Merlin **RG** Lite Series

S&S NORTHERN™
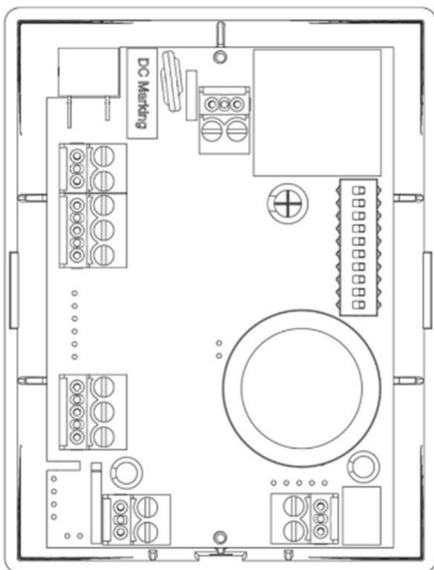
VRF REFRIGERANT GAS SENSORS

Designed for all areas being directly connected to low or mains voltage supply, 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.
✓ 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)

ASHRAE **BACnet**™   **Modbus**

CONNECTION	LABEL	TERMINATION
240V AC 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	300g
	Enclosure	ABS UL Flame retardant – IP40
Electrical	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
	Power Consumption	5W Max
Environmental	Operating Temperature	-10 ~ 50 °c
	Storage	0~30°c
	Room Humidity	0 to 95% RH (continuous) non-condensing.
	Atmospheric Pressure	70 to 110Pa
	Altitude	<95002ft
	Installation Cat (110V Voltage)	II (Class 2) Pollution Degree 2
	Installation Cat (24V Voltage)	III (Class 3) Pollution Degree 2
I/Os	Analog Outputs	1x Linear 0-10V/2-10V Refrigerant. Thermistor (10K3)
	Digital Networks	BACnet MS/TP / MODBUS RTU (Parity: None Data bit: 8bit Stop bit: 1)
	Relay Outputs	1x SPST 70mA
Cable Spec	Power	120VAC 18-14 AWG
	Analog Output	24V: 18-22 AWG
	Digital Output	18 – 122 AWG twisted pair + ground, shielded cable with 120 Ω characteristic impedance.
	Relays	18 – 14 AWG
User Interface	Language	English
	LED Indications (Refrigerant Values Only)	Green: Power (OK) Yellow: Warning (Pre-Alarm) Red: Danger (Alarm)
Safety/EMC	Safety	IEC 61010-1
	Electromagnetic Compatibility	BS 50270

Sensing

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

S&S™
NORTHERN

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