



GENESIS INTERNATIONAL, INC.

SHERLOCK 404 CONTROL MODULE NEMA 4X



OVERVIEW

The **SHERLOCK** 404 NEMA 4X (SHER404-4) Control Module is compliant with ASHRAE 15-2004 and Mechanical Code requirements for refrigerant gas monitoring.

The **SHERLOCK** is a hardwired, electronic control panel that is capable of monitoring the analog output signal of up to four **SHERLOCK** Refrigerant Gas Sensors or **SHERLOCK** Oxygen Depletion Sensors and four digital dry-contact switches. The Control Module can activate eight, with an optional additional eight, Form C SPDT relay contacts based upon the programmed alarm level setpoint levels of each sensor. The **SHERLOCK** Control Module has an optional 0-10VDC/4-20ma Output Signal Generator for DDC monitoring applications. The Control Module can be located in the area to be monitored, or in a separate location, typically outside of the monitored room.

NEMA 4X Enclosure - This enclosure is intended for either indoor or outdoor use, 0 - 50°C (32 - 122°F) to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose directed water.

POWER 100 to 240vac, 50/60 hz, 2.5 Amps

INPUTS Up to 4 **SHERLOCK** sensors *Cmos, IR, Oxygen*
Four dry contacts 2 *Setbacks, Alarm Silence, Alarm Clear*

OUTPUTS Eight SPDT, 1 Form C, 250Vac, 3.15Amp relays
Optional 4-20Ma/0-10vdc signal (SHER404-4-A)
Optional 4 Auxilliary (Zone cutoff) relays (SHER404-4-R)

ALARMS System fault (2 relays)
Three alarm levels (2 Relays per level)

DISPLAY 4 lines by 20 characters
Alphanumeric LCD with back light

KEYPAD 8 tactile pushbuttons
Scroll up Scroll down Select/Edit/Change
Exit function-menu Alarm level silence

ALARM INDICATORS

LCD Name, description, and current reading of alarming sensor

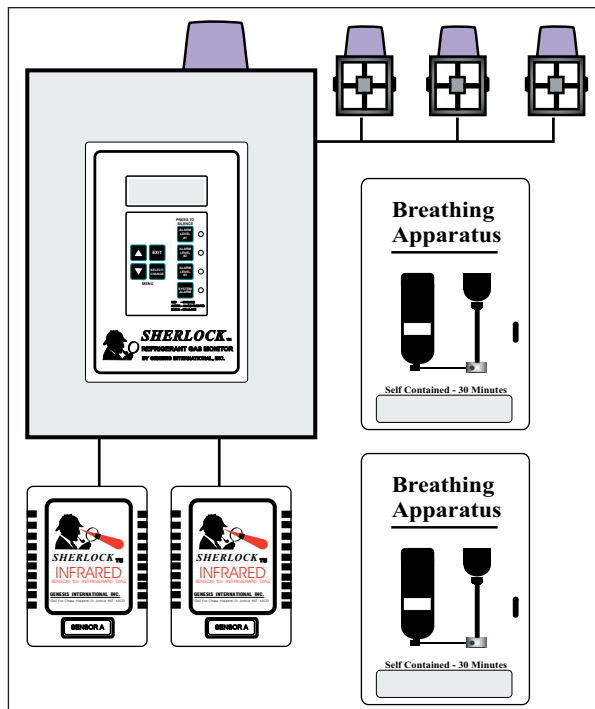
STROBE Built-in, blue, 60-90 fpm, 100,000 candle power (Stays on for duration of alarm condition)

BUZZER piezo-electric, 90db @10ft (3.05M), silenceable

STATUS LED Four on front panel of control. Indicates alarm level status:
Red-active
Amber-silenced
No light--not in alarm

LISTINGS ETL, Conforms to UL Std. 3111-1
Certified to CAN/CSA
C22.2 Std. No. 1010.1

Model#	Nema/IP Rating	Size Inches (mm)	Electrical Category	Pollution Protection
SHER404-4	4X IP67	12.3 x 15 x 8.2 (312 x 381 x 208)	II	3



TYPICAL ASHRAE, UMC COMPLIANT
MACHINE ROOM INSTALLATION

Alarm Level Settings. The *SHERLOCK 4-Series* allows you to set three unique **Alarm Setpoints** for each individual sensor throughout their operating. When an **Alarm Setpoint** is exceeded, a corresponding set of alarm relays are activated. Each **Alarm Setpoint** has a programable **Alarm Delay**, 1 to 120 minutes. Sensor readings are required to exceed an Alarm Setpoint for the programmed amount of time before the control activates the corresponding alarm relay contacts. Alarm level #1 and Alarm Level #2 on every sensor has the option of using the Time Weighted Average (TWA) reading as the input reading. Time Weighted Average reading of a sensor is the average reading of a sensor input over a period of time.

Alarm Indication. All alarms are logged to indicate which sensor went in and out of any of the three alarm levels, the time and date of the alarm. The alarm log stores the last 32 alarms. When a sensor is in alarm, an LED on the front panel will turn to red color, the on-board beeper will be beeping and the display will go into "IN ALARM" screen every five seconds. The individual sensor causing the alarm also displays the "ALARM" message.

Alarm Relay Contacts. The *SHERLOCK 4-Series* provides two fused SPDT (Single Pole Double Throw) relay outputs for each alarm level that switch positions in the event of an alarm condition. The 'B' relay for each alarm level can be temporarily or permanently silenced by pushing the respective alarm silence button on the front panel. The relay will re-activate after a programmed period of time, if the alarm condition is not cleared.

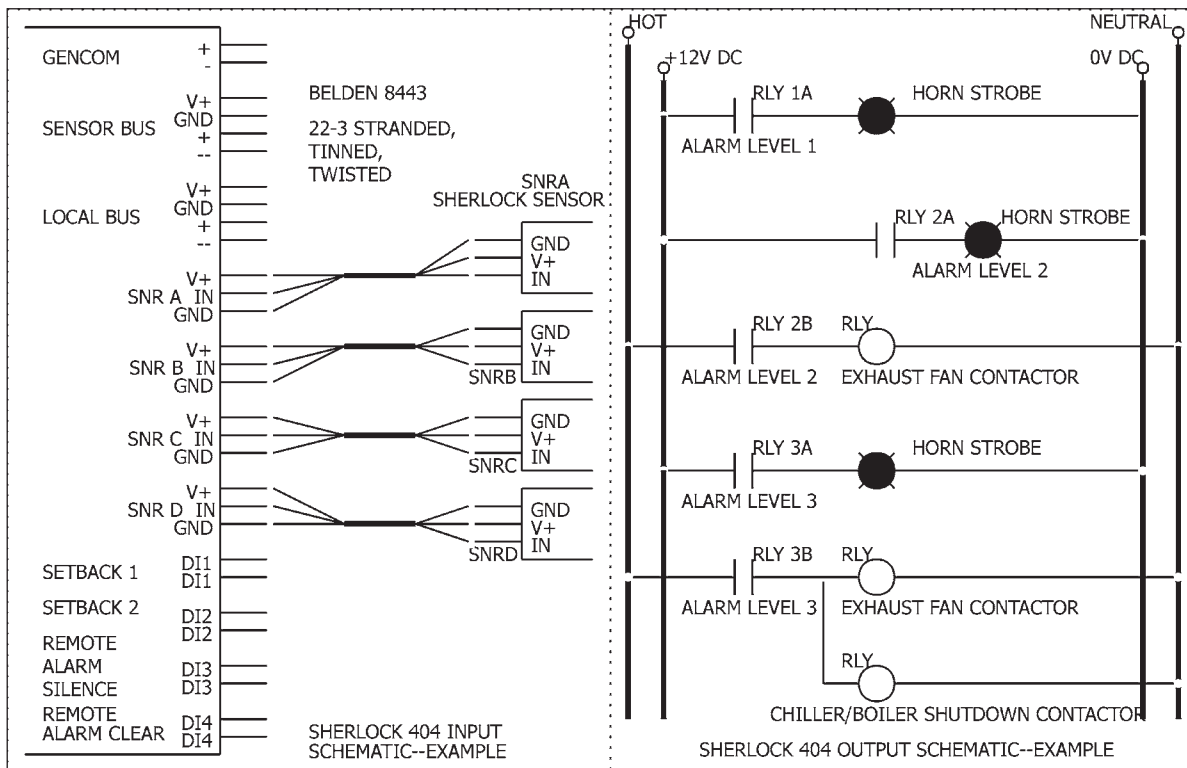
The 'A' relay however will remain active until the alarm condition is cleared. The *SHERLOCK 4-Series* can be programmed so that the alarm is cleared automatically when the air is cleared below the alarm setpoint (UNLATCHED). It can also be programmed so the alarm is latched "ON" until the alarm is manually reset. Each alarm level can be configured so the relays are "Energized to Alarm" (where the C-NC contacts open on alarm) or "De-Energized to Alarm" (where the relay is energized during normal operations and the C-NC contacts close on alarm).

(SHER404-4-A) Analog Signal Generator. *SHERLOCK 4-Series* has two sets of relay output contacts on each alarm level and also an optional 0-5 V / 0-10 V / 4-20 mA analog output for each sensor. Either of these signals can be incorporated to any commercially used monitoring and alarming system or in-house Data Management System.

Systems Fault Monitoring. The *SHERLOCK 4-Series* constantly monitors the wiring to the sensors. Should any of the activated sensor wires be cut or disconnected, "OPEN" will appear on the *SHERLOCK* display, the alarm #1 and system alarm are activated and the condition is logged. In addition to the three alarm levels the *SHERLOCK 4-Series* is also equipped with a SYSTEM FAULT ALARM. This alarm is triggered when the system malfunctions (i.e. The sensor wire is cut or inter-connect cable is cut).

Genesis International Inc. offers a variety of external alarms for office use - the Remote Alarm, the Remote Alarm & Strobe, as well as for mechanical room use - a Strobe Light.

TYPICAL WIRING DIAGRAM



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