RenewAire
Energy Recovery Ventilation

Refrigerant Leak Detection Sensor

Supplemental Manual for Accessories

⚠ DANGER

Lockout/Tagout all power sources prior to service, pressurizing, depressuring, or powering down the unit. Failure to follow this warning exactly can result in serious injury or death. Disconnect electrical power before servicing the equipment. More than one disconnect may be required to denergize the unit. Be sure to read and understand the installation, operation, and service instructions within this manual.

⚠ WARNING

Polyolester Oil, commonly known as PEO oil, is a synthetic oil used in many refrigeration systems, and may be present in this unit. POE oil, if ever in contact with PVC/CPVC, will coat the inside wall of PVC/CPVC pipe causing environmental stress fractures. Although there is no PVC/CPVC piping in this product, please keep this in mide when selecting piping materials for your application, as system failure and property damage could result. Refer to the pipe manufacturer's recommendations to determine suitable applications fo the pipe.

⚠ CAUTION

RISK OF DAMAGE TO ENTHALPIC CORES

Whenever working within the DOAS cabinet, protect the enthalpic cores from accidental damage. The core media is subject to damage from dropped tools or other foreign objects.

Low air flow can cause fouling of the enthalpic cores. The DOAS must never be operated without clean filters in place and minimum airflow must be greater than 250 CFM per full-sized core.

⚠ CAUTION

RISK OF ELECTRIC SHOCK OR EQUIPMENT DAMAGE

Whenever electrical wiring is connected, disconnected or changed, the power supply to the DOAS and its controls must be disconnected. Lock and tag the disconnect switch or circuit breaker to prevent accidental reconnection of electric power.

NOTICE

Installation and maintenance are to be performed only by licensed, if required by local codes and regulations, or qualified personnel who are familiar with local codes and regulations and are experienced with this type of equipment.

⚠ WARNING

ARC FLASH AND ELECTRIC SHOCK HAZARD

Arc flash and electric shock hazard. Disconnect all electric power supplies, verify with a voltmeter that electric power is off and wear protective equipment per NFPA 70E before working within electric control enclosure. Failure to comply can cause serious injury or death.

Customer must provide earth ground to unit, per NEC, CEC and local codes, as applicable.

Before proceeding with installation, read all instructions, verifying that all the parts are included and check the nameplate to be sure the voltage matches available utility power.

The line side of the disconnect switch contains live high-voltage.

The only way to ensure that there is NO voltage inside the unit is to install and open a remote disconnect switch and verify that power is off with a volt meter. Refer to unit electrical schematic.

Follow all local codes.

⚠ CAUTION

RISK OF ELECTRIC SHOCK OR EQUIPMENT DAMAGE

Whenever electrical wiring is connected, disconnected or changed, the power supply to the DOAS and its controls must be disconnected. Lock and tag the disconnect switch or circuit breaker to prevent accidental reconnection of electric power.

⚠ CAUTION

RISK OF DAMAGE TO STATIC SENSITIVE COMPONENTS

A static discharge while handling electronic circuit boards can cause damage to the components. Discharge any static electrical charge by touching the bare metal inside the control panel before performing any service work. Never unplug any cables, circuit board terminal blocks, or power plugs while power is applied to the panel.

1.0 OVERVIEW

The refrigerant leak detection sensor, when used with the Premium Integrated Programmable Controls from RenewAire, provides a comprehensive solution for mitigating refrigerant leaks within the RenewAire unit.

The sensor provides a normally closed contact that wires in either ID1 or ID2 (software selectable) of the main controller. If the sensor detects that a refrigerant leak, the sensor opens the contact within 15 seconds. The controller will then run the fans at the specified levels (default 100%) and turn off all heating and cooling except hot water valves if requested. The controller will remain in mitigation mode for 5 minutes after the sensor has closed its contact, which happens approximately 5 minutes after it senses no more gas. At that time the unit will resume operation unless it is set for a latched alarm, for which it will require an acknowledgement.

2.0 MOUNTING

The sensor should be mounted downstream of the last refrigerant coil, near the bottom of the coil, see Figure 2.0.0 for orientaion options.

Mounting holes are sized #10 or #12 self-tapping sheet metal screws.

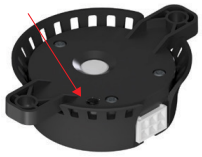
To prevent water pooling, position the sensor with the logo facing up.

Flat surface, for better performance.

Recommended tightening torque is 3N-m.

LED will indicate the sensor status when it is powered up.

The LED is located on the reverse side of the sensor, near the membrane.



Solid green light: Sensor power-up on and self-test Blinking green: Normal operation (heartbeat).
Solid red: Alarm state – gas detected.
Blinking red: Sensor fault

When mounted, the led will be visible by reflection on the mounting surface.

Make sure that the connecting wire is not overstretched.

Connector should not be directing upwards, in order to ensure IP enclosure.

Preferred mounting positions

FIGURE 2.0.0 MOUNTING GUIDELINES

3.0 CONNECT THE CABLE

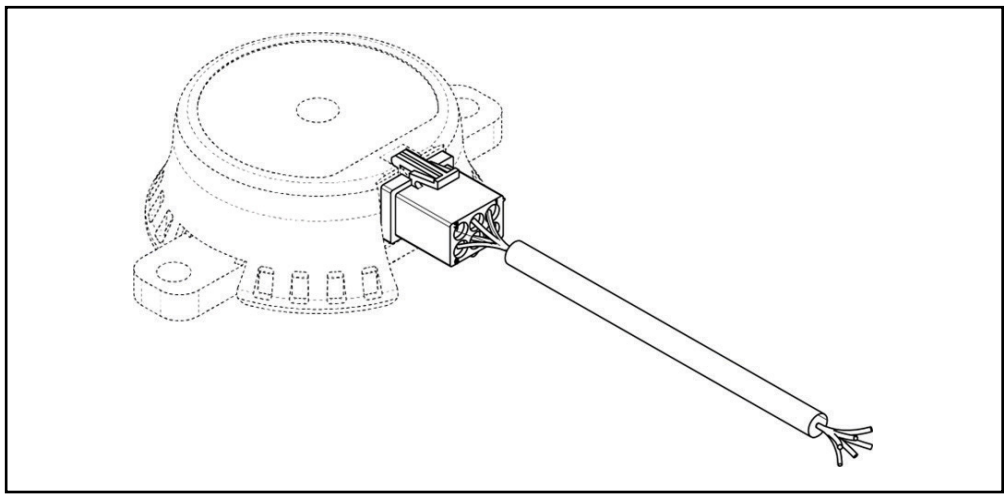


FIGURE 3.0.0 CONNECT THE CABLE

4.0 WIRING INFORMATION

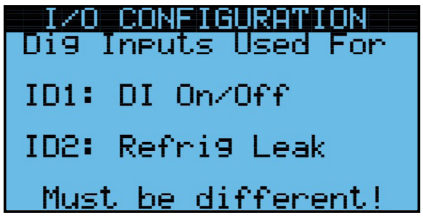
	COLOR	FUNCTION
Sensor Wire Harness	Red	Supply voltage 24VAC
	Black	Ground 24VAC Common
	White	Not connected
	Blue	Not connected
	Yellow	Input relay
	Orange	Normally closed contact

5.0 USE WITH INTEGRATED PROGRAMMABLE CONTROLS

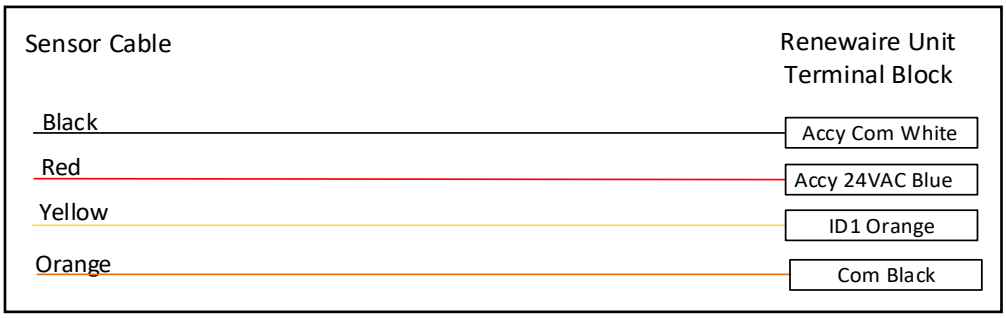
Requires version 4.00.00 software and higher. Contact RenewAire TSS if you need to upgrade your controls.

The Premium Integrated Programmable Controls package from RenewAire provides all of the control you require for compliance for refrigerant leak detection mitigation. In order to use the sensor with this system, one of the two digital inputs has to be set for integration of the sensor.

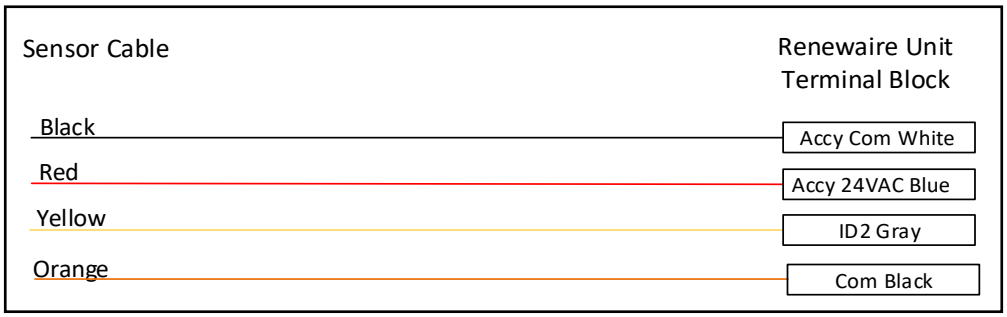
The location of the sensor on this screen. You can choose either ID1 or ID2. Based on that, choose the correct wiring diagram that follows.



5.1 WIRING TO ID1



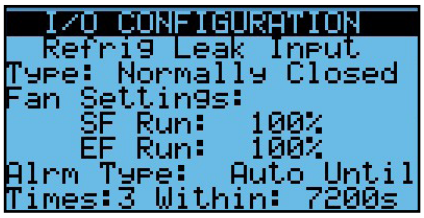
5.2 WIRING TO ID2



5.3 ADDITIONAL SETTINGS

You will also set these settings as follows:

- Type: Normally Closed
- Fan Settings – suggest 100% as long as the application allows
- Alarm type can be set to auto reset, manual reset, or auto reset until the event happens 3 times within two hours (adjustable) based on your needs.



4.0 FACTORY ASSISTANCE

In the unlikely event that you need assistance from the factory for a specific issue, make sure that you have the information called for in the Unit Records page in the Owner Information section of the unit manual. The person you speak with at the factory will need that information to properly identify the unit and the installed options.

To contact RenewAire Customer Service:

Call 800-627-4499

Email: RenewAireSupport@RenewAire.com

About RenewAire

For over 40 years, **RenewAire has been a pioneer in enhancing indoor air quality (IAQ)** in commercial and residential buildings of every size. This is achieved while maximizing sustainability through our fifth-generation, static-plate, enthalpic-core **Energy Recovery Ventilators (ERVs) that optimize energy efficiency**, lower capital costs via load reduction and decrease operational expenses by minimizing equipment needs, resulting in significant energy savings. Our ERVs are competitively priced, simple to install, easy to use and maintain and have a quick payback. They also enjoy the industry's best warranty with the lowest claims due to long-term reliability derived from innovative design practices, expert workmanship and **Quick Response Manufacturing (QRM)**.

As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA. We're **committed to sustainable manufacturing** and lessening our environmental footprint, and to that end our Waunakee, WI plant is 100% powered by wind turbines. The facility is also one of the few buildings worldwide to be LEED® Gold and Green Globes certified, as well as having achieved ENERGY STAR Building status. In 2010, RenewAire joined the Soler & Palau (S&P) Ventilation Group in order to provide direct access to the latest in energy-efficient air-moving technologies. For more information, visit: renewaire.com

201 Raemisch Road | Waunakee, WI | 53597 | 800.627.4499 | RenewAire.com

Soler&Palau Ventilation Group

Member of the S&P Group
Family of Brands

RenewAire® Energy Recovery Ventilation