

## Contents

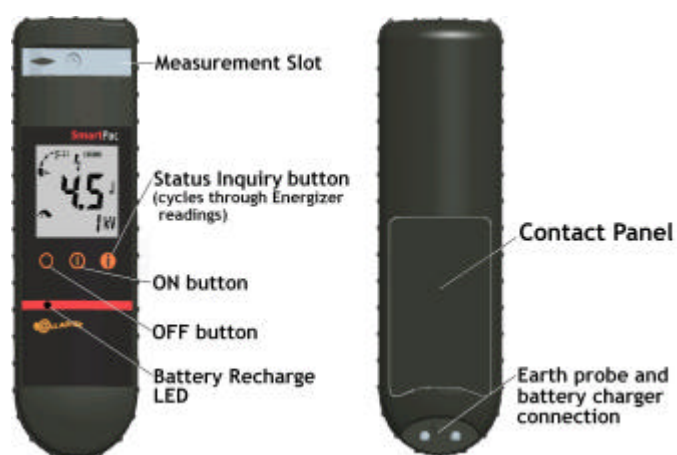
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## Understanding your SmartPac Remote Control

The SmartPac Remote Control switches the energizer ON or OFF and can check the energizer readings when used with a Gallagher MX7500 energizer, from anywhere the fence is powered. The SmartPac can also be used as a Voltage and Current meter for detection of faults on your electric fence. The SmartPac is the ultimate tool for rapid fence maintenance.

**Note:** Before you can use the SmartPac for the first time you must fully charge the battery. See *SmartPac battery* (p 12).

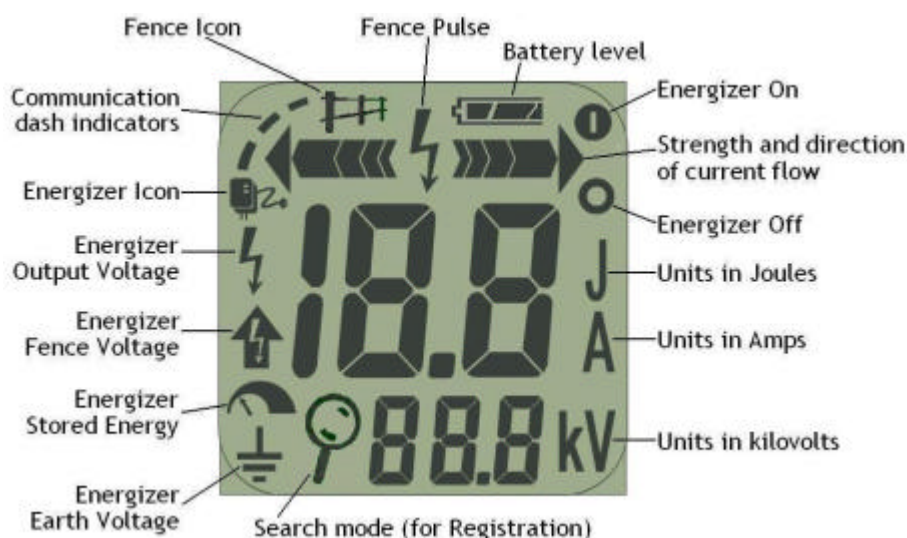


**IMPORTANT:** The SmartPac can communicate with a maximum of nine MX7500 or MR6000 energizers. For each energizer (MX7500 or MR6000) you want to communicate with, you need to complete the registrations process as described *Registration* (p 9).

**Note:** If you only have one energizer you do not need to complete the registration process.

## SmartPac Screen

The following diagram of the SmartPac screen shows the full range of symbols. You will not see the full range of symbols at once.



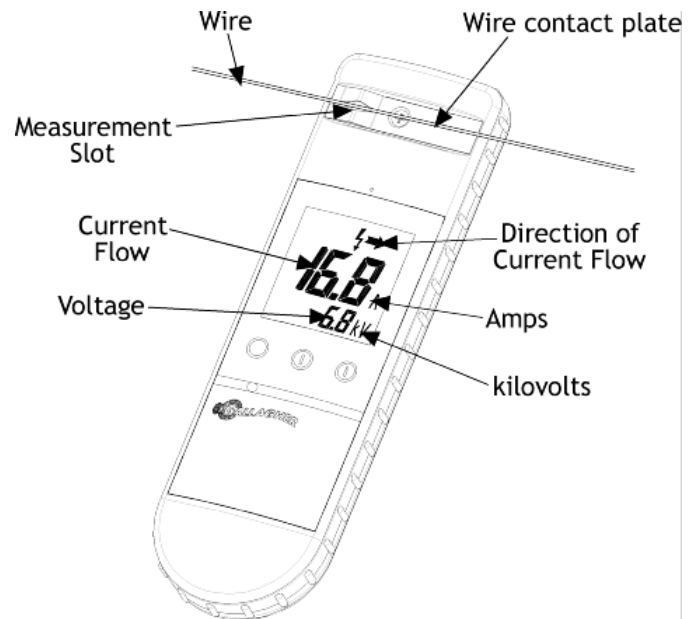
	<b>Strength and Direction of current flow</b> Only one arrow displays, indicating the direction of the current flow. The length of the arrow indicates the magnitude of the current flow.
	<b>Low Battery</b> When the Battery symbol displays like this, the battery has lost most of its charge. Once the symbol starts flashing the battery needs to be recharged immediately.
	<b>Fence Pulse</b> SmartPac has detected an energizer pulse. This icon flashes on with each fence pulse detected.
	<b>Energizer Icon</b> Indicates that the displayed readings are from the energizer.
	<b>Communication dash indicators</b> This icon displays when the SmartPac is communicating with the energizer.  <b>Note:</b> The dash indicators move back and forth between the energizer and Fence icons while attempting to establish communications. Once communications are established the dash indicators remain stable. If the dash indicators do not display, then communications have not been established.
Output voltage Fence voltage Stored Energy Earth voltage	<b>Energizer Output readings</b> Only one of these symbols displays at any one time. Press the <b>Status Inquiry</b> button and you to cycle through the energizer output readings that the energizer has sent down the fence line to the SmartPac.

## Using the SmartPac in Voltage and Fault Finder Mode

### Fence Measurement mode


1. Place the SmartPac on the fence wire so the wire lies in the Measurement Slot, making good contact with the Wire contact plate on the front of the SmartPac. Ensure your fingers touch a large amount of the Contact panel on the back of the SmartPac.

**Note:** The Wire contact plate (incorporating the Measurement Slot) is designed for both wire and 12.5mm tape. The V section allows wire to be scraped for improved contact.



2. The SmartPac switches itself on if it detects a fence pulse. The current flowing through the wire and voltage on the fence is shown automatically on the display.

**Note:** To avoid excessive battery use caused by accidental activation, do not leave your Gallagher SmartPac on or near the energizer or electric fence.

3. The Arrows on the display (  ) indicates the direction the current is flowing. The size of the arrow indicates the size of the current. The current is displayed in Amps.

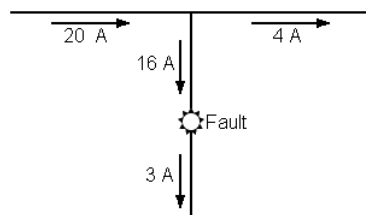
**Handy Hint:** Gallagher recommends that you maintain a minimum of 3kV on your fence line. Because most fence lines have some current flow, it is only necessary to check for faults when the voltage drops below the normal operating level.

## Fault Finding mode

**Note:** The current flow on the fence varies depending on the size of your energizer, any vegetation on or near the fence and the size of your fence network. With time you will learn what is the normal current flow on your fence. To obtain the best results from your SmartPac, Gallagher recommends that you check the current while the fence is operating without any faults. Then, when you suspect there is a fault on the fence line, you can compare the current flow with the "normal" current flow. This will indicate whether a fault exists and, if so, how much the fault is affecting the performance of the fence.

1. Following the direction of the current, take readings approximately every 50 - 100 metres, or at junction points along your fence line.

**Note:** At a junction point, follow the wire with the highest current flow.








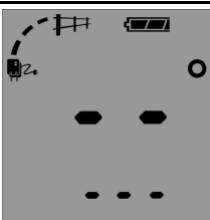

2. A fault is indicated by a drop in current flow between two checkpoints. The fault will be somewhere between the two checkpoints.
3. To narrow down the location of the fault, work back along the fence checking the current flow at shorter intervals.
4. Correct the fault.
5. After correcting the fault you should see the current reading drop and the voltage go up. If not, check for further faults.



**Note:** Multiwire fences connected in parallel have similar current flowing in each wire. To get the total fence current flow, add together the current flow in each wire.

## Using the SmartPac as a Remote Control

The SmartPac can be used as a remote control to operate your MX7500 energizer, providing a simple interface with only three buttons.

Place the SmartPac on the fence wire so the wire lies in the Measurement Slot, making good contact with the Wire contact plate on the front of the SmartPac. Ensure your fingers touch a large amount of the Contact panel on the back of the SmartPac. You may need to scrape the wire in the 'Measurement slot' to ensure a good contact is made.

Button / Function	Result
 Press the <b>ON button</b> to turn the energizer on.	<p>The SmartPac provides an audible "beep" on successful communications, and the display provides visual notification that:</p> <ul style="list-style-type: none"> <li>the SmartPac is communicating with the energizer, (i.e. the Communication icons display in the top left corner).</li> <li>the energizer is ON. The Fence Pulse icon begins to flash with each pulse, and the ON  icon and the energizer channel number displays if more than one energizer is registered.</li> </ul> <p>After 3 seconds, the SmartPac reverts to Fence Measurement mode.</p> 
 Press the <b>OFF button</b> to turn the energizer off.	<p>The SmartPac display provides visual notification that it is communicating with the energizer. On successful communications it provides an audible "beep", and the display indicates that the energizer is OFF by displaying the Standby  icon.</p> <p>After 3 seconds, the SmartPac reverts to Fence Measurement mode.</p> 
 Press the <b>Status Inquiry button</b> to interrogate the energizer.	<p>The SmartPac display provides visual notification that the SmartPac is communicating with the energizer and it provides an audible "beep" on successful communications. Once the communication has been made (or the communication attempt is abandoned), the energizer stored energy appears on the display. The energizer icon displays indicating the reading is from the energizer, the stored energy joules icon appears.</p> <p>With each further press of the Status Inquiry button the unit scrolls through values showing the relevant icon and unit (J / kV) for:</p>

	<div> <div> <ul style="list-style-type: none"> <li>- Stored Energy</li> <li>- Earth Voltage</li> <li>- Fence Voltage</li> <li>- Output Voltage</li> </ul> </div> <div>  </div> <div>  </div> </div> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• The energizer icon is displayed indicating that the values are from the energizer. If the icons are flashing, this means that the communication was unsuccessful and the values displayed were sent to the SmartPac during the previous successful status inquiry. By pressing the Status Inquiry button while not connected to the fence, you can display the last energizer readings again.</li> <li>• After 10 seconds with no key presses, the SmartPac reverts to Fence Measurement mode.</li> <li>• The <b>Status Inquiry</b> button operates as described only when used on a Gallagher Select energizer.</li> <li>• Remember that if the energizer has been switched off and then back on again with the SmartPac, you need to wait for up to one minute before the energizer adapts to the fence conditions. You should therefore wait for one minute after turning the energizer back on before conducting an energizer "Status Inquiry".</li> </ul>
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**Example of typical usage:** You noticed the fence load had increased on the energizer display. You then go out onto the farm to find the fault using your SmartPac and make the repair, (e.g. wire on the ground or damaged insulator). Once repaired, you then check, from the farm, that the fault you repaired put the energizer back to normal operation. This gives you confidence that the repair fixed the problem and there weren't additional faults.

## Registration: Using your SmartPac with multiple energizers

The SmartPac has available nine 'channels' that can be "tuned in" to a specific energizer, enabling the SmartPac to control upto nine energizers.

Each new energizer has a unique channel number. If you use your SmartPac with only one energizer your SmartPac is always operating using Channel 1.

**Note:** You do not need to complete the registration process unless you used more than one energizer.

If you have more than one energizer, perform the following Registration procedure so you can switch between different energizers (a maximum of nine) from the one SmartPac.

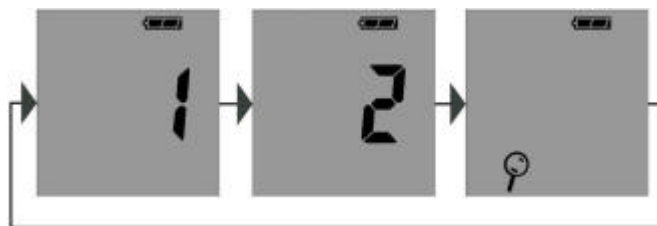
### IMPORTANT!

Remember which channel number corresponds to which energizer. A table has been provided at the end of this manual for you to record these details for future reference.

### Selecting a Channel

To select the energizer you want to communicate with, complete the following setups:


1. Hold down any one button (ON/OFF/Status Inquiry) on the SmartPac for 3 seconds.  
After 3 seconds, and while the button remains held down, the SmartPac display scrolls through all the "filled" channels, skipping any empty channels.

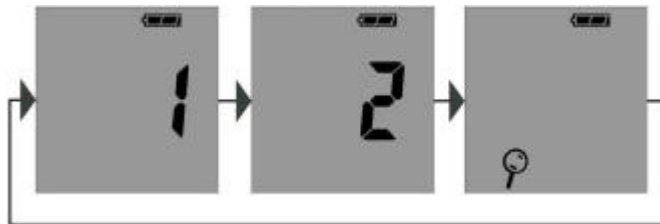



2. Release the button when the energizer channel number you wish to communicate with is displayed.

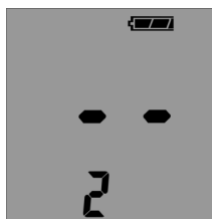
## Adding Channels

To add a new energizer to the list of channels, complete the following:

1. Hold down any button (ON/OFF/Status Inquiry) on the SmartPac for 3 seconds.  
After 3 seconds, while the button remains held down, the SmartPac display scrolls through all the "filled" channels, skipping any empty channels.  
Just before wraparound back to channel 1, a "new" channel is indicated by the magnifying glass  icon, (i.e. search mode in picture on the right below). Once on this screen release the button.



2. Hold the SmartPac against a wire connected to the new energizer.  
Place the SmartPac on the fence wire so the wire lies in the Measurement Slot, making good contact with the Wire contact plate on the front of the SmartPac. Ensure your fingers touch a large amount of the Contact panel on the back of the SmartPac.
3. Press any one buttons to enter Registration mode and communicate with the new energizer.  
This "tunes" the SmartPac in to the new energizer and enter it in the first "unfilled" channel.  
**Note:** The button pressed in this step does not perform its normal function, (i.e. pressing the ON button will not turn the energizer on).  
On successful registration the magnifying glass icon is cleared and the new energizer channel number displayed. (In this case "Channel 3" is the new channel) If registration is unsuccessful, the magnifying glass  icon flashes. Repeat Step 3 if the process was unsuccessful.



## Deleting Channels

1. Select the channel you wish to delete using the "Selecting a Channel" procedure earlier.
2. Either:
  - Press all three buttons (ON/OFF/Status Inquiry) or
  - Press two buttons (ON/OFF).  
After 3 seconds the channel number flashes for a further 3 seconds. If the buttons are released during this time the channel will not be deleted. After the flashing period the channel is deleted and the next lower channel is displayed.

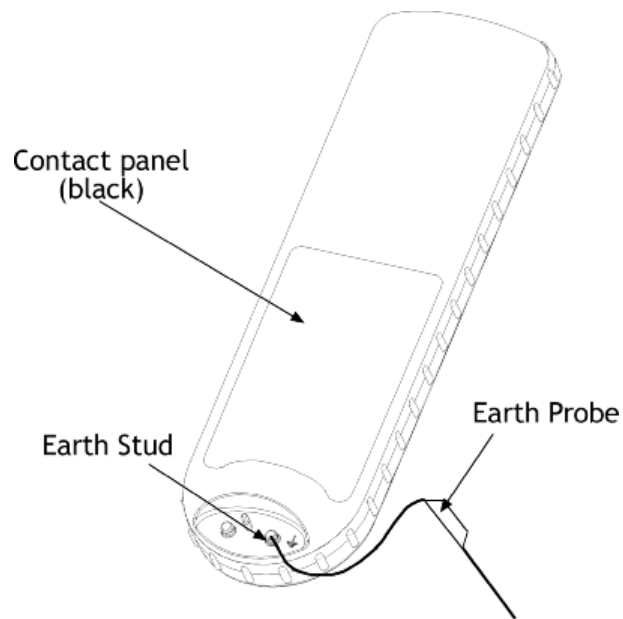
## Earth Probe Accessory

The SmartPac has been designed to give an accurate measurement of voltage across a wide range of conditions.

While you should keep contact with the Contact panel on the back of the SmartPac, if greater accuracy is desired, or to help communications, the Earth Probe can be used instead.

### Using the Earth Probe:

1. Connect the Earth Probe to the right-hand earth stud on the back of the SmartPac.
2. Push the Earth Probe into the ground.
3. Use the SmartPac previously described.



**Note:** If you have an Earth Return Fence system then always use the Earth Probe.

Place the Earth probe on the Earth wire to communicate with the energizer. In all other instances, placing your finger on the Contact panel is sufficient. **Note**, this will not give you a shock.

## SmartPac battery



### Charging the battery

**Note:** Before you can use the SmartPac for the first time, you must fully charge the battery.

During charging, the SmartPac Battery Recharge LED is on. Once the battery is charged, the LED goes out. If the battery is fully discharged, charging will take approximately 2 hours.

A flat or low battery is indicated by the Battery Level icon flashing while the SmartPac is being used. If this symbol is flashing the battery needs to be recharged soon. Letting the battery fully discharge and then fully recharging it, is recommended to maintain the expected life of the battery.

**IMPORTANT:** Use only the battery charger supplied with the SmartPac for recharging, and do NOT use the SmartPac on your fence during charging. The SmartPac will not start while the charger is attached.

**Note:** Please note that the Car charger (an optional extra) is 12V only. Some vehicles (including tractors) are 24V, in which case the car charger cannot be used as it could damage the SmartPac.

**IMPORTANT:** If the battery needs replacing, return the SmartPac to your Gallagher dealer. Do NOT attempt to change the battery supplied with the SmartPac, otherwise your warranty will become invalid.

## Record of Registration

Use this table to record which channel number corresponds to which energizer for future reference. Refer to *Registration* (p 9) for further detail.

Channel number	Energizer
1	
2	
3	
4	
5	
6	
7	
8	
9	