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 Washdown 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
- HVAC Chiller Equipment Rooms
- Bakeries
- Refrigeration Mechanical Rooms
- Refrigerated 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°-120°F (0°- 50°C)
- Freezer Room Model -40°-120°F (-40°- 50°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 (Stand-alone Sensor)
(Please contact Genesis for custom voltage outputs for the stand-alone sensor)
RANGE (Parts Per Million, PPM)
- Sherlock/Wizard 0 - 1500* (Control Dependent)
- Stand-Alone 0 - 1032*
*Minimum effective range due to noise is 10 - 15ppm.
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 - 60-0032 R134a - 60-0054 R401a - 60-0465
- R134a - 60-0054 R402a - 60-0231
- R404a - 60-0052 R407a - 60-0223 R407a - 60-0214
- R407f - 60-0051 R408a - 60-0184 R407c - 60-0214
- R410a - 60-0165 R422d - 60-0066 R408a - 60-0231
- R438a - 60-0246 R448a - 60-0545 R409a - 60-0066
- R500 - 60-0067 R502 - 60-0060
- R507 - 60-0061 R5025 - 60-0542
- R514a - 60-0550 R1233zd - 60-0548 R1234yf - 60-0551
- Ammonia/NH3 - 60-0095
Extended Temperature/Freezer Application
- R11 - 60-0058 R22 - 60-0047 R402a - 60-0142
- R404a - 60-0051 R407a - 60-0526 R407c - 60-0473
- R407f - 60-0528 R408a - 60-0065 R438a - 60-0464
- R448a - 60-0545 R500 - 60-0068 R502c - 60-0060
- R507 - 60-0062 Ammonia/NH3 - 60-0096
Please contact Genesis if your sensor type is not listed.
**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.

**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.

**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)**

**GENESIS INTERNATIONAL, INC.**

1040 FOX CHASE INDUSTRIAL DRIVE
ARNOLD, MISSOURI 63010

PHONE: (636) 282-0011
FAX: (636) 282-2722

WEBSITE: WWW.GENESIS-INTERNATIONAL.COM

EMAIL: MAIL@GENESIS-INTERNATIONAL.COM

DOC #44-0493-00