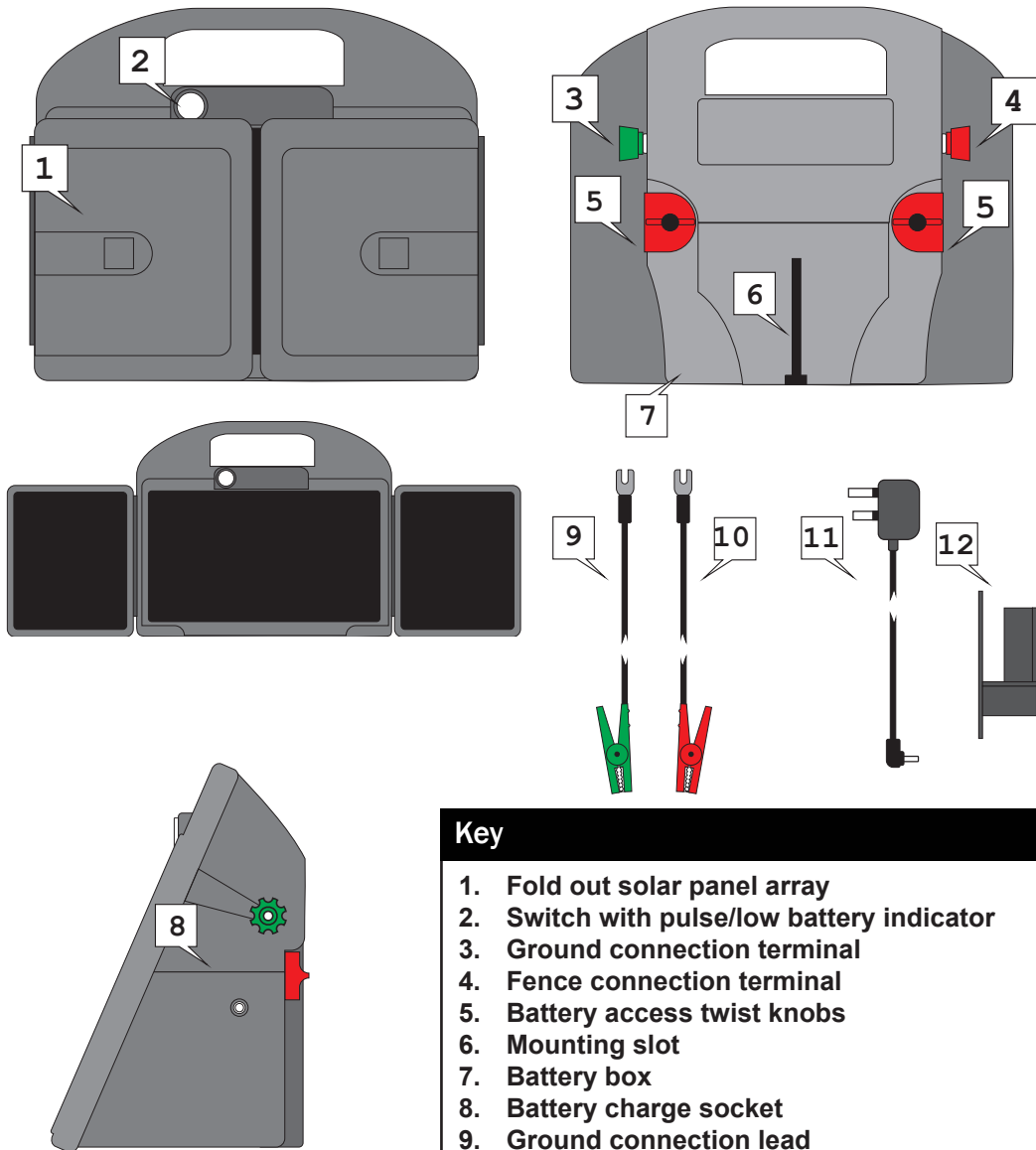


# Installation guide - Type: HLS200



Please read through before installation. Please read safety guidelines leaflet.

## Getting to know your energiser.



### Key

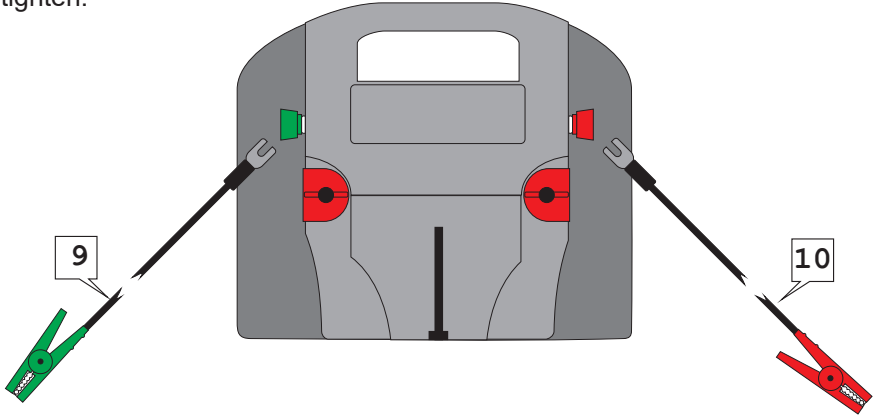
1. Fold out solar panel array
2. Switch with pulse/low battery indicator
3. Ground connection terminal
4. Fence connection terminal
5. Battery access twist knobs
6. Mounting slot
7. Battery box
8. Battery charge socket
9. Ground connection lead
10. Fence connection lead
11. Battery charger
12. Wall/post mounting bracket

## Connecting it all together

HLS energisers include internal 12v batteries and are ready to operate out of the packaging although we do recommend charging the energiser for 12 hours prior to use. Please see section on charging the battery.

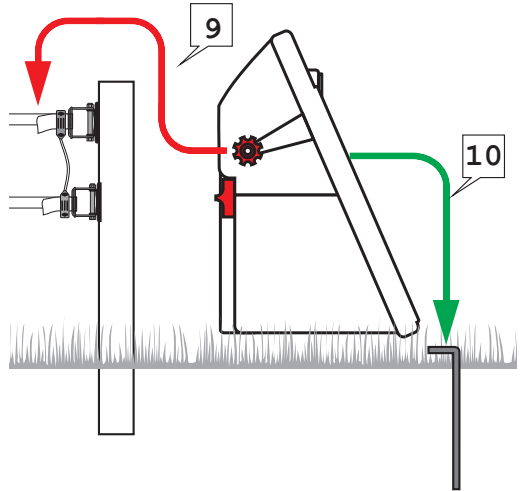
### Lead connection

Unscrew the terminals and slide on the ring terminals on the earth and fence leads. Securely tighten.



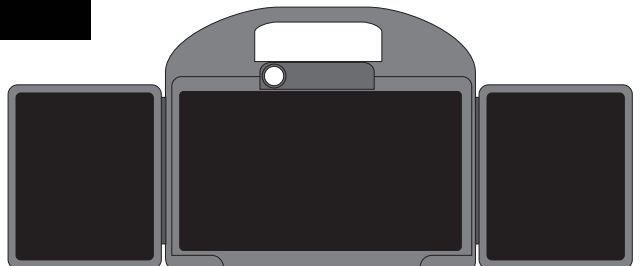
### Fence connection

Connect the lead with the red croc clip to the fence (from red terminal) & the green croc clip (from the green terminal) to the ground rod. We recommend a minimum of one ground rod driven approx. one metre into the ground. If possible, position the energiser with the panel facing south and with a clear line of sight avoiding obstructions such as tree cover.



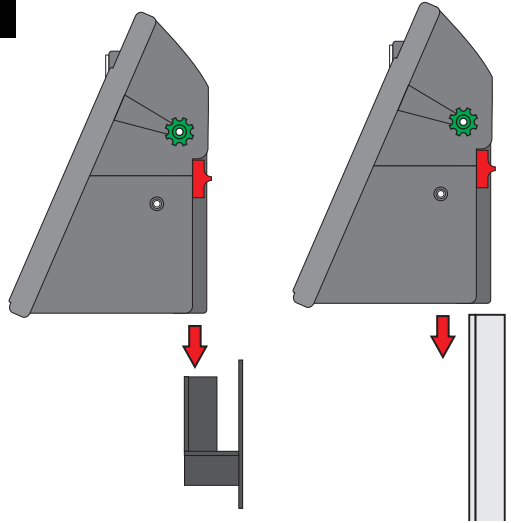
### Panels

Fold out the two side panels fully prior to use.



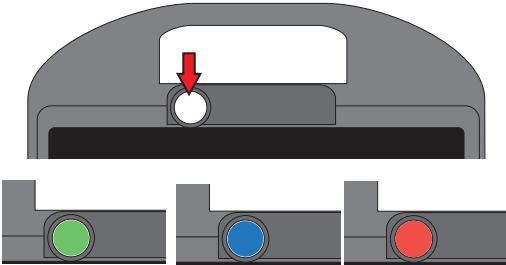
## Mounting

Energisers can be mounted on the wall/post bracket provided or alternatively on 47ES3 and 47EST1 earth stakes (purchased separately). If sitting on the ground, ensure the panel is not obstructed by vegetation.



## Switching on and off

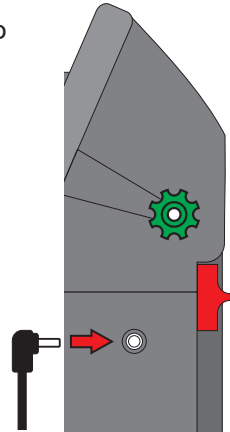
Press the switch on the front of the energiser. There will be a short delay before the switch will begin to flash green in time with the pulse. The switch will flash blue when battery power is getting low and red when charging is needed.



## Charging the battery

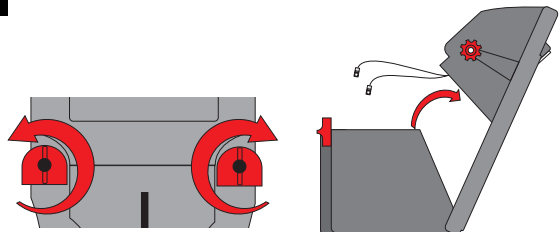
From time to time the battery may need recharging. It is especially important to keep the battery charged when the energiser is not in use and stored away from direct sunlight. Insert the male jack plug on the charger into the socket on the side of the energiser, and plug the head into the wall socket.

**The charger must not be used to operate the energiser from mains supply.**



## Battery access

If access to the battery is required for replacement or checking, rotate the red twist knobs outwards 90 degrees and hinge the panel section forward. The battery can be removed by unscrewing the battery retaining strap.



## Trouble shooting

You should have a minimum of 3kv on your fence line to be effective. In principle, electric fencing is a simple concept. If your energiser is working then there can only be two other places to look - your fence line or ground system.

### Checking the energiser

**Sound and sight** - Most energisers emit an audible tick caused by the firing of the output transformer. This is a good indication that the energiser is working. The indicator light or fence monitor should be pulsing or flashing. The energiser has a pulse indicator, and this should be operating at all times. If the light is flashing green it usually means that the energiser is working correctly. This indicates that the problem is somewhere on the fence system. If red then your battery needs charging\*. **Flash test** - disconnect the croc clips from the fence and ground stake. Clip the croc clips together making sure the metal jaws contact each other. Slowly draw them apart - you should get a short (1-2mm) spark jumping from one to the other. **Use a Tester** - disconnect completely from the ground stake and fence and take a reading across the terminals. Depending on the model of energiser you should have a reading between 7 and 10kv.

### Checking the ground system

**Low voltage** - If there is high voltage on your ground stake it is missing from your fence line. The greater the depth and surface area under the ground the more efficiently your ground stake will collect the pulse as it returns through the earth. If you get a shock from your ground stake, or your tester shows voltage when touched to the ground stake, you can improve your whole system by adding further ground stakes. Link additional ground stakes with wire, spacing them about a metre apart.

### Checking the fence line

**Clear lines** - An electric fence operates as an open circuit. The fence is positive and the ground itself is negative. By touching both fence and ground the animal completes the circuit and get the shock. If anything touches both ground and fence, other than the animal, it reduces the effective voltage on the fence line. The fence line must not touch anything that is not insulated from the ground. Check the fence line is clear from all vegetation and wooden posts, metal posts and gates are not touching the line. Check all insulators. The fence line can occasionally come unhooked from insulators and touch the posts and broken insulators can cause leaking of power into the post and ground. **Line problems** - If you are joining two sections of tape or wire, try to use correct connectors to ensure the conductors in both sections are connected. Check the condition of the line, if the metal conductors within the line are broken it will effect the efficiency of the fence. Greater metal content means greater efficiency. **Netting** - Netting is closer to the ground than other forms of fence so requires more maintenance to keep clear from vegetation. All horizontal lines, apart from the bottom, must be kept clear from the ground. If your net is sagging and touching the ground, add in extra posts. The net must also be clear of contact from other forms of fencing, arks and chicken wire runs. Check the metal spikes on the posts, occasionally wires can get caught up or slip down to the metal spike and take power to ground. **Remember-** if your energiser and ground system is fine, the problem **will** be somewhere on your fence line!

If in doubt, **Call** - We are always happy to help. **+44(0)1626 33 11 88**