

SP2539 Fence Shock Sensor

Installation Manual 11/30/06
STLIT02046E

This Product is Listed by
UNDERWRITERS LABORATORIES INC

SECURITY



528R

How Terminus Works

The Terminus Fence Intrusion Detection System utilizes shock sensors to detect the vibrations associated with intrusion attempts. Cutting the fence fabric, climbing the fence, and lifting the fence material produce these mechanical vibrations in the fence material. These vibrations are detected by Terminus shock sensors, which send the signals to a Terminus processor where the information is analyzed.

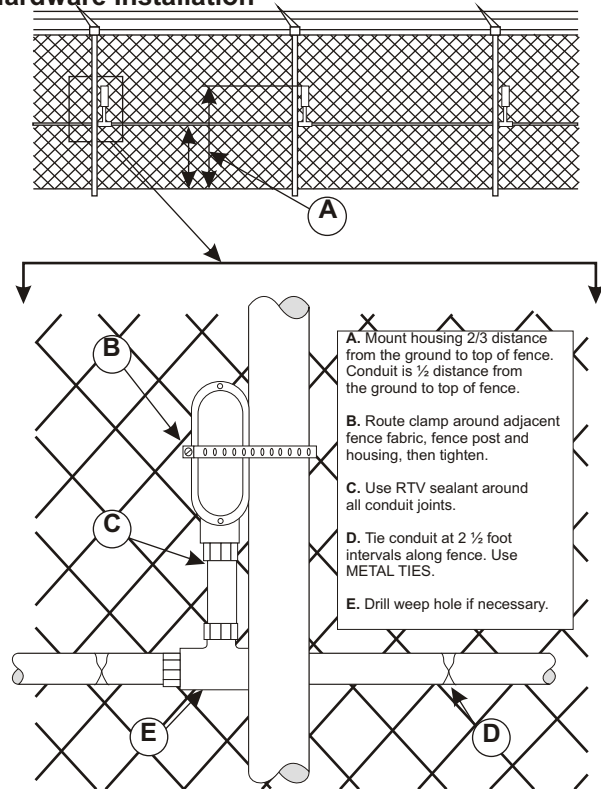
The SP2539 is usually used for corner posts. For straight sections of fence, it is often more convenient to use the SP3223 fence kit. The SP2539 is designed to be used with the SP3268 Single Zone Processor, SP3274 Four Zone Processor and the SP3273 Four Zone Expander. **Do not wire the sensor loop to a PAC-A-DAP Processor since it does not have the adjustments needed to provide accurate signal processing for fence applications. Also, they do not have the lightning protection needed for outside security devices.**

The SP2539 sensor will operate over a temperature range of -40° to 120° Fahrenheit.

Sensor Spacing

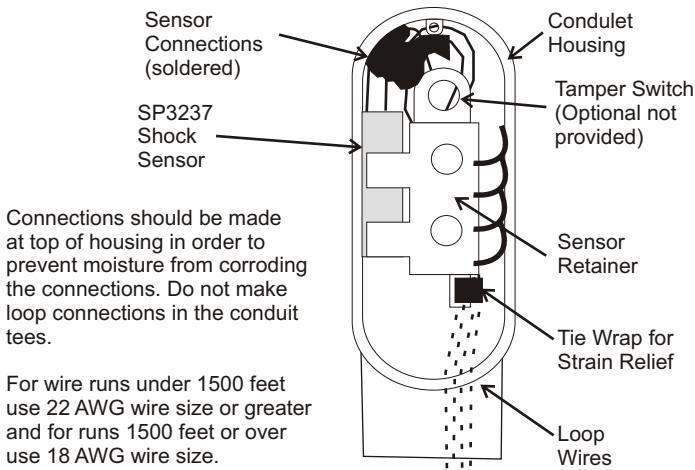
Terminus fence sensors are mounted on the sides of fence posts so that the shock sensors are perpendicular (at a 90° angle) to the fence fabric. Typical spacing between sensors is every other fence post (about 20 linear feet or 6 meters apart for an 8 - 10 foot high chain link fence) where the fence is in excellent condition and maximum security is not required. For applications where maximum security is needed, fence sensors can be mounted on every vertical fence post (about 10 linear feet or 3 meters for an 8 - 10 foot high chain link fence). These spacings assume the use of thin walled metal conduit (EMT). For UL Listed Systems, a sensor on every post is required and a maximum of ten linear feet is allowed between sensors. Vinyl-coated fence fabric does not transmit shock activity very well. It is highly recommended that sensors be on every post with conduit on these applications.

Hardware Installation



1. Mount the conduit (EMT) and connecting tees to the fence fabric and fence posts parallel to the ground and one-half the distance from the ground to the top of the fence. Tie the conduit to the fence fabric at least twice between posts using metal ties.
2. Pull the loop wire through the conduit and connecting tees. Loop wires should be 22 gauge twisted pair for runs less than 1500 feet and 18 gauge twisted pair for runs exceeding 1500 feet.
3. Mount the vertical conduit sections to the tees (using EMT adapters) and pull the loop wire up through each section. Leave enough loop wire at the top of each conduit section to cut and wire into fence sensors.
4. Position the conduit housing for each fence sensor on the side of the fence posts as shown. The sensor should be 2/3 of the distance from ground level to the top of the fence.
5. Connect each sensor to the loop wires (shown in sensor wiring diagram on the next page).
6. Using the clamp provided in each sensor kit, route the clamp around the fence post and adjacent fence fabric, and over the conduit housing. Tighten the screw on the clamp securely for best sensor operation.
7. Fasten the fence sensor conduit housing to the vertical conduit section using an EMT adapter (use RTV sealant around all conduit joints to prevent moisture build-up).

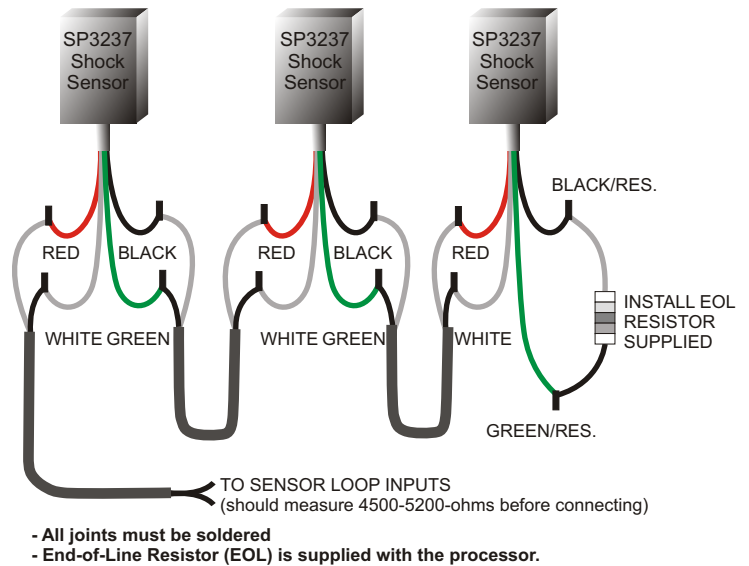
Sensor Installation



SP2539 Standard Fence Kit

1. Cut the sensor lead wire to a length of 4 or 5 inches to ease installation. Solder the sensor lead wires to the loop wires as shown in the Electrical Connections diagram at left. Properly insulate all wire connections. The end-of-line resistor (supplied with the processor) must be installed at the last sensor as shown.
2. (Optional) Should the installation require a tamper switch, solder the switch to the loop wires in series with the sensor.. The Alco Switch MSPM101CS1 is recommended.
3. Place the SP3237 sensor into the sensor retainer as shown in the diagram above. Insert the sensor and retainer into the housing with leads up in order to prevent moisture from corroding the connections. Dress the excess wire into the slot on the back of the retainer. Using a tie wrap to secure the loop wires to the eyelet at the bottom of the retainer assembly for strain relief.
4. Push the insulated connections and excess wire into the space between the sensor assembly and the top of the housing.
5. Install the condulet gasket and cover and clamp.
6. To test the sensor, set the processor to a count of one and shake the fence in the area covered by each sensor. If the response of the processor is not satisfactory, make the necessary adjustments and retest.

Completing the Installation



Electrical Connections

If the previous steps have been followed in the correct order, all the sensors should now be wired together and ready to complete the installation. Before connecting the sensor loop to the processor, we suggest that the following be checked:

1. The end-of-line resistor has been connected in the last sensor of each loop.
2. Lightning arrestor devices have been installed between the loop and the processor unit. The ground terminal of the arrestor should be attached to a cold water ground or earth ground.
3. All electrical connections have been taped or insulated to avoid short/grounds.
4. Loop wires which are to be connected to processor inputs should measure 4500-5200 ohms before connection.
5. All joints should be sealed using RTV sealant.

You are now ready to connect the sensor loop to the zone processor and adjust the level of zone sensitivity as required. Test the security system at least once a year.