



## Single-Zone (SZ) High Precision Refrigerant Monitor

### FEATURES

- 1 ppm Minimum Detectable Level
- Early detection of refrigerant leaks
- Over 50 different refrigerants accurately detected
- Infrared sensor technology
- High performance sampling pump
- Minimal maintenance and no calibration required
- Halogen, CO<sub>2</sub> and NH<sub>3</sub> versions available

### BENEFITS

- Detects leaks that other instruments can't
- Mitigate refrigerant loss, protect produce, enhance energy efficiency
- Select from a wide range of refrigerant calibration to meet project needs
- Accurate, precise measurement unaffected by other gases, temperature or humidity
- Fast response times, including extended sample lines
- Low cost of ownership
- Suitable for a variety of refrigerant monitoring applications

### The Most Effective Refrigerant Monitor in the Industry

#### DESCRIPTION

Bacharach's Single-Zone delivers the best refrigerant leak 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 Single-Zone is the ideal tool for early detection of leaks from specific target areas such as chiller rooms and mechanical rooms. The low MDL enables detection of leaks that other instruments can't find, enhances effective refrigerant management and delivers cost savings through reduced refrigerant recharge and enhanced energy efficiency. Communication interfaces are available allowing easy integration into BMS/BAS systems and remote monitoring solutions.



COMMERCIAL



INDUSTRIAL



REFRIGERATION

## TECHNICAL DATA

| PRODUCT ATTRIBUTES    | DESCRIPTION                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sensor                | Proprietary non-dispersive infrared (NDIR) technology                                                                                                                           |
| Display Resolution    | 1 ppm                                                                                                                                                                           |
| Dimensions            | 13.7" x 7.7" x 3.6" (347.98 mm x 195.58 mm x 91.44 mm)                                                                                                                          |
| Weight                | 7 lbs (3.175 kg)                                                                                                                                                                |
| User Interface        | Front panel w/3 indicator lights: Green - power on, normal; Yellow - fault; Yellow Flashing - system fault; Red Flashing - point has exceeded alarm set                         |
| Alarms                | 3 SPDT, 3 amp, 250 VAC rated alarm relays and 1 SPDT, 3 amp, 250 VAC rated system fault relay, plus a digital display with dedicated 4-20 mA DC analog output (floating ground) |
| System Noise          | Less than 40dB at 10 ft (3m)                                                                                                                                                    |
| Response Time         | 9 to 90 seconds, depending on sample length tube                                                                                                                                |
| Sampling Mode         | Automatic or manual (hold)                                                                                                                                                      |
| Re-Zero               | Every 5 minutes or on 0.5 degree C internal temperature change                                                                                                                  |
| 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, CAS 22.2 No. 61010-1, EN 14624, CE Mark                                                                                                                             |

| MEASUREMENT       | UNIT                | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gas Library       | HGM-SZ              | 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-SZ              | Ammonia (NH <sub>3</sub> ), R717                                                                                                                                                                                                                                                                                                                                                                                                       |
|                   | CO <sub>2</sub> -SZ | Carbon Dioxide (CO <sub>2</sub> ), R744                                                                                                                                                                                                                                                                                                                                                                                                |
| Measuring Range   | HGM-SZ              | All gases 0 to 10,000 ppm                                                                                                                                                                                                                                                                                                                                                                                                              |
|                   | AGM-SZ              | Ammonia 25 to 10,000 ppm                                                                                                                                                                                                                                                                                                                                                                                                               |
|                   | CO <sub>2</sub> -SZ | Carbon Dioxide 0 to 8,000 ppm                                                                                                                                                                                                                                                                                                                                                                                                          |
| Accuracy          | HGM-SZ              | 1 ppm Minimum Detectable Level (MDL) (most gases)<br>±1 ppm ±10% of reading from 0-1,000 ppm (most gases)<br>±1 ppm ±2% of reading with field calibration (most gases)<br>±10 ppm ±15% of reading from 0-1,000 ppm (R-11, R-21, R-32, R-113)                                                                                                                                                                                           |
|                   | AGM-SZ              | ±20 ppm ±10% of reading from 25 to 1,000 ppm                                                                                                                                                                                                                                                                                                                                                                                           |
|                   | CO <sub>2</sub> -SZ | ±5 ppm ±5% of reading from 0-1,000 ppm, ±10% of reading from 1,000 to 4,000 ppm, ±15% of reading 4,000 to 8,000 ppm                                                                                                                                                                                                                                                                                                                    |
| Temperature Drift | HGM-SZ              | ±0.8% (R-134a) of reading per degree C between purge cycles                                                                                                                                                                                                                                                                                                                                                                            |
|                   | AGM-SZ              | 1.5 ppm per degree C between purge cycles                                                                                                                                                                                                                                                                                                                                                                                              |
|                   | CO <sub>2</sub> -SZ | Less than 1 ppm per degree C between purge cycles                                                                                                                                                                                                                                                                                                                                                                                      |

