

Drive-Alert

DRIVEWAY WARNING SYSTEM



INSTALLATION AND OPERATIONS MANUAL

GENERAL INFORMATION

The Drive-Alert's most popular use is in driveway applications to detect vehicles as they enter. However, there are many other uses, including commercial and industrial situations where it is desirable to detect moving metal.

The type of metal the Drive-Alert detects is any metal which contains iron. It will not detect copper or aluminum.

The Drive-Alert's method of operation is to sense the change in the earth's magnetic field. This magnetic field is always present, and is disrupted when a metal object moves through it.

The key element in the Drive-Alert installation is to locate the sensing probe in the area where you desire to detect this change. The usual installation is near the entrance of a driveway, but located far enough away from roads or streets so as not to detect traffic.

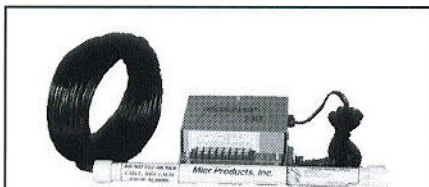
Moving ferrous (iron) metal keys the sensing action. Larger metal objects are detected easier than smaller metal objects. Faster moving metal objects are detected easier than slower moving metal objects. Metal moving closer to the probe is detected easier than metal moving farther from the probe.

These are the three factors which determine the system's range of detection. Trucks traveling 65 mph can be detected up to 50 feet; cars moving 4 mph up to 8 feet; and a walking person with steel toe shoes up to 1 foot.

The Master Control unit houses the electronics which allows the Drive-Alert to function. It also contains a noisemaker, and the terminal strip permits the attachment of the probe wires as well as a remote noisemaker or other devices.

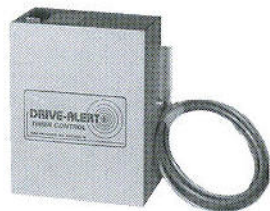
A Timer Control unit is available. The Timer Control is housed in a separate box and is attached by wires to the terminal strip of the Master Control unit.

The purpose of the Timer Control is to permit the turning on of lights, usually outside lights, when a vehicle is sensed.



DA-500

**Master Control Panel
Sensing Probe and Cable**



DA-505

Timer Control



DA-052

Remote Noisemaker

INSTALLATION

The Master Control panel is generally located in a closet, utility room or garage. If the only noisemaker used (remote noisemakers are available) is the one contained in the Master Control unit, the panel must be located where home owners can hear the unusual "whistling" sound. The Master Control panel is not suitable for outdoor installation. Also, 120 volt AC power must be available. The ease of routing the three-wire cable from the sensing probe should be considered when deciding the location of the panel. The Master Control panel may be attached to the wall with screws.

Caution and care must be exercised in installing the sensing probe to assure a properly operating Drive-Alert System. Improper installation is the No. 1 reason for the system to malfunction.

The probe's sensor is a coil of wire wrapped around an iron rod. Its resistance is 700 to 800 ohms. The red and black wires connect to the coil. It is encapsulated in epoxy to protect it from physical damage and moisture.

The cable is made with an extra thick outer cover. There is a foil wrapper surrounding the red and black wires. There is a silver (bare) wire in the foil. False alarms will occur if moisture gets into the foil wrapper. Nicks in the outer cover and improper splices allow moisture to enter the cable. As moisture enters the cable, the resistance decreases. Resistance between the red or black wire to the shield wire must be infinite. (Use meter with ability to read resistance above 10 million ohms).

Do not cut or nick cable jacket where moisture can enter. This will cause false alarms! Excess cable at Master Control panel can be cut off.

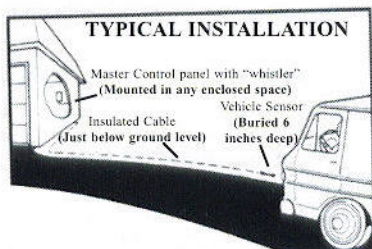
The ideal installation is without any splices. The use of cable other than that which is designed for the Drive-Alert System is undesirable. Improper splices and unsuitable cable are major causes of false alarms. If splicing is unavoidable, splice the cable using a 3M SLiC-TM SPLICE KIT, or equivalent. The splice kit is available from Mier Products.

The sensing probe does not know if it is in or out of the ground, but it must remain absolutely motionless. Most sensing probes are buried about 6 inches deep and parallel to the driveway. Protect it from physical damage.

The cable is made for direct burial in the ground. Do whatever is necessary to protect it from damage to the outer cover, such as using half-inch PVC pipe to enclose the cable.

The sensing probe responds to changes in the earth's magnetic field. The signal produced by the coil is a few micro volts for a fraction of a second. The sensing probe and cable must not be within 3 feet of electric wires because they have changing magnetic fields of their own. Never bury sensing probe cable in the same trench with other electrical wires, including telephone wires and wires for lights, bells, etc.

You may wish to place the sensing probe atop the ground in the general area of where you believe it would be an ideal installation, and connect the cable to the Master Control panel. This will allow you to test the system in application before final installation. It would be acceptable to leave the sensing probe and cable above the ground for a couple of days, but make certain it is not damaged during this period. This method should not be used permanently. See OPERATION INSTRUCTIONS for adjustments which may be necessary.



The burial of the sensing probe is ideal in the center of the area being detected, but often is not practical. If a new driveway is being put in, the sensing probe could be buried a minimum of 12-24 inches deep. In case you wish to place the sensor in the center of the drive, the cable and sensing probe could be placed in a larger piece of PVC to provide protection. The cable should also be protected whenever vehicles are to be moved over it.

The usual installation of the sensing probe is parallel to an already existing driveway. In this case, the sensing probe can be buried 6 inches deep, and the cable simply placed below the grass line. However, if vehicles are going to travel directly over the sensing probe and cable, they should be buried deeper.

The sensing probe may be placed up to 5,000 feet from the solid-state Master Control panel. Several sensing probes can be attached to one panel, but each additional sensing probe reduces every sensing probe's ability to detect. The Drive-Alert will not know which sensing probe does the detecting.

When more than one sensing probe is used, connect the red and black wires in series. Connect the silver wires in parallel. The red wire from one cable is soldered to a black wire from another cable. The remaining red wire and black wire are attached to the Drive-Alert terminals. All silver wires are attached to the Drive-Alert terminal.

Keep the sensing probe, the cable and the solid state control panel at least 8 feet from heavy power lines, power panels, motors, arcing or sparking machinery and radio transmitters. In some cases, moving the panel and/or cable a few feet can solve interference problems.

OPERATION INSTRUCTIONS

The Drive-Alert has been adjusted at the factory for maximum sensitivity for the sensing probe and minimum time for the whistle. To adjust these, open the control panel and adjust the small pots according to the diagram on the inside cover (see below). The whistle time is adjustable from 1 to 15 seconds.

The red blinker LED 2 will remain on for only 1 minute. The Drive-Alert will be muted for approximately one minute each time the electrical power is turned on. It provides time for the electronic circuits to stabilize.

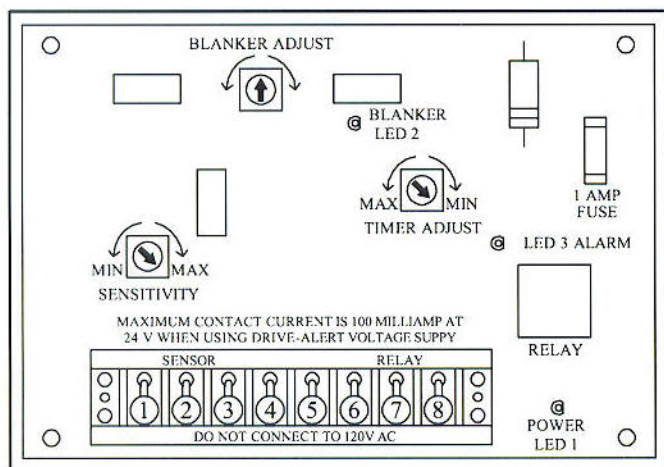
During normal operation, the noise blinker detects unwanted electrical interference and mutes the Drive-Alert for a few seconds. It has been adjusted at the factory. It is adjusted by turning the small pot on the circuit board clockwise until the red light turns on. Then turn the pot counterclockwise until the red light turns off. Continue turning the pot a small amount beyond that point. The blinker light should be off during normal operation.

To test the system, it is possible to rub your finger simultaneously on the three terminals to which the sensing probe is attached. This should cause the system to go into false alarm. This will occur with or without the sensing probe attached. Be sure the terminal screws are tight while making the test. If the system responds to this test, in almost all instances it indicates a properly functioning control panel.

If false alarms occur, remove the sensing probe wires from the Drive-Alert terminals. Let the electrical power remain turned on to the control panel. If the false alarm stops, then the most likely cause of the problem is moisture in the sensing probe cable. Radio transmitters within 10 feet of the master control panel may cause false alarms. Please call for special filter instructions in these cases.

Additional devices can be attached to the Drive-Alert on its terminals at the bottom of the control panel. When the whistle switch is turned off, the Drive-Alert terminals can switch customer provided electrical current up to 5 AMPS. Never attach any device that puts more than 30 volts on the Drive-Alert terminals. When the whistle switch is turned on, the Drive-Alert terminals have available 24 VDC at 100 MA. Refer to the diagrams in this manual for hookup instructions.

Mier Products has available a Timer Control that attaches to the Drive-Alert terminals. The Timer Control is adjustable from 45 seconds to 45 minutes. It switches up to one thousand watts of 115 volt power for outside lights. Mier Products also has available remote noisemakers and other devices.

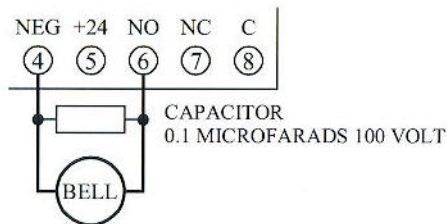


MASTER CONTROL PANEL ADJUSTMENTS

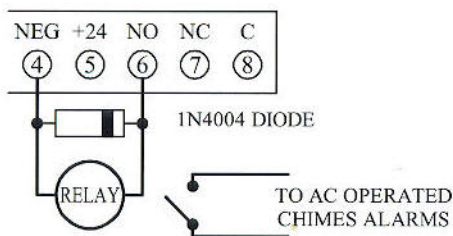
CONTROLLING EXTERNAL ALARMS AND CHIMES

EXTERNAL 24VDC BELL
DA-500 WHISTLE SWITCH ON

NOTE -
LIMIT OF TWO EXTERNAL BELLS

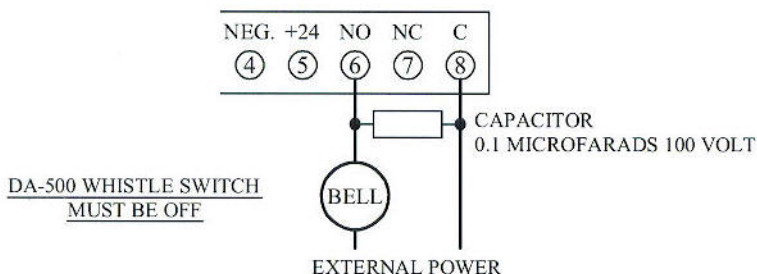


EXTERNAL RELAY HOOKUP
24VDC

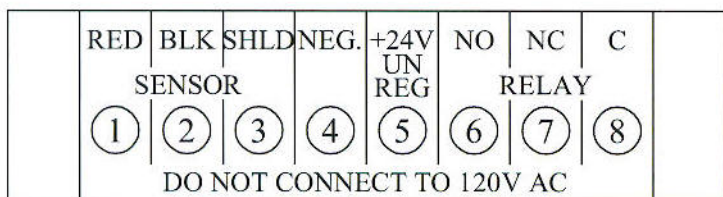


NOTE - IF INTERNAL PIEZO WHISTLE IS NOT WANTED
MOVE DA-500 WHISTLE SWITCH TO OFF AND CONNECT JUMPER
BETWEEN +24 AND C TERMINAL

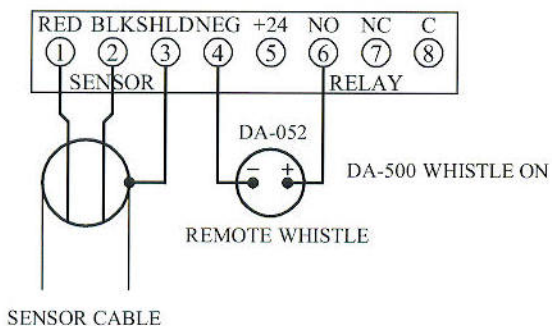
CONNECTION USING DRY CONTACTS AND EXTERNAL POWER



MAXIMUM CURRENT LIMITED TO 1 AMPERE
MAXIMUM VOLTAGE - 24 VOLTS (DO NOT APPLY 120VAC TO TERMINALS)

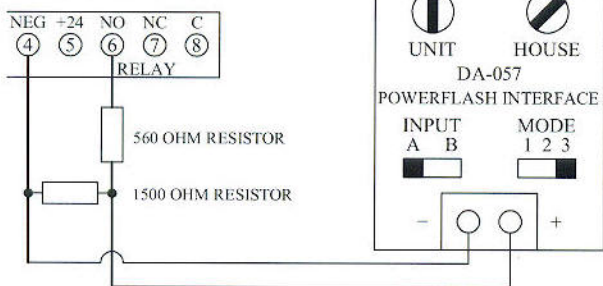


DA-500 SENSOR AND REMOTE PIEZO WHISTLE CONNECTION



USING AC HOUSE WIRING FOR TRANSMITTING ALARM SIGNAL

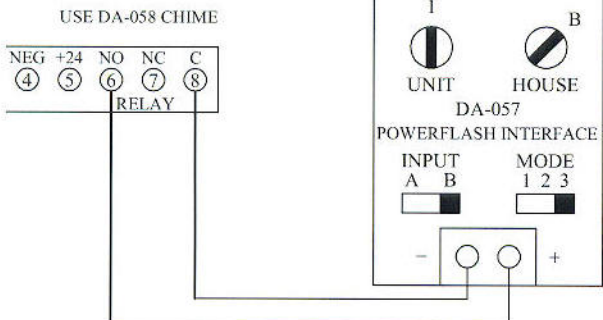
METHOD A (WITH DA-500 WHISTLE ON)
USE DA-058 CHIME



BOTH DA-057 TRANSMITTER AND DA-058 CHIME PLUG INTO AC OUTLET
SET BOTH TO SAME UNIT AND HOUSE CODE

NOTE: INPUT AND MODE SWITCH SETTINGS

METHOD B (WITH INTERNAL DA-500 WHISTLE OFF)



MODEL DA-500 DRIVE-ALERT CONTENTS

- Solid-state control panel
- Electronic whistle with "on-off" switch
- Red LED power-on indicator
- 6-foot power cord
- 100 feet of two-conductor shielded direct burial cable; other lengths available
- 16-inch weatherproof sensor
- SPDT relay output available

SPECIFICATIONS

- Input -- 120 VAC, 50-60Hz, 3.6 Watts
- Output -- 24 VDC at 100 Milliamps
- Surge protected from transients
- Adjustable sensor sensitivity
- Adjustable time control for electronic whistle
- Operating temperature -- 20 degree F to 160 degree F
- Provisions for activating optional time control
- Weight -- 6 pounds

MIER PRODUCTS LIMITED WARRANTY PROGRAM

The Mier Products Limited Warranty Program covers only the Drive-Alert -- for original owner only --for one year from date of purchase against defects in original parts or workmanship. It agrees to repair or replace such defects (Mier Products' option) -- without charge for parts or labor -- if the defective unit is returned prepaid to MIER PRODUCTS, INC., Kokomo, IN, 46901, within the first year. Sensor probe and cable that have been buried are not covered.

Responsibility is not assumed for damage due to accident, faulty wiring, overload of Drive-Alert output, or installation other than that recommended by MIER PRODUCTS, INC. Repair work not covered by the Warranty will be made at a nominal charge. When returning a unit for any reason, please include a note describing the problem. Also include your name, address and telephone number.

For technical assistance, call 1-800-473-0213.



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