STEALTH
STL12LV LOW VOLTAGE
Installation Manual

STL12LV SPECIFICATIONS

Switching	8 amps, 96 watts max.
Voltage	12 volts AC/DC
Time Adjustment	5 seconds to 12 minutes
Power consumption	1 watt
Surge Protection	I.E.C.specs
UL Listing	Raintight Photoelectric Switch

RAB

Cautions:

TURN OFF ALL POWER
BY REMOVING POWER FUSE
OR TURNING OFF
CIRCUIT BREAKER.

■ Read entire Installation Manual
before proceeding.

■ All wiring should comply with
local electrical codes and requires
a qualified electrician.

■ The total lighting load connected
to Stealth must not exceed 8 amps
(96 watts incandescent or quartz.)
To switch more wattage an electrician
can install a relay.

■ Line Carrier Remote Control
Systems such as X-10, Leviton or
Radio Shack are incompatible with
sensors and cause false activations.

■ Do not install sensors on a circuit
that feeds motor loads like kitchen
appliances, HVAC equipment, wash-
er/dryer, or garage door
openers.

■ Sensor must be <u>below</u> & as far
as possible away from lights.

■ Sensor functions best when the
direction of expected movement is
across its detection pattern, not
towards the sensor.

■ Mount 6-10' high for optimum
range and detection.

Assembly and Wiring

1. Screw the threaded arms of each
floodlight into the mounting plate.
LightAlert can be wall or ceiling
mounted.

2. Screw the threaded arm of the
sensor into the center hole of the
mounting plate.

3. Bring power leads and light
fixture sensor leads into box.

4. Attach ground wire(s) to box
grounding screw.

5. Position gasket on wires.

6. Strip 1/2" of insulation from all
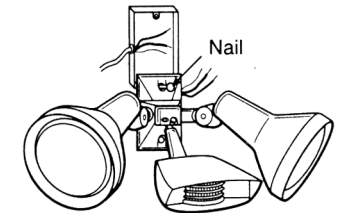leads. Connect as shown in wiring
diagram.

7. Twist on wire nuts. Secure with
electrical tape.

8. Align gasket to insure proper
seal. Fasten cover and fixtures to
box. Use silicone sealant around
all openings.

9. Screw in light bulbs. Turn on
power.
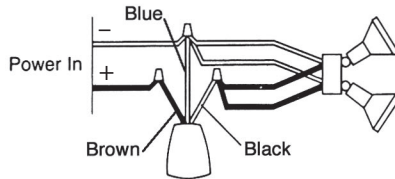10. Conduct Walk Test to adjust
sensor response.

Easy Wiring Tip:

Use a nail or screw to hold the
cover/sensor/lampholder in place
while wiring.

Wiring Diagrams

Basic Wiring Diagram
STL12LV / Low Voltage

Power In

Blue

Brown   Black

Multiple Sensors

More than one sensor should not be wired together. A system of more than one sensor becomes difficult to troubleshoot. Single sensors that control their own lights will give a more accurate location of movement and trouble free operation.

Power Quality

It is not recommended to install sensors on a circuit that also feeds motor loads such as HVAC equipment, kitchen appliances, or garage door openers. The Stealth circuit is surge and transient protected to IEC specifications. However, if voltage varies significantly from 12 volts, sensor may malfunction.

How Does the LightAlert Stealth Work?

Stealth's infrared sensor "sees" small temperature changes caused by the motion of people or cars within its protection zone and turns on lights automatically. It welcomes visitors and may deter intruders.

How long do the lights stay on?

Lights remain on as long as there is movement within the protection zone. Once the zone is vacated, lights can be adjusted to remain on approximately 5 seconds up to 12 minutes. Since the lights are on only when needed, and the sensor uses only one watt, the Stealth is extremely energy efficient.

## Can outdoor lights still be turned on with the light switch?

Yes. Stealth can be controlled by a conventional indoor switch or circuit breaker. Lights can be turned on or off manually at night only.
■ Manual Override Mode (to keep lights on): Flip the switch twice slowly (off-on-off-on) within 2 - 3 seconds.
■ To Resume Automatic Mode: Flip the switch once (off-on) within 2 seconds. Sensor will reset to Automatic Mode.

Will Stealth detect animals?

Stealth may detect large animals. Having animals trigger the sensor can give property a "lived-in" look. However, you can limit animal detection by turning down the sensitivity knob and/or by placing opaque weatherproof tape on the lower part of the lens.
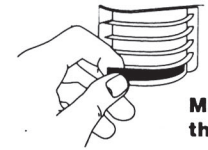
Masking the lens

How are the Time, Sensitivity and Photocell adjusted?

■ Time: Sets the time that lights will remain on after the detection zone is vacated from approximately 5 seconds to 12 minutes.
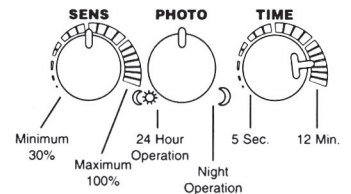Factory Setting: 5-8 minutes
■ Sensitivity: Increases or decreases the responsiveness and range of the sensor (Adjusts from 30% to 100%).
Factory Setting: 70%
■ Photocell: Located behind the lens. For night only operation, turn the knob all the way clockwise (to the moon symbol). For 24 hour operation turn the knob all the way counterclockwise (sun & moon). Adjust clockwise to have the sensor come on later at dusk, counterclockwise to have it come on earlier.
Factory Setting: Night Only

Control Panel:

SENS   PHOTO   TIME

Minimum   24 Hour   5 Sec.   12 Min.
30%   Operation
     Maximum   Night
     100%   Operation

Picking A Location

■ Choose a location from which the sensor can 'see' all the paths of movement.

■ The sensor may be wall or ceiling mounted.

■ As distance from the sensor increases, it will take more movement to be detected. For instance, at 10 feet, a half step will be enough, while at 40 feet, several steps will be necessary.

How large an area does Stealth detect?

The standard lens detection pattern extends out 50 feet and is 110° wide. The sensor may be swiveled in any direction to cover the area desired. Always keep the sensor level to insure full coverage. To reduce coverage tilt the sensor down.

Stealth STL110 comes with a standard 'Double Look Down' Lens. This lens has one "Look Out" zone and two "Look Down" zones, for excellent detection both at long and close range.

How does the LED Detection Indicator work?

The red LED above the lens shows the logic state of the sensor. If the sensor is set for night only operation, the LED will go on for daytime detections without turning on the lights. At night, the LED will be on all the time, except during detections (at which time the controlled lights will go on). At night, the LED serves as a deterrent indicating a security device in operation.

LED Detection Indicator

Top View

70'

Look-Out Zone   50'
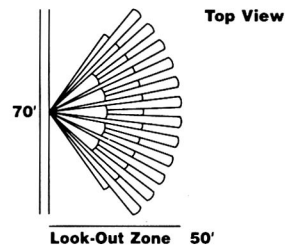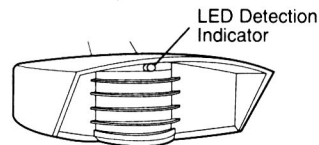
Aiming And Walk Testing

Walk Test

The purpose of the Walk Test is to check and adjust the coverage pattern. Stealth has a 5 minute Test Period which allows the sensor to be aimed and walk tested day or night. If you require 5 more minutes of Test Time, turn the power off for at least 10 seconds and back on again. During the Test Period, the sensor will keep lights on for 5 seconds each time it detects movement in its Detection Zone. The sensor will change to Automatic Mode after 5 minutes of testing.
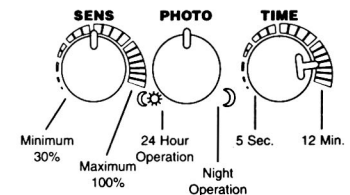
■ To enter Test Mode:
Turn power off for at least 10 seconds and back on.

1. Aim the sensor across the traffic pattern you want to detect. Start by aiming the sensor downward and then raise it slowly until the desired range is obtained.

2. Start outside the pattern and walk across the pattern until the lights go on. As distance from the sensor increases, it will take more movement to be detected.

3. Adjust the sensor aiming as necessary to improve coverage.

4. To adjust the sensitivity turn knob gently. Less sensitivity (counter-clockwise) may be desired if you wish to detect a limited area or if the sensor is being activated by wind, foliage or animals. More sensitivity (clockwise) will help cover a larger area.

Start   Finish
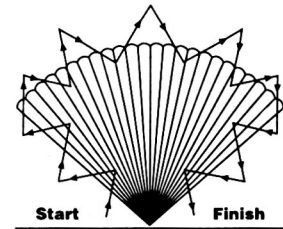
5. Repeat steps #2 thru #4 until you are satisfied with the coverage.

6. The "Time" control is factory set at approximately 5-8 minutes. This period starts after the movement in the detection pattern ceases. If less time is desired, turn the time control counterclockwise. For more time, turn the knob clockwise.

7. Stealth is factory set for night only operation. To obtain 24 hour operation, turn the Photocell control full counter clockwise. Intermediate settings will adjust operation during dusk and dawn.

8. Your sensor is ready for operation. See the Technical Tips pages if additional help is needed.

Control Panel:

SENS   PHOTO   TIME

Minimum   24 Hour   5 Sec.   12 Min.
30%   Operation
     Maximum   Night
     100%   Operation

Technical Tips:
Lights Do Not Turn Off

1. Make sure that the sensor is not in Manual Override Mode. Turn power OFF for 10 seconds, then ON. Sensor will be in Test Mode for approximately 5 minutes, then it will switch to Auto Mode with lights off and ready to detect movement.

2. Make sure sensor is not aimed at or mounted over something that would move or change temperature such as waving branches, water, air conditioners, windows or heating vents - even on neighboring property. You can test for infrared sources in the area by placing a box or bag over the sensor. Put sensor into test mode. Lights should stay off. Wave your hand inside bag in front of sensor. Lights should go on and then time out. If sensor operates properly when covered, check items #4 - 7.

Problem: Sensor is triggered by unwanted movement or heat source.
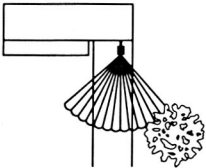
Solution: (1) Aim sensor away from movement or (2)mask lens as in the direction of the source and/or (3) lower sensitivity control setting.
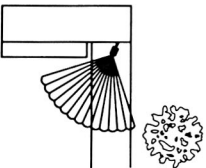
3. Make sure sensor and lights are mounted firmly and do not move even slightly when touched. If they move, tighten all screws.

4. Make sure sensor is not mounted on an unstable object such as a tree or pole that will move in the wind.
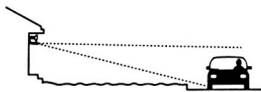
Problem: Movement of tree triggers sensor.
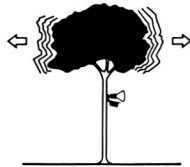
Solution: Mount on stable surface.

5. Was sensor wired hot? If so, circuitry may have been damaged.

6. Make sure sensor is not aimed within 20 feet of a road.

Problem: Passing cars activate sensor.

Solution: A 20' safety zone and lower sensitivity are recommended to avoid activation from passing cars.

7. Make sure heat from lights is not triggering sensor. Make sure the sensor is <u>below</u> & as far as possible away from lights.

Technical Tips:
Lights Turn On and Off Inappropriately

1. Make sure the sensor is installed on its own dedicated circuit, free of motor loads such HVAC equipment, kitchen appliances or garage door openers.

2. It is not recommended to wire sensors in parallel. More than one sensor wired together makes them difficult to troubleshoot. Disconnect multiple sensors and test separately.

3. Keep all people completely out of the detection pattern to make sure the sensor is not detecting them.
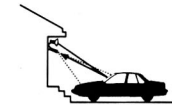
4. Make sure sensor is located below and as far as possible from its lights. Heat from the lights may trigger the sensor.
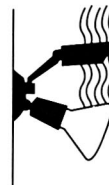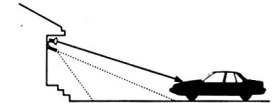
Solution: Move sensor below and away from the lights.
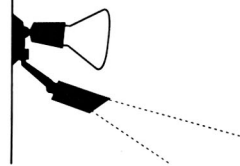
5. Make sure lights are not reflecting back into sensor. Check for white or reflective surfaces close to the sensor.

Solution: Aim sensor away from reflective objects, or move the objects and lower sensitivity.

6. Make sure sensor is not aimed within 20 feet of a road or sidewalk. Passing cars will activate sensor.

Solution: A 20' safety zone and reduced sensitivity are recommended to avoid activation from passing cars.

7. Heavy rain, snow or high winds may activate the sensor occasionally. Reduce sensitivity control slightly until problem stops.

8. Moths can be attracted to the lights and fly close to the sensor causing triggering. Reducing the sensitivity may help.

9. Self ballasted PL lamps may cause cycling (on-off).

10. Check Solutions #2, 4, 5, 6 & 7 under "If Lights Do Not Turn Off".

Technical Tips:
Lights Do Not Turn On

1. Check that lamps and fixtures work. Compare wiring to the wiring diagram in this manual. Check that the power is on.

2. If installing during daylight, remember that the sensor will provide 5 minutes of Test Time after power is turned on. After 5 minutes, the sensor will switch to Automatic Mode and will not work during daylight if the photocell control is turned to the night only position (moon symbol).

If you require 5 more minutes of Test Time, turn the power off for at least 10 seconds and back on again.

If you require the sensor to operate both day and night, turn the center control knob counterclockwise to the sun & moon symbol.

3. Check that lights from another source, such as adjacent porch, lights, garden lights or street lights are not in the sensor's view. The sensor's photocell may detect the light and deactivate the sensor because it has detected "daylight". If you desire the sensor to operate in higher ambient light levels, turn the photocell control (center knob) toward the sun symbol.

4. Was sensor wired hot? If so circuitry may have been damaged.

Lights Turn Off Too Quickly

1. Check if sensor is being "tricked" by reflected light. If lights controlled by the sensor shine or reflect into the photocell (located behind the lens) the unit will go on briefly, see its own light, and turn off "thinking" that it is daytime:

Problems:
Lights reflect into photocell
Lights shine directly into photocell
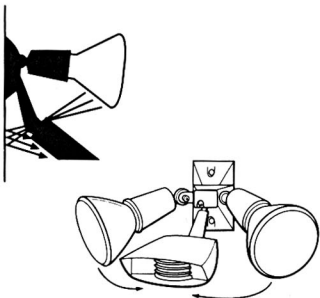
Solution:
Adjust photocell control (center knob) slightly counterclockwise, to allow operation at higher ambient light levels. Alternatively, move the lights or reflectors or mask the lens in the direction of the lights and/or reflections.

2. Check if "R" lamps, non-reflector "A" lamps or self-ballasted PL lamps are being used in a non-enclosed lampholder. If so, switch to reflector PAR floodlight lamps or Quartz floods so the sensor is not affected by stray light. If using PAR floodlights, consider using lower wattage, energy saving lamps

Technical Tips:
Range Appears Limited

1. Check that the sensor is level from side to side and pointed at the area you desire. If unit is tilted, part of the detection zone may be high in the air over people's heads.
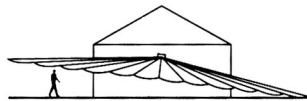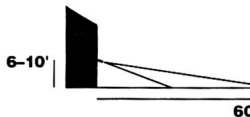

Solution: Position sensor exactly level from side to side.
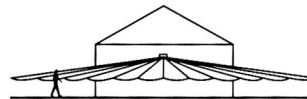
2. Check that the sensor is not mounted too high. If mounted above 20 feet, much of the usable range will be lost.
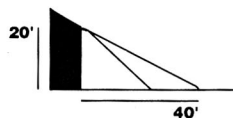
Solution: Mounting at 6' to 10' allows maximum range.

3. Check that movement is not directly towards sensor. Sensor will see movement across its pattern more quickly. To fix, move the sensor.
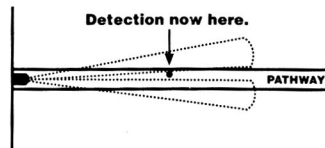

Less sensitive

More sensitive
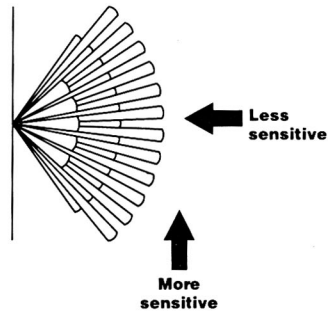
4. Check that movement far away and directly towards sensor is not entirely within one zone.
Problem:
Sensor will not detect until movement crosses zones

No detection until here.

PATHWAY
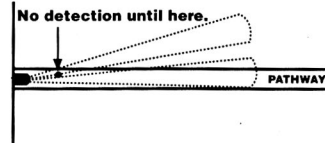
Solution:
"Micro Adjust" sensor by moving sideways 1/4". This may move the zones to allow earlier detection.
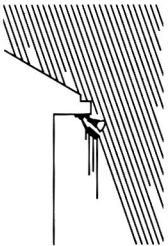

Detection now here.

PATHWAY

Technical Tips:
Lights Turn On for Unknown Reasons

1. Lights may turn on occasionally during rain, snow and windstorms because the sensor is detecting changes in temperature.
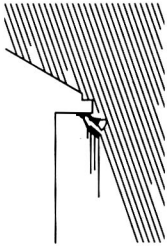
Solution: Mount sensor in protected area.

If false detections are a constant problem, reduce sensitivity (turn counterclockwise) until the problem stops.

2. Tilt the sensor lower, it may be seeing distant objects moving.

3. You may not be aware that animals have triggered the sensor. Check sensor aiming to reduce nuisance triggering or mask the lower part of the lens with opaque weatherproof tape. An Animal Alley Lens Models available to prevent triggering by animals. It provides a 3' - 4' high "Animal Alley". Call RAB or your local distributor to order.

10' _____ 50'

This is the "Animal Alley"

4. Although it is surge and transient protected, the sensor may turn on occasionally during extreme voltage surges.

5. A possible source of "mysterious" sensor activations are strong local radio signals. Check for nearby CB, Ham, VHF radio transmitters or Cell-ular telephones. The sensor may be activated but will not be permanently impaired by these signals.

6. Check all the Solutions mentioned under "Lights Turn On and Off".

7. Check items #2, 4, 5, 6 & 7 under "Lights Do Not Turn Off".

Limited Warranty

Your Stealth will be replaced or repaired, at our option, if it proves to be defective in work-manship or materials within ten years from the date of original purchase.

For repair or replacement, return the product freight prepaid and insured to the address below. The Stealth should be packed carefully. Please include your sales receipt and a description of the problem.

If your unit is out of warranty or the damage is unrelated to the original manufacture, return your unit directly to us with a check for $20.00 (made out to RAB Electric). We will repair or replace your unit.

Under no circumstances shall we be liable for any incidental or consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property or revenue or cost of installation, removal or re-instal-lation. This warranty gives you specific legal right and you may also have other right which vary from state to state.

EASY INSTALLATION & PRODUCT HELP

Toll Free Phone
Call our friendly experts.
8AM - 6PM ET Mon. - Fri.
888 RAB-1000

Toll Free Fax
Send faxes to RAB
24 hours/day.
888 RAB-1232

Fax on Demand
Faxed information,
24 hours/day.
888 RAB-1236

E-mail
Questions and requests
answered promptly
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