

# Refrigerant Analog Gas Transmitter



ITS-1810-R

## DESCRIPTION

Analog gas transmitters for the detection of refrigerant in the ambient air.

## APPLICATION

To sense refrigerant gases in commercial applications such as equipment rooms and ventilation systems, etc. and transmit to any compatible electronic analog control, DDC/PLC control or automation system.

## FEATURES

- Continuous monitoring
- 4-20 mA analog signal output
- Solid state sensor\*, long-life
- Temperature & humidity compensated sensing
- Easy maintenance



## SPECIFICATIONS

### Electric

Power supply	24 VAC (15-36 VAC), floating, 50/60 Hz (47-63 Hz) 24 VDC (18-50 VDC)
Protection	Two (2) 1.0 A, socketed pico fuses
Power consumption	125 mA (3.6 VA), max.

### Sensor Performance

Gas detected	Refrigerants, refer to section "Ordering Information"
Sensor element	Solid state semiconductor*
Range	0-1000 ppm
Accuracy	± 10% at referenced conditions
Repeatability	± 2.5%
Response time	< 35 sec. to 90% of step change
Calibration	
- interval recommended	One to two years
- adjustment	Simple 2-point settings, applying calibration gas standards
Sensor life expectancy	5 to 7 years, normal operating environment
Sensor coverage	2,000 sq.ft., max. 3,000 sq.ft. (185 m <sup>2</sup> , max. 278 m <sup>2</sup> ), "under ideal conditions"

### Installation Location

Mounting height	1 ft. (0.31 m) above floor (sensor pointing downward)
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### Type of Control

General	Continuous proportional analog sensor signal output
Output signal	4-20 mA, mA DC into 700 Ω at 24 VDC

### Environmental

Permissible ambient	
- working temperature	-4°F to 104°F (-20°C to 40°C), compensated over 32°F to 104°F (0°C to 40°C)
- storage temperature	-40°F to 122°F (-20°C to 50°C)

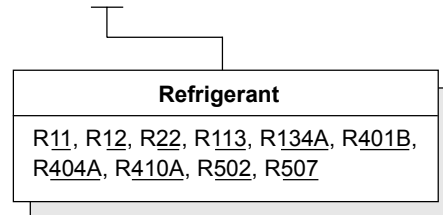
- humidity, continuous	0 to 90% RH, non-condensing, compensated
- working pressure	Atmospheric ± 10%

### Physical

Enclosure	
- material	Heavy duty ABS, fire-retardant, UL 94-V-0
- color	Light beige
- cover	Snap-on, secured by (4) screws
- protection	NEMA 1, general purpose
- installation	Wall (surface) mounted, or single gang electrical box
Dimensions (H x W x D)	8.6 x 4.2 x 2.6 in. (218 x 107 x 66 mm)
Cable entry	1 hole for 1/2 in. conduit for wall (surface) mounting, and 1 hole on back side of enclosure base for single gang electrical box
Wire connection	Terminal blocks, screw type for lead wire
Wire size	Min. 24 AWG (0.25 mm <sup>2</sup> ), Max. 14 AWG (2.5 mm <sup>2</sup> )
Weight	2.0 lbs. (0.9 kg)
Warranty	12 months material and workmanship

## ORDERING INFORMATION

### ITS-1810-RXX



Sample, ordering part number:

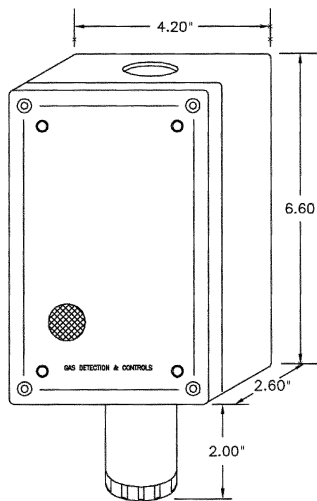
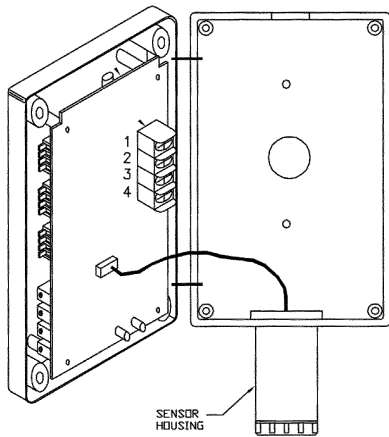
### ITS-1810-R134A

Refrigerant transmitter, 0-1000 ppm R134a range, for power supply 24 VAC, or 24 VDC, 4-20 mA output signal, surface-mount, NEMA 1

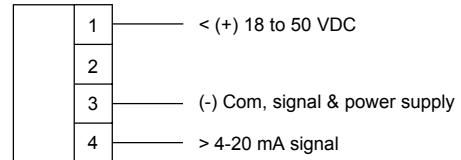
\* Solid state sensors are not gas-specific, and may be sensitive to other gases, notably hydrocarbons and solvents.

## WIRING CONFIGURATION

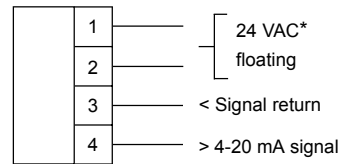
### ITS-1810-R



#### 24 VDC, 3-wire configuration



#### 24 VAC, 4-wire configuration



\* Do not connect 24 VAC power supply with signal output 4 to 20 mA, and do not connect 24 VAC to earth ground.

To verify, perform continuity check (use K ohm range), measure between AC power terminals 1 and 2, and each of the signal terminals 3 and 4, no continuity should be observed.