



PORTABLE HALOCARBON INDICATOR

Gas Detection For Life

RI-413A Model



Features

- Digital display
- Microprocessor controlled
- Measurement of Instantaneous concentration for 7 kinds of halogenated hydrocarbon vapors
- Measurement of average concentration over 1, 3 or 15 minutes
- Adjustable alarm point from 0-full scale
- Audible alarm
- Illuminated display
- Battery powered
- Lightweight
- Fully portable

Applications

- Cold Storage
- Cleaning Solvents
- Air Conditioning
- Shipboard use (Submarines)
- Naval Ships
- Degreasing

The Model RI-413A utilizes non-dispersive infrared absorption (NDIR) technology as a convenient and inexpensive solution to the problem of measuring for halocarbon vapors like R-12, R-22, R-114, 134a, R-502, 404A, and R-236FA. By combining the versatility of a microprocessor and the selectivity of a non-dispersive infrared analyzer, RKI provides a compact and inexpensive halocarbon monitor for daily use in industrial safety and atmospheric control applications.

Each halocarbon is characterized by the amount of infrared energy the gas can absorb. Inside the Model RI-413A, a small pump continuously draws a sample of the atmosphere to be tested, through a length of hose and into an infrared chamber. The infrared ray is alternately transmitted through this chamber measuring the amount of energy passing through. As a result, the halogenated hydrocarbon vapor content is continuously monitored and digitally displayed directly in PPM units, to the nearest 25 ppm.

The microprocessor control provides easy to follow operational and malfunction instructions. Simple, reliable operation makes the RI-413A the smart choice for portable monitoring of halogenated hydrocarbon vapor levels.

RI-413A Model

Detection Principle	Non-dispersive infrared absorption (NDIR)			
Measurable Gas & Range	R-12 (CC ₂ F ₂) 0–4,975 ppm (25 ppm / digit)	R-114 (CCIF ₂ -CCIF ₂) 0–2,475 ppm (25 ppm / digit)	R-22 (CHCIF ₂) 0–4,975 ppm (25 ppm / digit)	R-502 (R115+R22) 0–4,975 ppm (25 ppm / digit)
	R-134a (CH ₂ FCF ₂) 0–4,975 ppm (25 ppm / digit)	R-236FA ((C3H2F6) 0–4,975 ppm (25 ppm / digit)		
	R-404A (C2H3F3)(C2HF5)(C2H2F4) 0–4,975 ppm (25 ppm / digit)			
	Notes: Reading on any one of these gases can be selected with the sensor switch on the top panel. Other gases available as special versions. Consult factory.			
Indication Method	Continuous Digital LCD display instantaneous concentration Average Digital LCD display of average concentration over 1, 3, or 15 minutes			
Repeatability	Less than +/- 3% of full scale for R-12			
Response Time	Approx. 10 seconds to 90% indication			
Sampling Method	Motor-driven diaphragm pump			
Alarms	Audible for: Any user programed alarm point from 0 – full scale for any selected gas (short pulse) End of averaging period (long tone) Low battery (continuous tone)			
Ambient Temperature & Humidity	-10° C – +40°C, 10% – 95% RH (noncondensing)			
Operating Hours	Approx. 4 hours (based on use of alkaline dry cells at 25°C)			
Recorder Output	DC 0 – 100mV (linear)			
Power Supply	A) Alkaline battery, "D" size 6 pcs. (Standard) B) Ni-Cd rechargeable battery 6 pcs (Optional) C) 115 VAC continuous operation adapter (Optional)			
Dimensions & Weight	230(W) x 190(H) x 113(D) mm, Approx. 2.6kg (instrument only) 5 1/2 lbs.			

*Specifications subject to change without notice.

DETECTION PRINCIPLE

The infrared analyzer uses the fact that each gas absorbs infrared energy at a characteristic frequency. In the gas analyzer an infrared source (an electrically heated wire) emits a broad band of energy which is focused on a solid state detector through a narrow band filter selected to transmit only a certain range of frequencies which are selectively absorbed by halogenated vapors. A sample of the gas to be detected flows through an enclosed chamber interposed between the infrared source and the detector.

The infrared ray is alternately transmitted through this chamber. If the measuring chamber contains halogenated vapors, the amount of energy passing through the chamber is less than it would be without the halogenated vapors present. A comparison of the two levels of energy is an indication of the concentration of halogenated vapors in the sample.

ORDERING INFORMATION

RI-413A gas monitor 73-0569RK
 Carrying case with shoulder strap 20-0293RK
 Gas sampling probe 80-0153RK
 Gas sampling hose (1m) 80-0012RK
 Alkaline battery, "D" size (requires 6) 49-1140RK

OPTIONAL ACCESSORIES

Charger 49-2145RK
 Continuous operation adapter, 115 VAC 49-2046RK
 Ni-Cd battery "D" cells (requires 6) 49-1240RK



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Authorized Distributor:

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