

Molecular Leakage Detector

For Refrigerants A1 - A2L - A3
in HVAC-R applications



The MLD is a cost effective, long life refrigerant gas detector, based on MPS technology, that reduces maintenance needs and allows the customer to have highly reliable product with the latest technology.

Highly flexible and reliable, this detector combines the Molecular Property Spectrometry technology with a specific electronic to provide the Modbus and the analog 4-20mA output .

It is also equipped with two relays (Alarm 1 and Alarm 2/Malfunction) to offer a clean signal that can be managed in an intuitive way. It comes with 1,5 or 3 meters cable, without connector.

Applications

- HVAC Systems
- Refrigeration
- Cool Store
- Hotels ventilation system
- Home & Building automation
- Mobile HVAC units
- Railway conditioning

Part Number Definition

MLD-MN022-3

Part Series	_____	_____	_____	_____	_____
Sensors Type	_____	_____	_____	_____	_____
S4 = NevadaNano Type S4					
MN = NevadaNano Type MINI					
Gas configuration	_____	_____	_____	_____	_____
02 = (A3) R290 - Propane					
03 = (A2L) R32 - HFC					
04 = (A2L) R454B - HFC/HFO					
05 = (A2L) R454C - HFC/HFO					
06 = (A3) R600 / R600a / R170					
10 = (A1) R404A - HFC					
11 = (A1) R407C - HFC					
Power Supply	_____	_____	_____	_____	_____
1 = 12VDC					
2 = 24VDC					
Cable Length	_____	_____	_____	_____	_____
Blank = 1.5m					
3 = 3.0m					

Features & Benefits

- No field calibration needed
- Immunity to poisoning
- No cross sensitivity
- Fail Safe (built in diagnostic)
- Long life (+15 years without calibration)
- Wide Temperature working range (from -40° to +75°C)
- High accuracy with built-in Temperature, humidity and pressure sensors
- T - Rh - P values available as signals (Modbus)
- Multiple digital and analog output (Modbus, 4-20mA, 0,4-2Volt, Alarm Relays)

TECHNICAL FEATURES

Sensor Performances

Technology

Molecular Property Spectrometry by NevadaNano

Gas detected	A1 R404A, R407C	A2L R32, R454B, R454C	A3 R290, R170, R600, R600a
Measurement range	400-2500ppm	0-100% LEL	0-100% LEL
Accuracy	200ppm (ISO817/ASHRAE 34)	±3% LEL (R32) ±5% LEL (R454B - R454C) (ISO817/ASHRAE 34)	±6% LEL (R290) ±5% LEL (others) (ISO 10156)
Accuracy ≤25% LEL 20°C, 50%RH	--	±2,5% LEL (UL 60335-2-40)	--
Response Time (T90)	<20 sec.	<15 sec.	<20 sec.
Resolution	1ppm	0,1% LEL	0,1% LEL
Lifetime	15+ years		

Detector Operating Features

Signals Output	Gas concentration, Temperature, Humidity, Pressure, Status, Prealarm, Alarm, Fault, Lifetime
Measurement Output	Modbus 4-20mA 0,4-2V Relays
Visual Information	3 x LED (Status, Prealarm, Alarm/Fault)
Supply Voltage	12-24VDC ±10%
Power Consumption	< 50mA
Operating Temperature	-40° to +75°C
Operating Humidity	0 - 100% RH
Operating Pressure	80 to 120 kPa
Protection grade	IP65
Dimensions MLD-MN	13 x 8 x 2,5 cm
Dimensions MLD-S4	13 x 8 x 4,0 cm

Certifications & Approvals

CE, EMC, Rohs, IEC60335-2-40, ATEX
EN60079-0, EN60079-11: Intrinsically Safe device - Gr.II Cat.3G Ex ic IIA TX Gc
On running tests for SIL1/SIL2 according to EN50402 / IEC50271

MLD-MN
MPS MINI
on board



MLD-S4
MPS S4
on board



More info here