

Sureguard Portable Energizer Model P1

How Does the Ping String Fence Work?

The PingString is designed to keep animals within an area, or prevent undesired animals from entering. High voltage electrical impulses from the "Live" terminal of the energizer are applied to the fence wire to make it "live". This impulse lasts only thousandths of a second but is repeated at about 150 pulses per minute. An animal that strays into contact with the fence wire completes an electrical circuit with its body. The electrical pulse produces a muscle contraction which is sufficiently unpleasant to cause the animal to avoid the wires.

We recommend you use a Sureguard Fence Wire Kit designed for the particular animal. You may also design your own barrier.

For design information & worthwhile tips, visit our web site at: www.sureguard.com.au/electric_fence_design.html

How Do I Operate the Energizer?

Power Source:

This device may be operated from a 12 volt mains power adapter or from two AA sized batteries. For permanent installations we recommend using a power adapter. The adapter must be 12 volts and no more than 150mA. These are available from Sureguard. Should you want to provide backup power in case of mains power failure, we recommend installing rechargeable batteries of at least 600mAH rating. The power adapter will keep these batteries charged & ready for operation.

For portable use, install two AA sized rechargeable batteries of at least 2000mAH rating. Operating time in stand-by mode is one month, and will energize a fence for 2~3 days. Alkaline batteries may also be used for similar running times. **NOTE:** The device will pulsate more slowly on low batteries but the fence pulse will remain strong.

Important: 1/ If you install batteries, they must be identical in brand, age & mAH rating. 2/ NEVER use non-rechargeable batteries while the power adapter is connected. 3/ The device is water resistant provided it does not operate submersed. If you build an enclosure you must provide drainage for condensation. 4/ The Power Adapter is NOT weather proof and must be installed indoors.

Control Panel:

The Control Panel (figure 2) has a push button switch and three indicator lights. The push button switch is used to stop & start the device. The indicator lights show whether the device is operating correctly or what fault has occurred. To start the device operating, press & release the push button switch. To stop the device operating, press & release the push button switch again.



Figure 1

Symbols Used Below:	<input type="radio"/> No Light	<input checked="" type="radio"/> Constant Light	<input checked="" type="radio"/> Light Flashes ON & OFF
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NORMAL OPERATING CONDITIONS	INDICATOR LIGHTS		
	POWER	FAULT	FENCE
The device has power. Fence is OFF.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
The device has power. Fence is ON.	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

FAULT CONDITIONS	INDICATOR LIGHTS			PROBLEM SOLVING
	POWER	FAULT	FENCE	
The device has no power to operate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	#1
Battery is low. Fence is OFF.	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	#2
Battery is low. Fence is ON.	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	#2
Fence has a Fault.	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	#3
Battery is low. Fence has Fault.	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	#3
Possible device malfunction.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	#4



Figure 2



How do I Problem Solve Faults?

#1 - Device has no power

- Make sure the power adapter is properly plugged into the wall socket.
- If you do not have batteries installed, then either the power adapter is faulty or the surge protection component has blown inside the energizer. Call Sureguard & ask for Technical Assistance.
- If you have installed batteries, remove them and check that they were placed in the correct orientation.
- Make sure the battery terminals are clean.
- Replace the batteries.

#2 - Power source low

- If you do not have batteries installed, then either the power adapter or energizer is faulty. Call Sureguard & ask for Technical Assistance.
- Batteries are nearly exhausted. Replace non-rechargeable batteries, or place rechargeable batteries into a charging device.
- If the operating time on batteries is becoming short, your rechargeable batteries are either getting old or are too low in mAh rating.

#3 - Fence fault

- Perform the following self-test: Disconnect the energizer's output terminals from the fence wires. Switch the energizer ON. Wait 60 seconds for it to measure the output voltage. If the fault light comes on again then the fault is internal to the energizer. Call Sureguard & ask for Technical assistance.
- If the self test is okay then reconnect the output terminals to the fence wires. Break up your fence into several sections. Energize the first section. If this section is okay then the fault light will remain off. Next, energize the first and second sections. If section 2 is okay then the fault light will remain off. Continue this procedure until the fault light indicates which section causes the fault. Also, keep within the maximum distance rating of the energizer. **Note:** The in-built functions (Advanced User's Section) may help you to further problem solve the fault. Refer to functions #1,3,4 & 5.

#4 - Possible device malfunction

- Try resetting the fault indicator (see below). If the same fault comes back then call Sureguard & ask for Technical Assistance.

How to reset the fault indicator:

Press the push button switch to switch OFF the fence. The fault light will continue to flash. Wait 5 seconds. Press the push button switch again to switch ON the fence. This will clear the fault light. If the source of the fault continues then the fault light will come on again. You must rectify the fault to maintain a reliable fence.

Advanced User's Section

These additional functions are not required for basic operation of the energizer. They provide customized options & additional information for problem solving. The method to select a function is as follows: 1/ If the fence light is ON then switch OFF the fence. 2/ Press AND Hold the push button switch down until the three indicator lights glow. 2/ Immediately release the button. 3/ Immediately press the button the number of times for the function you want to select. For example, press three times to report the average fence voltage (see below).

Functions #1 to #8:

#1 Reports more information about a fault. Count the number of beeps reported. The number meanings the following:

- 1-Beep: No fault recorded.
- 3-Beeps: The output voltage has been low for a prolonged period. Probably indicating shorted wires.
- 4-Beeps: The internal battery is nearly exhausted. Recharge in external charger. Or replace battery.
- 6-Beeps: The output voltage is going low intermittently. Probably sparking somewhere on your fence.
- 7-Beeps: Device malfunction. Contact the manufacturer.

#2 Reports the State of Charge of the battery (if installed). Count the number of beeps. The number will be 1-10 meaning 10% to 100% charge.

#3 Reports the average fence voltage measured over the last 30 Seconds. Count the beeps. For example: counting 4 beeps followed by 2 beeps means 4.2kV. (kV meaning kiloVolts. i.e. 4.2kV is 4200Volts). Values between 0.1kV & 0.9kV are reported as a single digit. Values with zero as the second digit are rounded up one, so 4.0kV will read as 4.1kV. Typical values will depend on your fence design but could be from 2.5kV to 7.5kV. The fault indicator is triggered below 3.5kV.

#4 Reports the minimum fence voltage today or from the last time a reading was taken. Small fluctuations will naturally occur over a 24-hour period. Large fluctuations may indicate intermittent faults or aged fence components. **NOTE:** To measure the un-loaded terminal voltage of the energizer disconnect the live fence wire terminal. However, it is important to connect the energizer's earth terminal to the fence earth, otherwise the reported minimum voltage will be incorrect.

#5 Reports the maximum fence voltage in a similar way to the minimum. This reading gives you a reference point for interpreting the minimum reading.

#6 During a fault, the device will sound an alarm every 50 seconds to draw your attention to the device. This function switches the fault alarm sound OFF. Re-applying power will activate the alarm sound again. **NOTE:** The device mechanism makes a slight sound during operation. This is normal. It is not the alarm.

#7 When power is generated at the device output terminals, the device will simultaneously sound a CLICK. This function makes the click sound quieter. Re-applying power will activate the click sound again. **NOTE:** The device mechanism makes a slight sound during operation. This is normal.

#8 If you press the switch the wrong number of times and want to cancel then just press 8 or more.

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