

# ***MACURCO GAS DETECTORS***

## **GD-2A**

### **INSTALLATION & OPERATING INSTRUCTIONS**

#### **GENERAL INFORMATION**

The GD-2A is a low voltage (12-24 VAC or VDC) all electronic detector of combustible gases, that has been evaluated by UL for methane (natural) and propane (LP) gas. The GD-2A is designed for connection to UL Listed alarm control panels (Fire or Fire/Burglar type or Critical Process Management Equipment), although it may be used alone, with UL Listed Class 2 limited energy power supplies. The GD-2A has a SPDT Alarm relay, for connection to control panels or other devices. See the GD-2A data sheet for more technical information.

#### **LOCATION**

If the gas used is natural (methane) mount the GD-2A on a wall about one foot down from the ceiling. If the gas used is propane (LP), mount the GD-2A on a wall or column one foot above the floor. Do NOT mount the GD-2A in a corner.

#### **INSTALLATION**

The detector can mount on either a 4 X 4 or two gang electrical box. The GD-2A front cover will need to be removed before mounting. This is done by firmly grasping and slightly squeezing the sides of the front cover, while pulling it away from the rear part. The cover will snap off exposing the electronics and mounting plate. Use the appropriate hole pattern for mounting. The four holes toward the center of the mounting plate match the hole pattern of a two gang box. The four holes near the corners match the pattern of a four inch square box. Mount the GD-2A so the "TOP" marked side of the mounting plate is at the highest side.

Snap the front cover back on when finished, making sure that the lights line up with the access holes.

An optional back cover is available for the GD-2A to allow mounting directly over a single gang electrical box. This device, Macurco # 40120, is of matching white plastic and provides an attractive enclosure to cover the electronic components.

See the back of the GD-2A data sheet for more information on Installation.

#### **OPERATION**

When power is first applied to the detector, it will go through a warm-up period of one and one half to two minutes, during which alarms are inhibited. The green light will turn on and off during the delay period. The green light will turn on continuously (ARMED) afterwards to indicate the unit is in normal operation.

Once the GD-2A is operational (the green light on continuously), if gas is detected the red light (ALARM) will illuminate at the same time the alarm relay switches. Any devices connect to the relay should be activated.

The unit, in its normal configuration as shipped from the factory, will automatically reset itself, by shutting off the red light and returning the relay to the standby condition, once the air clears. The GD-2A can be modified, either before or after installation, to have a latching output. Pull off the cover and locate the jumper wire labeled "CLIP FOR LATCH IN" on the printed circuit board in the upper right hand side. Clip or cut this jumper wire. Now the unit will stay in alarm (once gas has exceeded the pre-set threshold) until the power is interrupted. When replacing the cover, make sure the lights line up with their access holes.

#### **TROUBLE SIGNALS**

The trouble signal is determined mostly by the configuration of the alarm panel, with the GD-2A trouble relay only providing an open circuit for actuation. A failure of the gas-sensing element will result in both lights turning on and off and the trouble relay opening. Failure of power supplies in the GD-2A or a lack of power to the detector will result in the trouble relay opening.

The most common expected trouble would be a break in the wiring between the panel and the GD-2A.

#### **TESTING**

Once the unit is fully operational (the green light is on steady), test the unit by directing gas from an unlighted butane cigarette lighter into the detector near the left hand side through one of the vent holes. It will be

## **GD-2A INSTALLATION (CONT.)**

necessary to hold the lighter valve open for several seconds. The red light (ALARM) will turn on, the alarm relay switches, and any devices connected should activate.

The detector should be tested regularly by using gas from an unlit cigarette lighter, as detailed above.

### **ALARM SIGNALS**

The final alarm is determined by the configuration of the control panel, with the GD-2A only switching its relay to actuate the panel. Do not connect the GD-2A to Fire Alarm Circuits, or Burglar Alarm or other signals. The illumination of the red (ALARM) light on the GD-2A indicates the alarm condition.

### **WHEN AN ALARM OCCURS**

Immediately evacuate the premises and seek assistance.

### **WHEN A TROUBLE SIGNAL OCCURS**

Call the alarm panel installer for advice.

### **SENSOR POISONS**

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.

### **ALARMS DUE TO NORMAL ACTIVITIES**

In addition to the methane (natural), propane, and LP gas that it is designed to detect, the GD-2A can also be affected by a broad range of combustible gases. Some of these that may cause nuisance alarms include: alcohol's, ammonia, cleaning solvents, paint thinner, gasoline fumes, and aerosol propellants. Aerosol cans such as hair spray usually contain a combustible gas.

Proper installation, not in kitchens or bathrooms, will minimize unwanted alarms.

### **SERVICING OF GAS DETECTOR**

The GD-2A does not require regular maintenance. The unit uses a self-purging semi-conductor sensor that has a long 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 GD-2A gas detectors are warranted to be free from defective material and workmanship for a period of two (2) years from the date of manufacture (stamped on the unit). 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 TWO (2) YEARS.** 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**

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