



# CHILLGARD M-100

## *Photoacoustic Infrared Refrigerant Sensor*

MSA's CHILLGARD M-100 Refrigerant Sensor is designed to detect the presence of the most common halogenated refrigerants in cold storage facilities, mechanical equipment rooms and other refrigerant applications. This compact sensor can be mounted almost anywhere to detect potential leaks of halogenated refrigerants. Easy installation ensures fast and practical integration into existing automated systems.

- Low-level detection – down to as low as 20 ppm
- Versatility – capable of operating within a wide temperature and humidity range
- Low maintenance – no moving parts
- Easy installation – simply secure back plate to wall
- Proven photoacoustic infrared refrigerant sensor

## Application

- Cold-storage facilities
- Meat-packing plants
- Mechanical equipment rooms
- Solvent-cleaning stations
- Other specialist applications

## Ordering Information

CHILLGARD M-100 is available with a number of options including:

- Refrigerant gas detected
- Temperature & Relative Humidity sensors
- Current or voltage analogue output or RS-485 ModBUS digital output
- De-icer option operates at temperatures down to  $-30^{\circ}\text{C}$

## Standard Gases\*

10086542 R-22 in Nitrogen

10086543 R-123 in Nitrogen

10086544 R-134a in Nitrogen

10086545 R-404a in Nitrogen

\*Other gases are available.

CHILLGARD M-100 can be configured for individual requirements. Please contact your MSA representative for ordering details.



## Technical Specifications

### Dimensions (H x W x D)

115 x 91 x 36 mm

### Weight

160 g

### Visual Indicators

3 LED's to indicate power, fault and alarm

### Operating Power

24 VDC + 20%, 24 VAC + 20%, 50/60 Hz  
Class 2, UL 60950/CSA certified

### Power Consumption

< 2.7 watts

### Wiring

Up to 2.5 mm<sup>2</sup>, Class 2 copper wiring

### Output Options

4–20 mA sourcing, < 500  $\Omega$  load  
2–10 V, 10 k $\Omega$  load RS-485 ModBUS RTU

### Operating Temperature

0° to 65°C (32° to 150°F),  
–30° lower temp. spec. with de-icer option

### Relative Humidity (RH)

0–95% RH non-condensing

### Pressure

Operating 700–1080 hPa

### Operating Range

0–1000 ppm

### Limit of Detection

20 ppm

### Minimum Alarm

50 ppm

### Response Time

50% of a step change in less than 4.5 min

### Repeatability

$\pm 10$  ppm at 50 ppm

### Linearity

0–100 ppm linear,  
100–1000 ppm  $\pm 5\%$  of reading

### Temperature Sensor

$\pm 0.4^{\circ}\text{C}$  at 25°C

### Humidity Sensor

$\pm 3\%$  RH at 50% RH and 25°C

### Standard Gases\*

R-22, R-123, R-134a, R-404a

### Approvals

Certified to UL to UL Std 61010-1 and CSA 61010, CE approval; complies with the applicable LVD and EMC directives, Complies with detection requirements of ASHRAE 15-2004, EN 50270 Type 2, EN 61000-6-3, EN 61010

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