

# Sureguard

Pingg-String®

Small-Animal Fence Energiser



***Enclose your yard or protect specific areas***  
**Ground & Fence-Top Barriers - Simple to Install**

# User Instructions

To be read in conjunction with the *Pingg-String Installation Guide*



## How does the Pingg-String work?

The Pingg-String Energiser applies an electronic pulse to the barrier wires. The pulse feels like common static electricity. As the animal pushes into the wires, it is repelled by the pulse. The animal learns not to repeat the experience.

Sureguard invented the Pingg-String System in 1997 as a safe, effective & humane barrier for small animals.

Is this like an electric farm fence? No, because the power level is far less.

## There are two types of Pingg-String installation:

- [Ground Barrier](#) (for Dogs)
- [Fence-Top Barrier](#) (for Cats & Possums)

Both are powered by this Pingg-String Energiser. The barrier kits are sold separately, so you only need to buy what you need. For details, refer to the *Pingg-String Installation Guide*.

## Solar Powered Fence Energiser



- 1 Shock-Resistant Rubber Corners
- 2 Anti-Theft Key-Lock System
- 3 Screw Mounting Option for Timber Posts & Fences
- 4 Anti-Theft Locking Bolt Attaches to Steel Star Post
- 5 Quality Push-Button Output Terminals including Leads
- 6 Mounting Post Location
- 7 Simple, Easy to use ON / OFF Power Switch
- 8 Rubber Hand Grips
- 9 High Power Solar Panel with Long Life Battery
- 10 **Control Panel:** Touch Switch & LED Control Indicators:
  - \* In-built Fence Voltage Tester
  - \* In-built ON / OFF Automatic Timer
  - \* Smart Fault Alarm with ON/OFF Option

## Specifications

- **Maximum Distance Rating for Ground Kit (1-Wire):** 400m (1300ft)
- **Maximum Distance Rating for Fence-Top (4-Wire):** 200m (650ft)
- **Weight:** 0.9kg (32oz)
- **Dimensions:** 195mm Wide. 100mm High. 220mm Deep. (4.95" x 3.95" x 8.65").
- **Battery Life:** 5 to 8 years, under typical operating conditions. [Battery Technology LiFePO4](#).
- **Running Time in Cloud:** Continuous.

## Mounting Location

The Energiser is solar powered and requires a suitable location for reliable operation.

1/ It must have an uninterrupted view of the sky from east to west.

2/ No shadows over the Solar Panel between at least 10am to 2pm.

3/ The Energiser must also point towards the equator; in Australia, that means northward.

**TIP:** Stand behind the Energiser with the Terminals in view. Confirm you are looking northwards. (NOTE: In the northern hemisphere, the equator is southward.)

The Solar Panel will charge quickly in full direct sunlight. In cloudy conditions, the sun's intensity is lower, and the charge time is longer, but the Solar Panel still collects power from the full view of the overcast sky.

**IMPORTANT:** The Solar Panel only charges while the Energiser is switched ON.

## Mounting Options

The Energiser has several mounting options – see Key #3, #4 & #6 illustrated on page 3.

### Plastic Mounting Post

To use the plastic Mounting Post, assemble its three parts. Remove the protective rubber bung (see #6 on page 3) and push the post into the base of the Energiser. Push the other end of the post into the soil or screw it onto an existing fence using two 25mm Saddle Clamps, as illustrated below-right (clamps not included).





### Screw Mounting

Insert a single M4 screw (4mm thread with a head no more than 9mm) into timber, steel or plastic fencing or posts. Hang the Energiser, as illustrated below, using the screw mounting option (Key #3 on page 3).



### Steel Post Anti-Theft Mounting

You can mount the Energiser on top of most sizes of steel posts (Key #4 & #2). The Energiser's internal mounting bolt locks the Energiser to the post and is easily attached or removed using the supplied Key.

**Locking Procedure:** 1/ Remove the rubber sealing plug and insert the supplied key. 2/ Align the mounting bolt (see Key #4) with the top hole in the post. 3/ Rotate the key



anticlockwise to open the mounting bolt. 4/ Push the Energiser onto the post. Jiggle until you hear the bolt click into the hole. 5/ Rotate the key clockwise to lock. 6/ Make sure the Energiser can't come off. Remove the key. 7/ Put the rubber sealing plug back into the keyhole as an insect & weather seal.



## Connecting the Energiser to a Pingg-String Fence

Make sure the Energiser is switched OFF. To connect the Energiser to the Pingg-String fence, use the provided Red and Green Pingg-String Insulated Cables. Each cable has pre-cut rubber insulation of 15mm at the energiser end and 36mm at the fence end. Here's how to set them up:

Green Cable: 1/ Twist the rubber insulation at both ends several times. 2/ Pull the rubber ends from the wire. 3/ Ensure ALL the copper wires are twisted together at both ends. 4/ At the 15mm exposed end of the Green Cable, bend the copper wires back over themselves by approximately 5mm. 5/ Press the Green Terminal button to open the terminal's metal jaws. 6/ Insert the bent end of the copper wire into the green terminal, ensuring it's securely held when you release the button. Refer to the illustration for guidance.



Now, repeat the same process for the Red Cable.

After connecting to the Energiser, consult the Pingg-String Installation Guide for detailed instructions on how to attach the Red and Green Cables to your fence barrier.

## Switch Energiser ON

**Use the ON/OFF Switch on the underside of the Energiser to toggle ON or OFF. ("I" is ON, "O" is OFF)**

The energiser is supplied ready-to-go. When you switch the Energiser ON, you will see two LED lights on the Solar Panel. The POWER LED relates to the charge in the battery. The FENCE LED relates to the measured fence voltage. Each LED can light Green, Red or Blue. Refer to the table on the next page for what the colours mean. Two green lights mean you are good to go!

**NOTE:** Critical issues will cause the LED to **flash RED** & Alarm **Buzzer** to sound. Read the Advanced User Features if you want to customise the Buzzer.



## What the LED Colours Mean:

POWER LED	GREEN	Normal operation. The internal battery has plenty of power.
	GREEN FLASHING	If Power & Fence LED are flashing green, contact Sureguard for assistance.
	RED	Internal battery is low. Check solar panel is clean and setup correctly.
	RED FLASHING	Critically low battery. <b>Rectify immediately!</b> (Troubleshooting page 9)
	BLUE	Displayed while using the advanced option setting switch.
	NOT LIT	The Energiser is switched OFF or the battery is too depleted. Switch ON to commence charging. The Power LED flashes RED momentarily every few seconds while charging. The Energiser will resume operating automatically.
FENCE LED	GREEN	Normal operation. The Pingg-String Wire is active.
	RED	Pingg-String fence wire has low power.
	RED FLASHING	Pingg-String fence wire has very low power. <b>Rectify immediately!</b>
	BLUE	You have selected the ON/OFF Timer. The fence is currently inactive.
	BLUE FLASHING	Only happens when switched ON. Energiser is analysing the fence voltage.
	NOT LIT	See above.

## Advanced User Features

The cog icon on the Solar Panel is a Touch Switch that works from moisture in your finger. When you switch the Energiser ON, the Touch Switch is active for the first 45 seconds. During this time, you can customise the operation of the Energiser. Your settings will be stored even if the power is switched OFF.



**NOTE:** If the cog area is wet, dry it before using the Touch Switch.

### How to Enter the Advanced Features Mode

1. Switch the Energiser OFF. Wait 10 seconds. Switch ON.
2. Wait until the FENCE LED stops flashing BLUE.
3. Touch the cog icon for about 1-second until both LED lights glow BLUE.  
**TIP:** Touch lightly, don't press hard. If your finger is small, use your thumb.
4. As soon as both LEDs glow BLUE, remove your finger off the cog.
5. Wait until both BLUE LEDs go OFF.
6. Momentarily tap the cog icon the number of times required to match the function you want to enter (as per the list below). **TIP:** You'll find the Touch Switch responds better when you press and release, moving your finger at least 2cm away from the cog.

❖ **Touch once (Function #1):**

**Reset all functions** to factory default and performs the following hardware tests:

1/ LED's light in sequence RED-GREEN-BLUE

2/ Alarm Buzzer sounds.

3/ Solar panel, in sunlight, is linked to the POWER LED. It will flicker BLUE to verify power is going into the battery. **NOTE:** If the battery is fully charged, the POWER LED will not flicker BLUE. So, it is best to test **first thing in the morning** after running all night so the battery will accept charge.

4/ Energiser reboots automatically after 20 seconds.

❖ **Touch twice (Function #2):**

Timer is switched OFF. Energiser will operate **24-hours a day**. (Factory default setting).

❖ **Touch 3 times:**

Timer is switched into **Night Mode**. The Energiser will power the fence at night, starting about 15-minutes after sunset. During the day, the Energiser is in standby mode. The FENCE LED will glow **BLUE**. The Solar Panel will continue to charge the battery. **NOTE:** The Alarm Buzzer may sound if a fault occurs at night. This behaviour can be customised by Function #5. To locate the fault, do a factory reset (Function #1), then check the points under "Rectifying Fence Faults" on page 9.

❖ **Touch 4 times:**

Timer is switched onto **Day Mode** & will only operate during the day, starting about 15 minutes after sunrise. At night the Energiser is in standby mode, and the FENCE LED glows **BLUE**. **NOTE:** The Alarm Buzzer may be customised by Function #5 or #6.

❖ **Touch 5 times:**

Switch the **Alarm Buzzer OFF**. It will not sound if a status error occurs.

❖ **Touch 6 times:**

Switch the **Alarm Buzzer ON** and make it active only during daylight hours. (Factory default setting).

❖ **Touch 7 times:**

Switch the **Alarm Buzzer ON** and active day or night (when operating in 24-hour mode).

❖ **Touch 8 times:**

Report the **current fence voltage** in kilovolts (0.5 to 9.9kV). This is useful for fence diagnostics. Count the number of flashes of POWER LED; this is the first digit.

Count the number of flashes of the FENCE LED; this is the second digit.

Normal voltage range is 3.5kV to 9.9kV.

**NOTE:** If necessary, select Function #2 to put the Energiser into the 24-hour mode.

❖ **Touch 9 times:**

Like Function #8, this reports the lowest fence voltage since mid-night. (Useful for diagnostics).

❖ **Touch 10 times:**

Like Function #8, this reports the highest fence voltage since mid-night. (Useful for diagnostics).

❖ **More than 10:**

Does nothing. Beeps an error.



## Rectifying Power Faults

### *POWER LED Continuously RED:*

The internal battery needs more charge. The Energiser will automatically lower its power consumption to continue operation. It will pulse less frequently. Check the following:

1. Clean the solar panel with water; remove bird droppings and dust.
2. Confirm your solar setup is as described in “Mounting Location”.
3. Confirm the panel is facing toward the equator (not east or west), not experiencing shadowing and can see as much of the sky in all directions as possible.
4. A temporary low power state may occur during prolonged dark cloudy conditions.

### *POWER LED Flashing RED:*

In addition to the above points, check the following:

1. Select Function #1 to test the hardware and Solar Panel.
2. If your solar location is not ideal, consider setting the Energiser to run in either Night-Mode or Day-Mode (if acceptable).

### *POWER LED is OFF:*

The Energiser has entered a low-power **Sleep Mode** to avoid depleting the battery. This condition might happen if you forgot to switch the Energiser OFF when putting it into storage. To rectify this, place the Energiser in **FULL sun** and **switch ON**. As it commences charging, the POWER LED should flash briefly every few seconds but will stay in Standby Mode. **IMPORTANT:** Once charging begins, do not switch the Energiser OFF. After a few hours (or the next day if it is cloudy), you should see the Power LED go GREEN and the fence commence working. If the battery still does not come good, replace it.

## Rectifying Fence Faults

### *FENCE LED Continuously RED:*

The Energiser is functional, but the output voltage is medium to low. Possible reasons:

1. Total length of Live wire is too long.
2. Excessive foliage touching the Live wire is draining power from the fence.
3. The Live Wire is short-circuiting to the ground, perhaps through a metal post or adjacent Earth Wire. Look for the cause.
4. Electrical breakdown of fence materials due to age, damage, or incorrect materials.

### *FENCE LED Flashing RED:*

The output voltage is very low. Perform the following **self-test** of the Energiser:

1. Switch OFF the Energiser.
2. Disconnect both cables from the terminals.
3. Switch ON the Energiser. If the Energiser now displays a GREEN FENCE LED, your energiser is good. If the Energiser doesn't pass this self-test, then call Sureguard for advice.

## How to Change the Solar Battery

This Energiser uses a particular long-life lithium battery. You may never need to replace or remove it. But if you do, open the case by removing the four case screws. Then ensure that:

1. The replacement battery is type Lithium-Iron-Phosphate (LiFePO<sub>4</sub>). This battery has a voltage of 3.2 volt. **DO NOT substitute** other battery voltages because they will NOT charge. The original battery has an Amp-Hour rating of 1.8AH, but a larger capacity may be available in future.
2. Identify the positive end of the battery holder.  
**Insert the positive end of the battery first** then push the negative end down.
3. Do not install damaged batteries.
4. **ALWAYS Cable-Tie** the battery as illustrated. It is a safety requirement.



## Maintenance

1. Regularly check and clean the solar panel for dust and bird droppings.
2. Every three months, use a damp cloth with a little soap to clean the external rubber corners. This stops mould taking hold and damaging the case.

## Comprehensive Troubleshooting Guide:

Please visit Sureguard's troubleshooting webpage for more help with fence and animal control issues. [www.sureguard.com.au/page/troubleshooting](http://www.sureguard.com.au/page/troubleshooting)

### Manufacturer's Warranty

Sureguard provides a Manufacturer's Warranty to the original purchaser or gift recipient to cover defects in materials and workmanship for a period of 12 month.

**Extend your Warranty to 3 Years!**

[www.sureguard.com.au/warranty-extended](http://www.sureguard.com.au/warranty-extended)

Full Terms and Conditions at [www.sureguard.com.au/terms](http://www.sureguard.com.au/terms)



