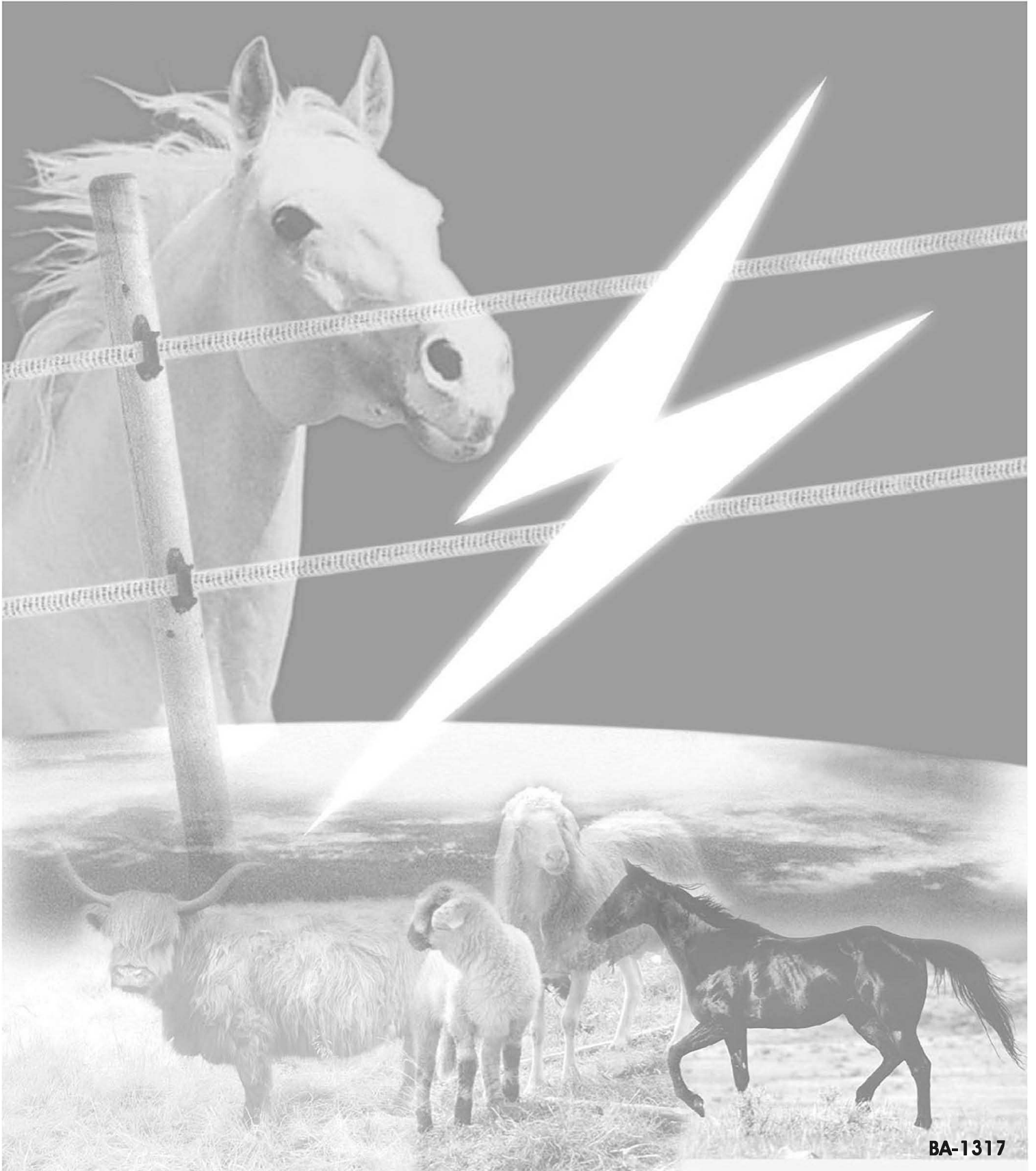
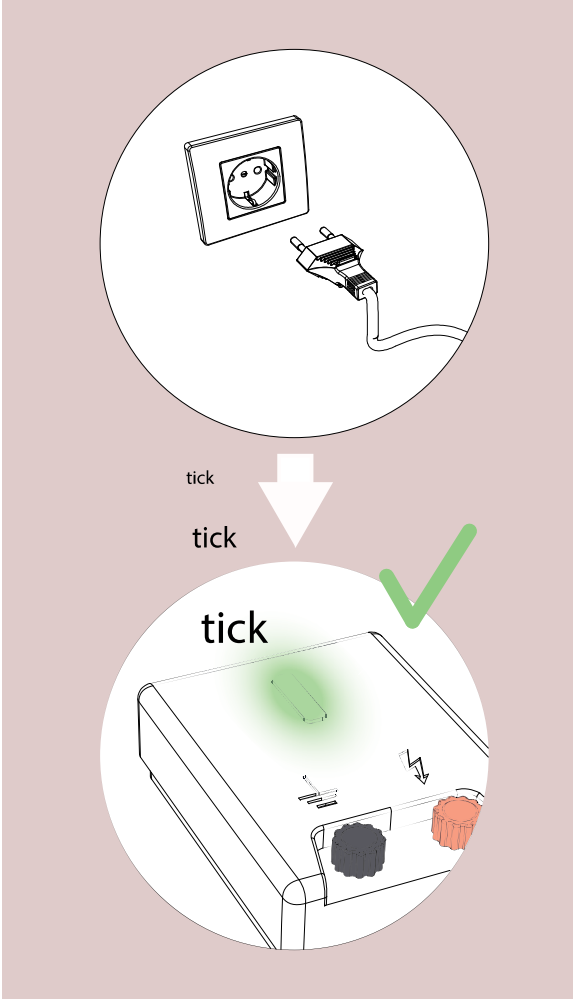
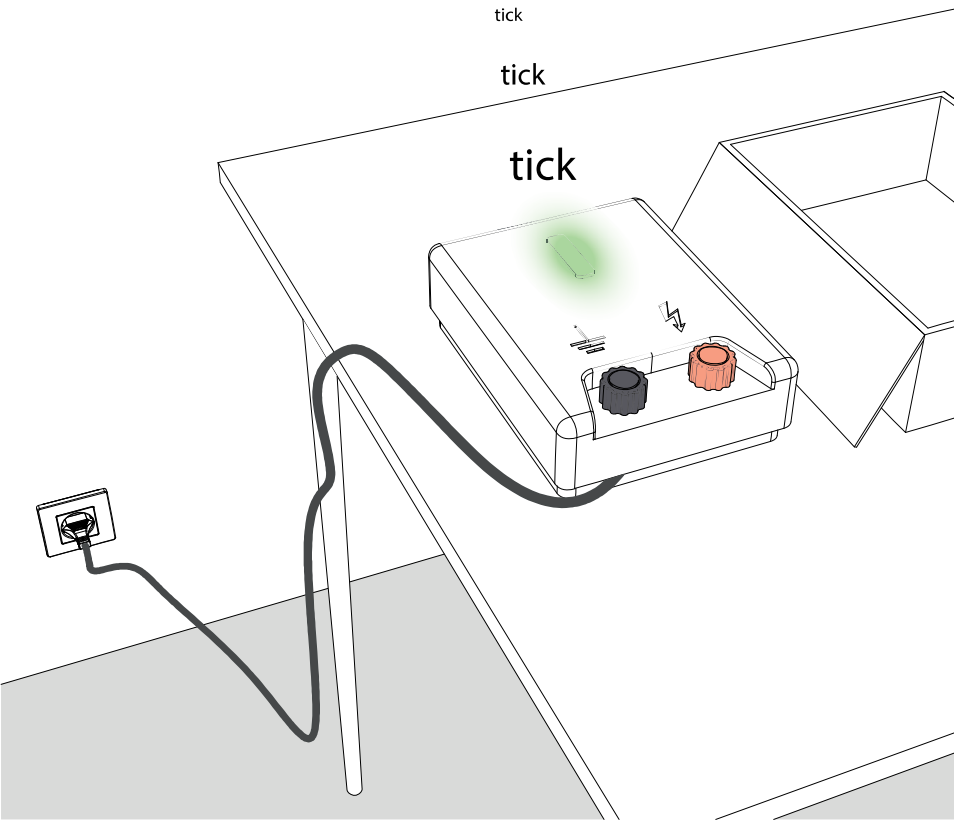


STARKLINE®

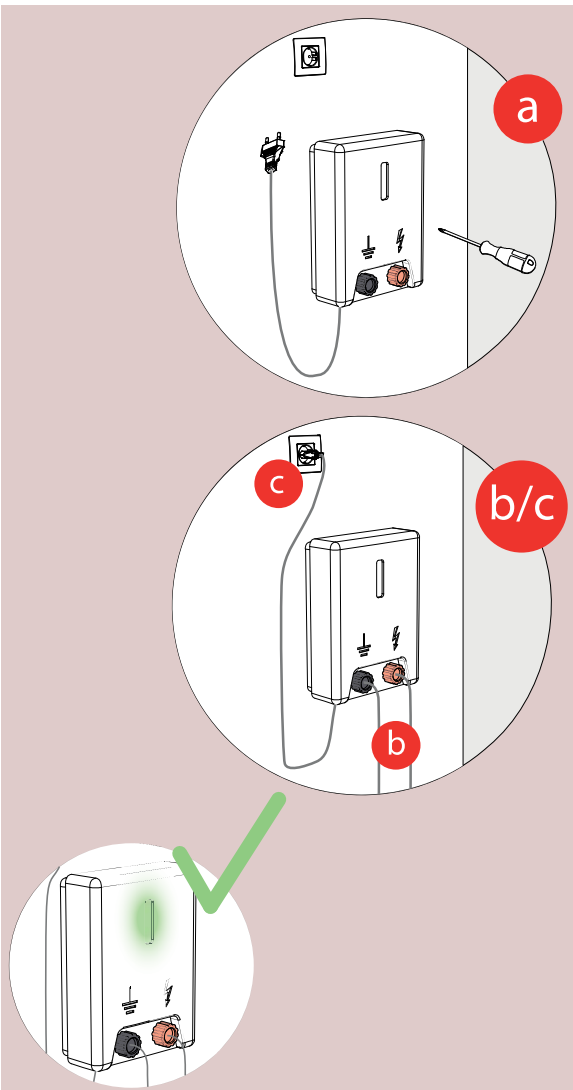
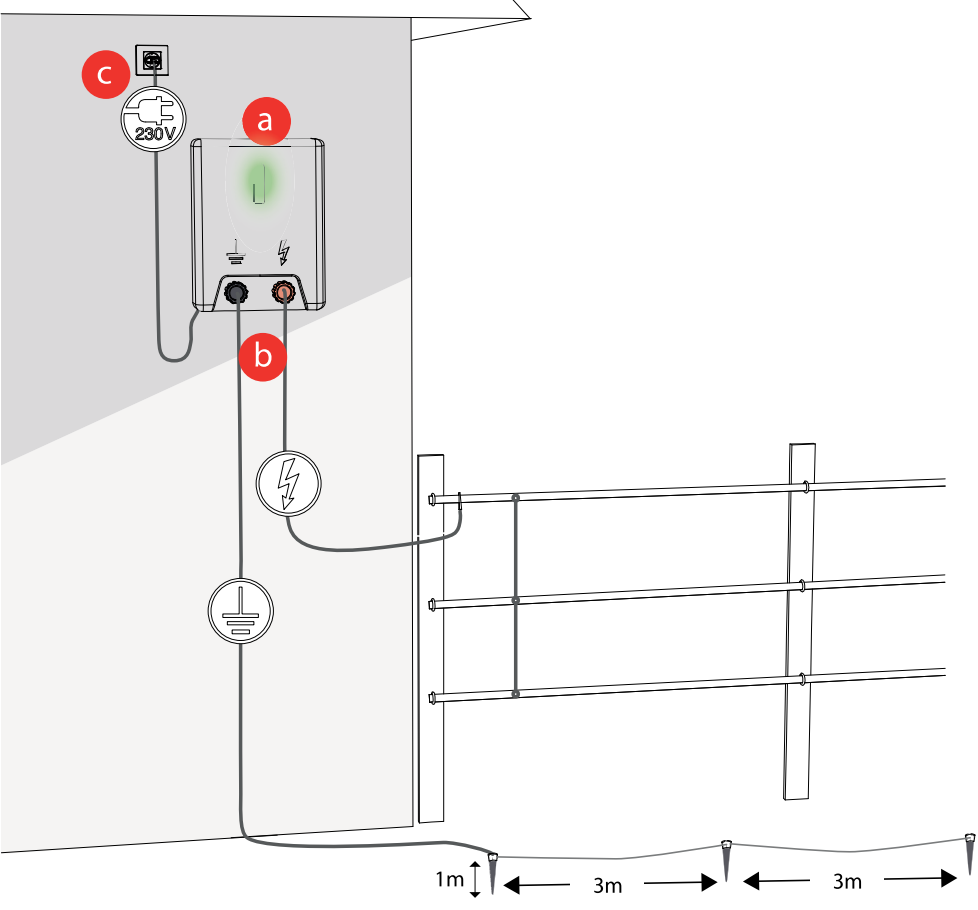


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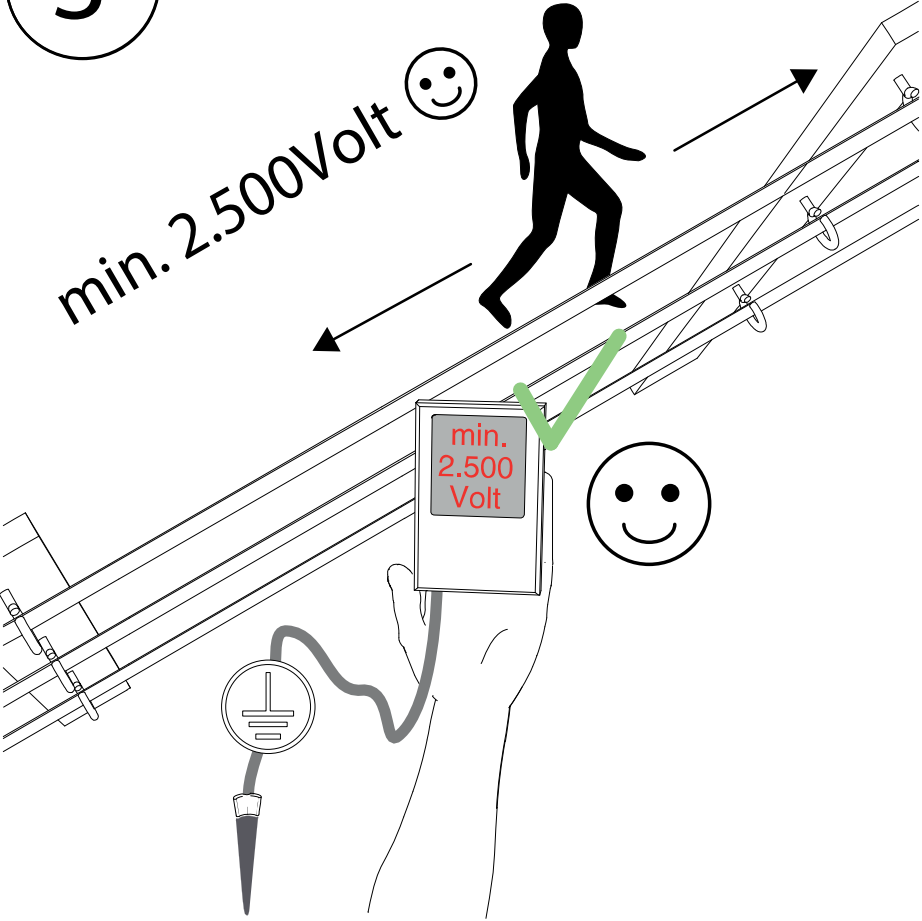
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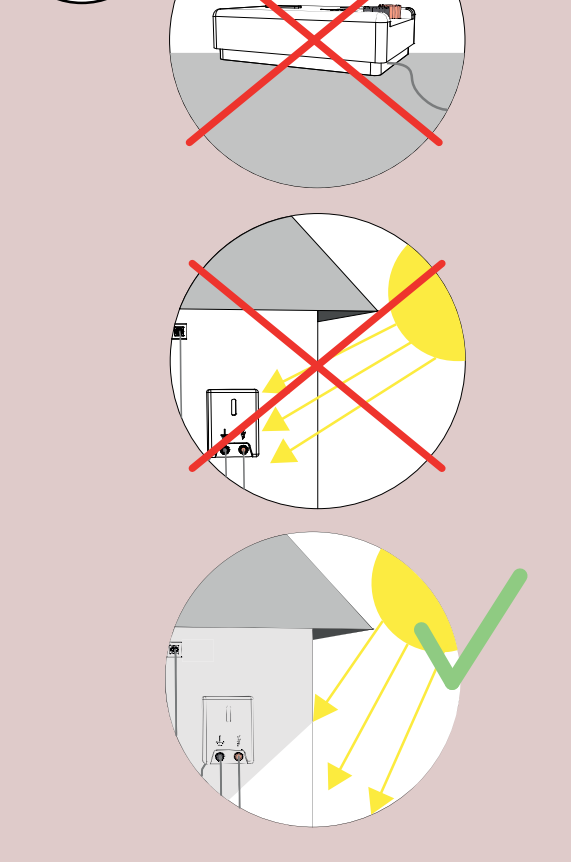
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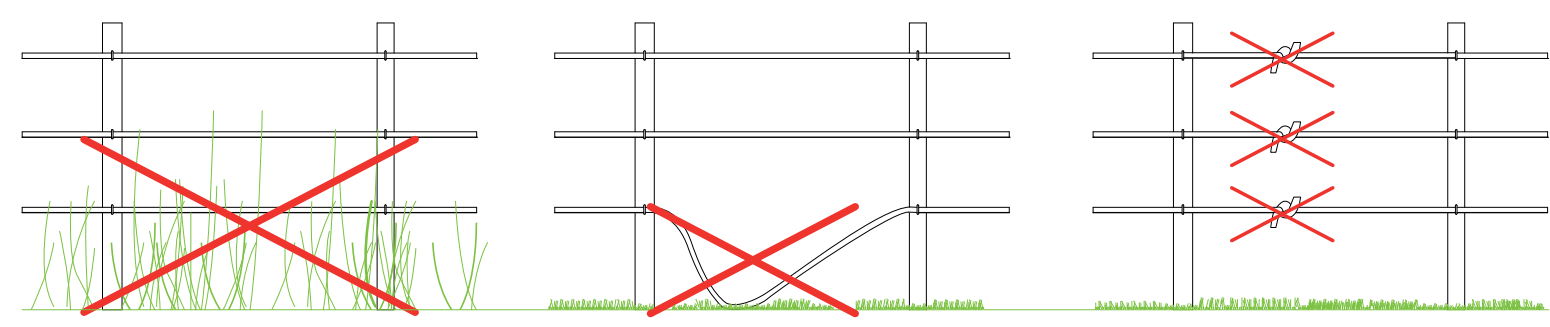


4



5

0 - 2.500 Volt 😞

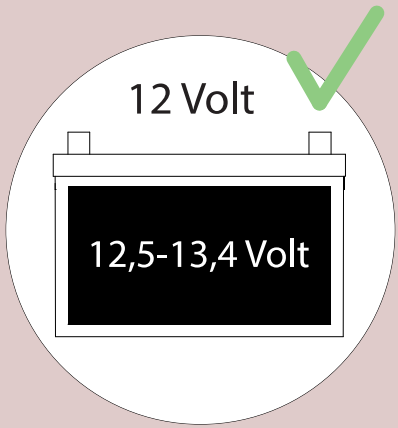
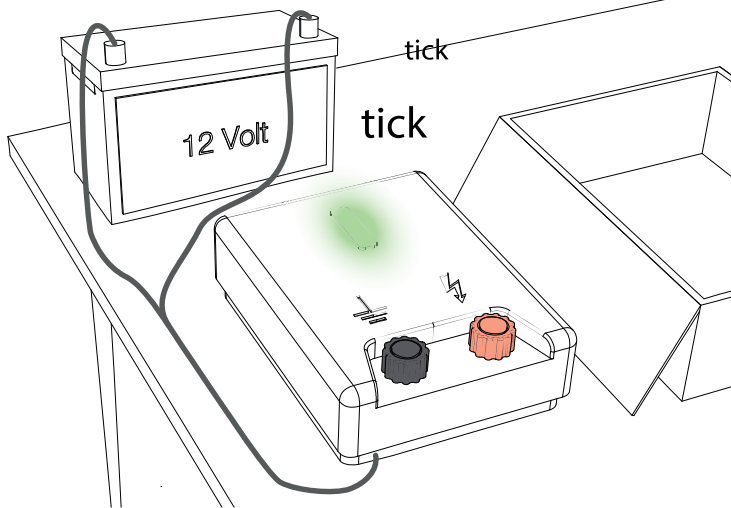
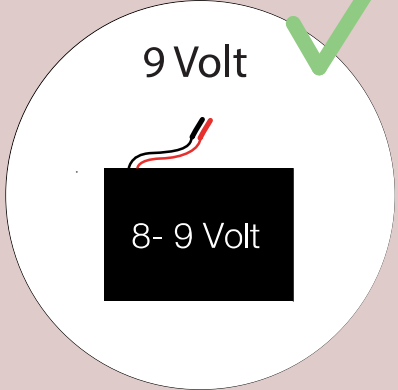
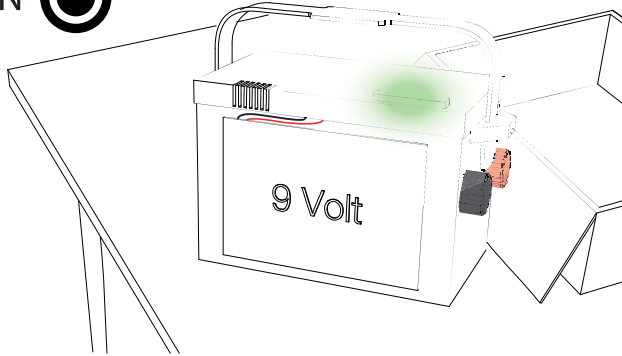


110 V

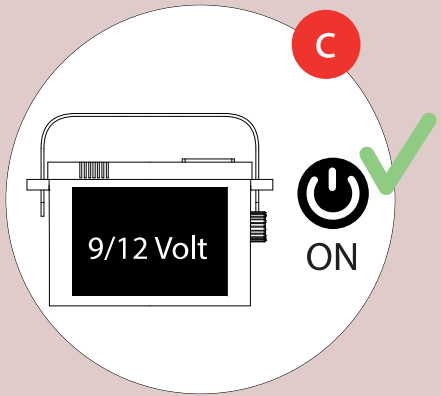
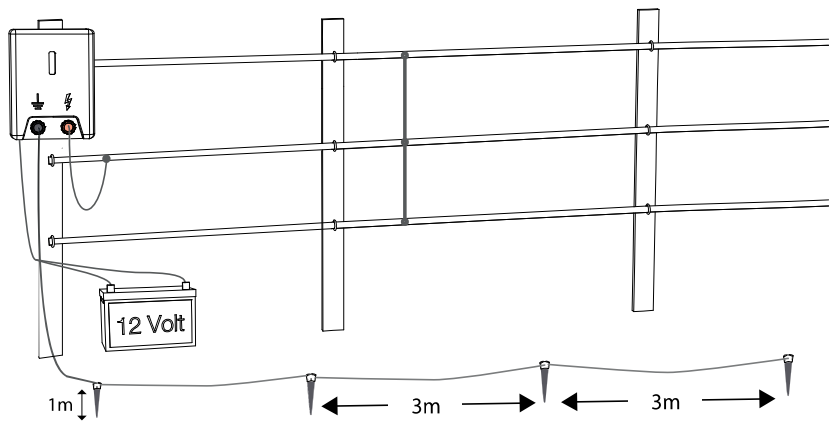
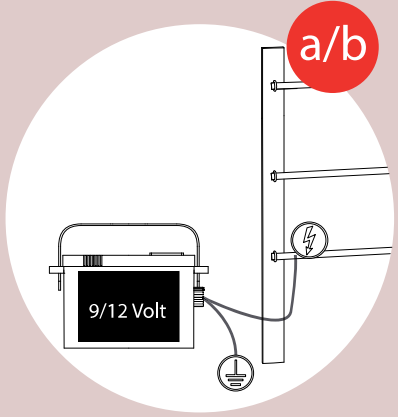
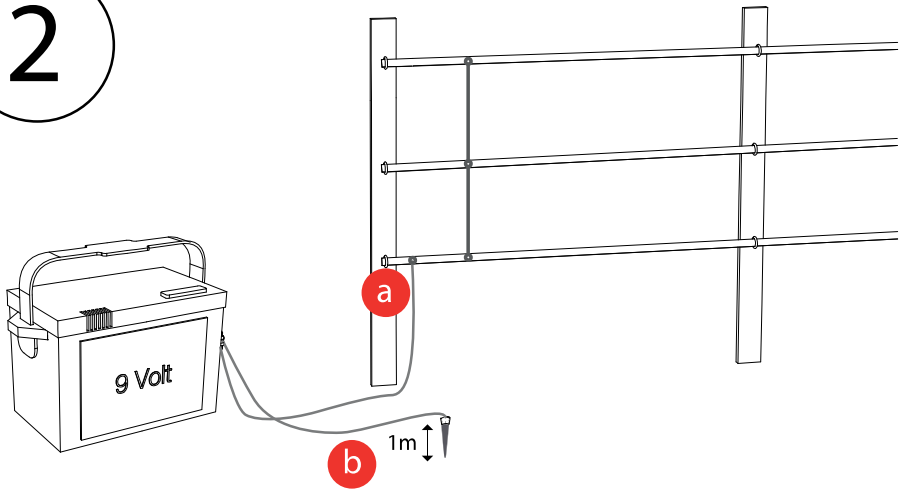
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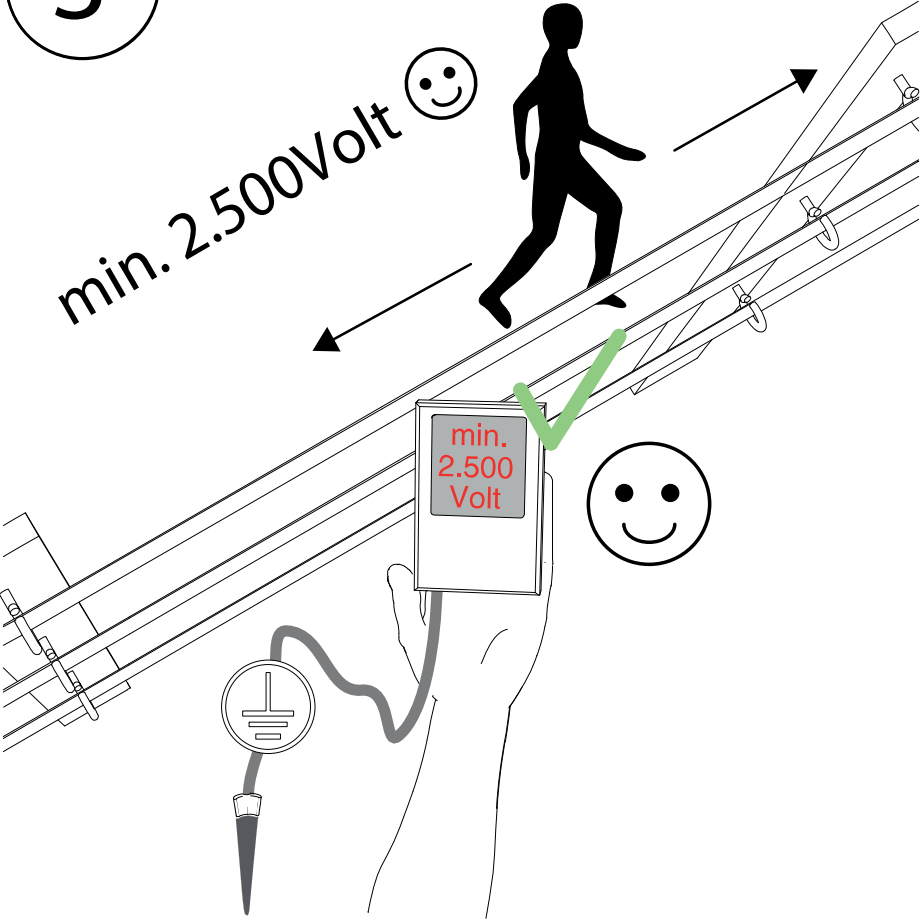
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tick



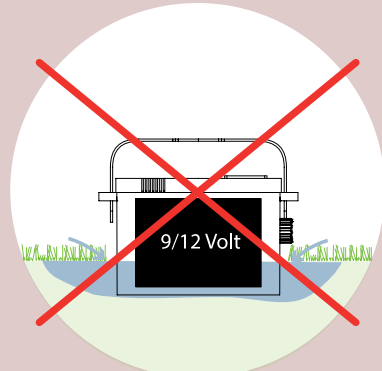
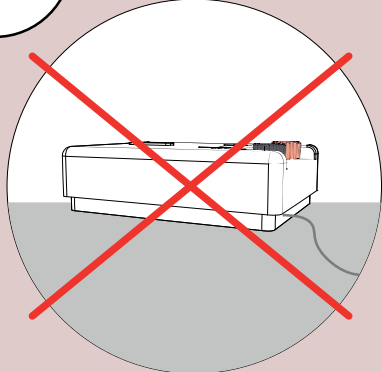
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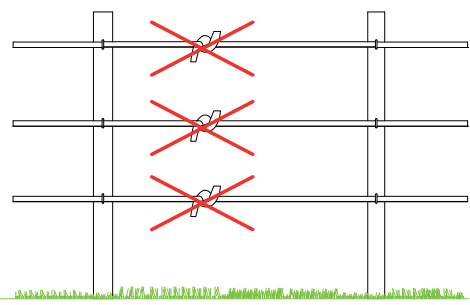
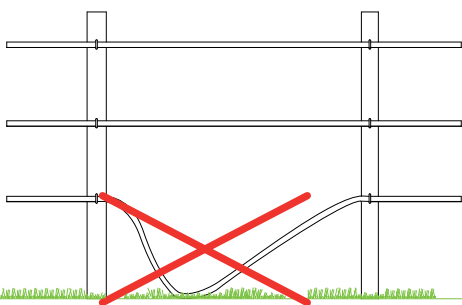
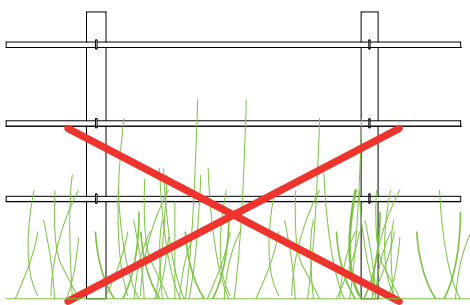


4



5

0 - 2.500 Volt 😞



9 V | 12 V

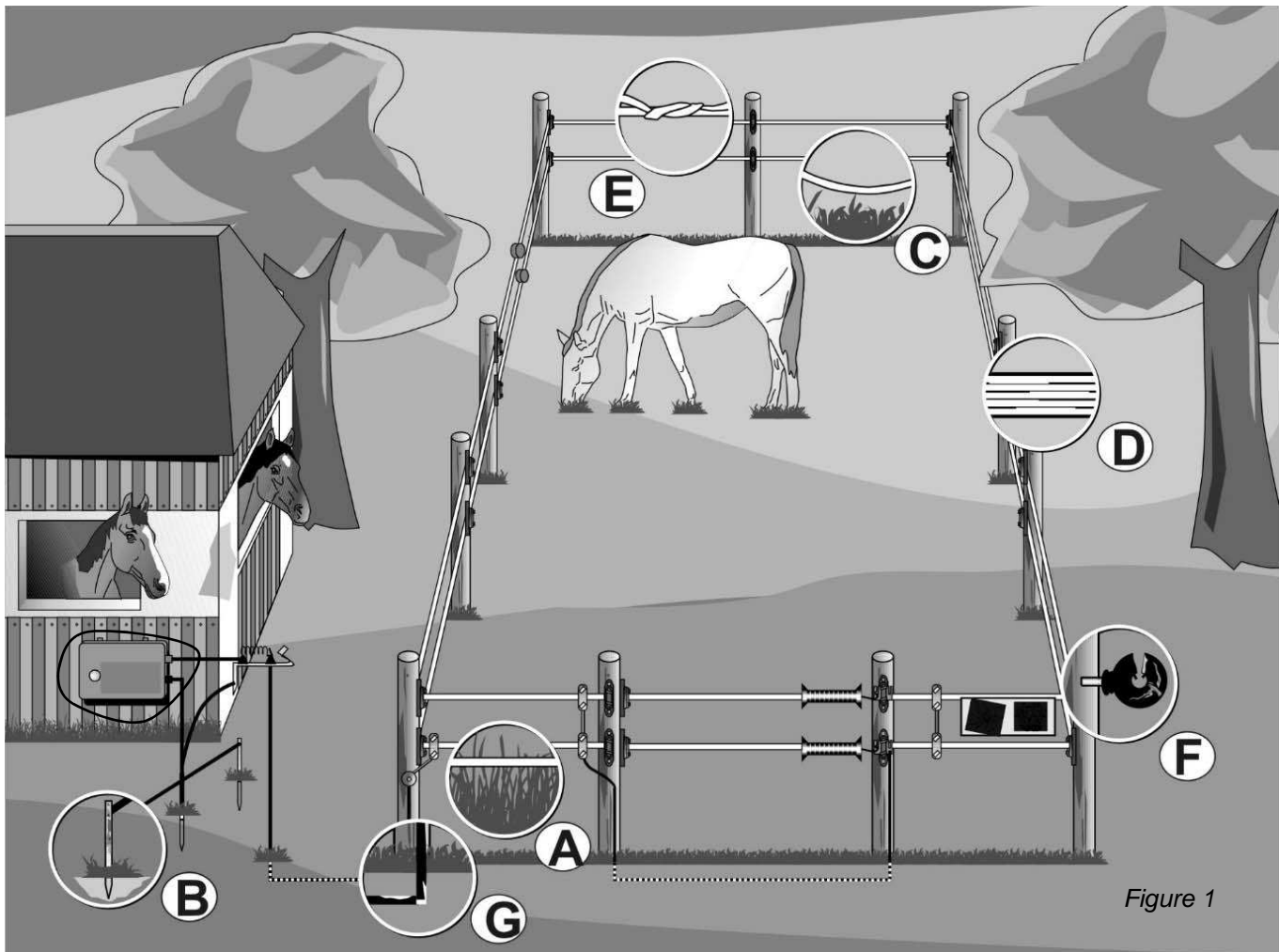


Figure 1

Possible sources of errors: (Figure 1)

Pos.	Sources of errors	Debugging
A	Derivative due to growth at the fence!	Remove growth (mow / cut)!
B	Bad earthing, too short earthing rod, rust, dry ground	Knock in the grounding rod completely! Use several long grounding rods and connect them with each other!
C	Conductive material at the ground (eg.: tape / wire break, not stretched)!	Repair fence, stretch conductive material!
D	Conductive material has bad quality (thin conduction wire, high resistance)	Use high-quality conductors with low resistance and thick conduction wires. In case of wide tapes, pay attention on the conductor connections!
E	Conductive material knotted!	Use corresponding special-connectors for wire / tape / rope!
F	Insulator comes through!	Exchange damaged and weather worn insulators!
G	Derivative or short circuit in the fence wire!	Never use an ordinary moisture resistant cable or something like this for connection! Use high voltage cable in all cases!
H	Fence is too long! Has the right energizer unit been chosen for this use?	Use the correct unit corresponding to the length of the fence and to the type of animal – if necessary; discuss it with your retailer.
I	Does the electric fence unit work?	Hang the unit from the fence, then switch on! If the LED blinks, the unit is ok, if it does not, the unit is damaged (contact the dealer)! Pay attention of the polarity at batteries and accumulators!

Operating Introduction

Before installing and operating an electric fence energizer it is important to read all instructions including the general instructions, and to follow all instructions in installation and operation.

Due to its high discharged power this appliance may not be used for "Cow-Trainers" or similar devices in buildings. Manufacturer recommend using only genuine H&K MANUFACTURING Fencing Accessories with your H&K MANUFACTURING Fence.

When the fence line has been properly installed this product can be set-up, connected and operated in accordance with these instructions and enclosed general instructions.

Installation of electric fence energizers

Be sure supply voltage complies with voltage mentioned on rating plate.

Do not install fencer in buildings or rooms where combustible materials are stored (hay, timber, paper, fuels, etc.). In case the fence energizer is intended for outside installation a weather protected location e. g. below the eaves of the roof is recommended.

Installation of a lightning protector device is required.

After installation and connection to mains supply outlet operational test of fencer can be conducted.

Important Information



GENERAL SAFETY INSTRUCTIONS

Please read and follow this instruction exactly and store it well when not in use.

Check your installation to ensure that it complies with all local safety regulations.

Be sure energizer is switched off and unplugged while connecting wires to energizer terminals.

Electric fences should be installed and operated so that they cause no electrical hazard to persons, animals or their surroundings. Switch the energizer off before installation or performing any work on the fence.

Do NOT touch the fence with the head, mouth, neck or torso. Do not climb over, trough or under a multi-wire electric fence. Use a gate or a specially designed crossing point.

Do NOT become entangled in the fence. Avoid electric fence constructions that are likely to lead to the entanglement of animals or persons.

This energizer is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the energizer by a person responsible for their safety. Children should be supervised to ensure that they do not play with the energizer. Mount out of reach of children.

An electric fence should not be supplied from two (or more) different energizers or from independent fence circuits of the same energizer.

For any two (or more) different electric fences, each supplied from a different energizer independently timed, the distance between the wires of the two electric fences should be at least 2.5 m / 8,2 ft. If this gap is to be closed, this will be effected by means of electrically non-conductive material or an isolated metal barrier.

An energizer should not electrify barbed wire or razor wire.

Energizer must be installed in a shelter and the supply cord must not be handled when the ambient temperature is below + 41 deg F.

Ensure the Energizer is fully protected from rain, condensation and other sources of moisture.

Do not mount in places exposed to heat sources (e.g. a sun metal wall.)

Ensure the Energizer has an adequate ventilation.

Do not place combustible materials near the fence or energizer connections. In times of extreme fire risk, disconnect energizer.

Regularly inspect the supply cord and energizer for any damage. If found damaged in any way, immediately cease use of the energizer and return it to a H&K MANUFACTURING Authorised Service Center for repair in order to avoid a hazard.

Refer servicing to a H&K MANUFACTURING Authorised Service Centre.

Check your local council for specific regulations.


Energizers with a Standby mode may turn on or off without warning. The energizer must be disconnected from the mains supply if it needs to be rendered fully inoperative.

Do not connect two Energizers to the same earth system.

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 should be constructed so as to ensure that these wires are positioned at a minimum distance of 6 in. 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.

Any part of an electric fence which is installed along a public road or public thoroughfare shall be identified at frequent intervals by warning plates securely fastened to the fence posts or firmly clamped to the fence wires. The background color of both sides of the warning plate should be yellow.

be the substance of TAKE CARE – ELECTRIC FENCE or the symbol . The size of the warning plates shall be at least 200 mm / 7,8" x 100 mm / 4".

A distance of at least 10 m / 33 ft should be maintained between the energizer ground electrode and any other grounding system such as the power supply system protective ground or the telecommunication system ground.

Except for low output battery-operated energizers, the energizer ground electrode should penetrate the ground to a depth of at least 1 m / 3,2 ft. Care should be taken to avoid any damage to cables or pipelines.

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

Connecting leads that run underground should be run in a conduit of insulating material or else insulated high voltage cable should 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 should not be installed in the same conduit as the mains supply wiring, communication cables or data cables. Connecting leads and electric fence wires should not cross above overhead power or communication lines.

Crossings with overhead power lines should be avoided wherever possible. If such a crossing cannot be avoided, it should be made underneath the power line and as near as possible at right angles to it.

If connecting leads and electric fence wires are installed near an overhead power line, the clearances shall be not less than those shown in below-mentioned table.

Power line voltage	Clearance
≤ 1.000 volts	3 meter / 10 ft
> 1.000 ≤ 33.000 volts	4 meter / 13 ft
> 33.000 volts	8 meter / 26 ft

If connecting leads and electric fence wires are installed near an overhead power line, their height above the ground should not exceed 3 m / 10 ft.

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

- 2 m / 6,5 ft for power lines operating at a nominal voltage not exceeding 1 000 V;
- 15 m / 49 ft for power lines operating at a nominal voltage exceeding 1 000 V.

If connecting leads and electric fence wires are installed near a telecommunication line or a telecommunication cable, their distance to the line or the cable should not exceed 2 m / 6,5 ft.

If connected to a mains power circuit that doesn't have a Residual Device (RCD), then a plug-in RCD should always be used.

Fence wiring should be installed well away from any telephone or telegraph line or radio aerial.

The inscription should be permanent inscribes on both sides of the warning sign and have a height of at least 1 inch.

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.

Protection from the weather should 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.

Electric 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 electric fences intended for deterring birds from roosting on buildings, no electric fence wire shall be connected to the energizer ground electrode. A warning plate, as described above, shall be fitted to every point where persons may gain ready access to the conductors.

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 fence. The supporting energizers for the electrified wires should be constructed so as to ensure that these wires are positioned at a minimum distance of 150 mm / 6 " from the vertical plane of the non-electrified wires. The barbed wire and razor wire should be grounded at regular intervals.

Where an electric fence crosses a public pathway, a non-electrified gate should be incorporated in the electric fence at that point or a crossing by means of a stile should be provided. At any such crossing, the adjacent electrified wires shall carry warning plates as described above.

Electric fence-energizers have to be installed as described in the instruction manual.

Install the energizer preferably in a location not exposed to direct sunlight and rain. All cables and wires for line and fence connection must be kept distant from any inflammable material. The mounting surface itself must consist of non-inflammable material.

The installation of the electric fence-energizer has to be done onto inflammable floor.

To avoid any lightning-damages, the fence wire at the building has to be taken over an overvoltage protection-equipment with a thrush and a spark plug gap which has to be mounted on incombustible material on the outside wall of the building. This has to be done before any connection to the electric fence-energizer. This applies also to Duo energizers, if these are powered by a mains adaptor.

Don't connect to existing ground wires of the power supply-network.

Any user of electric fence systems is legally indebted to control the fence-energizer and the fence system regularly, in accordance with the conditions of use, at least once per day.

- visual check of the energizer and the fence system
- measurement of the minimum voltage of 2500V at each point of the fence

For using an electric fence-energizer in a barn, only specially constructed energizers may be used.

Power surges triggered by thunderstorms can damage the insulation on electric fence energizers. In such cases, mains voltage can get through to the electric fence and thereby seriously endanger humans and animals.

In general we therefore recommend connecting mains-operated electronic fence energizers only to a public power supply protected by a residual current circuit breaker with a maximum 30mA trip current.

It is also sensible during thunderstorms to disconnect mains-operated electric fence energizers from the electricity grid, and also, if possible, from the fence.

If no mains supply with circuit breaker protection is available, and if the energizer was connected to the fence system during a thunderstorm, it must be properly checked before being put back into service. That requires at least a mains connection with a residual current circuit breaker.

For testing, the grounding connection on the energizer is connected to the protective ground of the mains supply grid, and then the power plug of the energizer is connected to the socket with residual current protection. If the energizer tests correctly, and shows no deviation from normal operation, the energizer can again be connected to the fence. If however the circuit breaker trips again when the energizer is connected, the energizer must not be used any more, and must be repaired by a specialized technician.

If the connecting cable of this energizer is damaged, the manufacturer, their after-sales service or a similarly qualified person must replace it in order to avoid hazard. Services and repairs only by a specialized technician!

USE ONLY IDENTICAL, GENUINE REPLACEMENT PARTS !



This energizer must be opened or repaired only by qualified personnel in order to reduce the risk of electric shock!

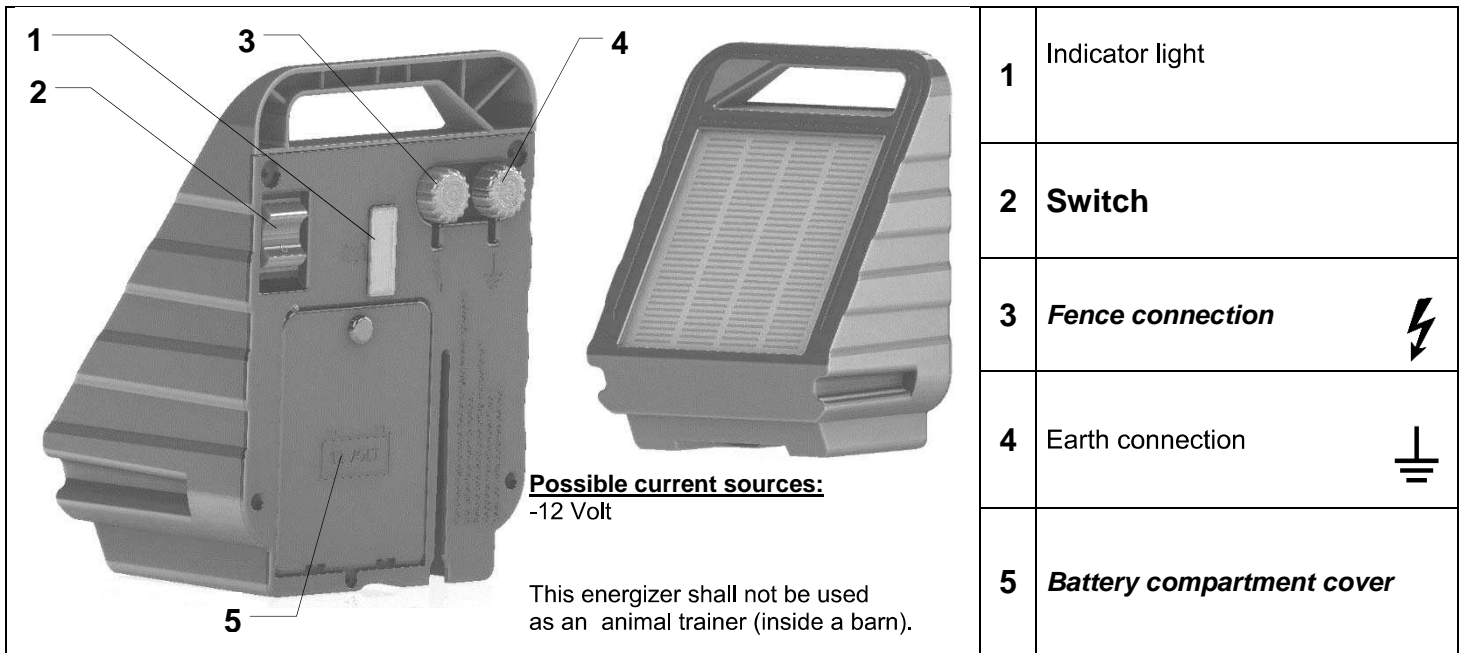
This energizer complies with international safety regulations and is manufactured to international standards.

H&K MANUFACTURING reserves the right to make changes without notice to any product specification to improve reliability, function or design. E & OE.

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Specific Operating Instructions S400



a.) Installation

The device must always be operated in the position as shown in the picture above.

The unit can be hung on a wooden post using the two screws provided, using the slot next to the battery compartment.

The shaft next to the battery compartment is also used for attachment to a pole with max. Ø 40mm or on a T-post.

b.) Functional description of the unit

Put **unit** into service **WITHOUT** fence and earthing. When connecting the 12V accumulator, be sure to observe the correct polarities (red + and black -). If the fence light (1) flashes green, the unit is ready for use. If in addition the accumulator light (2) flashes red, check the 12V accumulator for correct voltage. If the fence light (1) does not flash, check the polarity of the 12V connecting cable on the accumulator or have the unit checked by a technician.

Charging time with the included charger min. 12 hours!

c.) Functional description with connected fence system (fence + earth)

	Light green	Light red	Device function	Batterie 12V
1	YES	NON	O.K.	O.K. (>11,7V)
2	YES	YES	O.K.	Charge or replace as soon as possible
3	NO	YES	No pulses , deep charge protection activated	Charge or replace at once

If the fence light (1) flashes faster than approx. once per second, the unit must be disconnected at once and checked by a technician before it can be used again.

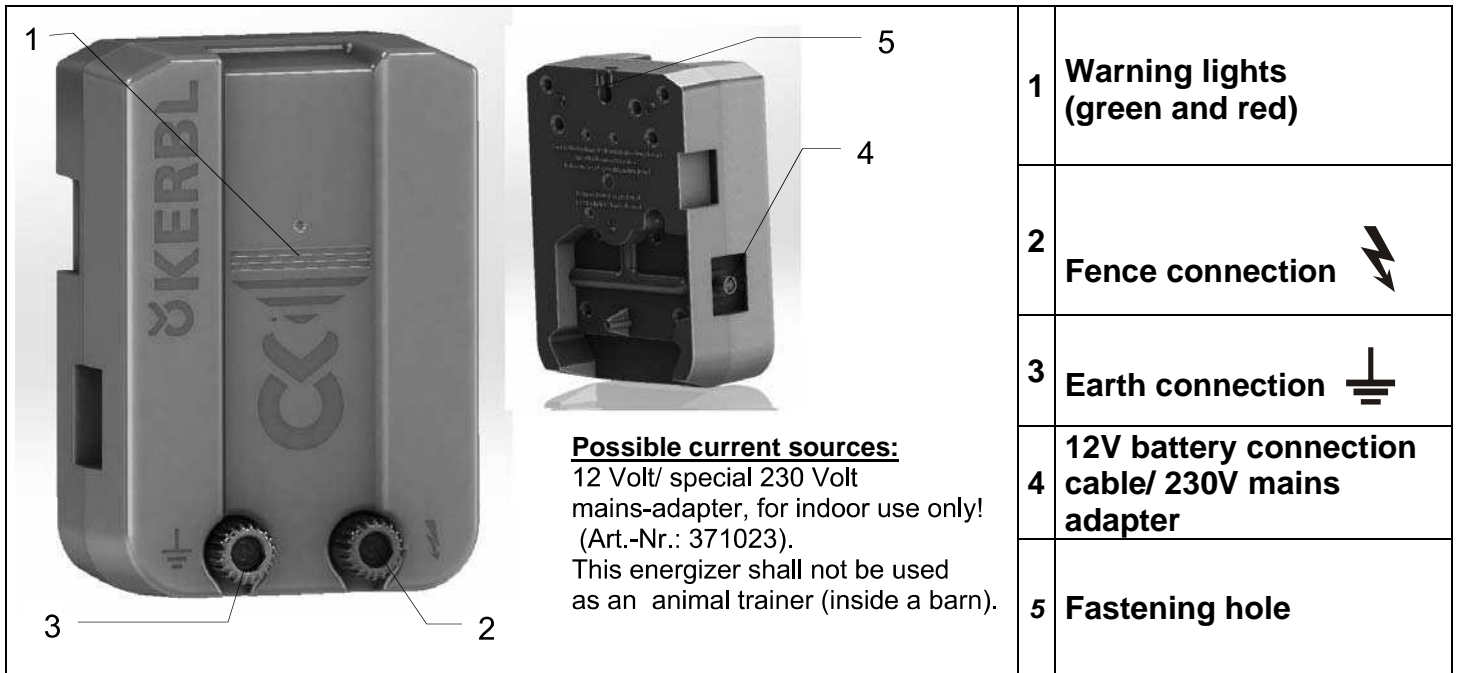
!!! The device should be min. grounded with the included earth rod !!!

Any user of electric fence systems is legally indebted to control the fence-appliance and the fence system regularly, in accordance with the conditions of use, at least once per day.

- visual check of the appliance and the fence system
- measurement of the minimum voltage of 2500V at each point of the fence

Energizer have a 3-year warranty in accordance with our Warranty Terms & Conditions!

Specific Operating Instructions DUO 1500



Description of function

Put the equipment into service by connecting to fence and earth first, then to a 12 V battery. Please check for correct polarity of the connection (red="+", black = "-").

- If **only** the green light is flashing, the equipment and battery are working correctly.
- If the red and green lights are flashing simultaneously, the battery is in a low charge state. Although pulses are still emitted to the fence, the back-up battery should be recharged in the very near future
- If only the red light is flashing, then the deep discharge protection has kicked in (This is necessary to protect the battery from permanent damage). The equipment no longer emits pulses to the electric fence. Recharge or replace the battery immediately.
- If neither of the two lights is flashing, the equipment is not getting any current from the battery (Check the battery connection for correct polarity and the battery for sufficient voltage. If both are o.k., have the unit checked by an expert.
- The equipment gives **no** warning if the electric fence is faulty.

Important Notes:

The appliance must be installed in vertical position with the battery connecting cable at the bottom and, if possible, protected against rain, see above picture. In case of wall mounting, the appliance must be mounted against a fireproof wall. For outdoor installation, a zinc-plated metal casing can be used. This accessory (part No. 44656) protects the appliance and simultaneously protects the accumulator.

Ensure correct polarity when connecting the battery (red + and black -).

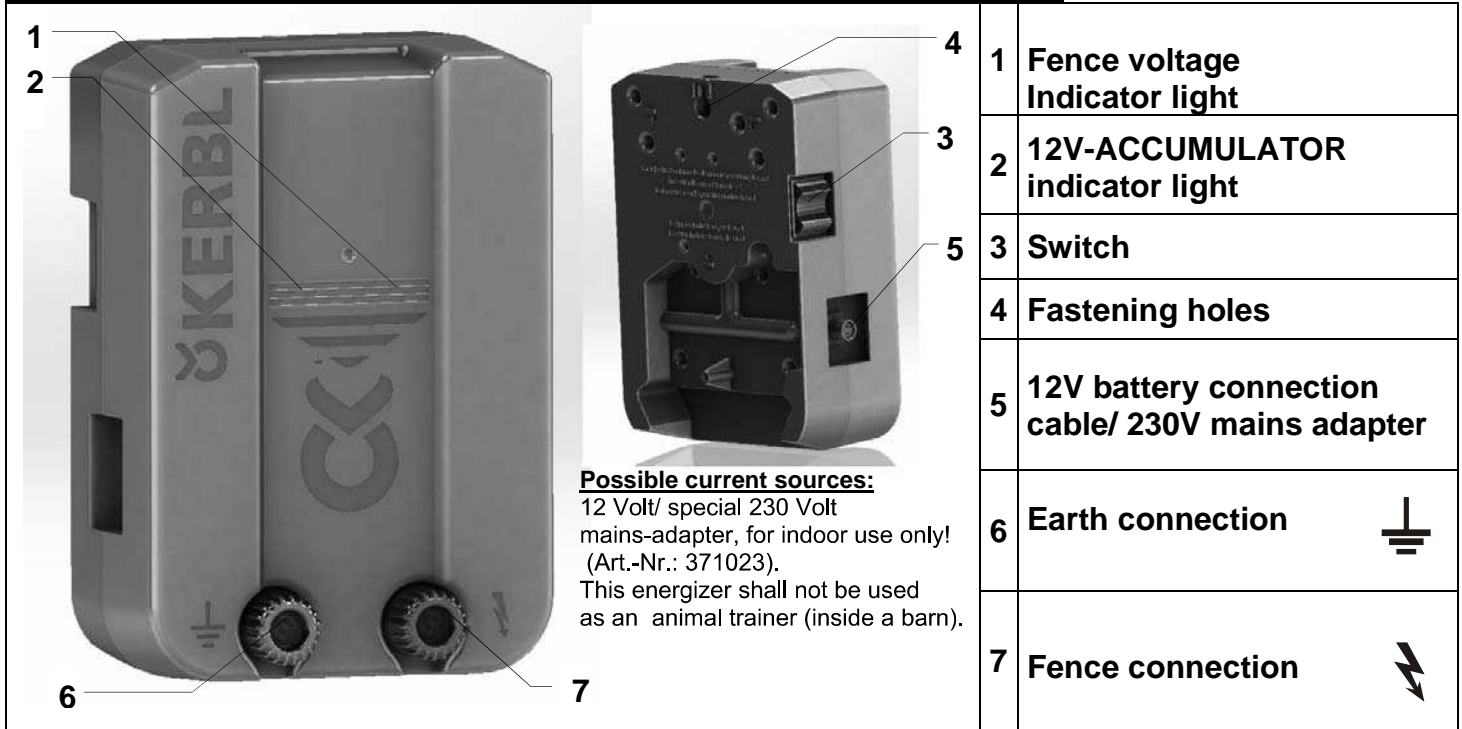
!!! Attention: Earthing rods are not included in the scope of supply!!!

Any user of electric fence systems is legally indebted to control the fence-appliance and the fence system regularly, in accordance with the conditions of use, at least once per day.

- visual check of the appliance and the fence system
- measurement of the minimum voltage of 2500V at each point of the fence

Energizer have a 3-year warranty in accordance with our Warranty Terms & Conditions!

Specific Operating Instructions DUO 4500



Possible current sources:
 12 Volt/ special 230 Volt
 mains-adapter, for indoor use only!
 (Art.-Nr.: 371023).
 This energizer shall not be used
 as an animal trainer (inside a barn).

a.) Installation

The **unit** must, as a rule, be installed vertically with the connections at the bottom and, if possible, protected against rain, see above picture, left side. In case of wall mounting, it must be mounted against a fireproof wall. For outdoor installation, a zinc-plated metal casing can be used. This accessory (part No. 44656) protects the unit and also accommodates the accumulator.

b.) Functional description of the unit

Put **unit** into service **WITHOUT** fence and earthing. When connecting the 12V accumulator, be sure to observe the correct polarities (red + and black -). If the fence light (1) flashes green, the unit is ready for use. If in addition the accumulator light (2) flashes red, check the 12V accumulator for correct voltage. If the fence light (1) does not flash, check the polarity of the 12V connecting cable on the accumulator or have the unit checked by a technician.

c.) Functional description with connected fence system (fence + earth)

	Accumulator light (2) flashes red	Fence light (1) flashes green	Audible clicks	Output voltage	12V accumulator
1	NO	YES	YES	> 3500 V = minimum requirement	OK (>12,2V)
2	NO	NO	YES	< 3500 V; see fault finding in the enclosed instruction manual (Figure 2, p.5)!	OK (>12,2V)
3	YES	YES	YES	> 3500 V = minimum requirement and:	Charge or replace as soon as possible
4	YES	NO	YES	< 3500 V; see fault finding in the enclosed instruction manual (Figure 2, p.5)! and:	Charge or replace as soon as possible
5	YES	NO	NO	No pulses , deep charge protection activated	Charge or replace at once
6	NO	NO	NO	See_b.) Functional description of the appliance, without fence and earth	

If the fence light (1) flashes faster than approx. once per second, the unit must be disconnected at once and checked by a technician before it can be used again.

For increased running time, a number of Solar modules with support stands can be used. We recommend the use of a wet accumulator at 12V-85Ah or 12V-110Ah. The accessories for this unit are obtainable through specialized dealers!

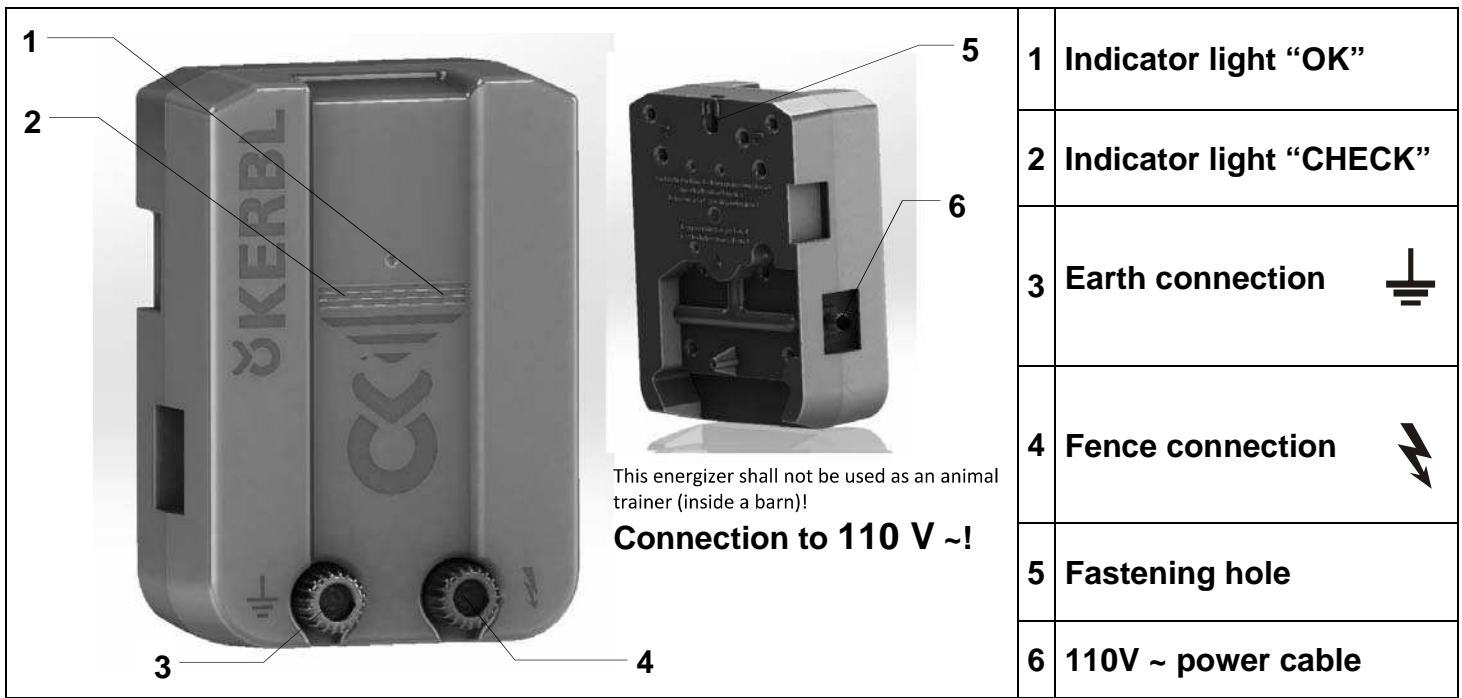
!!!Attention: Earth electrodes are not included in the supply (use at least 3 earth electrodes approx. 1m long) !!!



Any user of electric fence systems is legally indebted to control the fence-appliance and the fence system regularly, in accordance with the conditions of use, at least once per day.

- visual check of the appliance and the fence system
- measurement of the minimum voltage of 2500V at each point of the fence

This equipment carries a 3-year warranty in accordance with our Warranty Terms & Conditions!

Specific Operating Instructions N 1500 / 5500



1	Indicator light "OK"
2	Indicator light "CHECK"
3	Earth connection 
4	Fence connection 
5	Fastening hole
6	110V ~ power cable

a.) Installation

Fastening hole (5) are provided for wall mounting. The unit must be mounted against a vertical, fireproof wall with the connections at the bottom, see above picture, left part. For outside installation the device must also be protected against exposure to rain and direct sunlight.

b.) Functional description of the appliance

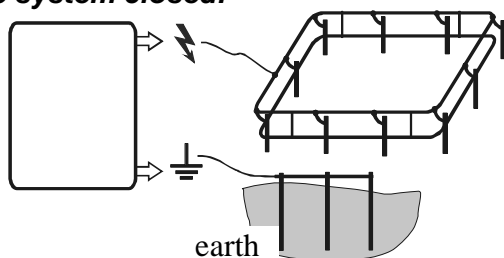
Commission device **WITHOUT** fence and connection to earth. The control lights flash in time to the impulses (green or red). The device is ready for operation. If control lights do not flash, the power supply or power supply line must be checked first. If no fault can be detected, the device should be tested by a specialist.

c.) Functional description with CONNECTED fence system (earthing + fence)

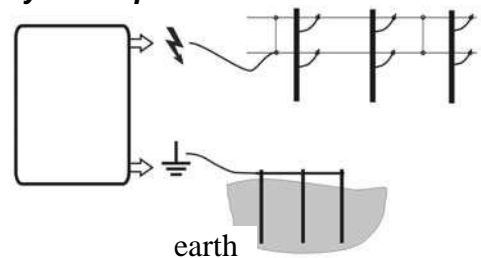
1	Control light "OK" (1)	Flashing green:	State of fence/ earth ok = output voltage > 4000V = OK
2	Control light "CHECK" (2)	Flashing red:	CHECK = State of fence faulty = output voltage ≤ 4000V, see operating instructions enclosed, possible sources of error (fig. 2, pg.5) CHECK = State of connection to earth faulty, see operating instructions enclosed, possible sources of error (fig. 2, pg.5) and connection to earth (pg.4)

Connection variants:

Fence system closed:



Fence system open:



If the indicator light flashes faster than once per second, the appliance must be disconnected at once and checked by a technician before it can be used again.

Any user of electric fence systems is legally indebted to control the fence-appliance and the fence system regularly, in accordance with the conditions of use, at least once per day.

- visual check of the appliance and the fence system
- measurement of the minimum voltage of 2500V at each point of the fence

This equipment carries a 3-year warranty in accordance with our Warranty Terms & Conditions!

H&K MANUFACTURING FENCE ENERGIZER LIMITED WARRANTY

Warranty



Beside the statutory guarantees we give a warranty according to the following conditions:

- Warranty starts with date of purchase. Warranty claims will only be acknowledged together with the invoice or the payment voucher. Costs for shipping and return are for account of the buyer.
- Warranty repairs will be free of charge. We reserve the right to supply another equivalent energizer.
- Warranty is only valid with appropriate use and according to the instruction manual and is deemed invalid with unauthorized repairs and use as well as with use of non-genuine spare parts.
- We shall rectify any faults caused by material defects or manufacturing faults, by repairing or replacing the energizer at no charge and at our discrepancy.
- Any repairs or spare part deliveries will not extend the original warranty duration.

The H&K MANUFACTURING fence controller is warranted to be free from defects of material and workmanship for two years from date of purchase. Limited warranty for lightning damage is included.

The limited warranty is not assignable or transferrable. It is for the benefit of and given only to the first consumer purchaser of the product.

This limited warranty does not apply if the defect in the product has been caused by misuse, improper installation, tampering, neglect, moisture or any other reason not related to defects in material or workmanship of the product. The obligation of H&K MANUFACTURING under this limited warranty is only to repairing or replacing, at its option, any part of the product which is defective and is covered by the terms of this limited warranty. If any covered defect occurs during the warranty call 250 757 9677 for shipping instructions.

Replacement or repair will be without cost to you other than shipping cost to repair site. The remedies set forth in this paragraph are your only remedies for any defects, failures or malfunctions of the product.

H&K MANUFACTURING MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY OR ANY OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED; ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE FOREGOING WARRANTY IS HEREBY DISCLAIMED BY H&K MANUFACTURING. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HERE OF.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. In no case shall H&K MANUFACTURING be liable for incidental, consequential, special or indirect damage of any kind. Any action for breach of warranty must be started within one year after the cause of action occurred, and no such action shall be maintained which is not commenced within such a period.

Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

The date of manufacture will be used to determine warranty period if no warranty card has been returned.

If you have any questions about how to exercise your rights under the terms of this limited warranty, call 250 757 9677.

Limitation of Damages

The directions for use of this product should be followed carefully. The effectiveness of H&K MANUFACTURING fence controllers may depend on the effectiveness of connections, interruption of power source, accidental grounding of wires, weather conditions, or manner of use or application, all of which are beyond the control of H&K MANUFACTURING or seller. All such risks shall be assumed by the buyer.

H&K MANUFACTURING and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and warranty which may be varied only by written agreement signed by an officer of H&K MANUFACTURING

Limited Lightning Warranty

Warranty is limited to repairing or replacing the unit due to lightning damage. Warranty is only valid if purchaser uses and properly installs the H&K MANUFACTURING Lightning Protector. Use of any other lightning protection system invalidates this warranty. This warranty is not transferrable.

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