



## Multi-Zone (MZ) High Precision Refrigerant Monitor

### FEATURES

1 ppm Minimum Detectable Level  
Early detection of refrigerant leaks

Monitors up to 16 remote areas, expandable to 48 monitoring points

Over 50 different refrigerants accurately detected

Infrared sensor technology

High performance sampling pump

Minimal maintenance and no calibration required

### BENEFITS

Detects leaks that other instruments can't

Mitigate refrigerant loss, protect produce, enhance energy efficiency

Ideal solution for grocery store refrigerant monitoring

Monitor multiple refrigerant circuits with a single detection system

Accurate, precise measurement unaffected by other gases, temperature or humidity

Industry-leading cycle times for monitoring all zones with greater frequency

Low cost of ownership

### The Most Effective Refrigerant Monitor in the Industry

#### DESCRIPTION

Bacharach's Multi-Zone delivers the best refrigerant monitoring available, with industry-leading MDL of 1 ppm for halogenated gases, the fastest sampling frequency and the widest range of refrigerants accurately detected. The large graphic LCD display and LED status indicators provide a system-wide overview at a glance.

The Multi-Zone enhances effective refrigerant management, detecting leaks early to enable cost savings by reducing refrigerant recharge, enhancing energy efficiency and reducing risk of refrigeration failure and produce loss. A variety of communication interfaces are available, including Modbus, BACnet and LonWorks, allowing easy integration into BMS/BAS systems and remote monitoring solutions.



COMMERCIAL



INDUSTRIAL



REFRIGERATION

## TECHNICAL DATA

PRODUCT ATTRIBUTES	DESCRIPTION
Coverage	Zones: 4, 8, 12 and 16 zone systems available
Sensor	Proprietary non-dispersive infrared (NDIR) technology
Dimensions	12.23" x 13.7" x 4.96" (21.0642 cm x 34.7980 cm x 12.5984 cm)
Weight	15 lbs (6.8 kg)
User Interface	Front panel with 3 indicator lights: Green - power on, normal; Yellow - fault; Yellow Flashing - system fault; Red Flashing - point has exceeded alarm set
Communications	Full 2-way communication with MZ-RD display module or building management system via RS-485 Serial Interface. RS-232C Comm. Port Standard00
Alarms	Four SPDT alarm contacts are provided rated 2A at 250 VAC (inductive), 5A at 250 VAC (resistive). Three assigned to ppm level alarms, one assigned to system faults
Conditioned Signal	Optional dual 4-20 mA DC isolated outputs. Channel 1 = zone area, Channel 2 = ppm
System Noise	Less than 40dB at 10 ft (3m)
Response Time	5 to 315 seconds per zone - depending on air line length and number of zones
Sampling Mode	Automatic or manual (hold)
Monitoring Distance	1,200 ft max (500 ft for NH <sub>3</sub> ) for combined length of sample and exhaust tubing (each zone)
Power Safety Mode	Fully automatic system reset. All programmed parameters retained
Operating Temperature	32° to 122° F (0 to 50° C)
Ambient Humidity	5% to 90% RH non-condensing
Altitude Limit	6,562 ft (2,000 m)
Power	100 to 240 VAC, 50/60 Hz, 20 W
Approvals	UL 61010-1, CAN/CA 22.2 No. 61010-1; EN61010-1, EN61326, EN14624; CE Mark

MEASUREMENT	UNIT	DESCRIPTION
Gas Library	HGM-MZ	FA188, FC72, H1211, H1233ZD, H1234YF, H1234ZE, H1301, H2402, HFP, N1230, N4710, N7100, N7200, N7300, N7600, R-11, R-113, R-114, R-12, R-123, R-124, R-125, R-134a, R-21, R-22, R-227, R-23, R-236fa, R-245fa, R-32, R-401A, R-402A, R-402B, R-404A, R-407A, R-407C, R-407F, R-408A, R-409A, R-410A, R-422A, R-422D, R-424A, R-426A, R-427A, R-438A, R-448A, R-449A, R-452A, R-452B, R-500, R-502, R-503, R-507, R-508B, R-513A, R-514A
	AGM-MZ	Ammonia (NH <sub>3</sub> ), R717
	CO <sub>2</sub> -MZ	Carbon Dioxide (CO <sub>2</sub> ), R744
Measuring Range	HGM-MZ	All gases 0 to 10,000 ppm
	AGM-MZ	Ammonia 25 to 10,000 ppm
	CO <sub>2</sub> -MZ	Carbon Dioxide 0 to 8,000 ppm
Accuracy	HGM-MZ	1 ppm Minimum Detectable Level (MDL) (most gases) ±1 ppm ±10% of reading from 0-1,000 ppm (most gases) ±1 ppm ±2% of reading with field calibration (most gases) ±10 ppm ±15% of reading from 0-1,000 ppm (R-11, R-21, R-32, R-113)
	AGM-MZ	±10 ppm ±10% of reading from 0-1,000 ppm (most gases)
	CO <sub>2</sub> -MZ	±5 ppm ±5% of reading from 0-1,000 ppm, ±10% of reading from 1,000-4,000 ppm, ±15% of reading from 4,000-8,000 ppm
Temperature Drift	HGM-MZ	±0.8% (R-134a) of reading per degree C between purge cycles
	AGM-MZ	1.5 ppm per degree C between purge cycles
	CO <sub>2</sub> -MZ	Less than 1 ppm per degree C between purge cycles

