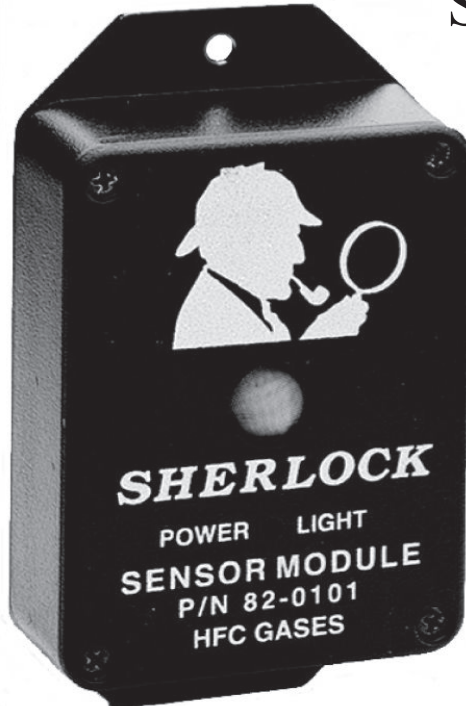




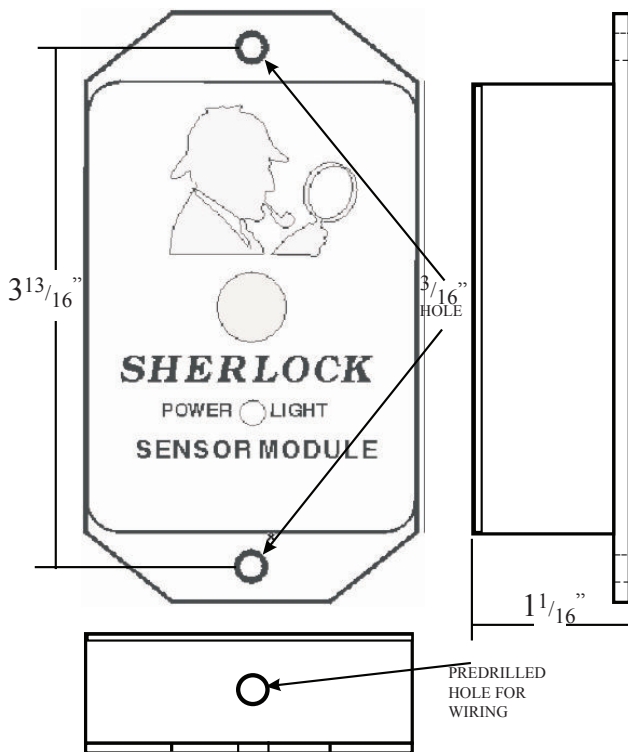
# GENESIS INTERNATIONAL, INC.

## SHERLOCK™

### SOLID-STATE CMOS SENSOR



SHERLOCK CMOS SENSOR



#### GENERAL

SHERLOCK CERAMIC METAL OXIDE SEMICONDUCTOR (CMOS) REFRIGERANT GAS SENSOR was designed to detect for the presence of a refrigerant gas within an enclosed space. The sensor is mounted within the space to be monitored and connected by cable to the monitoring device. Each sensor is calibrated to a clean air base zero level at the factory prior to shipment. There are two models of the CMOS sensor, a general one for CFC, HCFC and HFC gases and one for Ammonia. The CMOS Sensor should be utilized as a signal source for a **SHERLOCK** Refrigerant Gas Monitoring System, *Wizard* Evaporator Control or **Walk-In** Monitor & Control.

**\*\*\* Please Note: Sensor Part Numbers Have Changed for Several Refrigerants, See the Sensor List on the 2nd Page \*\*\***

#### APPLICATIONS

Typical applications include:

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

#### SPECIFICATIONS

<b>ENCLOSURE RATING</b>	NEMA1
<b>DIMENSIONS</b> Inches (mm)	4.3 x 2.4 x 1.2 (109 x 61 x 31)
<b>POWER INPUT</b>	12VDC, 250 mAMPS
<b>OUTPUT</b> (Genesis Control Only)	0.5 - 5 VDC
<b>EFFECTIVE RANGE</b>	20 to 1000 ppm, Control and Refrigerant Gas Type Dependent
<b>ACCURACY</b>	±10% to 50% of reading (Gas Dependent, Could be higher for some newer blends)
<b>REPEATABILITY</b>	±10% when proper calibration and Maintenance is followed.
<b>AVAILABLE GAS SENSORS</b>	CFC / HCFC, HFC & Ammonia
<b>OPERATING ENVIRONMENT</b>	
<b>TEMPERATURE</b>	-25 to 120° F (-32 to 49°C)
<b>HUMIDITY</b>	0 TO 85% RH Non-Condensing
<b>CALIBRATION</b>	Every 6 Months
<b>WARM-UP TIME</b>	Reading will stabilize after several hours
<b>LIFE EXPECTANCY</b>	Average of 3 to 5 years in normal environments

## CMOS SENSOR SELECTION CHART\*

### Model 82-0101 -- CFC/HCFC/HFC gases

R-22	R-405A(G2015)	R-503
R-123	R-406A(CHG)	R-507A(AZ50)
R-125	R-407A(Klea60)	R-508A(Klea5R3)
R-134A	R-407B(Klea61)	R-508B(SUVA95)
R-143A	R-407C(Klea66)	R-509A(TP5R2)
R-152A	R-407D	R-411A(G2108A)
R-400	R-408A(FX10)	R-411B(G2108B)
R-401A(MP39)	R-409A(FX56)	R-412A(TP5R)
R-401B(MP66)	R-410A(AZ20)	R-413A
R-401C(MP62)	R-410B	R-438A(MO99)
R-402A(HP80)	R-411A(G2018A)	R-503
R-402B(HP81)	R-411B(G2018B)	R-507(AZ50)
R-403A(ISCEON 69-S)	R-412A(TP5R)	R-508A(Klea5R3)
R-403B(ISCEON 69-L)	R-413A (ISCEON 49)	R-508B(SUVA95)
R-404A(HP62)	R-438A(MO99)	R-509A(TP5R2)

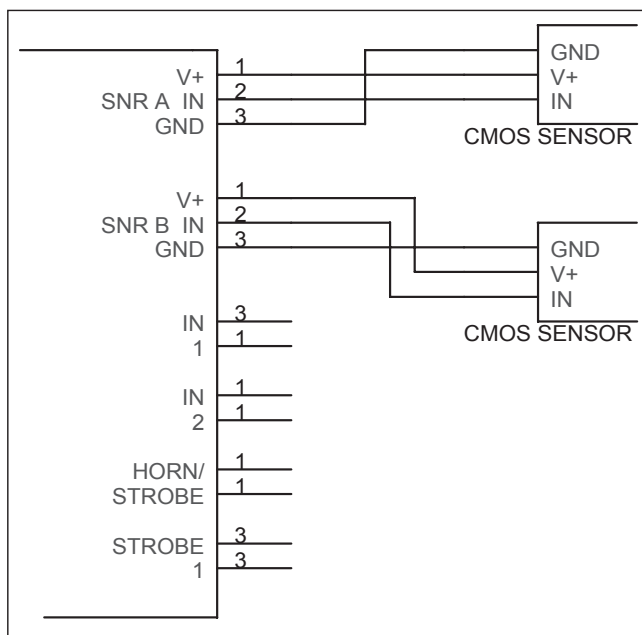
### THE BELOW SENSORS WILL HAVE LIMITED DETECTABILITY USING THE 82-0101 CMOS

R-11	R-32	R-500(AZ50)
R-12	R-113	R-502
R-13	R-124	
R-23	R-142B	

### Model 82-0102 -- Ammonia

R-717

## TYPICAL WIRING DIAGRAM



\* Please Note: Sensor Part Numbers Have Changed for Several Refrigerants

**NOTE:** These sensors, due to their nature, are susceptible to detection of non-refrigerant gases and cannot distinguish the presence of different refrigerant gases, only that there is a gas present. The CMOS sensor will detect concentrations of gasoline, diesel, and propane exhaust and fumes from solvents, paints, cleansers, and others (Please call Genesis Customer Support for more information.) The stated accuracy is a best case and some refrigerant blends can be off as much as 50 to 100% of the Sherlock Control ppm reading.

**NOTE:** The stated average life expectancy for this sensor is 3 to 5 years, however, continued exposure to refrigerants and other gases and humidity and other adverse conditions can severely decrease sensor life.



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