# *MACURCO GAS DETECTORS*
# GT-11
## INSTALLATION & OPERATING INSTRUCTIONS
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**GENERAL INFORMATION**

The GT-11 is a low voltage (24 volts AC or DC) dual output (1 to 5 volts & 4 to 20 ma) all electronic gas detector. The unit normally is connected to a building automation system to monitor for leaks and hazardous conditions. The label on the front of the unit will designate the gas that the unit is calibrated too.

**LOCATION**

The unit on average can cover about 900 sq. ft. The coverage depends on air movement in the room or facility. The GT-11 should be mounted on a wall, about 1 foot above the floor or ceiling depending on whether the gas of concern is heavier or lighter than air. Methane is lighter than air and Propane & LP are heavier than air. If more information is needed on the density of a particular gas contact the gas manufacture. Extra detectors may be needed near any areas were people work or the air is stagnant.

**INSTALLATION**

The unit mounts in and becomes the cover of a 4x4 electrical box (not supplied by Macurco). The GT-11 is powered by either 24 VAC or DC (± 10%). The unit has a label on the back side of the case which designates the terminals and the printed circuit board is also silk screened with proper terminal identifications. Connect power to the (**E**) & (**F**) terminals. If you want to use the ma output connect to the (**C**) & (**D**) terminals. (**D**) being the positive terminal. If you want volts, connect to the (**A**) & (**B**) terminals. (**B**) being positive. Although both outputs are available at the terminal strip, only one should be used. If more than one transducer is used, each should have an isolated power supply : no ground on either power terminal. This will eliminate any current or voltage loops. More information on the GT-11 may be found on the GT-11 data sheet.

**NOTE:** The GT-11 sources power to the controller or computer, which should have an input impedance between 10 and 500 ohms if using the ma. output or 500 to 2000 ohms if using the volts output.

**OPERATION**

When power is first applied to the unit, it will go through a 2 minute warm-up cycle, during which the green LED light will flash on and off. At the end of the warm-up period, the GT-11 green light will be on continuously, brightly to show the unit is operable. During the warm-up cycle the outputs are low: approximately 0.7 volt and 2.7 ma. After the warm-up cycle and in clean air the outputs should be approximately 1 volt and 4 ma. The GT-11 can be tested by injecting gas from an *un-lit* butane cigarette lighter. The outputs should increase. The GT-11 is supervised. A failure of the sensing element will result in the green and yellow lights being on simultaneously. The outputs will show approximately 1.8 volts and 7.25 ma. The monitoring system should be programmed to respond to these and other levels, and take appropriate actions (ex. turn on fan, notify personnel).

**ALARM ACTION**

Macurco suggests that the customer modify it's facilities emergency response procedures to provide for appropriate actions should a gas leak occur. We suggest that if an alarm occurs and maintenance personnel are present, treat the alarm only as a *warning* of a possible problem and attempt to determine and remedy the cause. If the facility is un-attended at the time of an alarm, the emergency procedures might include dialing security personnel or maintenance people.

**INTERFERING GASSES AND SENSOR POISONS**

In addition to Natural (Methane) and Propane, the GT-11 will detect other gases including Butane, LP, Hydrogen, Alcohol's, Gasoline fumes, CFC's, Paint thinners, Freons and Acetone.

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 GT-11 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 GT-11 gas detectors are warranted to be free from defective material and workmanship for a period of one (1) 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:

**Aerion Technologies, Inc**
**6555 South Kenton St., Ste 304**
**Centennial, Colorado 80111**

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