


January 2006

R-11, R-12, R-22, R-123, R-134a, R401, R404 and others

**FEATURES**

- High-accuracy Refrigerant-specific NDIR sensor
- Up to 4 points of detection
- Diffusion (RS-485) or Sample-Draw  PHOTO
- 4-line LCD and Removable Keypad
- 3-Stage relay output with LED status indicators
- Optional- 4-20mA output
- Easy to install and maintain
- Meets and exceeds ANSI/ASHRAE 15-1994

**APPLICATIONS**

- Suitable for control of emergency ventilation systems and for personnel protection
- Refrigerant leak or spill detection from chillers, pipes, compressors and valves
- Commercial or industrial facilities using chillers or refrigeration units, food plants, meat-packing plants and cryogenic plants
- Direct connection to the existing Building Management System (BMS) or DDCS

The Acme Quadset Refrigerant Gas Monitor is designed to detect refrigerant leaks in enclosed areas. The Monitor utilizes a sophisticated NDIR sensor specific to any one of the commercially available refrigerants. It can monitor over a range of 0-1000ppm with a resolution threshold as low as 1ppm.

The Quadset can monitor up to four locations in one of two modes of operation, diffusion or sample-draw. In the diffusion mode, up to four RF-IR-ST-24 Refrigerant Sensor/Transmitters can be daisy-chained to the Monitor and transmit data on a RS-485 communication bus. In the sample-draw mode, built-in diaphragm pumps continuously draw air samples from the four locations via tubing, the incoming samples are then diverted to a built-in sensor by means of a sequencer and solenoid valves.

The Quadset is easy to install and maintain. It has a 4-line backlit LCD for refrigerant gas readings and LED indicators for relay output status. The LCD is also used for programming system parameters via a removable keypad. The standard monitor has a 3-stage relay output configuration and a malfunction relay. Options include 4-20mA analog outputs per channel, a strobe light and a horn.

Designed to act as a fixed in-situ safety monitor, the Quadset automatically operates the mechanical ventilation system of a facility upon detection of low levels of refrigerants, thereby protecting occupants, personnel and gas-sensitive goods and products.

With the increased use of gas detection in maintenance and industrial facilities, the Quadset allows installers and users to meet code requirements in an economical fashion using commercial-grade gas detection equipment.

The Quadset contains all the well-known standard features of ACME's gas detection line; a robust enclosure, the latest sensor technology and state-of-the-art electronics. For more versatile gas options, please consult the ACME binder or website.

#### **SPECIFICATIONS:**

Gases detected:	R-11, R-12, R-22, R-123, R-134a, R-401, R-404 and others
Sensor Technology:	NDIR Infrared
Sensing Method:	Diffusion or Sample-draw
Detection Range:	0-1000ppm
Resolution:	1ppm
Accuracy:	+/- 5ppm
Response Time (T90%):	60 seconds
Power Requirements:	24V or 120V or 240V 50/60 Hz
Outputs:	3-stage Relay; Contact rating 3A @ 120VAC inductive 4-20mA
Operating Temperature:	32°F to 104°F (0°C to +40°C)
Humidity Range:	0-95% RH Non-condensing
Expected Lifetime:	>10 years
Enclosure:	NEMA 1 Metal with locked door Grey Surface Mounting
Dimensions:	16" x 12"x 6" (400mm x 300mm x 150mm)
Recommended Calibration:	Every 6 months

### ORDERING INFORMATION:

MODEL NUMBER	GAS DETECTED
R11-QDRF-X*-Y**-Z***	R-11
R12-QDRF-X*-Y**-Z***	R-12
R22-QDRF-X*-Y**-Z***	R-22
R123-QDRF-X*-Y**-Z***	R-123
R134-QDRF-X*-Y**-Z***	R-134a
R401-QDRF-X*-Y**-Z***	R-401
R404-QDRF-X*-Y**-Z***	R-404

### POWER SUPPLY OPTIONS

*X	LINE VOLTAGE
24	24 V 50/60 HZ
120	120V 50/60 HZ
240	240V 50/60 HZ

### OUTPUT OPTIONS (ADDITIONAL TO STANDARD 3-STAGE RELAY CONFIGURATION)

\*\*Y=1; 4-20mA outputs

\*\*Y=0; or leave empty if not required

\*\*\*Z=SH; for built-in strobe/horn

\*\*\*Z=RSH; for remote strobe/horn

\*\*\*Z=0; or leave empty if not required

Typical Wiring Diagram Diffusion