

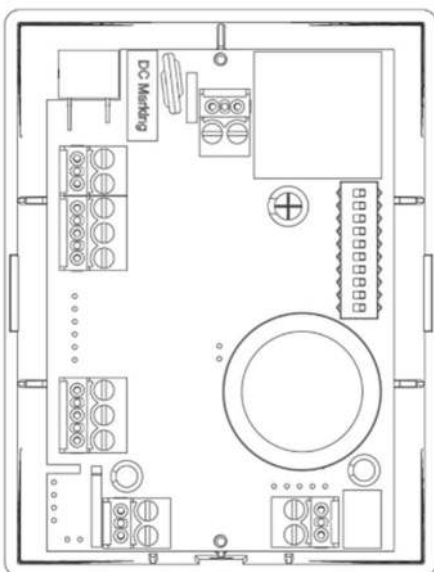
Merlin RG Lite Series

VRF REFRIGERANT GAS SENSORS

Designed for all areas utilizing variable refrigerant flow in excess of the ASHRAE standard guidelines of where local AHJ requires the additional protection of a VRF detector, e.g., residential, public, commercial, and light industrial environments, such as, food retailers, hotel rooms, apartments and offices which support the following outputs:

- ✓ Analog: 1x 0-10V signals for Refrigerants (PPM).
- ✓ Digital RS-485: Modbus RTU or BACnet MS/TP communication protocols.
- ✓ Thermistor output for 3rd party temperature monitoring.
- ✓ Excellent stability and strong anti-interference, long-life sensors.
- ✓ Fully calibrated.
- ✓ Designed in USA.
- ✓ Standard 3 year manufacturers warranty.
- ✓ Audible Alarm
- ✓ Visual LED for Alarm Status

Methane and R400 Blends: R1234yf / R1234ze / R134a / R32 / R404a / R407c / R410a / R454a / R454b / R454c / R455a (Others on request)



CONNECTION	LABEL	TERMINATION
110V IN	POWER LINE IN	L (LINE)
		N (Neutral)
24V AC/DC INPUT	24V IN	+24V
		0V (Common GND)
ANALOG OUT/P	+10V OUT	PPM (RF Sensor O/P)
DIGITAL OUT/P	RS-485	A+
		B-
		SH (Shield)
THERMISTOR	10K3	(No Polarity)
CO2 VFC RELAY	RLY 70mA	(Open/Close Circuit)

Technical Specification

Mechanical	Mounting	Wall Mounted
	Entry	1" DIA Rear Entry and snap offs for side trunking
	Size (W x H x D)	3.38 x 4.48 x 1.3"
	Weight	10oz Max
Electrical	Enclosure	ABS UL Flame retardant – IP40
	24V AC/DC Power Rating	12-24VDC (11-32 VDC) / 24VAC, (20-27 VAC) 50-60Hz
	120VAC Power Rating	Nominal 110VAC, (90-250V AC), 50-60Hz
	Internal Fuse	Resettable PPTC 110VAC, 400mA
	Communication	127 units max
Environmental	Power Consumption	5W Max
	Operating Temperature	14 to 122°F
	Storage	32-86°F
	Room Humidity	0 to 95% RH (continuous) non-condensing.
	Atmospheric Pressure	70 to 110Pa
	Altitude	<95002ft
I/Os	Installation Cat (110V Voltage)	II (Class 2) Pollution Degree 2
	Installation Cat (24V Voltage)	III (Class 3) Pollution Degree 2
	Analog Outputs	1x Linear 0-10V/2-10V Refrigerant. Thermistor (10K3)
Cable Spec	Digital Networks	BACnet MS/TP / MODBUS RTU (Parity: None Data bit: 8bit Stop bit: 1)
	Relay Outputs	1x SPST 70mA
	Power	120VAC 18-14 AWG
	Analog Output	24V: 18-22 AWG
User Interface	Digital Output	18 – 122 AWG twisted pair + ground, shielded cable with 120 Ω characteristic impedance.
	Relays	18 – 14 AWG
	Language	English
Safety/EMC	LED Indications (Refrigerant Values Only)	Green: Power (OK) Yellow: Warning (Pre-Alarm) Red: Danger (Alarm)
	Safety	IEC 61010-1
Sensing	Electromagnetic Compatibility	FCC Part 15
	Refrigerants (ppm)	
Diffusion Type NDIR Dual Beam Technology		
Response: t90 <30s		
Warm Up Time: ~1 Minute @ 25°C		
Accuracy: ± 15% of applied concentration		
Lifespan: 10 Years MTBF		
Resolution: 50ppm		
Long Term Zero Stability +3% of FS range/year		



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