

Roboguard Installation

**This instruction assumes the use of the Roboguard HQ as the receiver.
For other receivers, please consult the relevant section**

- Determine the desired location of your Roboguards
- Install 1 Roboguard at a time.
- Remove the battery cover and plastic battery saver tag (the on-board buzzer will begin beeping in 'Walk-Test Mode' but will reset to silent after 20 minutes or so.)
- **Allow 5 minutes to settle.**
- Mount your Roboguard directly through the mounting guides, or by first installing a mounting bracket.
- Ensure the Roboguard is straight (unless you purposefully want it at an angle), a spirit level will help.
- Allocate your Roboguard a zone on the HQ. (Press and hold the Tamper button on the HQ, after the beep select the required zone, press and release the tamper switch on the Roboguard, press any zone button to reset HQ – or see HQ Manual)
- Walk from **left to right and back again** in front of your Roboguard to ensure it is triggering the HQ.
- Distance problems? – Check the 'Walk-Test Mode' section.
- Replace the battery cover and start on your next Roboguard.

Don't:

- Your Roboguard is weatherproof, but don't blast it with a hose or sprinkler. No horizontal spray.
- Don't install at long distance without first checking reception on the HQ – you may need a repeater station.
- Plan your mounting spot – a parked car or an open door could obstruct the Guard.
- Bear in mind a dog on stairs or a bank can break both beams – position your Guard with care (or see 'blocking off beams').

Do:

- Ensure your Top beam is above the head (and tail) of your pet.
- Ensure the intruder has to walk across the beams, not toward them.
- Roboguards work anywhere – on a tree, on the roof, at an angle to cover roofline or sloping ground – experiment.

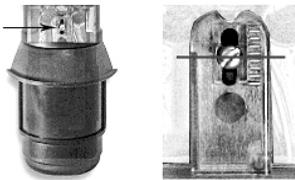
Walk Test Mode

Setting up the beam array for optimal performance

After mounting your Roboguard make sure it is detecting intruders. If its range seems very short you will need to adjust the beams to make them level with the ground and parallel to each other.

'Walk Test' allows you to hear the beams as they detect, and make these adjustments.

Remember both top and bottom beams need to be broken for the roboguard to detect intruder.



1. Remove the battery cover from the Roboguard, or press and release the tamper switch - the on-board buzzer will activate for about 20 minutes before going silent again.
2. Ensure that the securing screw of both top and bottom sensor boxes is over the middle line of the adjustment slot (see picture).
3. The Roboguard will now buzz once for every time the bottom sensor detects, and twice for every time the top sensor detects. **You should hear three 'buzzes' – which means that both sensors are detecting.**
4. Walk **across the path of the beams, from left to right and back again**, and keep increasing the distance between you and the Roboguard. If you walk straight towards a guard it is not very efficient and will only detect at close range.
5. If only 1 'buzz' is heard, only the bottom sensor is detecting you and the top beams are most probably adjusted too high.
6. Top Sensor: Loosen the retaining screw. Sliding the box up will lower the beam, pulling it down will raise the beam (seesaw effect), 1mm adjust will move the beam 1 metre up or down over 10 metres, so make slight adjustments until you hear the beam strike you. Tighten the retaining screw.
7. Follow the same instructions if only the top sensor is detecting you, this time moving the bottom sensor box.
8. Work slowly and methodically and check every beam in the pattern. Pause for 2 seconds between 'buzzes' to catch the next beam.
9. **Note: move slowly – if only 1 sensor is detecting you the roboguard takes longer to react (it is waiting for the other sensor to detect).**

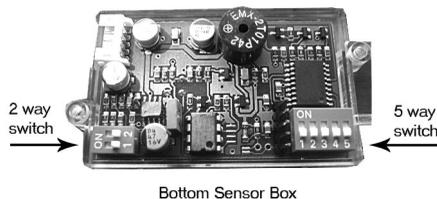
Roboguard Configuration

Each Roboguard can be set up to work best in specific locations by activating different modes.

The default setting is switch 1, ON, all others, OFF.

The mode switches are located on the computer board inside the bottom sensor box.

Remove the bottom sensor screw and pull the box out of the lens holder using your thumb and index finger. Open the sensor box to locate the switches (see below). It is not necessary to unplug the box. The 5-way switch is programmed with the following functions:



SWITCH 1: INSTANT DELAYED MODE

OFF = The Roboguard will detect three successive intruder signals, then go silent until it has a period of around 30 seconds of no movement before it becomes active again. This is good for high traffic areas. This mode is highly recommended as it saves battery power, and it alleviates the problem of switching off guards. You can leave the guards on all the time without getting annoyed.

ON = The guard will send a signal instantly whenever it detects an intruder.

SWITCH 2: DOUBLE DETECT MODE

OFF = Normal

ON = Instructs the guard to verify the intruder by waiting for two detections before sending a signal. Good for areas where there is large foliage.

SWITCH 2 AND 3 ON: V DETECTION MODE

Instructs the guard to verify the intruder by waiting for two detections from one sensor and another from the other sensor before sending a signal.

SWITCH 4: SKINNY WINDOW MODE

OFF = Roboguard will respond to vertical movement through the beams. It allows a ½ second between breaking top and bottom beams to detect intruder.

ON = This mode reduces that tolerance to a ¼ second thus allowing slow moving branches to break both beams without detecting intruder. Not good for range over 10 metres.

SWITCH 5: DSP MODE

OFF = Normal

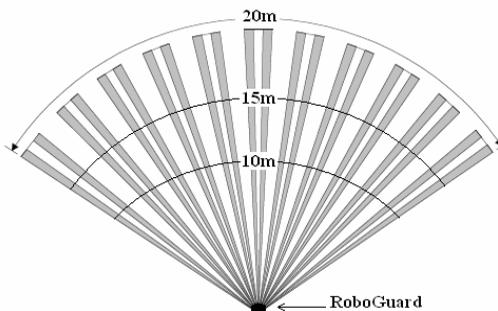
ON = The guard will use a mathematical algorithm to determine whether an intruder has been spotted and helps to minimise false alarms. It is usually used in industrial applications to filter out electromagnetic energy from electronic/radio equipment.

Beam Range

The two-way switch box (see picture - above) determines beam range and can be adjusted as follows:

- Full Range (default) Switch 1: OFF, Switch 2: OFF
- 15 - 20 meter range Switch 1: ON, Switch 2: OFF
- 10-15 meter range Switch 1: ON, Switch 2: ON

NOTE: Full strength in a small area may cause false alarms. Adjustments should be made to **both** top and bottom sensor boxes.



Minimising False Alarms

The Roboguard uses dual pyro-electric cells to look for changes in movement, light and temperature in its field of view. It is therefore extremely important that the guard is installed in a position that does not inadvertently cause the guard to see changes, which could be reported as false alarms.

Identifying false alarms:

1. Situations where the guard is exposed to reflections of sunlight reflecting off water or glass.
2. Situations where the guard is exposed to warm/cold thermals such as a tar driveways.
3. Movement of the structure to which the Roboguard is attached.
4. Moving vegetation between the unit and a significant heat-source (such as the sun).
5. Poor alignment of the sensor beams (see 'setting up the beam array for optimal performance').

Steps in rectifying constant false alarms:

1. Identify what is causing the false alarms.
2. Move the Roboguard to exclude the problem object/area, remember the entire area doesn't need to be covered, only such that you will be alerted if someone enters this area.
3. Block off the desired beams to exclude problem objects, for example large swaying palm leaves.
4. The sensor boxes may have moved during transport and will need to be realigned to the middle position. (See 'Setting up the beam array for optimal performance').
5. In some cases it is not possible to solve a problem with any of these suggestions and the Roboguard needs to be reconfigured (See the 'Roboguard Configuration' section).
6. Use dog biscuits to run dogs through the beam array in walk-test mode to hear if the beams are set correctly.
7. Please contact your local Roboguard dealer if you are not able to solve the problem.

Blocking off Beams

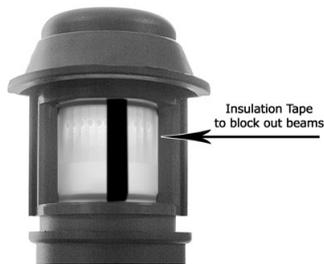
Blocking off of beams is used to narrow the angle of view or to block moving objects such as palm fronds, to prevent false alarms.

Blocking off of a beam is done by first, sliding down the fastener ring and removing the UV stable lens.

Now using black insulation tape block off the area on the main lens that needs blocking.

Use 'walk-test' mode to confirm you have blocked off the area required.

Replace the outer lens.



Maintenance

Roboguards require basic maintenance in order to keep the system performing optimally.

- You should regularly inspect the guard and remove any signs of infestation (spiders, ants etc). Ants are particularly destructive.
- Check the field of view of the guards for encroaching vegetation.
- Once a year the guard's lenses should be cleaned.

Dust off all insects. Wipe with a dry cloth. Clean the outer and inner Fresnel lenses with warm soapy water.

Clean the pyro- electric cell with a cotton bud. Be careful, do not touch it with your fingers.

If you live at the coast, the top and bottom computer boards (inside the sensor boxes) should be cleaned with thinners and resprayed with Tectyl every 3 years.

It is also advisable to apply silicon sealer around the connector plug on the top and bottom sensor boxes, to improve moisture resistance.

Battery Life

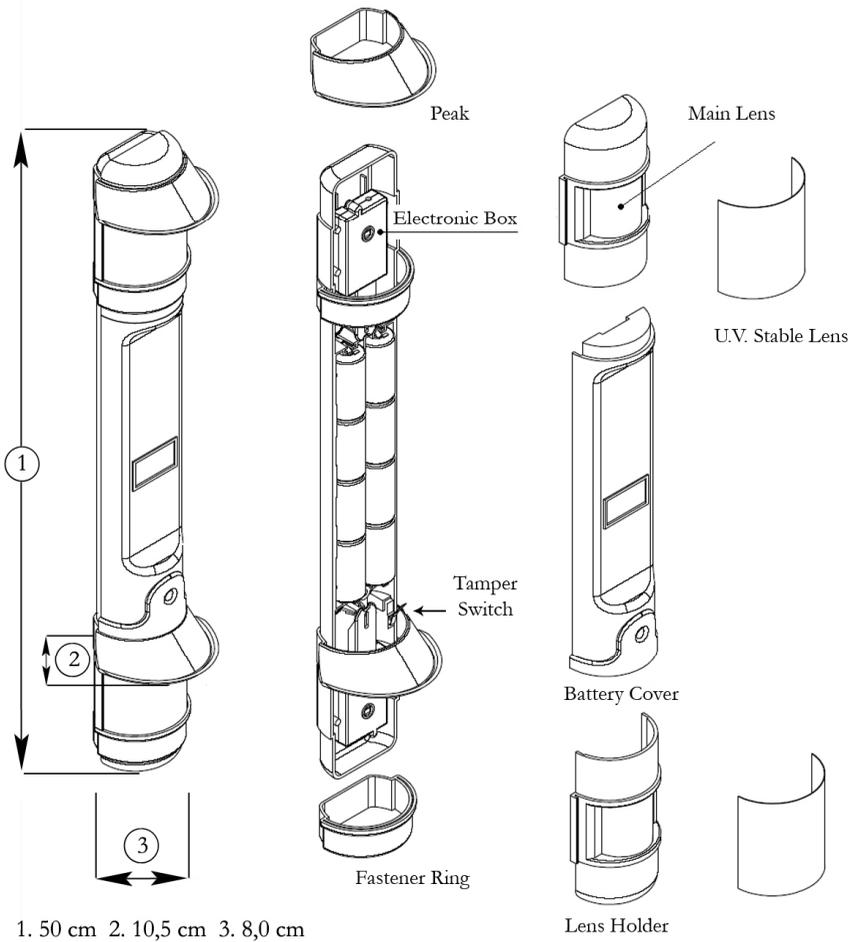
Roboguard batteries should last for a minimum of three years with alkaline batteries and a minimum of one-year using dry cell batteries. The HQ will inform you of weak batteries when it begins to flash the trouble light. Remember that it will continue to function normally and reliably for months with weak batteries. When they get really flat Roboguard will become unstable and may trigger constant false alarms. Take your time, don't panic, "trouble" is picked up way in advance just change them when you can (see "trouble" page in HQ manual).

To change the batteries - loosen the locking bolt, remove the battery cover, pull out the batteries and replace with 8 x C size batteries (preferably alkaline). Make sure the batteries are lined up correctly. There are polarity marks (+,-) next to the battery spring to assist.

Additional Info:

- For Maximum Range of beams: remove the **outer lens**. This will compromise water resistance so drill a hole in the bottom of the Guard to let the water out.
- Use mothballs inside the housing to keep ants and other insects out.
- Seal the mounting holes with silicone to keep insects out, or use a bracket and spray the bracket with an exterior insect spray.
- For Maximum PIR life, **seal the plastic sensor boxes around the 5-pin plug and wires, with silicon**, after making any adjustments to the configuration and range switches.
- If you are having difficulty getting range off a single set of beams that are critical, i.e.: where a single set of beams is monitoring an alleyway. Align the white *inner* main lenses by carefully shifting them to one side or the other (only about 1mm of play).
- For better range you can mount your Roboguard at an angle to follow a roofline or sloping ground.
- Always carry a known, working roboguard with you to diagnose problems. This will allow you to swop out TX and CPU PIR's and check their performance to confirm malfunction.

Roboguard V Exploded View



Roboguard Aluminium Mounting Bracket

Roboguard installation using a mounting bracket is highly recommended.

The bracket can be mounted to any surface and allows the installer to swivel the Roboguard and aim the beams in the required direction. This is particularly useful when setting up in walk-test mode as you can also aim the beams between obstacles or down a narrow alleyway. The bracket has top and bottom slots to allow you to set the unit vertical if the mounting surface is not completely vertical.

