ProTech

Protection Technologies, Inc.

ARCHITECTURAL AND ENGINEERING SPECIFICATIONS
STEREO DOPPLER MICROWAVE OUTDOOR MONOSTATIC INTRUDER DETECTOR
WITH DIRECTION CONTROL PROTECH PIRAMD XL-MW-DIR SERIES

PART I   <u>GENERAL</u>

1.01   <u>PURPOSE</u>

      A.   The intent of these specifications is to describe the equipment and functional requirements of an outdoor intrusion detection sensor.

1.02   <u>QUALIFICATIONS</u>

      A.   Brand names and catalog numbers included in the equipment or material specifications are used to establish standards of quality and performance characteristics, not for the purpose   of limiting competitive bidding.

1.03   <u>DESCRIPTION</u>

      A.   Outdoor Monostatic (transmitter and receiver in one housing) volumetric microwave motion detector using the "Doppler" principle of transmitting a field of microwave energy into surveillance area so that an intruder's motion disturbs the field causing reflected signal to change

      1.   Microwave Sensor: The microwave sensor shall use the "Doppler" principle of transmitting a field of microwave energy into surveillance area so that an intruder's motion disturbs the field, causing the reflected signal to change. The microwave sensor portion shall contain two receiving channels and use the "Stereo Doppler" technique, whereby the two received signals shall be compared to determine whether motion is moving toward or away from the sensor. An intruder moving a short distance (dependent on the sensitivity setting) in one direction shall cause an alarm; however, incidental vibration or fluctuating movement of trees, bushes, swinging signs, etc. shall be rejected by the sensor's circuitry. The 10-position digital *Sensitivity Control Switch* shall adjust the microwave sensor detection sensitivity in 4" (10 cm) increments.

      B.   Sensor's relay shall change state in response to intrusion, tamper, and component failure alarms.

1.04   <u>SYSTEM CRITERIA</u>

      A.   Detection range shall be adjustable.

      B.   Detection sensitivity shall be adjustable, enabling the selection of distance an intruder is required to move in one direction before causing an alarm.

    C.   Sensor shall have a three position digital direction control switch the controls the direction of movement required for a sensor alarm.

          1. Detect only approaching movement.
          2. Detect only receding movement.
          3. Detect both approaching and receding movement

    D.   Sensor shall have an adaptive signal processing for extreme environmental conditions.

    E.   Circuit supervision shall cause a lock-in alarm condition with failure of a major component.

    F.   Multiple sensors shall be usable in the same area without mutual interference.

    G.   Sensor shall be equipped with Walk-Test and Environmental Caution Indicator lights with internal disable switch.

    H.   Sensor shall be equipped with receptacle for plugging-in a sounder during set-up and walk-test.

    I.   Sensor shall be equipped with Form C Relay with terminal connections.

    J.   Sensor shall be equipped with housing tamper with terminal connections.

    K.   Housing shall be metal, heavy-duty, and vandal resistant. Housing shall be equipped with weather shroud to keep rain and melting snow away from the sensor face. Weather shroud shall also minimize direct sunlight on the IR lens.

    L.   Mounting shall be swivel type with 180 degree horizontal and 90 degree vertical adjustment.

PART II.   SPECIFICATIONS

2.01   DESCRIPTION

    A.

Operation	Alarm Output changes state when an intruder moves within protection pattern.
Standard Protection Pattern	SDI-76XL-MW-DIR 50ft. x 50ft.
	SDI-77XL-MW-DIR 100ft. x 60ft.
Power	8.5-20 VDC, 12 VDC Nominal
Current	150 mA @ 12 VDC (LED's Off)
Temperature	-30 to 130 degrees F(-34 to 54 degrees C)
Humidity	0 to 100% Relative Humidity
Conduit Knockout	for ½" conduit fitting
	(equipped with 90degree liquid tight elbow)
Microwave Frequency Range	10,525 MHz USA
	International frequencies upon request

Relay   Form C, Solid State Relay
Relay Contact Rating   .1A, 50 V
Tamper   Contacts closed in normal condition.