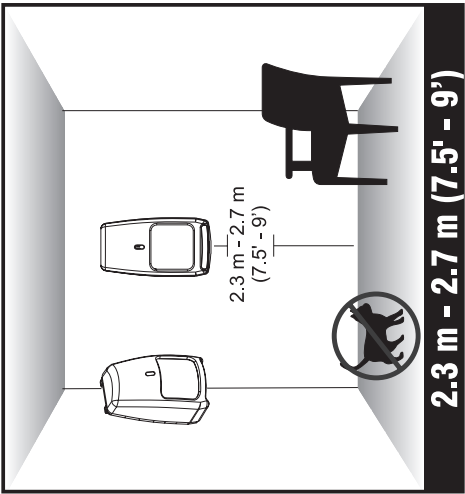


1 Select the mounting location.



Aim away from:

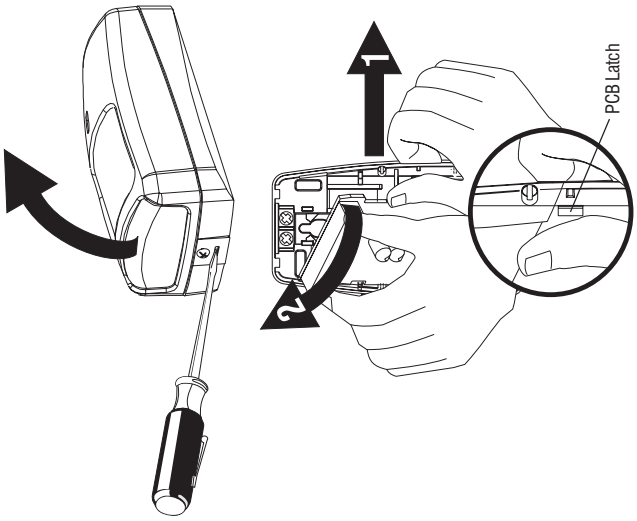


Mounting Location Guidelines

- 2.3 m - 2.7 m (7.5' - 9') mounting height.
- Avoid direct or reflected sunlight.
- Aim sensor away from windows or heating/cooling devices.
- Sensor must have a clear line-of-sight to protected area.

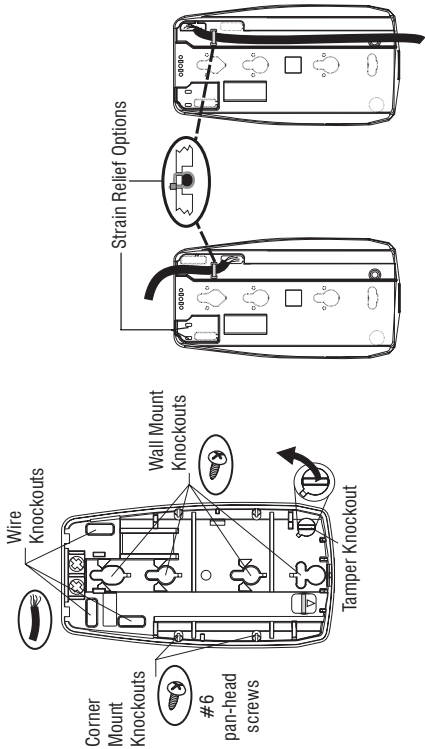
2

Separate the sensor housings and remove the printed circuit board (PCB).

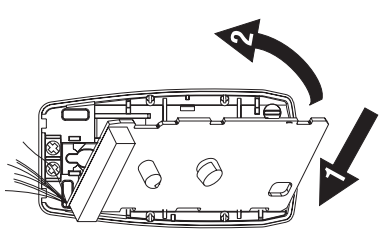


- Use a small screwdriver to remove the cover screw (if installed), then push in the housing latch at the bottom of the sensor, and gently pull apart the housings.
- Push outward on the PCB latch and lift the PCB out of the housing.

3 Mount the unit.

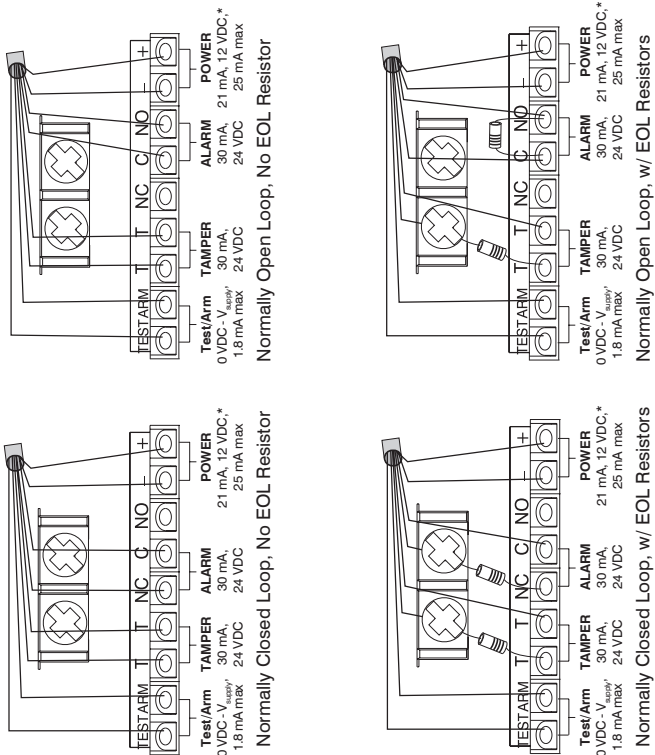


- Slide the wire through the wire knockouts in the back housing, attach the wire with a wire tie, and cut off the excess wire tie.
- Mount the back housing flat against a wall or in a corner using #6 screws supplied. [Notes: If using the wall tamper, refer to the Tamper Switches section. If using a mounting bracket see the Accessories section, and follow the installation instructions supplied with the bracket.]
- Replace the PCB.



4 Wire the sensor.

Connect wires to terminal as shown using wire size 0.8 - 1.5 mm (22-16 AWG). Observe the proper polarity.



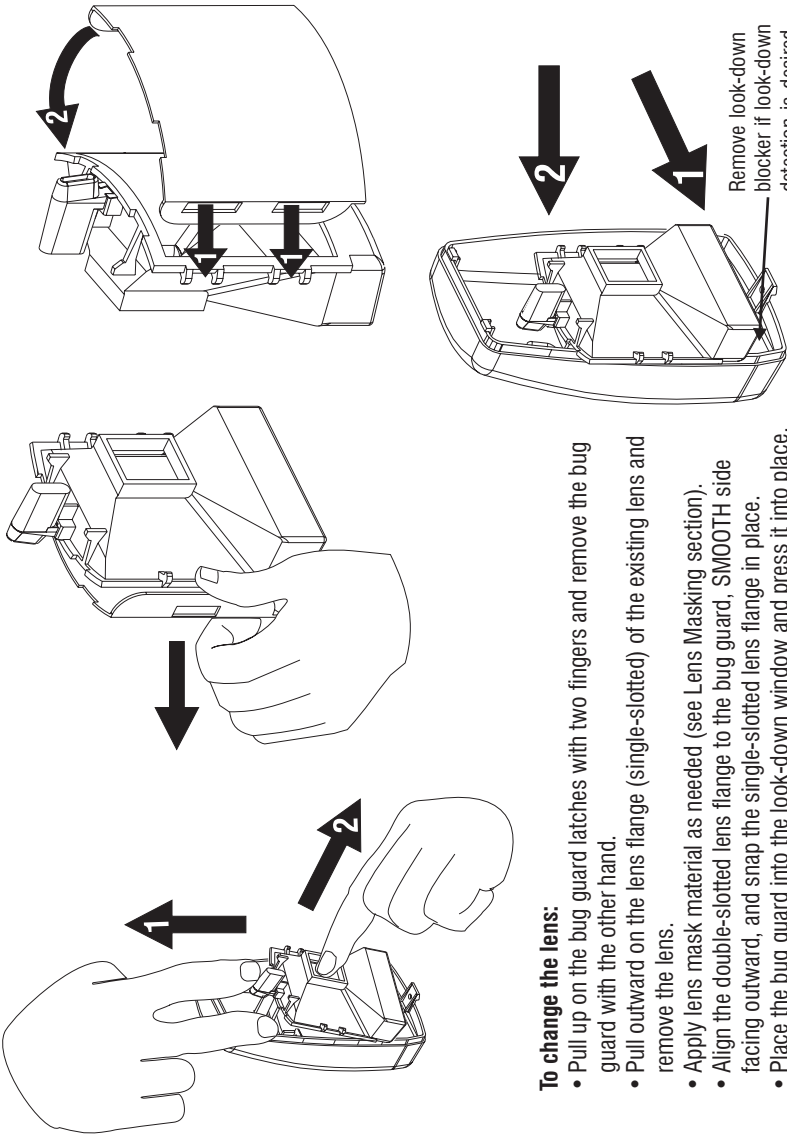
Note: EOL = Single End-of-Line supervised resistor.

\*For UL voltage, see Specifications Section.

5

Select the appropriate lens\* for the installation. If necessary, mask segments as required. (Refer to the Masking the Lens section.)

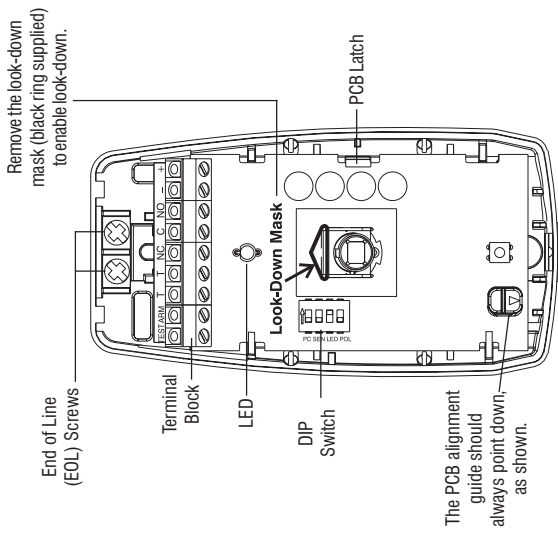
\*Lens options: 35° (11 m) Wide Angle lens [factory default], 60° (18 m) Wide Angle lens, or Curtain lens.



To change the lens:

- Pull up on the bug guard latches with two fingers and remove the bug guard with the other hand.
- Pull outward on the lens flange (single-slotted) of the existing lens and remove the lens.
- Apply lens mask material as needed (see Lens Masking section).
- Align the double-slotted lens flange to the bug guard, SMOOTH side facing outward, and snap the single-slotted lens flange in place.
- Place the bug guard into the look-down window and press it into place.

6 Set the DIP switches.



| SWITCH                | OFF                                                  | ON                                                   |
|-----------------------|------------------------------------------------------|------------------------------------------------------|
| 1 (PC)                | Pulse Count 2                                        | Pulse Count 1                                        |
| 2 (SENS)              | Low Sensitivity<br>LED Disabled                      | High Sensitivity<br>LED Enabled                      |
| 3 (LED)               | Active Low                                           | Active High                                          |
| 4 (POL)               | Polarity                                             |                                                      |
| Test* Input Arm Input | (L) = Test*; (H) = Normal<br>(L) = Arm; (H) = Disarm | (H) = Test*; (L) = Normal<br>(H) = Arm; (L) = Disarm |

(Notes: Default switch settings are shown in grey. See the Specifications section for more information on the Test/Arm inputs. \*Test = Remote LED Enable.)

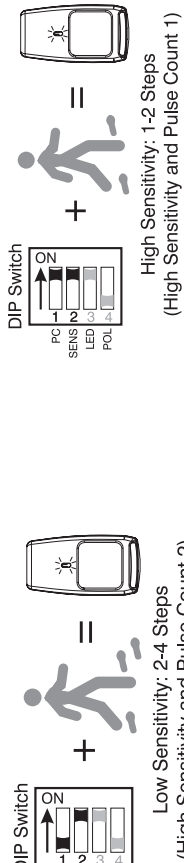
7

Configure the sensitivity and walk-test the sensor.

Set the sensitivity appropriate for the application (see options below), replace the front cover, and apply power to the sensor. Begin walk-test after the LED stops flashing (see the LED Operation section). Walk through the detection zones, observing the sensor's LED whenever motion is detected. The red LED shows actual alarm relay operation.

The absolute range of all PIR units is subject to variation because of different types of clothing, backgrounds, and ambient temperature. For this reason, ensure that the most likely intruder routes are well within the PIR's detection zones and that walk-testing is carried out along those routes.

For harsh environments, areas with drafts, or possibility of small animals entering the protected area, use the lowest sensitivity setting with the look down zone disabled.

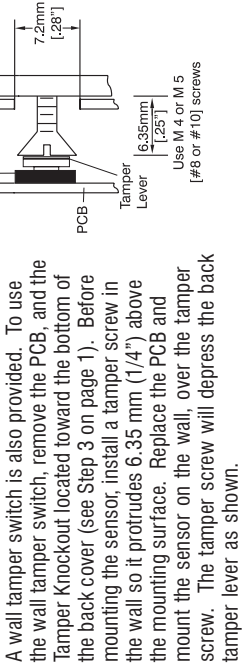


MOUNTING LOCATION GUIDELINES

The IS2500LT is designed for use indoors. It can be used in low temperature applications (down to -40° C/-40° F), such as detached garages, sheds, warehouses, etc. The sensor can be corner, wall, or bracket mounted (see Accessories section). Make sure that the sensor has a clear line-of-sight to the protected area: infrared light cannot penetrate solid objects, and the sensor must “see” an area in order to detect a moving person. The sensor should be pointed into the room interior, and away from windows and heating/cooling sources. Additionally, the sensor should be installed on a surface where the temperature is similar to that of the area being protected and **not** pointed at direct or reflected sunlight.

TAMPER SWITCHES

The IS2500LT is equipped with normally-closed (NC) cover tamper. Each sensor is shipped with the cover tamper operational.



The cover and wall tamper switches are in series, so if either switch opens, a tamper will be signaled at the terminal block on the PCB.

LED OPERATION

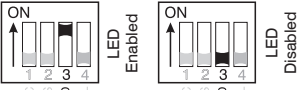
To Enable the alarm LED, turn switch S3 ON.

To Disable the alarm LED, turn switch S3 OFF. The LED will temporarily remain enabled for 10 to 12 minutes. This feature gives the installer time to walk-test the unit as explained below.

**Automatic Walk-Test Mode with alarm LED disabled (switch S3 OFF):**

After applying power to the sensor, it will warm up for up to three minutes, and then the LED will temporarily remain enabled for a 10 minute walk-test period. After 10 minutes, the LED will automatically switch to disabled.

To restart the 10 minute walk-test mode, switch S3 ON, and then OFF again.



| OPERATION                 |                  |                                  |                               |
|---------------------------|------------------|----------------------------------|-------------------------------|
| Conditions                | Alarm LED        |                                  | Alarm Relay                   |
|                           | Enabled          | Disabled                         |                               |
| Warm Up (up to 3 minutes) | Slow Blink       | Slow Blink                       | (Normally Closed Loop) Closed |
| Normal                    | OFF              | OFF                              | Closed                        |
| Alarm                     | ON for 3 seconds | *See LED Operation for 3 seconds | Opened                        |
| Trouble                   | Fast Blink       | Fast Blink                       | See Troubleshooting           |

CONTROL INPUTS

There are two inputs, TEST and ARM, allowing some of the sensor functions to be controlled remotely. Each input is internally pulled up to +5V through a 10KOhm resistor.

The POL switch (switch 4) can reverse the logic sense of both the input control signals.

To select the appropriate POL (switch 4) setting, refer to the table in step 6, on page 1.

CONTROL INPUTS (continued)

TEST input

The test input allows the LED to be remotely enabled. To use this feature, the LED DIP switch (switch 3) must be OFF; allowing the LED to operate based on the voltage level connected to the Test Input. Like the LED DIP switch, however, the Test Input will not enable the LED if the sensor is armed (see the Arm Input section).

ARM input / Alarm Memory

When armed, the sensor's LED is disabled. If an alarm occurs while armed, an alarm is triggered, and the sensor stores the event in memory. When next disarmed, the Alarm Memory turns the LED On. To clear the alarm event from memory, the sensor should be re-armed briefly (0.5 to 2 seconds) and then disarmed.

**Note:** When inputs are not used, the POL switch should be OFF.

| Switch 3 | Test Input | LED Operation |
|----------|------------|---------------|
| OFF      | Active     | Enabled       |
| OFF      | Inactive   | Disabled      |
| ON       | Active     | Enabled       |
| ON       | Inactive   | Enabled       |

TROUBLESHOOTING

- Symptom:** Sensor is not operating.

**Corrective Action:** Check to make sure the Power terminals are wired correctly. If the power terminals are wired correctly, and the sensor does not operate when power is applied, replace the sensor.

- Symptom:** Fast Blinking LED -- Trouble condition; two possible causes.

- Temperature Compensation failure:** The sensor checks Temperature once every 100 ms. When a Temperature Compensation failure occurs, the sensor defaults to room temperature sensitivity and continues to operate normally while signaling trouble. The trouble is stored in memory, and when the next valid alarm condition is detected, the alarm relay latches open (NC loop).
- PIR self-test failure:** In the absence of PIR signals, the sensor internally checks its PIR circuit once every ten minutes. If six consecutive self-tests fail, the sensor signals trouble with its LED, and the relay latches closed (NC loop). Subsequent detection of a valid PIR Signal will clear the trouble, and the relay will return to normal operation.

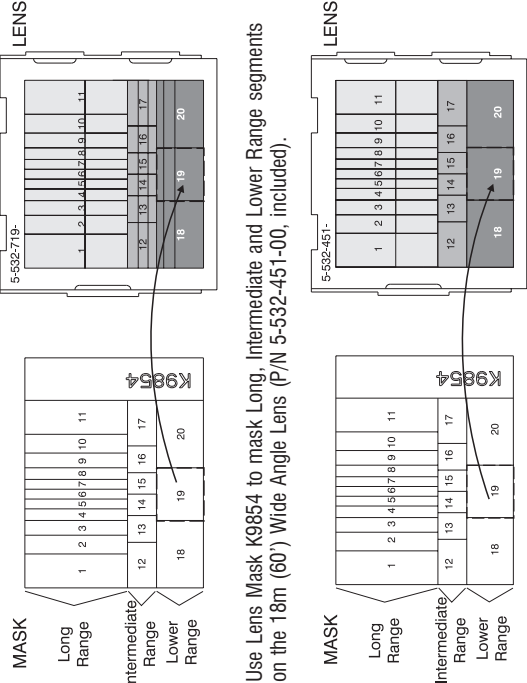
**Corrective Action:** Replace the sensor.

MASKING THE LENS

If the installation requires some segments of the detection pattern to be blocked off, you can mask part of the lens pattern with the lens masking label material (included).

To mask segments of the detection pattern:

- Open the sensor housing and remove the lens (see Step 5).
- Select the appropriate segments to be masked, and place the lens mask label over the **inside** of the lens.
- Use Lens Mask K9854 to mask Long, Intermediate and Lower Range segments on the 11m (35') Wide Angle Lens (P/N 5-532-719-00, installed).

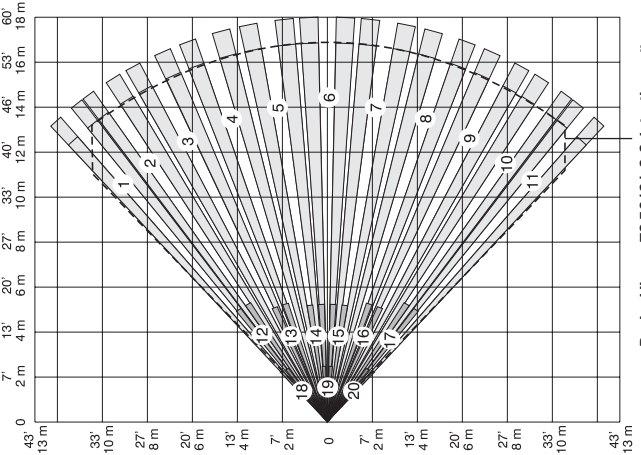


- Use Lens Mask K9854 to mask Long, Intermediate and Lower Range segments on the 18m (60') Wide Angle Lens (P/N 5-532-451-00, included).

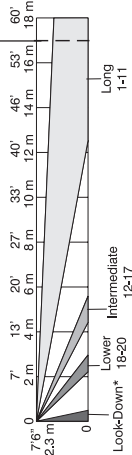
DETECTION PATTERNS

Top View

Wide Angle Lens  
(P/N 5-532-451-00)  
[included]



Side View

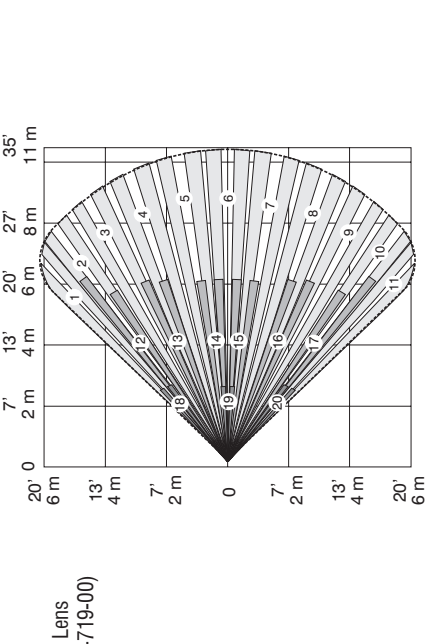


\* Look-down fingers are fully enabled only when the look-down mask is not installed (see Step 6).

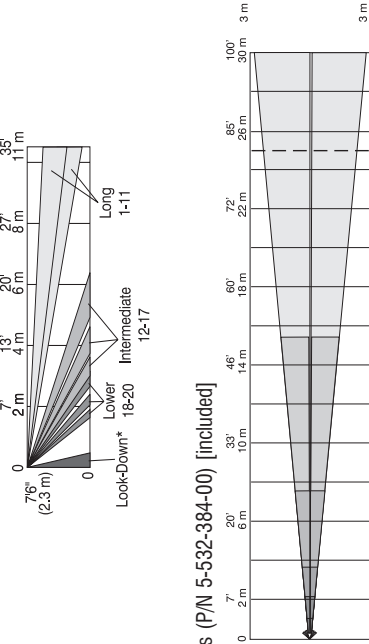
**Note:** The distances in the illustrations do not represent maximum detection distances. A walk-test is required after mounting to ensure proper detection.

Top View

35' (11 m)  
Wide Angle Lens  
(P/N 5-532-719-00)  
[installed]

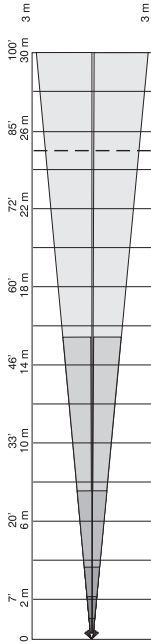


Side View



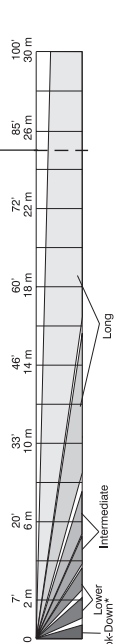
Top View

Curtain Lens (P/N 5-532-384-00) [included]



Dashed line = TS 50131-2-2 detection pattern.

Side View



SPECIFICATIONS

**Range:**

11 m x 12 m (35' x 40') [installed]  
18 m x 26 m (60' x 85') [included]  
[TS 50131-2-2 Range: 17 m x 21 m]

30 m x 6 m (100' x 20') [included]

[TS 50131-2-2 Range: 25 m x 5 m]

**Mounting Height (center of lens):**  
2.3 m - 2.7 m (7'5" - 9') [Note: 2.3 m (7.5') is the optimum mounting height.]

**Power requirements:**

For cULus applications voltage range: 10-14 VDC;  
Operating voltage range: 8.5-15.4 VDC;  
Current for all voltage ranges: 21 mA nominal at 12 VDC, 25 mA max; AC Ripple: 50 to 120 Hz,  
3 V peak-to-peak at nominal 12 VDC

**Alarm relay:**

Form C; 30 mA, 24 VDC;  
40 Ohms resistance max

**Tamper switches:**

Cover and Wall  
Form A (normally closed with cover installed)  
30 mA, 24 VDC

**RFI immunity:**

30 V/m, 10 MHz-1000 MHz

**PIR white light immunity:**

6,500 Lux (min.)

**Sensitivity:**

Switch selectable (Lowest, Low, Medium and High)

**Operating temperature:**

-40° C to 55° C (-40° F to 131° F)  
[indoor use environment]

**Relative Humidity:**

5% to 95%; non-condensing

**Temperature Compensation:**

Advanced dual slope

**PIR fields-of-view:**

Dual element

71m (35') Wide Angle Lens

44 long range 36 intermediate

18 lower 4 look-down

18m (60') Wide Angle Lens

44 long range 12 intermediate

6 lower 4 look-down

Curtain Lens

4 long range 4 intermediate

4 lower 4 look-down

**Dimensions:**

11.2 cm x 6.0 cm x 4.0 cm

4-3/8" x 2-1/4" x 1-1/2"

**Weight:**

95 g (3.35 oz)

Packaged Product: 159 g (5.60 oz)

**Control Signal Levels & Current**

**(Test / Arm inputs):**

(L) = 0.0 VDC to 1.5 VDC; -0.6 mA max

(H) = 3.5 VDC to V<sub>supply</sub>; 1 mA typical at 12 VDC, 1.8 mA max

**Accessories Included:**

Mounting hardware

Look-down mask

Wide Angle Lens Mask Label (P/N K9854)

18m (60') Wide Angle Lens

(P/N 5-532-451-00)

Curtain Lens (P/N 5-532-384-00)

Note: When installed in cULus installations using the Curtain Lens, the sensor must be set on either medium or high sensitivity.

**Accessories Available:**

SMB-10 Swivel Mount Bracket

(P/N 0-000-110-01)

SMB-10C Swivel Mount Ceiling

Bracket (P/N 0-000-111-01)

SMB-10T Swivel Mount Bracket w/

Tamper (P/N 0-000-155-01)

Pet Alley Lens (P/N IS2500-PALK)

**EN 50131-1 Compliant Accessories:**

SMB-10T Swivel Mount Bracket w/

Tamper (P/N 0-000-155-01)

**Approvals/ listings:**

IC, ICES-003, Class B verified

SIA PIR-01, C-Tick

CE

Features for false alarm immunity

Enclosure rating: IP30 IK04

EN 50131-1 and TS 50131-2-2

Environmental Class II

PD6662

**Note: In TS 50131-2-2 compliant installations:**

**mount the sensor at 2.3 m, select the high**

**sensitivity setting, and install a cover screw**

**(included).**

Suitable for connection to an EN 60950 Class II

Limited Power Source in European installations.

**IMPORTANT:** The IS2500LT should be tested at least

**once each year.**

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