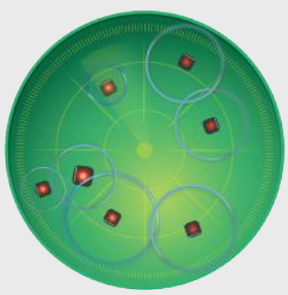
Adding a BM 25 on an existing network has never been so easy as you just need to turn it on. The BM 25 is automatically added on the network

- 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:

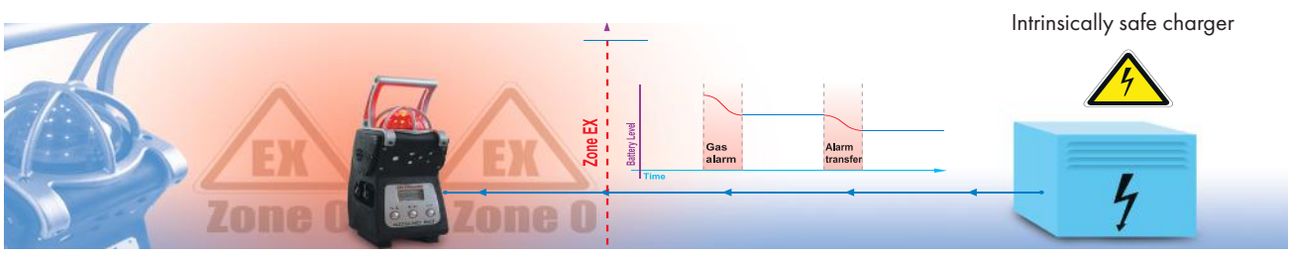
- Fast and simple deployment
- High coverage versatility
- High fault tolerance
- Significantly reduces installation and network operating costs

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

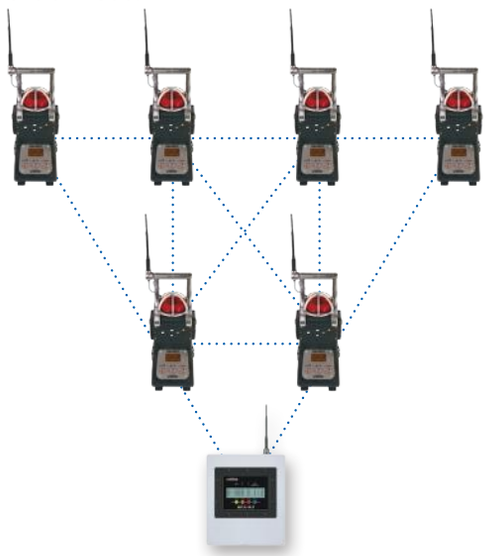
- Provide up to 170 hours of continuous runtime
- Full recharge in only 4 1/2 hours
- Safe trickle charger for long-term monitoring in classified zones.



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.

BM 25 & BM 25 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 Methane, Propane, Butane, Isobutane, LPG, Ethanol, Pentane – Infrared Oxygen and Toxic Gases – Electrochemical CO2 – Infrared 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:	0-1,000 ppm in 1 ppm increments
	Hydrogen Sulfide:	0-100 ppm in 1 ppm increments
	Hydrogen:	0-2,000 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:	0-10 ppm in 0.1 ppm increments
	Ammonia:	0-1,000 ppm in 1 ppm increments
	Phosphine:	0-1 ppm in 0.01 ppm increments
	Arsine:	0-1 ppm in 0.01 ppm increments
	Silane:	0-50 ppm in 0.1 ppm increments
	Ethylene Oxide:	0-30 ppm in 0.1 ppm increments
	Carbon Dioxide:	0-5% of volume in 0.1% increments
	Isobutylene:	0-1,500 ppm in 1 ppm increments
	Fluorhydric Acid :	0-10 ppm 0.1 ppm increments
	Ozone:	0-1 ppm 0.01 ppm increments
	Phosgene:	0-1 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 » 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) 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 25 (standard version) Without IR sensor:	II 1G / I M1 Ex ia IIC T4 Ga / Ex ia I Ma
With IR sensor:	II 2G / I M2 Ex ia d IIC T4 Gb / Ex ia d I Mb
BM 25 W (wireless version) Without IR sensor:	II 1G / I M1 Ex ia IIB T4 Ga / Ex ia I Ma or II 2G / I M2 Ex ia IIC T4 Gb / Ex ia I Mb
With IR sensor	II 2G / I M2 Ex ia d IIC T4 Gb / Ex ia d I Mb
CSA VERSION	
BM 25 (standard and wireless versions)	Ex d ia IIC T4 Class I, Div 1, Gr ABCD (for Canada Only) Class I, Div 2, Gr ABCD (for US Only) AEx d ia IIC T4 Class I, Zone 1 (for US Only)
C22.2 No.152 (% LEL only) ISA-12.13.01-2000 BM25 with pump or PID sensor or infrared sensor for combustible gases is not CSA certified.	
NMETRO VERSION	
BM 25 (standard version) Without sensor IR:	Ex ia I Ma Ex ia IIC T4 Ga IP66 -20 °C ≤ Ta ≤ +55 °C
With sensor IR:	Ex d ia I Mb Ex d ia IIC T4 Gb IP66 -20 °C ≤ Ta ≤ +55 °C
BM 25 W (wireless version) Without sensor IR:	Ex ia I Mb Ex ia IIC T4 Gb Ex ia IIB T4 Ga IP66 -20 °C ≤ Ta ≤ +55 °C
With sensor IR:	Ex db ia I Mb Ex db ia IIC T4 Gb IP66 -20 °C ≤ Ta ≤ +55 °C
EAC VERSION	
BM 25 / BM 25W TP TC 012/2011 0Ex ia IIC T4 Ga X, PO Ex ia I Ma X (BM 25 with electrochemical cells) 1Ex ia d IIC T4 Gb X, PB Ex ia d I Mb X (BM25 with infrared cells, BM25W with infrared or catalytic cells) 0Ex ia IIB T4 Ga X, PO Ex ia I Ma X (BM25W with electrochimical cells)	

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