

## **GAS DETECTOR**

**FOR USE WITH ALARM CONTROL PANELS or for use alone**



### **GD-2A**

The GD-2A uses a full wave bridge rectifier at its power input, so that it is independent of the polarity of the input power. It can operate on DC or AC voltages between 12 and 24 volts. A switching regulator is used to efficiently match the wide input voltage range to the fixed, internal power system. As a result the power consumption is fairly constant at about 0.75 watts in normal operation, and 1.0 watts in alarm.

The GD-2A has an internal 2 minute time delay, that prevents alarms during the warm-up of the gas sensor. During the warm-up period the green LED light blinks on and off. Once the delay is over, the continuous green light (ARMED) indicates normal operation. The GD-2A has a supervisory circuit of critical functions. A trouble condition, due to failure of a non-reliable component, results in both lights switching on and off and the normally closed trouble relay opening. A power failure also causes the trouble relay to open.

The red LED (ALARM) turns on at the same time the SPDT alarm relay activates, to indicate the alarm condition. The relays are reed type devices that are glass encapsulated, thus are ignition protected.

In the configuration, as shipped from the factory, the GD-2A is self-restoring. When the air clears of gas, the red light turns off and the relay switches to its normal state. A jumper wire on the circuit board can be clipped to allow the unit to latch in upon alarm. Once latched in, power will need to be interrupted to un-latch the alarm condition.

The GD-2A does NOT detect carbon monoxide.

#### **MANUFACTURED BY:**

**MACURCO INC.**  
3946 S. Mariposa Street  
Englewood, CO 80110  
(303) 781-4062 Fax: (303) 761-6640  
Website: [www.macurco.com](http://www.macurco.com)

The GD-2A is an all electronic detector of heating type gases (natural and bottle), designed for use alone or for connection to alarm control panels. It can operate on 12 to 24 VDC power from standby or interruptible panel power, or be powered separately.

The attractive two part plastic case allows the GD-2A to be installed over a four inch square or double gang electrical box, providing a near flush mount. Six inch long pigtail leads are provided for connections to the control panel or other devices.

- DETECTS HEATING GASES: PROPANE (LP), NATURAL (METHANE),
- SPDT ALARM AND N.C. TROUBLE RELAYS
- CAN BE SELF-RESTORING OR LATCHING
- ELECTRONIC SENSORS: NO MAINTENANCE OR RECALIBRATION
- TEMPERATURE COMPENSATED
- SIMPLE INSTALLATION AND OPERATION
- FAIL SAFE SYSTEM: SUPERVISED SENSOR
- IGNITION PROTECTED DESIGN

### **SPECIFICATIONS**

SIZE: 4 ½ X 5 X 1 ½ inches

SHIPPING WEIGHT: One pound

VOLTAGE: 12 to 24 VAC or VDC

CURRENT (non-alarm): 60 ma @ 12 VDC, 30 ma @ 24 VDC

CURRENT (in alarm): 83 ma @ 12 VDC, 42 ma @ 24 VDC

COLOR: White

SENSOR MAINTENANCE: Not required

ALARM RELAY RATING: 0.25 Amps, 100V, 3VA

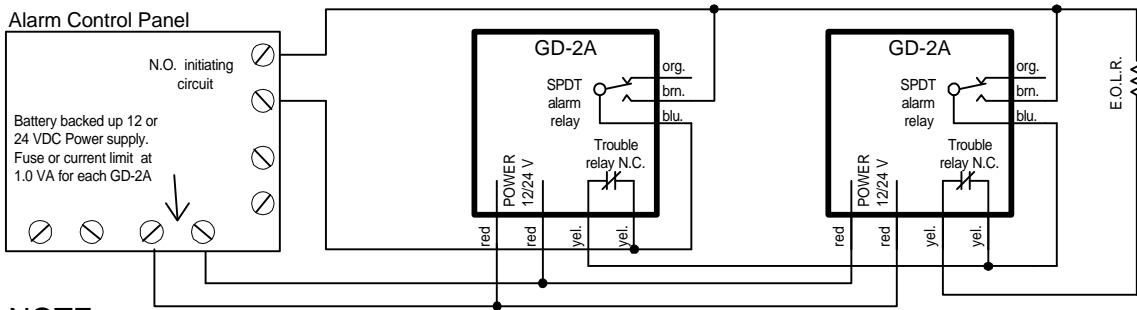
TROUBLE RELAY: 0.50 Amps, 200V, 10 VA

OPERATING TEMPERATURE RANGE: 32° to 120° F

ALARM SET POINT: Per UL 1484 (25% LEL)

#### **DISTRIBUTED BY**

## TYPICAL CONNECTION OF TWO GD-2A TO AN ALARM CONTROL PANEL

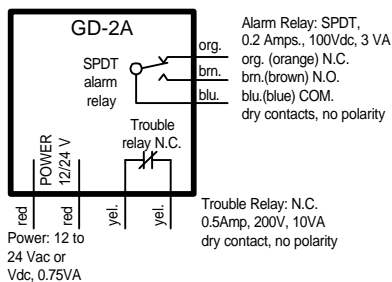


### NOTE:

1. The GD-2A is for use with Alarm Control Panels that have 12 to 24 Vdc power and 12 to 24 Vdc alarm initiating circuits, and is a UL Listed Fire Alarm Control Panel or UL Listed Critical Process Management Equipment.
2. The Alarm Control Panel (UL Listed Fire Alarm Control Panel or UL Listed Critical Process Management Equipment) must be dedicated to gas detection or have alarm devices that provide a distinctive alarm for gas detection. Do not connect the GD-2A to Fire Alarm Circuits. A U.L. Listed audible device must be connected that provides at least 85 DB sound output.
3. The GD-2A is intended for installation in buildings in non-hazardous locations such as residences, retail stores, office buildings, and institutional buildings.
4. The GD-2A is NOT intended for use in industrial applications such as refineries, chemical plants, etc.
5. LOCATION: If the gas used is natural gas (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.
6. SPACING: Use the same spacing as for smoke detectors-- 30 foot centers, 900 square feet per detector.
7. INSTALLATION
 

The GD-2A Gas Detector mounts on a two gang, old work box or a 4 X 4 electrical box, provided by the installer. The GD-2A has six inch long pigtail leads to which wire nuts connect to the cables from the control panel. A GD-2A is usually located in each room (except kitchens or bathrooms) where gas appliances are located. A GD-2A is usually located in each room through which gas pipes pass.
8. The alarm control panel zone inputs must be terminated with end of line resistors (E.O.L.R.), that are provided with the panel.
9. When using the GD-2A with normally closed initiating circuits, use the Com. and N.C. alarm relay connections.

## THE GD-2A MAY BE USED ALONE (The GD-2A has not been evaluated as a stand-alone unit by U.L.)



### GD-2A CONTROLLING A REMOTE ALARM

