



DIRECTION CONTROL SENSORS

Installation Guide Supplement

Dated March 1, 2005

For use in conjunction with
PIRAMID XL2 INSTALLATION GUIDE
Dated February 15, 2007

Instructions For:

PIRAMID "LT" Versions – Dual Technology Sensors
PIRAMID "DIR" Versions – Dual Technology Sensors
PIRAMID "MW-VD" Versions – Microwave Vehicular Sensors
PIRAMID "MW-DIR" Versions – Microwave Only Sensors

DIRECTION CONTROLS SENSORS SPECIAL PIRAMID VERSIONS

GENERAL:

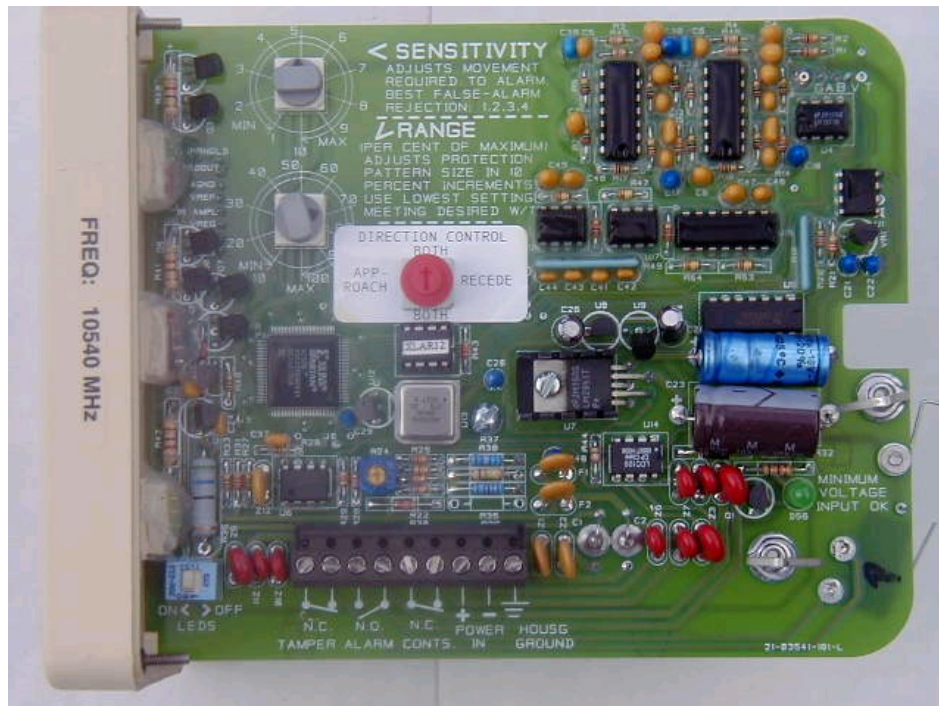
The Direction Control versions of the PIRAMID are derived from PROTECH's standard models SDI-76XL and SDI-77XL. With the exception of having Direction Control capability, the Direction Control versions of PIRAMID are virtually identical to the standard models of PIRAMID in regards to specifications, features and performance characteristics. Therefore, please refer to the PIRAMID XL Installation Guide dated January 1, 2000 in conjunction with this supplement for appropriate installation instructions.

DIRECTION CONTROL FEATURE:

Direction Control Switch:

The PIRAMID Direction Control Versions of the PIRAMID XL offer a field adjustable switch to control the detection of a target based on the direction of movement. A three-position digital switch allows the sensor to be set to one of the following three detection modes.

- 1) Approach Mode – Sensor detects only approaching targets
- 2) Recede Mode – Sensor detects only receding targets
- 3) Both Mode – Sensor detects both approaching and receding targets



**PRINTED CIRCUIT BOARD ASSEMBLY
DIRECTION CONTROL SENSOR**

PIRAMID “LT Version

Model SDI-76XL-DIR-LT – Wide Angle – 50 ft. (17m)

Model SDI-77XL-DIR-LT – Narrow Angle – 50 ft. (17m)

The “LT” (Ladder and Tower) Version of PIRAMID is an outdoor dual technology sensor specifically designed to protect against climbing up ladders and towers. The LT Version combines Stereo Doppler Microwave and Passive Infrared technologies. The independent technologies are “And Gated” and must activate simultaneously to create an overall sensor alarm.

The LT Version is equipped with a “special housing and mounting bracket” as the sensor is designed to mount looking downward. When mounted in this configuration the Direction Control switch is set in the “Approach Only” mode. This will enable detection of targets (intruders) climbing up the structure while ignoring rain and snow moving in the opposite direction.

Special Ladder Mounting Brackets

PH-6 – Ladder Mounting Bracket

PH-6JB – Ladder Mounting Bracket with Junction Box

PH-6DL – Wall Mounting Bracket

The LT Version comes equipped with a wall mount bracket (PH-6DL) for general-purpose mounting. However, for mounting on a ladder it is recommended that the PIRAMID LT Version be ordered with one of PROTECH’s ladder mounting brackets (PH-6 or PH-6JB with Junction Box). These specially designed mounting brackets will reduce installation time and offer maximum flexibility when mounting to both caged and non-caged ladders.

Avoiding Movement on the Ground

To avoid movement on the ground, the sensor must be carefully aimed and adjusted as follows:

- 1) Aim the sensor directly downward, perpendicular to the ground, so that the sensor will not receive a good Doppler signal with regard to movement on the ground. Be sure the sensor is not angled outward even slightly as this could affect its ability to ignore movement on the ground.
- 2) Adjust the sensor’s Sensitivity Control Switch in the lower positions (Positions 1, 2 or 3). This will require that movement on the ground must come toward the sensor (up the ladder) approximately (32 to 40 inches) (80 cm. to 1 meter) in order for the microwave sensor portion of the LT Version to activate. As stated earlier both sensor technologies (microwave and passive infrared) must activate simultaneously for an overall sensor alarm. Keep in mind that the microwave portion only of the Direction Control Sensors features the direction discrimination not the infrared portion.
- 3) Adjust the Direction Control Switch in the “Approach Only” mode.

Detecting Movement on the Ground

The LT Version sensor will be a little sluggish in detecting movement on the ground because it does not receive a good Doppler signal when looking directly downward (perpendicular to the ground). This is due to the fact that an intruder moving on the ground is not moving a great distance toward or away from the sensor and therefore is not creating a good Doppler signal. If it is desirable to have detection on the ground, the sensor must be aimed outward at a slight angle to improve the Doppler signal. In addition, the Sensitivity Control Switch must also be adjusted in the higher sensitivity settings (10, 9, 8, 7 etc.) to detect movement on the ground.

PIRAMID “DIR” Version

SDI-76XL-DIR = 50 ft. x 50 ft. SDI-77XL-C-DIR = 125 ft. x 20 ft.
SDI-77XL-DIR = 90 ft. x 50 ft., SDI-77XL-D-DIR = 100 ft. x 10 ft.
SDI-77XL-B-DIR = 100 ft. x 35 ft.

The “DIR” Version of PIRAMID is an outdoor dual technology sensor specifically designed to detect pedestrians and intruders rather than vehicles. The “DIR” Version combines Stereo Doppler Microwave and Passive Infrared technologies. The independent technologies are “And Gated” and must activate simultaneously to create an overall sensor alarm. The “DIR” comes in an assortment of protection patterns as follows:

Direction Control Adjustment

The PIRAMID DIR Version must be field adjusted to one of three detection modes:

- 1) Approach Only Mode: Sensor detects only approaching movement
- 2) Recede Only Mode: Sensor detects only receding movement
- 3) Both Mode: Sensor detects both approaching and receding movement (Identical to the standard PIRAMID XL sensor)

PIRAMID “MW-VD” Version

SDI-76XL-MW-VD – Microwave Vehicular Sensor – Wide Angle 50 ft.
SDI-77XL-MW-VD – Microwave Vehicular Sensor – Narrow Angle 100 ft.

The “MW-VD” Version of PIRAMID is an outdoor single technology microwave sensor specifically designed to detect vehicles. The MW-VD Vehicular Detector comes in both a wide and narrow protection pattern and will detect vehicles (cars) at distances of approximately 100 ft.

PIRAMID “MW” Version

SDI-76XL-MW-DIR – Microwave Directional Sensor – Wide Angle 50 ft.
SDI-77XL-MW-DIR – Microwave Directional Sensor – Narrow Angle 100 ft.

The “MW-DIR” version of PIRAMID is an outdoor single technology microwave sensor specifically designed to detect pedestrians and intruders. The MW-DIR comes in both a wide angle (50 ft. x 50 ft.) and narrow angle (100 ft. x 60 ft.) protection pattern coverage.