

### SP2549 Fence Shock Sensor

Installation Manual 11/30/06

STLIT02071B

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 mechanical vibrations in the fence material. The shock sensors detect these vibrations and send the signals to a Terminus processor.

The SP2549 is a damped sensor usually used for gates. Damping makes the sensor less sensitive to rattles and other vibrations that could cause a false alarm. The SP2549 is designed to be used with SP3268 Single Zone Processor, SP3274 Four Zone Processor, and/or the SP3273 Four Zone Expander. **Do not wire the sensor loop to a PAC-A-DAP Processor. These processors do not have the control adjustments needed to provide accurate signal processing for fence applications. Also, they do not have the lightning protection needed for outside security devices.**

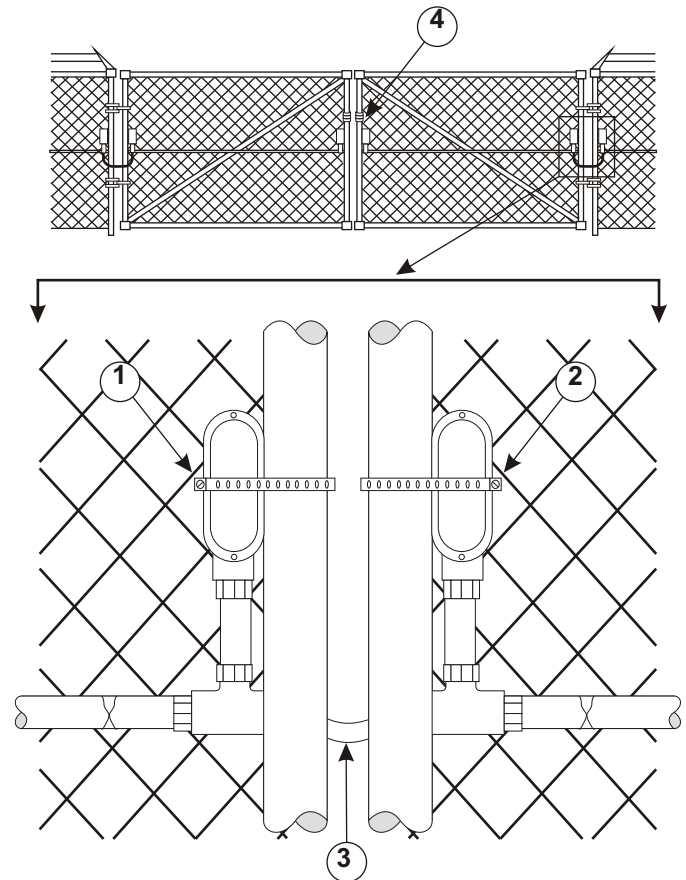
The SP2549 sensor will operate over a temperature range of -40° to 120° Fahrenheit.

### Sensor Spacing

In a typical installation, 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. For gates, a sensor on each ten feet of gate panel is recommended. A gate contact should also be used to indicate opening of the gate. For UL Listed Systems, a sensor on every post is required and a maximum of ten feet is allowed between sensors.

### Hardware Installation

1. Mount the conduit (EMT) and the connecting tees to the fence fabric and gate 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 on each panel using metal ties. To get the sensor loop onto the gate panel use self coiling or flexible conduit. Pull-apart connectors are not recommended.



1 = SP2549 Damped Sensor    2 = SP2539 Sensor  
3 = Flexible Conduit        4 = Gate Contact

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.

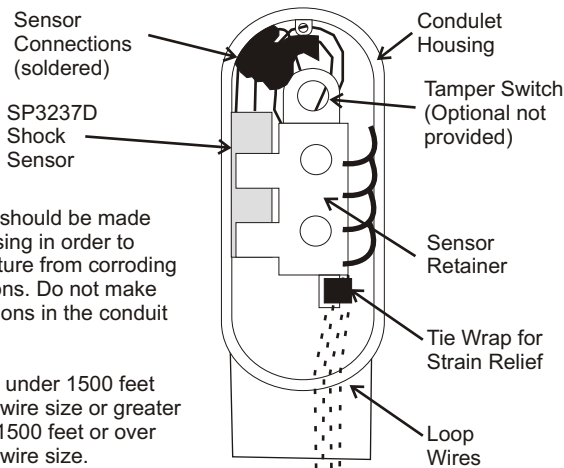
4. Position the conduit housing for each fence sensor on the side of the fence post as shown above. The sensor should be placed 2/3 the distance from ground level to the top of the fence.

5. Connect each sensor to the loop wires (described in sensor wiring section).

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.

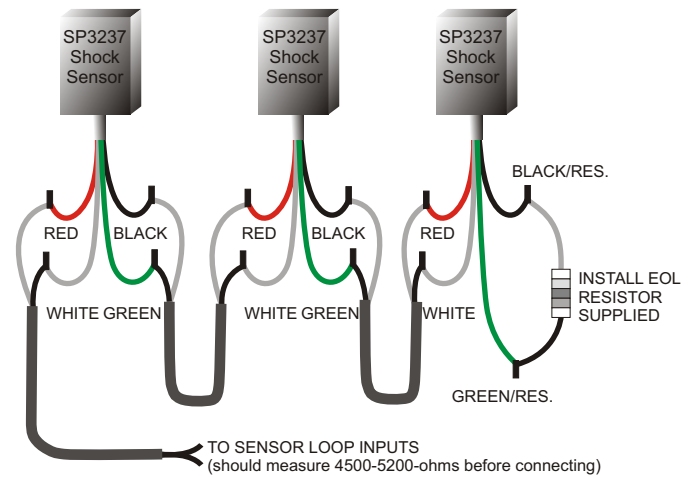
7. Fasten the fence sensor conduit housing to the vertical conduit section using an EMT adapter (use RTV sealant around all conduit joints to prevent moisture build-up).

## Sensor Installation



## SP2549 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 die 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 conduit 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 adjustment and retest.



## Electrical Connections

## Completing the Installation

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 loop to the processor, we suggest the following be checked:

1. The end-of-line resistor has been connected to 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 either been taped or insulated to avoid short/grounds.
4. Loop wires 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 per year.