

A2L REFRIGERANT SENSOR FROM TE CONNECTIVITY

UL 60335-2-40 COMPLIANT A2L REFRIGERANT SENSOR FOR R-454B AND R-32 LEAK DETECTION

TE Connectivity's (TE) A2L refrigerant sensor module is designed to meet all UL and CSA 60335-2-40 Annex LL requirements, supporting leak hazard mitigation without the need for field calibration. The module uses thermal conductivity sensing technology to detect R-454B and R-32 gases at 10% LFL* with ±2.5% accuracy and a 15s response time. With integrated temperature and humidity sensors for environmental compensation, the module can operate at temperatures ranging from -40°C to +95°C and up to 100% relative humidity. The sensor is resistant to poisoning by typical interference gases and uses automated self-calibration (ASC) to maintain performance for up to 15 years without recalibration.

PERFORMANCE

- Gas Type(s): R-454B, R-32
- Detection Range: 0%-100% LFL*
- Detection Threshold: 10% LFL*
- Detection Accuracy: ±2.5% LFL*
- Response Time (typ.): 15s, (max 30s)
- Warm-Up Time : 5s
- Operating Temp: -40°C to +95°C
- Operating Humidity: 0%-100%RH
- Lifetime: up to 15 years

ELECTRICAL

- Supply Voltage: 5V - 17V DC
- Max Current: 100mA
- Power Consumption: 0.5W
- Communication: RS485 Modbus RTU

MECHANICAL

- Approx. Dimensions:
  52 mm x 35 mm x 14 mm
- I/O: 4 Pin Sealed Signal Double Lock Connector
- Ingress Protection: IP54

STANDARDS & SPECIFICATIONS

- ETL Certified: Conforms to UL & CSA 60335-2-40 (Annex LL)
- Application Specification: 114-161909

KEY FEATURES

- Thermal conductivity gas sensor with temperature and humidity compensation
- RS485 Modbus RTU communication protocol with Pulse Width Modulation (PWM) or Universal Asynchronous Receiver-Transmitter (UART) options
- Locking connector interface supporting customized harnessing (optional IP67 connection)
- Easy installation with compact enclosure design and multiple mounting bracket options
- Enclosed module meeting IP54 and salt spray corrosion testing standards
- Integrated anti-condensation heater
- ETL certified to meet UL and CSA 60335-2-40 Annex LL standards

APPLICATIONS



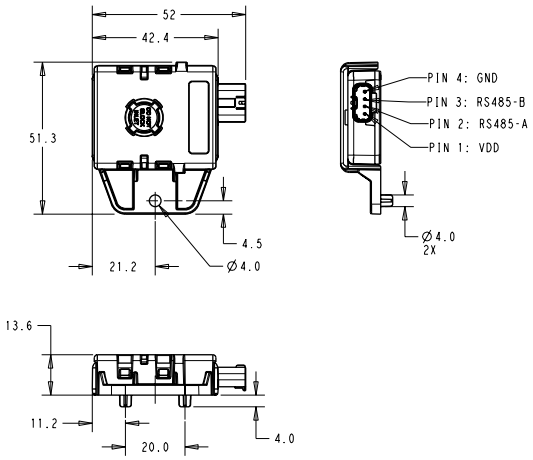
HVAC Equipment | Air-conditioner | Water Heater | Appliances

*LFL = lower flammability limit

A2L REFRIGERANT SENSOR MODULE

Gas	Bracket Style	Part Number
R454-B, R-32	1-Hole Mount w/ Alignment Pins	2539600-1

ENCLOSURE WITH BRACKET [1]



PN 2539600-1 shown. Dimensions in mm. (check customer drawing for details)

[1]Additional bracketing options with alternate mounting configurations are available upon request

MATING CONNECTOR ACCESSORIES

Part Description	Part Number
Sealed Signal Double Lock Plug Housing	2443729-4
Receptacle Terminal	2321921-1
Perimeter Seal	2321920-4
Rear Wire Seal	2321922-4

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06-26