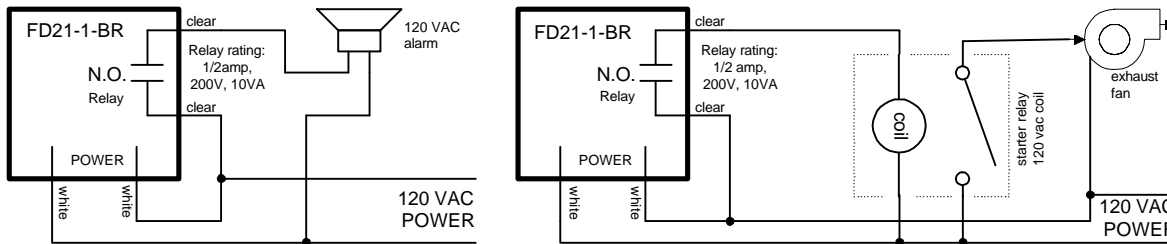


MACURCO GAS DETECTORS
FD21-1-BR
INSTALLATION & OPERATING INSTRUCTIONS
WWW.MACURCO.COM

GENERAL INFORMATION

The FD21-1-BR gas detector provides an alarm for dangerous levels of refrigerant gases, and is a self-contained unit that mounts in a double-gang electrical box with a built-in buzzer and a dry contact relay. Relay contacts are rated for 0.5 Amps, 200 Volts, or 10 VA. The standard calibration for most refrigerants is to 1000 PPM, except for R12 which is 4000 PPM; see the data sheet for a list of gases that can be detected.

Figure 1. Typical connections.



LOCATION

The unit on average can cover about 900 sq. ft. The coverage depends on air movement in the room or facility. The FD-21 mounts fairly low in the room where refrigerant's are being used and as close as possible to the potential source of refrigerant gas. Extra detectors may be needed near any areas were people work or the air is stagnant.

INSTALLATION

At the 4 X 4 electrical box connect the 6" white power cord to 120 VAC. Also connect the clear 6" cord to the device to be switched. *Note relay rating on data sheet.* After all wiring is done mount the unit to the double gang electrical box.

OPERATION

When power is first applied to the detector, it will go through a warm-up period of about two minutes. The unit has an internal delay that prevents alarms during the warm-up period. The green light will blink on and off during the two-minute delay period, and will glow brightly, continuously afterwards. The push-button switch resets the 2-minute delay. Once the unit is fully operational (the green light on continuously) test the unit by directing gas from an *un-lighted* butane cigarette lighter into the detector near the green light. The buzzer will alarm, and the relay will close if it is so equipped. (The alarm sound is a high frequency buzzer that is on continuously for about 2/3 of a second and off for about 1/3 of every second.). The unit will automatically turn off the buzzer and open the relay once the air clears. However, the push button switch may be pushed to reset the two-minute delay and silence the buzzer and open the relay while the air clears.

The detector should be tested regularly, about every 6 months, by using gas from an un-lighted cigarette lighter, as detailed above.

TROUBLE SIGNAL

The FD21-1-BR is a supervised system. The FD21-1-BR has a trouble signal to indicate problems in the gas-sensing element. This is a short beep about once a second, indicating your detector may be in need of service.

INTERFERING GASSES AND SENSOR POISONS

Various fumes and gases from normal products such as alcohol, aerosol spray cans and cleaning agents, can cause the FD-21 to alarm. Fumes from forklifts can cause alarms. Hydrogen gas from charging batteries can cause alarms. If such an alarm occurs, push the button on the detector, which will silence the alarm for two minutes, while allowing the air to clear. The gas-sensing tip in the detector is designed with extreme sensitivity to the environment. As a result, the sensing function of the tip may be deteriorated if it is exposed to a direct spray from aerosols such as paints, silicone vapors, etc., or to a high density of corrosive gases (such as hydrogen sulfide, sulfur dioxide) for an extended period of time.

SERVICING OF UNIT

The FD21-1-BR does not require regular maintenance. The unit uses a self-purging semi-conductor sensor that has a 7-10 year life expectancy. All maintenance and repair of products manufactured by Macurco, Inc. are to be performed at the Macurco manufacturing facility. Macurco does not sanction any third-party repair facilities.

LIMITED WARRANTY

The FD21-1-BR gas detectors are warranted to be free from defective material and workmanship for a period of two (2) year from the date of installation. If any component becomes defective during the warranty period, it will be replaced or repaired free of charge, if the unit is returned in accordance with the instructions below. This warranty does not apply to units that have been altered or had repair attempted, or that have been subjected to abuse, accidental or otherwise. The above warranty is in lieu of all other express warranties, obligations or liabilities. **THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF ONE (1) YEAR FROM THE PURCHASE DATE.** Macurco shall not be liable for any incidental or consequential damages for breach of this or any other warranty express or implied arising out of or related to the use of said gas detector. Manufacturer or its agents liability shall be limited to replacement or repair as set forth above. Buyer's sole and exclusive remedies are return of the goods and repayment of the price, or repair and replacement of non-conforming goods or parts. (The Uniform Commercial Code applicable in the State of Colorado shall govern.)

RETURN INSTRUCTIONS

Call (303) 781-4062 for a Return Authorization number. Then carefully pack the gas detector with a written description of the nature of the return. Send the unit to the following address:

Macurco Inc.
3946 South Mariposa Street
Englewood, Colorado 80110
WWW.MACURCO.COM