

RefriScout

A2L and A3 Refrigerant Detection Sensors



- Long Lifetime
- Fast Response
- Maintenance Free



Safeguarding A3 and A2L Refrigerant Adoption

To address growing concerns about global warming and environmental sustainability, governments across the world formulated and enforced various acts, practice codes, and sustainable solutions in recent years. Among numerous actions to be taken to curb global warming, the HVAC&R industry is requested to use high energy efficiency refrigerants with low Global Warming Potential (GWP) and zero Ozone Depletion Potential (ODP), such as R290, R32, R454A/B/C and R455A, instead of traditional hydro-fluorocarbon (HFC) to reduce greenhouse gas emissions to the atmosphere.

However, most environmental friendly, low-GWP refrigerant alternatives are classified as A2L or A3 flammability. Leakage of these refrigerants would become a risk of fire and explosion. A reliable refrigerant leakage detection system is therefore required by regulatory bodies as part of safety measures in HVAC equipment using A2L or A3 refrigerants.



RefriScout is a series of A2L and A3 Refrigerant Detection Sensors developed for HVAC&R industry to meet demanding safety requirements from regulatory bodies. By utilizing an advanced Solid-State optoelectronic based NDIR (Non-Dispersive Infrared) sensing technology, every RefriScout is capable of providing fast response and reliable detection to target refrigerant leakage with exceptionally long operation lifetime.

A rigid housing enclosed conformal-coated electronics provides excellent ingress protection from dust, oil, moisture and condensed water. Each RefriScout is individually calibrated at factory to ensure fast response with accurate detection. Automatic Baseline Calibration (ABC) helps deliver 15 plus years of maintenance-free operation lifetime even in the harshest environment.

RefriScout is designed to help HVAC manufacturers meet the requirements of IEC 60335-2-40 and UL 60335-2-40 (4th Edition) Annex LL for A2L and A3 refrigerant applications. The sensor can be easily mounted within Heat Pumps, Air-Conditioning units and Refrigeration equipment at places that A2L and A3 refrigerant leakage could potentially occur.

RefriScout offers different sensor models for detecting leakage of different A2L and A3 refrigerants with different control outputs; including Modbus RTU (RS485) for BA/BMS control system integration and SPDT contact with 0-10V analog output for refrigerant mitigation control.

FEATURES

- Fast response time
- Excellent accuracy
- LED indicator built-in
- Zero cross-sensitivity
- Wide temperature range
- Low power consumption
- Easy attachment magnet
- 15 plus years long lifetime
- Sensor faulty status output
- No field calibration required
- Maintenance free operation

APPLICATIONS

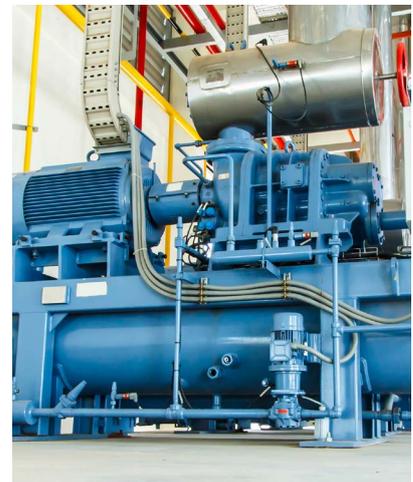
Air conditioning Units



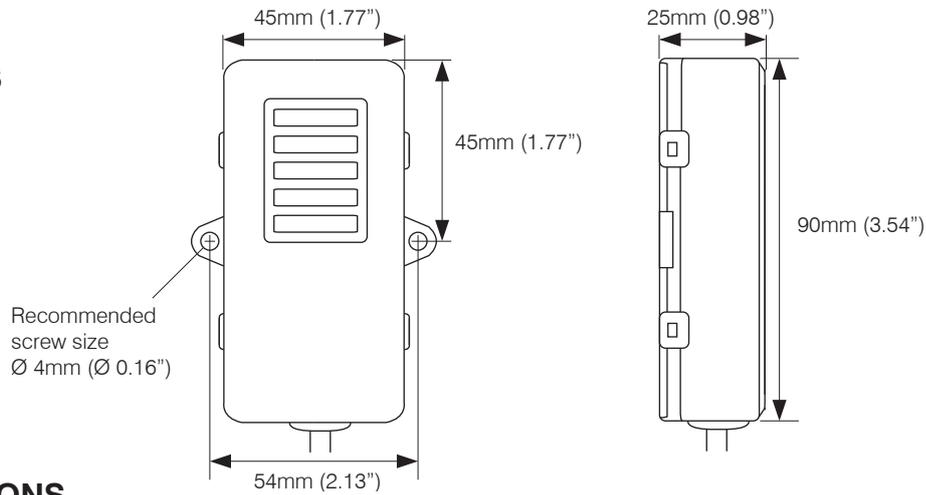
Commercial Heat Pumps



Refrigeration Units



DIMENSIONS



SPECIFICATIONS

Model No.	RDS-290-M	RDS-324-M	RDS-290	RDS-032	RDS-454A	RDS-454B	RDS-454C	RDS-455A
Measured gas	R290	R32 R454A/B/C R455A	R290	R32	R454A	R454B	R454C	R455A
Output	Modbus RTU (RS485)		Form C (SPDT) with 0-10V (0~50% LFL)					
Alarm threshold	Programmable		20% LFL					
Fault status	Error code		Relay activated with LED indication					
Power supply	12-24VDC							
Power consumption	<20 mA							
Operating conditions	-40~70°C(-40~158°F), 0~95% RH							
Measured range	0-100% LFL							
Accuracy	±2.5% LFL within 0-25%							
Response time	< 15 seconds							
ABC period	720 hours, factory default enabled							
Life expectancy	> 15 years							
Ingress protection	IP 54							
Cable	60 cm AWG24 6C (length and connector can be customized)							
Dimensions	90 x 45 x 25 mm (3.54 x 1.77 x 0.98")							

IMPORTANT NOTICE

1. This document is solely intended to provide relevant information for HVAC&R equipment designers ("Buyer") who are developing equipment or systems that incorporate RefriScout product ("Product"). All data in this document are obtained from proprietary engineering practices with standard laboratory test conditions. Buyer understands and agrees that Buyer remains responsible for using its independent analysis, valuation, and judgment in designing Buyer's systems and products.
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