



TWINSET Series Stand-Alone Dual Gas Monitor

**Versatile &
Cost-Effective**

**Simultaneously with
a Single Controller**

Key Features

Gas Specific Sensing Elements

Oxygen:	Electrochemical
Toxic Gases:	Electrochemical
Combustible Gases:	Catalytic Combustion
Carbon Dioxide:	Infrared

Various Output Signals

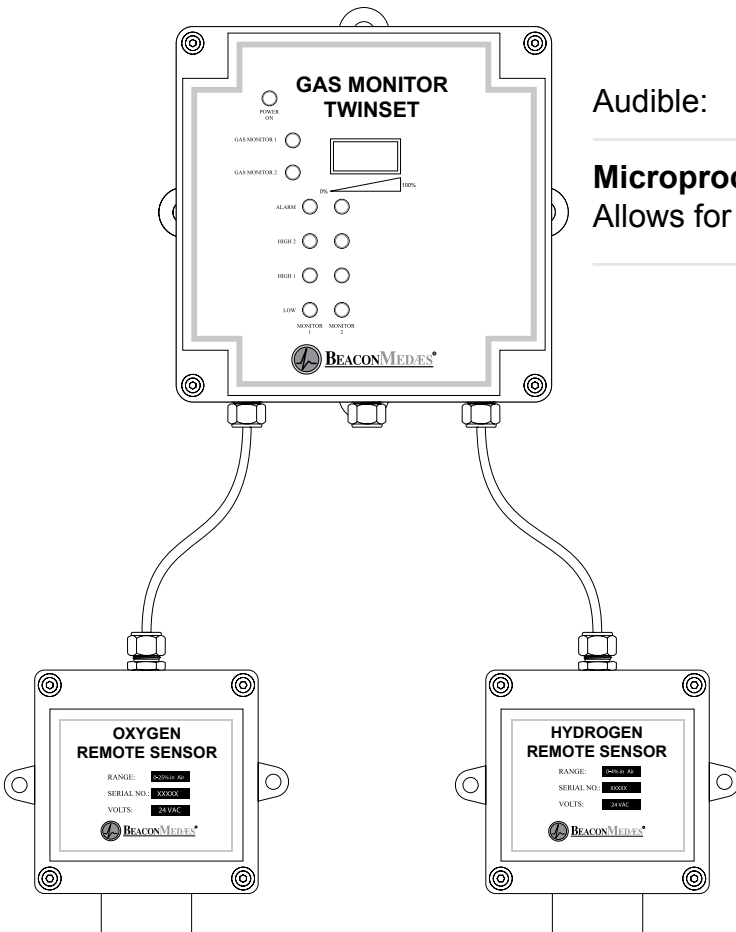
Digital:	2, 3 or 4 SPDT Relays
Analog:	4-20 mA
	0-1 VDC, 0-5 VDC or 0-10 VDC

Audible & Visual Signals

Visual:	Status Indicating Lights (Standard)
	10-Step Gas Bar-Graph Level
Audible:	Built-In Buzzer

Microprocessor-Based Control

Allows for easy calibration and alarm settings



Stand-Alone Dual Gas Monitor

Description

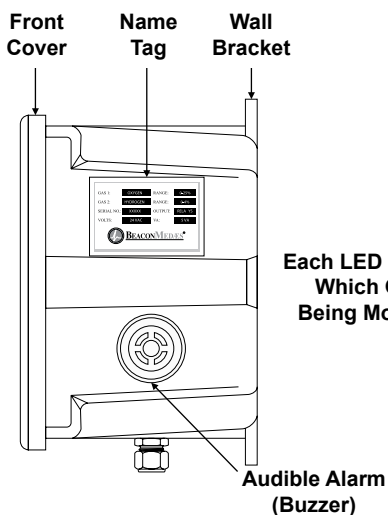
The BeaconMedæ's TWINSET Series, with its microprocessor-based system, features a high quality stand-alone controller providing all of the necessary hardware for the continuous monitoring of two gases in a variety of environments, including toxic gases, combustible gases and/or oxygen. This unit is primarily geared towards providing alarm activated relays for simple applications such as cylinder laboratories and related gas cylinder storage rooms.

The TWINSET employs the best sensing technologies available: infrared, electrochemical and pellistor cells. These quality components provide virtually instantaneous detection of targeted gases and deliver long-term trouble-free operation.

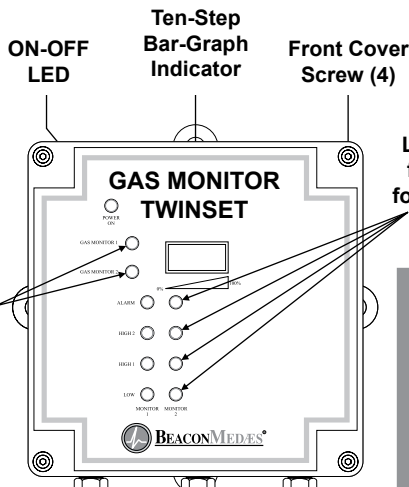
Installed within the monitored space, the TWINSET Series Fixed Gas Monitors targets gas concentration rates and automatically operates the mechanical ventilation system of a facility. Upon detection of low levels of hazardous and flammable gases the ventilation system is energized thereby protecting occupants, personnel and gas-sensitive goods and products.

Equipment Overview & Typical Layout

Gas Detection Controller - Side View



Gas Detection Controller - Front View

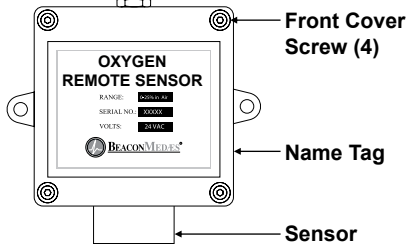


Each LED Indicates Which Gas is Being Monitored

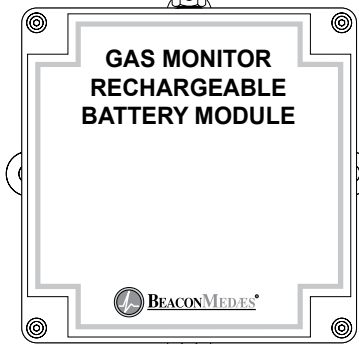
ABOUT BATTERY BACK-UPS

BeaconMedæ's uses a wide variety of battery back-ups. The style and type (stand-alone UPS or rechargeable batteries) selection will depend upon the application requirements (minimum back-up time, voltage, sensing elements, etc..). Please consult BeaconMedæ's for details.

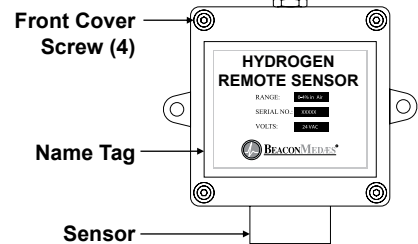
Cable Grip or Conduits to be Supplied by Installer



Remote Sensor No. 1
(Example: Oxygen)



Optional Battery Back-Up



Remote Sensor No. 2
(Example: Hydrogen)



TWINSET Series

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Specifications

Gases Detected	Refer to Ordering Information
Sensor Technology	
Carbon Dioxide	Infrared
Oxygen	Electrochemical Cell
Toxic Gases	Electrochemical Cell
Flammable Gases	Catalytic Pellistor
Sensing Method	Diffusion
Power Requirements	24 VAC, 110 VAC, 240 VAC 50/60 Hz
Output Relay Rating	3 or 4-stage Relay, Contact Rating 3 Amp @ 120 VAC inductive
Optional Analog Output	4-20 mA, or one of the following: 0-1 VDC, 0-5 VDC, 0-10 VDC
Operating Temperature	-4°F to 120°F (-20°C to 50°C)
Humidity Range	15-90% Relative Humidity
Accuracy	
Infrared	+/- 2% of calibrated value
Electrochemical Cells	+/- 5% of calibrated value
Catalytic Pellistor	+/- 1% of calibrated value as Methane
Repeatability	2% of Signal
Response Time (90%)	20-40 Seconds
Expected Sensor Lifetime	
Infrared (Carbon Dioxide)	10 Years
Oxygen (Electrochemical)	1 Year
Toxic Gases (Electrochemical)	2 Years
Flammable Gases (Catalytic Pellistor)	10 Years
Enclosure	
Rating	NEMA 1
Color	Grey
Installation	Surface Mounting
Approvals	
Canada	CAN/CSA C22.2 No. 61010-1:2004
United States	ANSI/UL 61010-1:2004
Audible Alarm	65 dBa at 3 feet

Detection Ranges & Alarm levels

Gas	Full Scale Range	First Alarm Level (Factory Default)	Second Alarm Level (Factory Default)
Ammonia	0-100 ppm	25 ppm (TLV-TWA)	35 ppm (TLV-STEL)
Carbon Dioxide	0-50,000 ppm	5,000 ppm (TLV-TWA)	30,000 ppm (TLV-STEL)
Carbon Monoxide	0-500 ppm	25 ppm (TLV-TWA)	35 ppm (TLV-STEL)
Chlorine	0-10 ppm	0.5 ppm (TLV-TWA)	1 ppm (TLV-STEL)
Hydrogen	0-100 % LEL	1% in Air (25% LEL)	2% in Air (50% LEL)
Hydrogen Sulfide	0-50 ppm	10 ppm (TLV-TWA)	15 ppm (TLV-STEL)
Methane	0-100% LEL	1.25% in Air (25% LEL)	2.5% in Air (50% LEL)
Nitrogen Dioxide	0-10 ppm	3 ppm (TLV-TWA)	5 ppm (TLV-STEL)
Oxygen (Low & High Mode)	0-25% in Air	19.5% (Low Level)	23.5% (High Level)
Oxygen (Oxygen Depletion Mode)	0-25% in Air	19.5% (Low Level)	18% (Very Low Level)
Propane	0-100% LEL	0.5% in Air (25% LEL)	1% in Air (50% LEL)

Threshold Limit Value - Time Weighted Average (TLV-TWA)

Refers to the time-weighted average concentration for a normal 8 hour workday and a 40 hour workweek to which nearly all worker may be repeatedly exposed, day after day, without adverse effect.

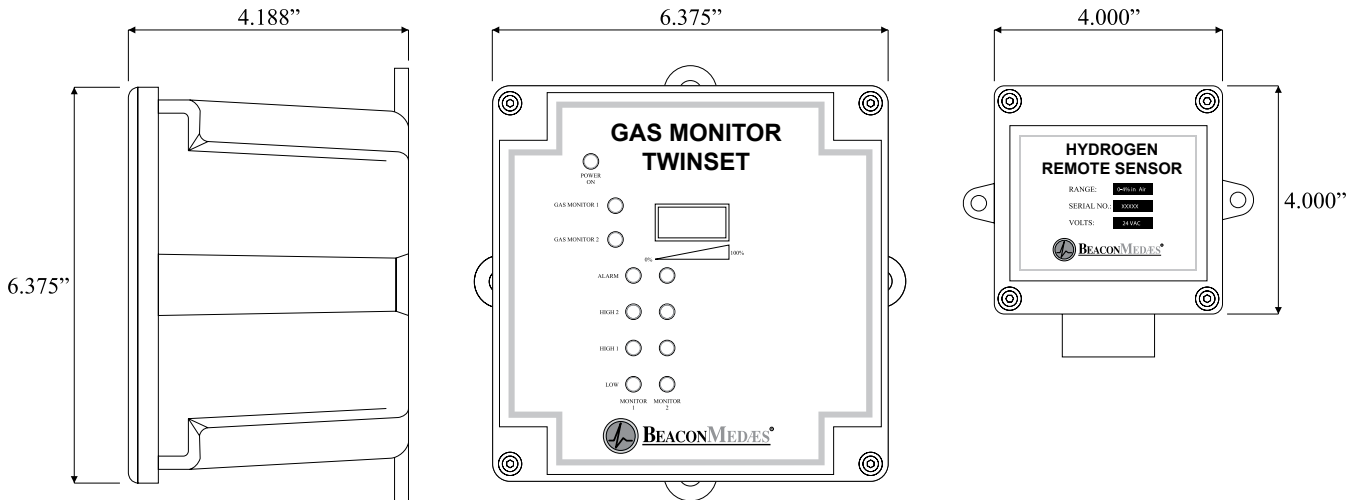
Threshold Limit Value - Short Term Exposure Limit (TLV-STEL)

TLV-STEL is the maximum concentration of a sub for (a) a continuous 15-minute exposure period, (b) for a maximum of 4 such periods per day, (c) with at least on 60-minute exposure-free period between two exposure periods, and (d) provided the daily TL-TWA is met.

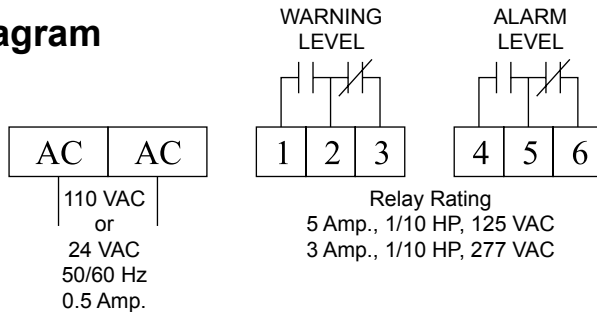
Lower Explosive Limit (LEL): The minimum concentration of a particular combustible gas or vapor necessary to support its combustion in normal ambient air. Below this level, the mixture is too lean to burn.

Stand-Alone Dual Gas Monitor

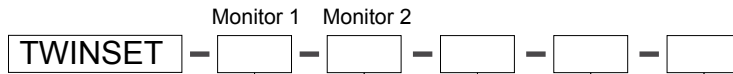
Dimensions



Wiring Diagram



Ordering Information



Gas	Inscribe
Ammonia	NH ₃
Carbon Monoxide	CO
Carbon Dioxide	CO ₂
Chlorine	Cl ₂
Hydrogen	H ₂
Hydrogen Sulfide	H ₂ S
Methane	CH ₄
Nitrogen Dioxide	NO ₂
Oxygen	O ₂
Propane	C ₃ H ₈

Line Voltage	Inscribe
24 VAC 50/60 Hz	24
110 VAC 50/60 Hz	110
240 VAC 50/60 Hz	240

Battery Back-Up	Inscribe
Battery Back Up	BBU
Leave blank if none	

Output	Inscribe
2 Relays (Standard)	Leave Blank
3 Relays	3R
4 Relays	4R
4-20 mA, 500 Ohm Max	420
0-1 VDC, 10 KOhm Min	001
0-5 VDC, 10 KOhm Min	005
0-10 VDC, 10 KOhm Min	010