

| RGD SERIES WITH IRDS

A2L REFRIGERANT LEAK DETECTION SYSTEM

The Sensata Resonix refrigerant leak detection system is a compact unit designed to meet demanding OEM requirements and be easily integrated into HVAC & Refrigeration Equipment. Featuring the innovative Speed of Sound technology with high accuracy and fast response times. Equipped with both a dual relay and Modbus RS485 outputs, along with multi-refrigerant detection, Sensata's Resonix provides a single solution to simplify A2L refrigerant leak mitigation for a broad range of HVAC/R solutions.



Features

- Fastest response time: T28 of 2.5s, T60 of 5s (average)
- Low power consumption: <40 mA max
- Industry leading lifetime: >15 years
- Operating temperature range : -40°C to 85°C
- Short warm up time: <5 seconds
- No calibration or re-zeroing required over lifetime
- Operating humidity: 0 to 100%RH (condensing)
- IP54
- Immune to poisoning
- No false alarms due to fouling gases
- Industry leading response and start-up time
- Compliant to UL 60335-2-40 and UL 60335-2-89

Applications

- Residential and commercial air conditioning
- Heat Pumps
- Refrigeration equipment

SPECIFICATIONS

Mechanical

Materials	PA66+GF25 (plastic part) Silicon (O-ring)
Dimensions	76.75mm x 73.41mm x 21mm

Electrical

Supply voltage	9VDC - 30VDC* 18 VAC to 30 VAC
Current Requirement	10 mA (24 VDC), 22.23 mA (24 VAC)
Interface	Modbus RS485 + Relay
Relay Output	Dual relay output 24VAC / 2A rating

* Relay output is only available with a supply voltage > 9VDC

Recommended Mating Connector Components

Housing	2443729-8
Terminal	2321921-1
Rear wire seal	2321922-8
Outer O-Ring	2321920-8
Terminal position assurance	2321919-8

Environmental / Performance

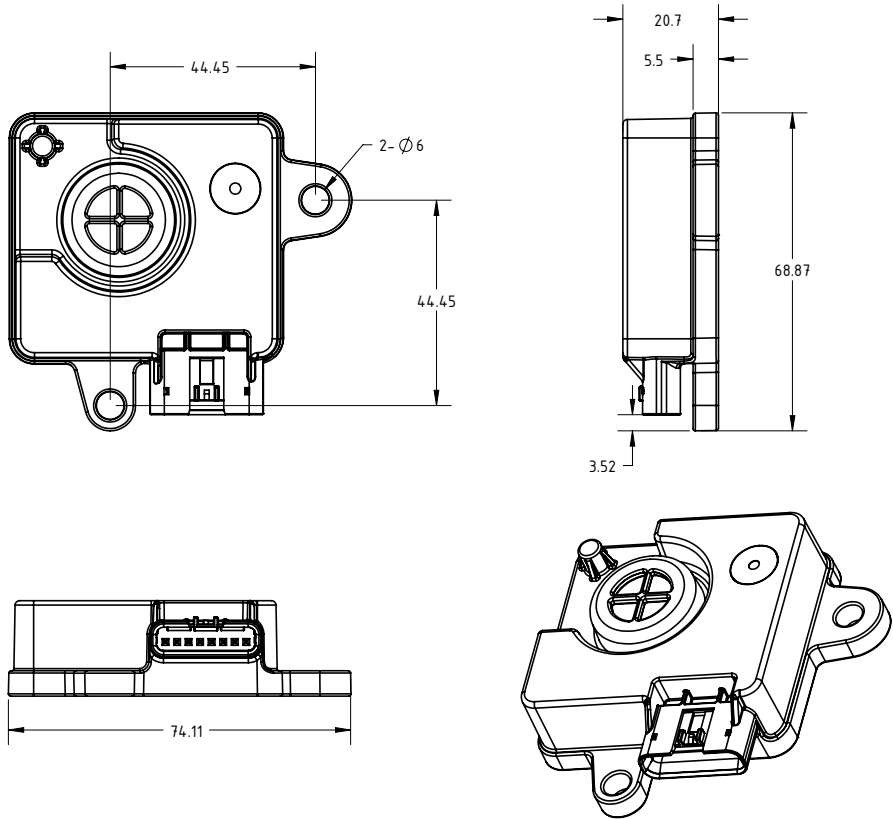
Target Gases	R32, R454B (Dual option) R454A, R454C, R455A (Triple option)
LFL Range	0 – 100%
Response Time	T28 of 2.5s, T60 of 5s (average)
Warm Up Time	< 5 seconds
Accuracy at nominal conditions	±2.5%LFL (-30°C - +75°C, 30-70%RH, 86-108kPa)
Accuracy outside nominal conditions	±5.0LFL
Working Temperature	-40°C to 85 °C
Storage Temperature	-40°C to 85 °C
Working Humidity	0 to 100% RH (condensing)
Working Pressure	70 to 120 KPa
Protection(EN 60529)	IP54
Fault Detection	Sensor out of range
Calibration	Factory calibration, no field calibration required
Compensation	Temperature and Humidity
Lifetime	>15 years
Conformity	UL 60335-2-40 ed.4 Annex LL, UL 60335-2-89, ROHS,REACH
Mitigation Latch	5 additional minutes after mitigation condition has been cleared

DTLV Values

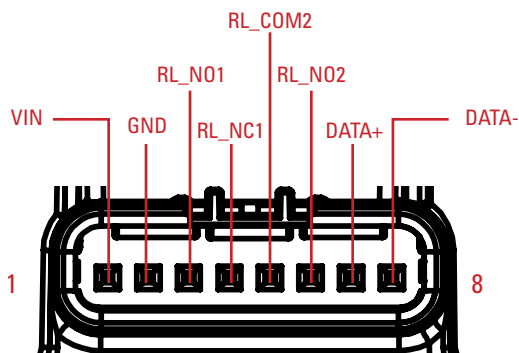
Product Variant	Target Refrigerants	DTLV Values
RGD-20RH00	R32	14.5% LFL
	R454B	12% LFL
RGD-30RH00	R454A	15.5% LFL
	R454C	14% LFL
	R455A	9.6% LFL

 DIMENSIONS

Dimensions in mm



PIN OUT DIAGRAM



Pin number	Connection Name	Pin Definition	RDS Function
1	VIN	Power Supply Input	Power Supply – Line
2	GND	Power Supply Input	Power Supply – Neutral
3	RL_NO1	Relay Normally Open Contact 1	LOAD1 Contact
4	RL_NC1	Relay Normally Closed Contact 1	LOAD2 Contact
5	RL_COM2	Relay Common Contact 2	External Input for NO2
6	RL_NO2	Relay Normally Open Contact 2	LOAD3 Contact
7	DATA+	RS-485 Line	RS-485 Data+ (A)
8	DATA-	RS-485 Line	RS-485 Data- (B)

ORDERING OPTIONS

Example : RGD-20RH00

Series	RGD	-	20	R	H	00
RGD - Resonix Gas Detection Sensor						
Refrigerant						
20= R32+R454B						
30=R454A+R454C+R455A						
Output Type						
R = Relay						
Input Voltage						
H= 9-30VDC						
Customer Specific						
00= Connector End						

*Single refrigerant option will be available on request

** Relay Output is only available with a supply voltage >9VDC

AGENCY APPROVALS & CERTIFICATIONS



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