

MACURCO GAS DETECTORS

AD-1

INSTALLATION AND OPERATING INSTRUCTIONS

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GENERAL INFORMATION

The AD-1 is a low voltage adjustable ammonia detector. The unit has a wide operating temperature range (-40 to 100°F) and explosive proof design (ignition protected). See the AD-1 data sheet for more technical information.

LOCATION

The AD-1 mounts high in the room where Ammonia is being used. If the room is large, space the detectors the same as for smoke detectors: 30 foot centers, 900 square feet per Ammonia detector. The AD-1 can mount either on the ceiling, or high on the wall. **DO NOT MOUNT IN CORNERS.**

INSTALLATION

The two **Red** wires connect to power, 10 to 26 VAC or VDC. The blue, orange, and brown wires are connected to the alarm relay (SPDT., 1 Amp, 125 V, 30 VA). The **Blue** wire is the common (COM), the **Orange** is normally closed (N.C.), and the **Brown** is normally open (N.O.).

NOTE: Set the adjustable knob, on the AD-1 cover, to the desired alarm point.

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 flash on and off during the two minute delay period. At the end of the warm-up cycle the green light will glow brightly, steadily to indicate the unit is in normal operation. 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 green light. The red light will turn on and off for one minute, then turn on continuously when the relay has closed, and the panel has been actuated. (the gas must be present continuously for the full minute for the relay to actuate.) The AD-1 will turn off the red light and open the relay automatically once the air clears. The red light is used to indicate that the level of ammonia has exceeded the pre-set limit (determined by the adjustable knob on front of unit). There is a built in one minute delay, when the red light will blink on and off, then come on solid if the gas still exceeds the preset threshold. The lights are also 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 and red lights flashing on and off. The detector should be tested regularly, by using gas from an *un-lighted* cigarette lighter or ammonia as detailed above.

STABILIZATION TIME

Although it will be fully operational within a few minutes of being first powered, the gas sensor in the AD-1 requires 4 to 7 days to reach its final operating point. The AD-1 is intended to be continuously powered.

ALARM ACTION

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

ALARMS DUE TO NORMAL ACTIVITIES

Various common products, such as cleaning agents and aerosol spray cans, contain fumes and vapors that can cause the **AD-1** to alarm. Fork lift trucks and charging batteries can produce fumes and gases that can cause alarms. A partial list of gases that can interfere with the **AD-1** are listed on the **AD-1** data sheet under INTERFERENCE'S.

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 AD-1 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 AD-1 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:

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