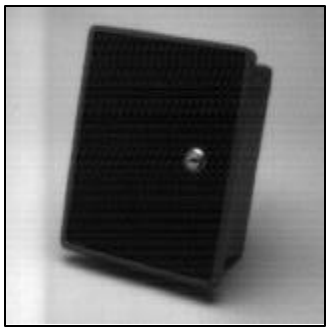
INSTALLATION INSTRUCTIONS

DS435i Photoelectric Intrusion Detection System

Optional Accessories

AL402
Alignment Light

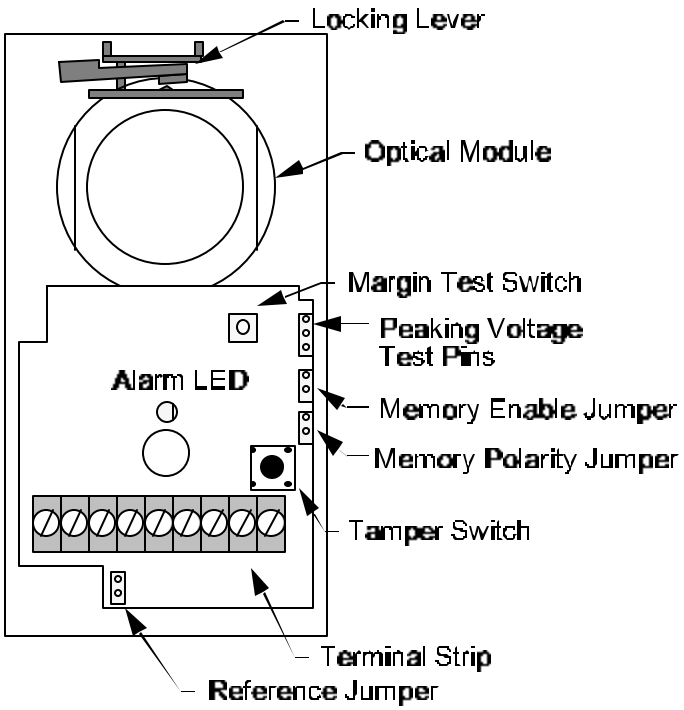
TC6000
Test Cord



AE402 Attack Resistant Enclosure

M402A
Mirror

SUMMARY GUIDELINES



Front View of Receiver with Cover Off

A.) GENERAL INFORMATION:

Description:

The DS435i is a pulsed active infrared photoelectric intrusion detection system designed to provide an alarm activation upon the detection of an intruder passing through its beam. It consists of a separate Transmitter and Receiver and is capable of coverage ranges up to 500 feet (150m).

The Transmitter emits an invisible, pulsed infrared beam which is received by the Receiver. If an intruder passes between the Transmitter and Receiver, causing a beam blockage for a minimum of 55ms, the Receiver will indicate an alarm.

Additionally, the system includes a reference wire which synchronizes the Receiver with the Transmitter and prohibits the Receiver from setting up on other sources. The Receiver has an alarm memory feature which is controlled by switched voltage. The DS435i receiver and transmitter are intended to be mounted indoors only.

Specifications:

Input Power: 8 to 14.5 VDC.
Connect the unit only to a U.L. listed power supply or control unit capable of providing at least 4 hours of standby time.

Current Draw: Transmitter - 8 mA @ 12 VDC.
Receiver - 20 mA @ 12 VDC.

Range: 500 feet (150 meters).

Alarm Output: Form "C" Rated at 0.125mA @28VDC.

Tamper Output: Form "A" Rated at 0.125mA @28VDC.

Temperature: Storage and operating temperature range is 0°F to +120°F (-18°C to + 49°C).
For UL installations the operating range is +32°F +120°F (0°C to 49°C).

Optional Accessories: AL402 Alignment Light, TC6000 Test Cord, AE405 Splash Resistant Enclosure, M402A Mirror. The AE405 and M402A shall not be used in U.L. certificated installations.

B.) MOUNTING:

( ) Choose a location where an intruder entering the area will have to cross between the Transmitter and the Receiver.

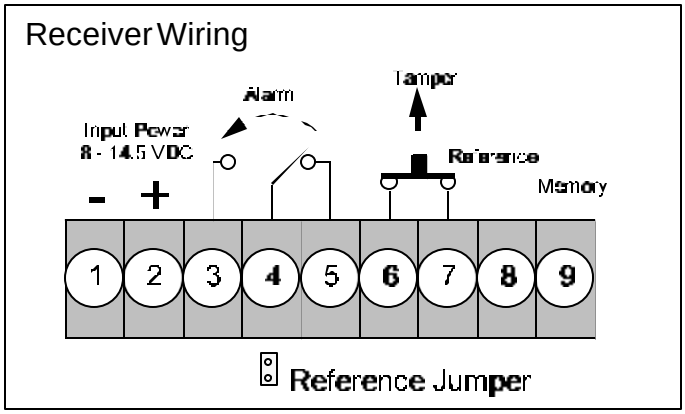
( ) Mounting surface should be rigid, and selected as to offer a clear line of sight between the Transmitter and Receiver.

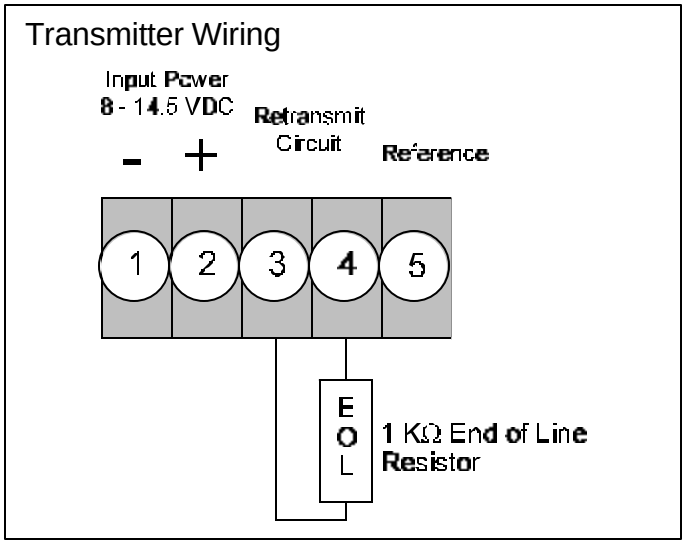
( ) Remove the cover of the Transmitter and, using the back of the chassis as a template, locate and mark the four keyed mounting slots on the mounting surface.

( ) Prestart the mounting screws in the mounting surface, attach and secure the chassis to the mounting surface.
( ) Repeat the mounting procedure using the Receiver.

C.) WIRING:

( ) Wire the Transmitter and Receiver as shown.





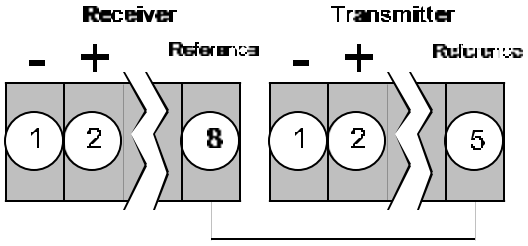
Reference Wire:

The Receiver is synchronized with the Transmitter by use of a reference wire. This prevents the Receiver from being set- up by another source such as another Transmitter.

( ) Remove the reference jumper located below the terminal strip.

( ) Connect a reference wire between terminal 8 of the Receiver and terminal 5 of the Transmitter.

( ) If the Transmitter and Receiver are not powered from the same power supply, connect terminal 1 (–) of the Transmitter to terminal 1 (–) of the Receiver.



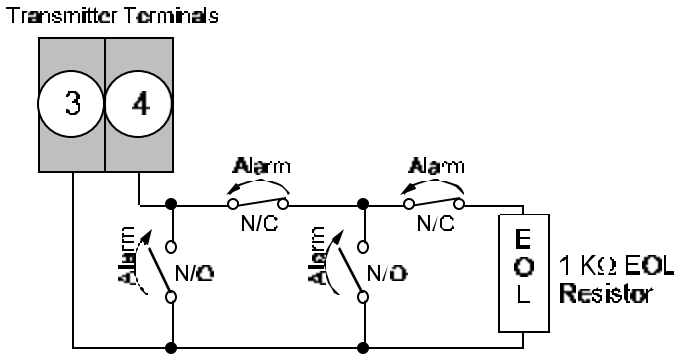
NOTE: *If a reference wire is not used, a the reference jumper must be in place.*

Alarm Retransmission Circuit Information:

The Transmitter allows connection of normally open or normally closed contacts to a supervised alarm retransmission circuit.

Alarm retransmission allows dry contact devices such as door or window contacts to be wired into the Transmitter using it as a relay path to the Receiver without additional wiring to the Control Panel.

Retransmission Wiring:



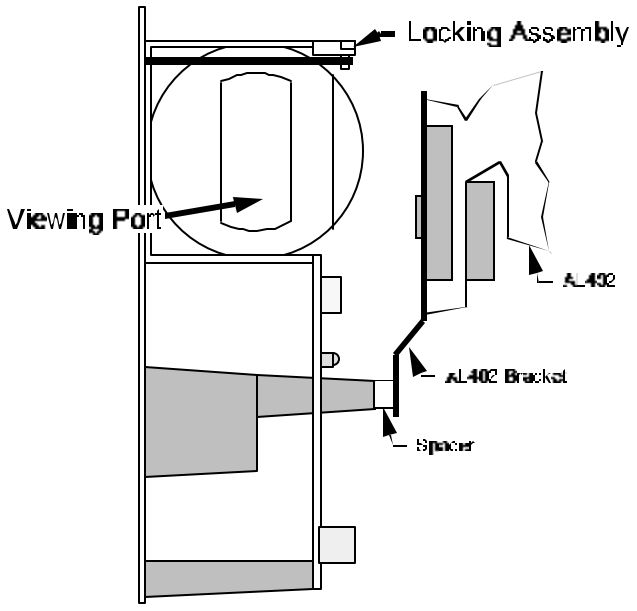
D.) ALIGNMENT:

Note: The use of an AL402 Alignment Light is suggested in the alignment of this detector.

Transmitter Alignment:

( ) Mount the AL402 Alignment Light to the Receiver and connect the two AL402 leads to the spade lugs on the receiver power terminals (1 and 2).

( ) Adjust the AL402 until the flashing light falls directly on the Transmitter. Lock the AL402 into place.



( ) At the Transmitter, unlock the optical module by swinging the locking lever forward. Look through the viewing port on the side of the optical module and align the optical module until the flashing light from the AL402 falls completely through the hole in the white image plane.

( ) Lock the optical module in place by returning the locking lever to its original position.

( ) Insert the module seal if extra bug and dust immunity is desired.

Receiver Alignment:

( ) Remove the AL402 from the Receiver and mount it on the Transmitter. Connect the two AL402 leads to the Transmitter power terminals (1 and 2).

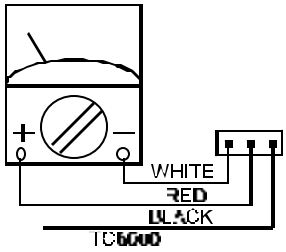
( ) Adjust the AL402 until the flashing light falls directly on the Receiver.

( ) At the Receiver, unlock the optical module by swinging the locking lever forward. Align the optical module until the flashing light from the AL402 falls completely through the hole in the white image plane.

( ) Remove the AL402 from the Transmitter.

Fine Peak Alignment:

( ) Fine peak the Receiver alignment by connecting a VOM on its lowest DC voltage scale to the Peaking Voltage Tests points on the Receiver using a TC6000 Test Cord.



( ) Adjust the Receiver's optical module until the highest voltage is shown on the meter.

( ) Lock the optical module in place and remove the meter.

( ) Insert the module seals if desired.

Margin Test Switch:

The Margin Test Switch on the Receiver helps insure that the detector is aligned properly by decreasing the signal into the Receiver when pressed.

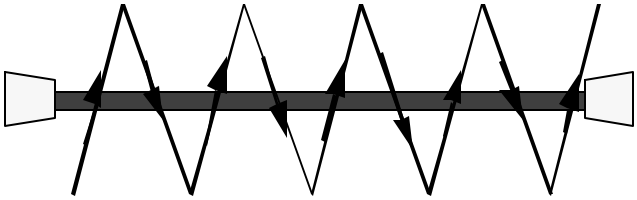
( ) Press and hold the Margin Test Switch. Be careful not to block the beam when pressing the switch.

The Alarm LED should remain OFF while pressing the Margin Test Switch. If the LED goes ON, the alignment is insufficient and the detector should be realigned.

E.) SET-UP AND WALK TESTING:

( ) Place the covers on both units.

( ) Walk test the system by passing between the Transmitter and Receiver at several points in the coverage area. Take care to ensure that the beam is parallel to the floor and not reflecting off of polished floors or walls.



Note: *The infrared beam may be reflected off of shiny objects, walls, or floors.* ***It is extremely important to walk test the system at all points that coverage is expected.***

Alarm Retransmission Circuit Testing:

If the retransmission circuit is used,

( ) Activate the devices connected to the retransmission circuit and observe the Receiver's alarm LED.

The Receiver's alarm LED should light and the alarm relay should transfer when devices connected to the retransmission circuit are activated.

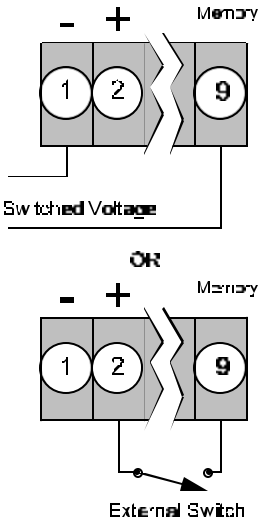
Memory Circuit:

To enable the memory function:

( ) Remove the memory enable jumper (See page 1). The jumper may be stored on either of the memory pins for future use.

( ) Connect a switched voltage which turns on when the system is disarmed and turns off when the system is armed to terminal 9. A single pole switch wired between terminal 2 and terminal 9 may also be used to control the memory circuit.

NOTE: If a DC power supply other than the one which powers the Receiver is used to control the memory circuit, connect terminal 1 (–) of the Receiver to the negative (–) of that power supply.



Display Mode: When voltage is applied to terminal 9, the LED will display present alarms and will latch if there are any stored alarms.

Store Mode: When voltage is removed from terminal 9, the LED will not operate and the Receiver will store alarms.

NOTE: Some control panels provide a switched DC voltage which may be used to control the memory circuit. If the control panel supplied a voltage output when armed, remove the memory polarity jumper.

F.) OTHER INFORMATION:

Maintenance:

At least once per year, the front covers of both units should be cleaned using a commonly available window cleaner, and a soft, dry cloth.

Testing:

The end user should be instructed on the proper test procedures and frequency.
The only way to insure continued daily operation of any intrusion detection system is to perform regular walk tests of the coverage area.