

MACURCO GAS DETECTORS

HD-11

INSTALLATION & OPERATING INSTRUCTIONS

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GENERAL INFORMATION

The HD-11 is a low voltage (12-24 VAC or VDC) SPDT relay output Hydrogen detector. The unit is designed to work with control panel or other building management equipment to monitor for potential hazardous conditions in a room or a facility. See the Hydrogen Gas Detectors data sheet for more technical information.

LOCATION

The unit on average can cover about 900 sq. ft. The coverage depends on air movement in the room or facility. Locate the unit high in the room where storage batteries are being charged, or where there may be other Hydrogen sources. Extra detectors may be needed near any areas where people work or the air is stagnant.

INSTALLATION

The HD-11 has a three part plastic case that allows the unit to mount flat to a wall or to mount over and become the cover of an electrical box. The box may be single gang electrical box, a two gang old work box, or a four inch square box. (not supplied by Macurco).. See the Hydrogen Gas Detectors data sheet for more technical information on wiring and specifications. Pigtail leads are provided for connections.

The Alarm relay is SPDT. rated at 0.2 Amps, 100 volts, 3 VA maximums. The Trouble relay is normally closed.

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 turn on and off during the two minute delay period, and will glow continuously afterwards. This green light is part of a supervisory circuit that monitors all critical functions of the detector. A failure of the gas sensing element will result in the green light and the red light turning on and off, and the trouble relay opening.

Once the unit is fully operational (the green light on steady) test the unit by directing gas from an *un-lighted* butane cigarette lighter into the detector near the red light. The lighter needs to be set for maximum gas flow, and be held open for several seconds. The red light will turn on to show the relay has closed, and the panel has been actuated. The HD-11 will shut off the red light and relay automatically once 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.

ALARM ACTION

Macurco suggests that the customer modify its facilities emergency response procedures to provide for appropriate actions should a Hydrogen 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.

INTERFERENCE'S

Various common household or industrial products, such as cleaning agents and aerosol spray cans, that are regularly used, contain fumes or vapors that can cause the HD-11 to produce an alarm.

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.

SERVICING OF UNIT

The HD-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 HD-11 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**

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