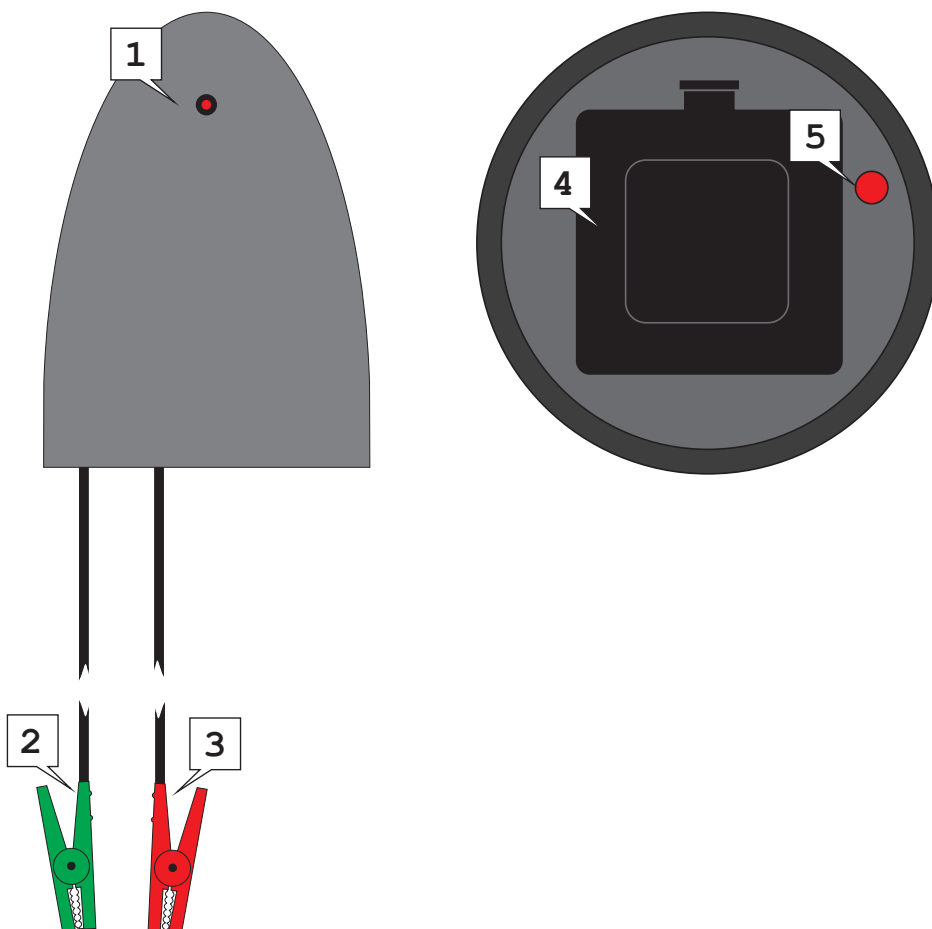


Installation guide - H5850 - MICRO 3



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

What's in the box? Getting to know the Micro 3



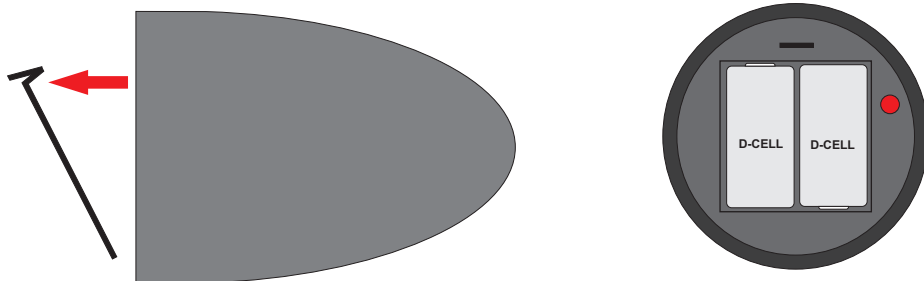
Key

- 1. Pulse indicator
- 2. Ground connection lead
- 3. Fence connection lead
- 4. Battery door
- 5. On/off switch

Connecting it all together

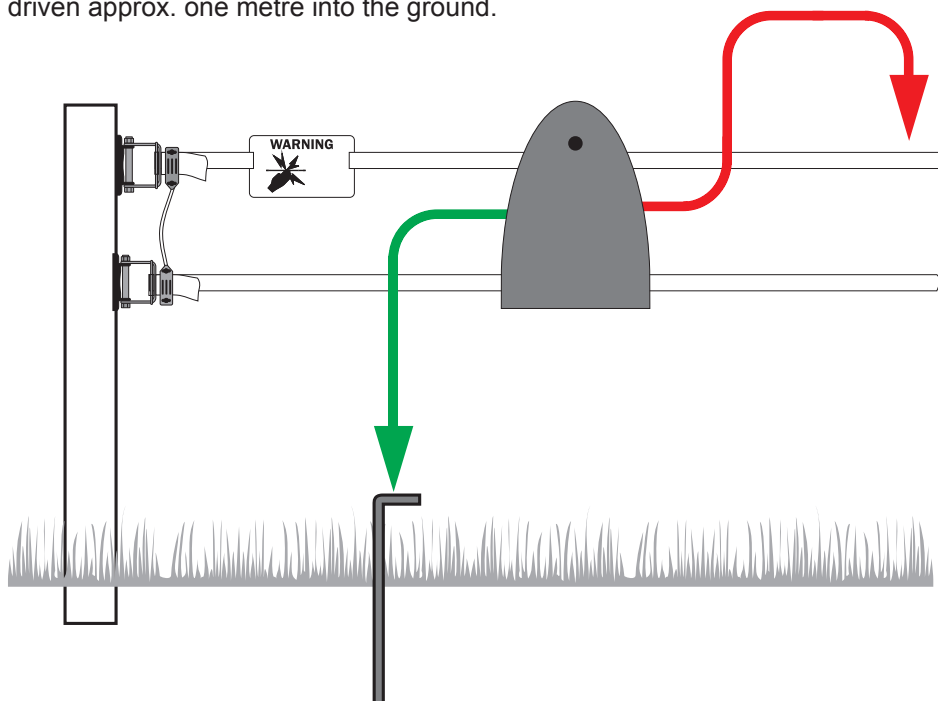
Insert batteries

Remove the cover from the battery box and insert 2 x D-Cell batteries. Replace the cover.



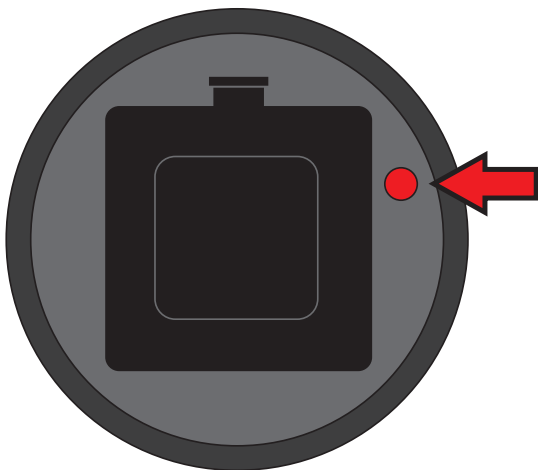
Fence connection

Hang the energiser on the fence line, earth stake or suitable place. Connect the lead with the red croc clip to the fence & the green croc clip to the ground rod. We recommend a minimum of one ground rod driven approx. one metre into the ground.



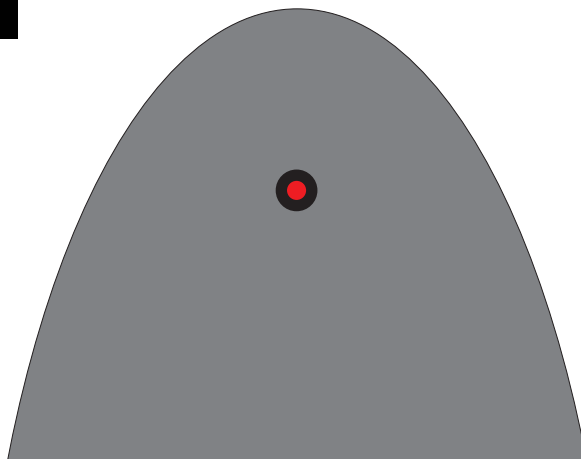
Switching on and off

Press the red button on the base to turn on.



Pulse indicator

The light on the front of the Micro 3 will flash with every pulse.



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 Micro 3 has a pulse indicator, and this should be operating at all times. If the light is flashing it usually means that the energiser is working correctly. This indicates that the problem is somewhere on the fence system. **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 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 gets 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)845 241 5085**



SAFETY HINTS SICHERHEITSHINWEISE ELECTROZAUN INFORMATIONS DE SÉCURITÉ

PART 1: Warning

SAFE ELECTRIC ANIMAL FENCES

Please read before operating an electric fence

The installation and operation of an electric fence needs to be conducted in a manner that causes no electrical hazard to persons, animals or surroundings.

For safe application please adhere to the following points

Use only as much power (joules) as is necessary for your application. Short fences of up to 10km without vegetation contact can be operated with 0.2 to 0.5 joule pulse energy. Medium fences of up to 20km with light vegetation should operate effectively with a maximum of 2-3 joule pulse energy.

Low output energisers (or low output settings where available) should be used where unsupervised children may come into contact with the fence, in and around residential areas and when operating alternate polarity or positive/negative fence systems where multi fence lines are connected 'live/earth'.

Avoid direct, bodily contact with the electric fence with extra precaution taken with head, neck and torso (trunk) areas.

- **Avoid alternating polarity (positive/negative, live/earth) fence where persons can position themselves between wires with opposing polarity. Where possible use energisers below 0.5 joules and install a non-electrified earthed wire.**
- Allow persons to pass through areas of public access by means of insulated gates, gate handles and insulated stiles. Where an electric fence crosses or runs along a public right of way clearly identify electric wires with warning signs spaced not more than 100m apart.
- Ensure the electric fence is installed 2.5m from metallic equipment and services (i.e. waterpipes/troughs) especially when contact with people is likely.
- The energiser must be turned off if there is a danger of flooding.

Please read annex BB1.

Most energisers are designed with a pulse interval of 1-1.5 seconds. This is to ensure a safe retreat from the fence following a shock. If the pulse interval drops below 1 second or above 1.5 seconds the fence is unsafe and the energiser must be returned for repair.

Our energisers comply with the European Standard EN 60335-2-76 and do not cause radio or TV interference. Our energisers also comply with European Directive (EMC) 89/336/EEC and are printed with the CE mark.

Avoid misuse of the energiser by observing information printed on the unit and if possible by securing the energiser against unauthorized access.

Specialised applications such as in zoos, for deer, wildlife conservation or in a security context, where risk from public exposure is likely, the installation should be undertaken by trained specialists and a conventional, electrically isolated barrier should be erected separating the public from the electric fence.

Part 2: Principle

An electric fence uses high voltage, low energy pulses to deliver a shock and provide an ongoing psychological barrier which animals are reluctant to cross. This can be used to train animals or to keep them from entering or escaping from fenced areas.

ANNEX BB.1

REQUIREMENTS FOR ELECTRIC ANIMAL FENCES

Electric animal fences and their ancillary equipment shall be installed, operated and maintained in a manner that minimises danger to persons, animals or their surroundings.

Electric animal fence constructions that are likely to lead to the entanglement of animals or persons shall be avoided.

An **electric animal fence** shall not be supplied from two separate **energisers** or from independent **fence circuits** of the same **energiser**.

For any two separate **electric animal fences**, each supplied from a separate **energiser** independently timed, the distance between the wires of the two electric animal fences shall be at least 2.5 m. If this gap is to be closed, this shall be effected by means of electrically non conductive material or an isolated metal barrier.

Barbed wire or razor wire shall not be electrified by an **energiser**.

A non-electrified fence incorporating barbed wire or razor wire may be used to support one or more off-set electrified wires of an **electric animal fence**. The supporting devices for the electrified wires shall be constructed so as to ensure that these wires are positioned at a minimum distance of 150 mm from the vertical plane of the non-electrified wires. The barbed wire and razor wire shall be earthed at regular intervals.

Follow the energizer manufacturer's recommendations regarding earthing.

A distance of at least 10 m shall be maintained between the **energiser earth electrode** and any other with the earthing system connected parts such as the power supply system

Connecting leads that are run inside buildings shall be effectively insulated from the earthed structural parts of the building. This may be achieved by using insulated high voltage cable.

Connecting leads that are run underground shall be run in conduit of insulating material or else insulated high voltage cable shall be used. Care must be taken to avoid damage to the connecting leads due to the effects of animal hooves or tractor wheels sinking into the ground.

Connecting leads shall not be installed in the same conduit as the mains supply wiring, communication cables or data cables.

Connecting leads and **electric animal fence** wires shall not cross above overhead power or communication lines. Crossings with overhead power lines shall be avoided wherever possible. If such a crossing cannot be avoided it shall be made underneath the power line and as nearly as possible at right angles to it.

If **connecting leads** and **electric animal fence wires** are installed near an overhead power line, the clearances shall not be less than those shown in Table BB1.

Table BB 1 - Minimum clearances from power lines for electrical animal fences

Power line voltage (V)	Clearance (m)
≤ 1000	3
> 1000 and ≤ 33000	4
> 33000	8

If **connecting leads** and **electric animal fence** wires are installed near an overhead power line, their height above the ground shall not exceed 3 m.

This height applies to either side of the orthogonal projection of the outermost conductors of the power line on the ground surface, for a distance of

- 2 m for power lines operating at a nominal voltage not exceeding 1000 V;
- 15 m for power lines operating at a nominal voltage exceeding 1000 V

Electric animal fences intended for deterring birds household pet containment or training animals such as cows need only be supplied from low output energizers to obtain satisfactory and safe performance.

In **electrical animal fences** intended for deterring birds from roosting on buildings no fence wire shall be grounded if the fence wires are not connected to metal parts. If one wire is connected with a metal part (i.e. a gutter) or a metal structure of the building these metal parts must be grounded.

A warning sign shall be fitted to every point where persons may gain ready access to the conductors.

Where an **electric animal fence** crosses a public pathway, a non-electrified gate shall be incorporated in the **electric animal fence** at that point or a crossing by means of stiles shall be provided. At any such crossing, the adjacent electrified wires shall carry warning signs.

Any part of an **electric animal fence** that is installed along a public road or pathway shall be identified at frequent intervals by warning signs securely fastened to the fence posts or firmly clamped to the fence wires.

The size of the warning sign shall be at least 100 mm × 200 mm.

The background colour of both sides of the warning sign shall be yellow. The inscription on the sign shall be black and shall be either

- the symbol of Figure BB1, or
- the substance of

CAUTION: Electric fence.



The inscription shall be indelible, inscribed on both sides of the warning sign and have a height of at least 25 mm.

Ensure that all mains-operated, ancillary equipment connected to the electric animal fence circuit provides a degree of isolation between the fence circuit and the supply mains equivalent to that provided by the energizer.

NOTE 1 Ancillary equipment that complies with the requirements relating to isolation between the fence circuit and the supply mains in Clauses 14, 16 and 29 of the standard for the **electric fence energiser** is considered to provide an adequate level of isolation.

Protection from the weather shall be provided for the ancillary equipment unless this equipment is certified by the manufacturer as being suitable for use outdoors, and is of a type with a minimum degree of protection IPX4.

PART 3: ELECTRIC SECURITY FENCES

for **Electric Security fences** special hints are valid for the mounting and installation – ask for Annex BB2 and CC of EN 60335-2-76 with SECURA SECURITY.