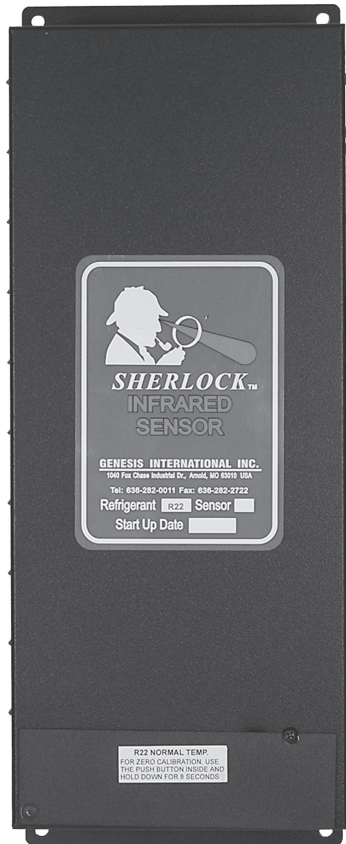




# GENESIS INTERNATIONAL, INC.

## SHERLOCK™

### INFRA-RED REFRIGERANT GAS SENSOR



#### GENERAL

SHERLOCK NON-DISPERSIVE IR REFRIGERANT GAS SENSOR was designed to monitor for the presence of refrigerant gases within an enclosed space. The sensor is mounted within the space to be monitored and connected by cable to a **SHERLOCK**, *Wizard* or EMS System. Each sensor is calibrated to a specific refrigerant gas. The IR comes in two different styles depending upon the monitoring environments: machine room and cold room for refrigerated applications in NEMA 3R Aluminum (Pictured). Water-tight ABS fiberglass housing for Wash down protection (NEMA 3R) and Stainless Steel enclosure also available for special applications.

The IR Sensor is a reliable method of monitoring for refrigerant gas leaks in environments that have air quality problems. The IR sensor will eliminate many false alarms in environments that contain gasoline, diesel, and propane exhaust and fumes from solvents, paints, cleansers, and others (Please call Genesis Customer Support for more information).

#### APPLICATIONS

Typical applications include:

- Wineries
- Bakeries
- Refrigerated Rooms
- HVAC Chiller Equipment Rooms
- Refrigeration Mechanical Rooms
- Food Processing Plants

#### SPECIFICATIONS

**ENCLOSURE RATING** NEMA 3R Aluminum, Black Powder Coat

**DIMENSIONS** 12.86 x 4.8 x 2.44  
Inches (mm) (327 x 122 x 62)

#### OPERATING ENVIRONMENT

##### TEMPERATURE

Machine Room Model 32°-110°F (0°-43.3°C)  
Freezer Room Model -40°-110°F (-40°-43.3°C)

**HUMIDITY** 0 - 90% RH Non-Condensing

#### POWER INPUT

*Sherlock / Wizard* 12VDC, 0.4 A  
*Stand-Alone* 12V DC - 32V DC Switching

**OUTPUTS (Standard)** Current Driven Sherlock/Wizard  
4 to 20 mA (Standalone Sensor)

#### CUSTOM OUTPUTS (Stand-Alone Only)

*External 250 Ohm Resistance* 0 - 5V DC or 1 - 5V DC  
*External 500 Ohm Resistance* 0 - 8V DC or 2 - 10V DC

**EFFECTIVE RANGE** 0-1500ppm, Control Dependent

**SENSITIVITY** ±1 ppm at 77°F (25°C), 45% RH

**RESOLUTION** 1 ppm

**RESPONSE TIME** Under 30 Seconds

**CALIBRATION** Every 6 Months

**WARM-UP TIME** Readings will stabilize in 3 hours  
(Up to 18 Hours in Cold Room Applications)

**LIFE EXPECTANCY** Average of 5 to 7 years in normal environments

#### AVAILABLE GAS SENSORS (Part Numbers)

##### Machinery Room/Walk-In Cooler Application

R11 - 60-0057	R12 - 60-0104	R22 - 60-0053
R23 - 60-0232	R123 - 60-0137	R125 - 60-0466
R134a - 60-0054	R401a - 60-0465	R402a - 60-0231
R404a - 60-0052	R407a - 60-0223	R407c - 60-0214
R408a - 60-0184	R409a - 60-0066	R410a - 60-0165
R424a - 60-0469	R500 - 60-0067	R502 - 60-0059
R507 - 60-0061	Ammonia/NH <sub>3</sub> - 600095	

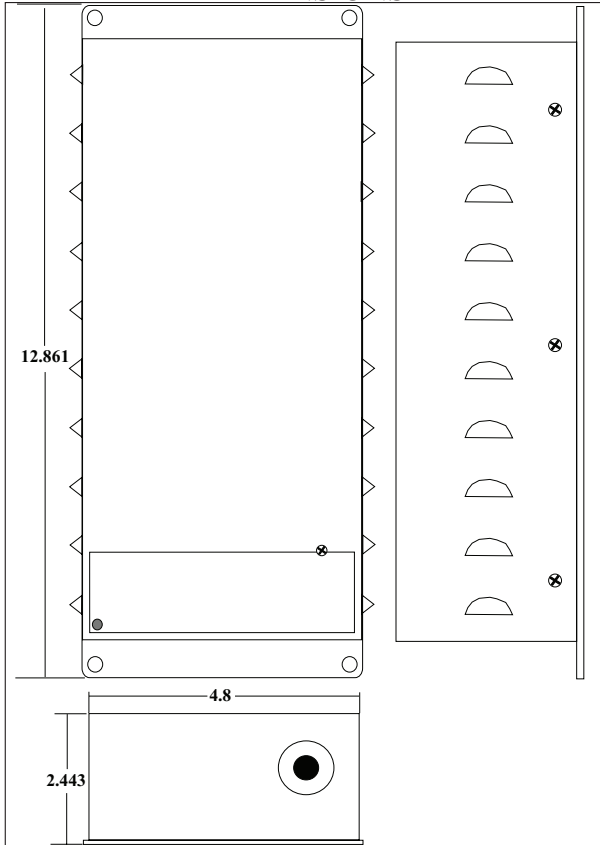
##### Extended Temperature/Freezer Application\*

R-11 - 60-0058	R-22 - 60-0047	R-402a - 60-0142
R-404a - 60-0051	R407c - 60-0473	R-408a - 60-0065
R438a - 60-0464	R500 - 60-0068	R-502 - 60-0060
R-507 - 60-0062	Ammonia/NH <sub>3</sub> - 60-0096	

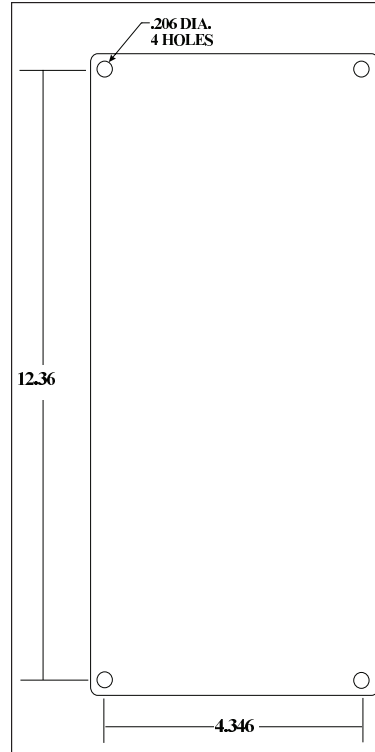
Please contact Genesis if your sensor type is not listed.

\*Sensor has "-LT" suffix For Extended (Low Temp

## DIMENSIONS



## MOUNTING



**Sensor Placement** -- The Sherlock IR Sensor must be placed in locations where a refrigerant leak is likely to occur and where leaked refrigerant gas is likely to concentrate so as to provide warning of a potentially hazardous condition. Mounting locations are dependent upon the application and the refrigerant gas to be monitored.

For Halocarbon refrigerants such as R11, R22, R123, R134a, R404a, etc... Place the sensor 18 to 24 inches off the floor. For Ammonia, place the sensor 18 to 24 inches from the ceiling.

**HVAC/Refrigeration Machinery Room** -- Prior to placement of the IR

Sensor, the room air currents need to be determined. The maximum air flow rate past the sensor should not exceed 3 feet per second.

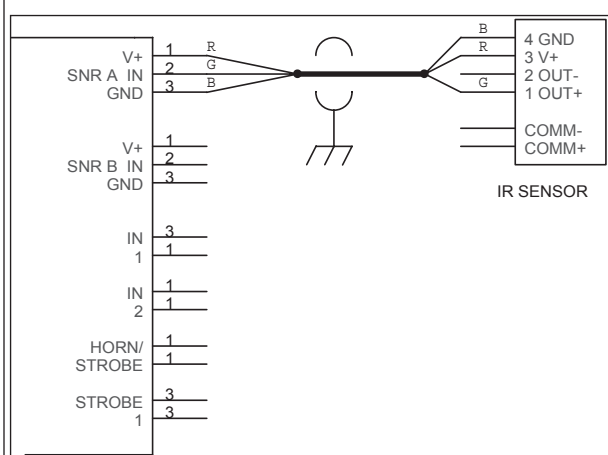


**WARNING!!!!** The infrared sensor is not to be applied into all refrigerated storage applications where other toxic gases are used in the same room. Some installations are not suitable for Infrared technology. Misapplication may result in damage to sensor. Contact the factory for a specific list of approved applications.

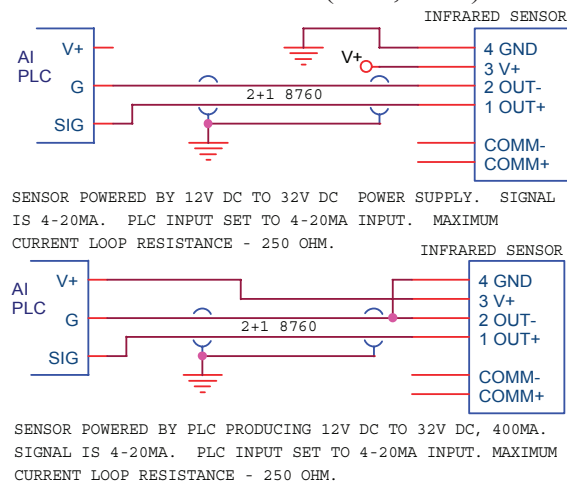
**Mounting** - The sensor must be mounted with the wire terminal blocks oriented to the lower right and the sampling chamber in a vertical position. Failure to mount the sensor in this fashion may result in inaccurate readings and can allow moisture to enter the housing and destroy the sensor.

## TYPICAL WIRING DIAGRAMS

### SHERLOCK / WIZARD



### STAND ALONE (PLC, BAS)



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