



# ***d-fence***

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Electronic invisible fence  
Service instructions

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Thank you for purchasing the product **DOGtrace™ d-fence**  
from VNT electronics s.r.o., Czech Republic.

We would like to ask you for reading this manual carefully before using the unit  
and keeping it for future use.

## **EC Declaration of Conformity • Guideline R&TTE 1999/5/CE**

The manufacturer: VNT electronics s.r.o. declares that the below mentioned product:

**The electronic invisible fence for dogs DOGtrace™ d-fence**

Complies to all Europe Council guidelines, under No. 1999/5/CE of 7. 4. 1999

And corresponds to the following standards:

**EN 300 230-2, ETS 300 683 Ed. 97, EN 60335-1**

# CE

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## *Preface*

Do you have a wandering pet not paying attention to your protests who likes traveling nearby and far from your house? Or is it a garden lover who likes your garden patches or a swimmer who loves swimming in your pool? Are you afraid of the fact that your pet may cause a road accident or it may become its victim? The electronic invisible **DOGtrace™ d-fence**, consisting of the transmitting generator, the antenna wire, and the collar will help you limit the range of movement of your dog, create the “prohibited zones”, without depriving it of its freedom of movement.

The **d-fence** is a modern and highly efficient system enabling one or more dogs to run freely in the area, fenced or fenceless, which you will provide it.

## *Scope of delivery*

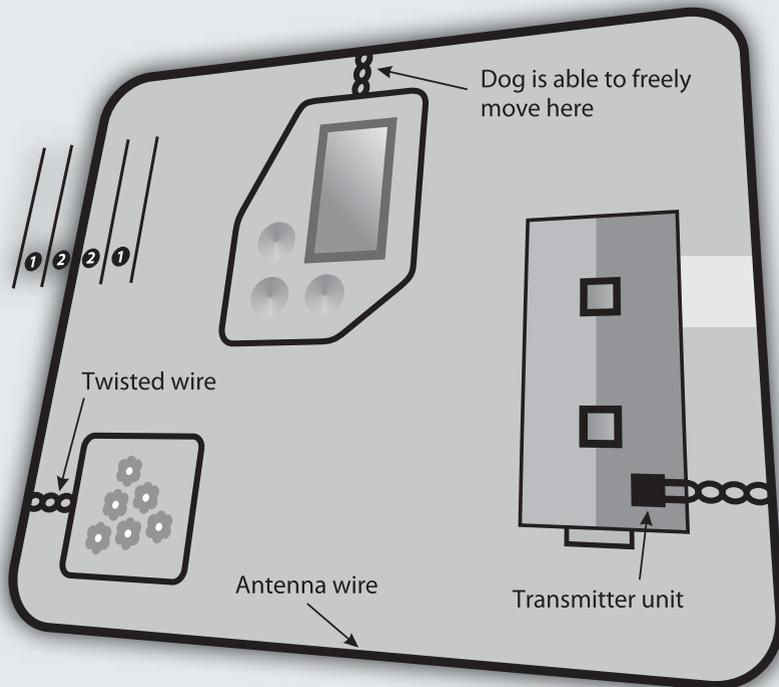
- Collar
- Electrodes
- CR2 3V lithium battery
- Neon test discharge lamp
- Transmitting generator
- Power adapter
- 100 m insulated wire 1 mm<sup>2</sup> (does not contain d-fence 400)
- Antenna connector
- Service instructions and Certificate of Warranty
- 2 connectors for connecting wires
- Transmitting generator holder
- Magnet with a neck string

## *Optional accessories*

- Other collars (fore more dogs)
- Dummy collars
- Varicolored woven belts
- Spare electrodes
- Spare battery
- 100 m of insulated wire 1–2,5 mm<sup>2</sup>
- Connectors for connecting wires
- Plastic targets for marking zones
- Spare seals
- Spare screws

## Principle of DOGtrace™ d-fence operation

- The unit in the emergency mode is waiting for the dog coming to the prohibited zone border (formed by an insulated wire as an antenna), divided into two zones.
- If the dog crosses the border of the first (warning) zone, the collar starts emitting sound signals.
- If the dog does not respond to the sound warning and crosses the border of the second (correction) zone, the collar emits a signal and adds an electric pulse.
- After the dog returns from the prohibited zone, the system switches to the emergency mode.
- It is possible to adjust the widths of both zones in defined limits.
- The dog will quickly learn to move only in the restricted area.
- To increase efficiency, it is possible to mark the restricted area with targets (refer to Optional accessories).
- The number of dogs with collars is not restricted.
- The antenna (a loop of insulated wire) is fed by the transmitting generator and it must not be interrupted anywhere.
- The voltage within the antenna does not exceed 12 V so there is no risk even if the wire is interrupted.



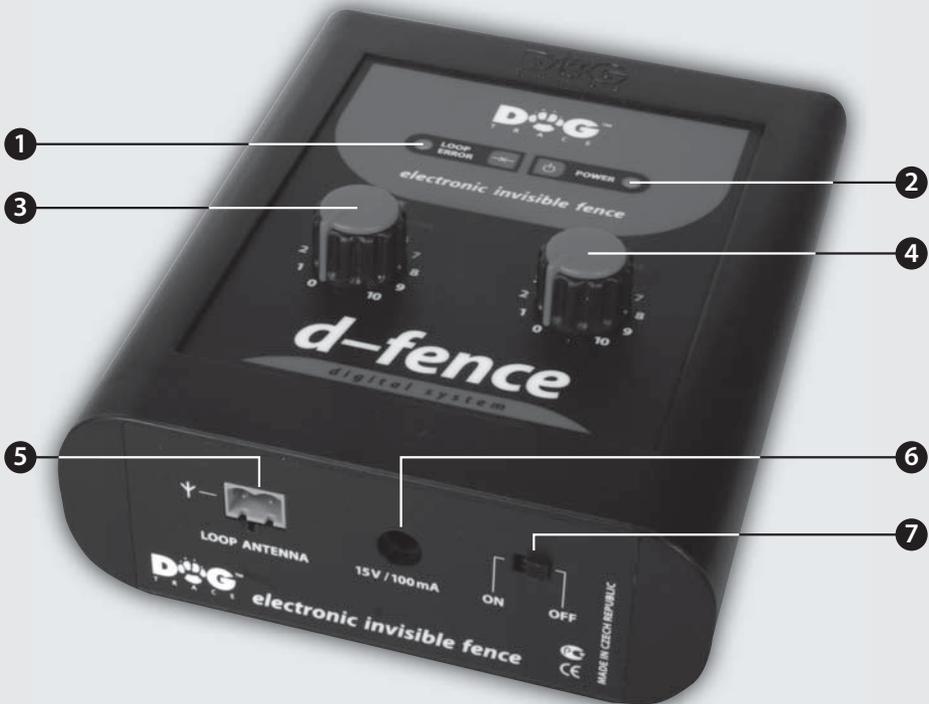
- 1 Warning zone
- 2 Correction zone

## System installation

### Transmitter

- The transmitter must be located in a safe place protected against water and moisture. It withstands temperature variations (within technical conditions), however, the penetration of water would destroy it.
- Fix the transmitter onto the internal wall near to a power socket (220 V).
- Connect the transmitter to the power adapter by plugging the adapter cable in the transmitter and by plugging the adapter in the mains socket outlet.

### Transmitter description



- |                           |                          |
|---------------------------|--------------------------|
| 1 Loop interruption LED   | 5 Antenna wire connector |
| 2 Unit status LED         | 6 Adapter connector      |
| 3 Correcting zone setting | 7 Power ON/OFF           |
| 4 Warning zone setting    |                          |

## Antenna wire

To make the system work, the wire must be connected to the transmitter and it must form an uninterrupted wire loop of 1 mm<sup>2</sup> to 2,5 mm<sup>2</sup> cross section, depending on the loop length. Unreel the wire from the transmitter round your piece of land. To take the wire out of the garage, your house, or any other covered location where the transmitter is located, pull it through the window, door or do it in another suitable way. The wire can be laid on the ground, slightly buried (max. 5 cm deep), or it can be fixed to the existing fence or wall (in this case max. up to 30 cm above the ground). The wire must not be tight or it might get broken due to changes in temperature.

If you need more than 100 m of the antenna wire, you must extend it with another wire of necessary length using vampire connectors or in any other suitable and reliable way. However, the point of connection (nor any other portion of wire) must not be left uninsulated. With the vampire connectors delivered by us, it is not necessary to remove the insulation from the end of the wire. If you wish your dog to pass freely across a certain location in your piece of land where the wire must be led (e.g. between the transmitter located in the garage and the wire installed round your piece of land), coil the outgoing wire round the incoming one: the wires twisted round each other result in extinction of emitted waves. Do not shape the wire at right angles, but make preferably wider curves if possible.

After you have made the loop and you are back with the other end at the transmitter, remove insulation from both ends of the wire and fix them to the transmitter connector using two screws.

Insert the connector in the appropriate port of the transmitter (the connector is shaped and it can be inserted in one way only).

## Restricting targets (refer to Optional accessories)

They enable your dog to see the zone where it can freely move as well as the boundaries it may not get over (if the wire is laid across the place where the boundary is not restricted in a natural way, such as a hedge). It is recommended to place the marks along the internal edge of the acoustic warning zone, close enough to one another.

As soon as your dog is familiar with its borderline, the marks can be removed.

Before installing your **DOGtrace™ d-fence** system, it is useful to make a small sketch of your piece of land and indicate the layout of your antenna wire, especially its connectors (refer to the diagram).

## Antenna wire

By winding the outgoing wire round the incoming one the wave emissions are mutually suppressed and the animal can freely move within this location.

## Turning ON/OFF

### Turning ON

- **Transmitter**

Plug the adapter connector in the socket on the back of the transmitter unit and plug in the power outlet. You can power up the transmitter by the setting the switch to "ON". The green LED on the front panel will be lit and in the case that the antenna wire is not connected, the red LED (Loop error) starts flashing on and off and the transmitter starts sounding intermittently. After the antenna wire is connected, the LED will be steadily lit and the transmitter stops sounding.

- **Receiver (collar)**

Insertion (replacement) battery: Remove 4 screws from the receiver housing cover plate using a cross-head screwdriver. Install a CR2 type 3V battery following the proper polarity, indicated with the "+" sign on the PCB next to the battery compartment. A beep will sound indicating that the collar is active. Make sure that the seal is in its correct place, i.e. in the slot on the housing cover. To retain water-tightness, it is recommended to replace this seal at least once a year, or in order to extend its serviceability, spread it with silicone grease from time to time. Replace the receiver housing cover and tighten reasonably the 4 screws with the cross-head screwdriver.

**Note:**

After battery replacement the collar will remember the mode you selected previously.

### Switching OFF

If the receiving collar is not used for a long period of time, the battery should be removed. If you want to take your dog out of your piece of land, take off its receiving collar. You can also turn off the transmitter by setting the switch to "OFF". The green LED goes out.

### Checking the battery status

There is an indicator LED on the front side of the receiver.

- **Weak battery:** the indicator LED is blinking in red. Exchange the 3V CR2 battery as described in the user guide (chapter Turning ON/OFF – Receiver)



Battery polarity sign

## Zone width setting ("warning" and "correcting" zones)

With your transmitter you can extend and reduce the width of the warning and correcting zones, depending on conditions in your piece of land and upon how the wire is laid.

### a) The warning zone (sound signal)



It is infinitely adjustable from 0,40 m to 5 m (the detection distance is approximate, depending on the loop length and location of the wire) along both sides of the wire using the knob located on the transmitter panel. Steps 0 to 10 will help you define the zone width according to your needs, whereas it approximately holds true that **0** = 0,40 m and **10** = 5 m.

### b) The correcting zone (pulses)



It is infinitely adjustable from 0,30 m to 1,50 m (the detection distance is approximate, depending on the loop length and location of the wire) along both sides of the wire. Steps 0 to 10 will help you define the one width according to your needs, whereas it approximately holds true that **0** = 0,30 m and **10** = 1,5 m.

### c) Checking and setting the zones

Before you let your dog enter its restricted area, you should physically check the surface and boundaries of your piece of land assigned to your pet. For this purpose, first place the leads of the testing discharge lamp under the electrodes of the receiving collar; release them slightly and then fasten them slightly again so that they can press down the testing lamp wires. Install a battery in the receiving collar and then power up the transmitter by setting the switch to the left to "ON". Set both potentiometer knobs to "0" position.

#### Correcting zone setting

Select a distance from the antenna wire where you wish to define the correcting zone for your dog, stand up on that place and hold the receiving collar by the strap about 30 cm above ground with the logo facing to the antenna wire.

Then, turn slowly the potentiometer to adjust the correcting zone as long as the test LED is regularly on in given intervals (approximately after 1 second) along with audible sound signal.

#### Warning zone setting

The procedure is the same as the previous one. Select a distance from the antenna wire where you wish to define the warning zone for your dog, stand up on that place and hold the receiving collar by the strap about 30 cm above ground with the logo facing to the antenna wire. Then, turn slowly the potentiometer to adjust the warning zone as long as a rapid intermittent sound signal is heard.

#### Important:

The zone width is changed according to the length and location of the antenna wire in your piece of land. The longer the antenna wire is, the narrower are the zones. The longer the antenna wire is, the narrower the zones are. The width may also be different at the bends (in the corners) compared to straight sections.

## Correction pulse intensity setting

There are 8 modes for setting a correction pulse level and 1 mode for testing intensity of interference signals. You can adjust correction level according to size and sensitivity of your dog.

### Changing a mode

- Turn the receiver on (battery inserted).
- Place the magnet, to a target marked on the receiver – see picture ►.
- A certain number of beeps are emitted indicating a mode (1–9).
- After the required mode is set, remove the magnet from the receiver. The receiver saves the mode configuration into its memory.



The table below shows how **d-fence** works in different modes and recommends the right mode according to dog breeds sizes.

Mode	No. of beeps	Dog breed size	Level of correction
1	1	small	very low
2	2	small	low
3	3	small	medium
4	4	medium	higher
5	5	medium	high
6	6	large	very high
7	7	large	extremely high
8	8	large	maximum
9	9	Interference signal intensity test (ISIT)	

**Note:** The device is set to mode 4 by default.

### Interference Signal Intensity Test (ISIT)

The unique and patented ISIT function enables the detection of interference signal intensity where the wire is being laid. This helps avoid potential functionality problems of the d-fence system. In the ISIT mode (mode no. 9), the receiver detects intensity of interference signals. A red LED diode starts blinking when an interference signal is detected. The blinking frequency increases with increasing intensity of interference signals. If the LED diode shines permanently, the interference signal intensity is very high. It is not recommended to lay a wire in an area where an interference signal is detected. It could significantly influence correct functionality of the d-fence.



## Three functions of the safety system

### 1. Antenna wire cut-off

If the antenna wire is cut off (or there is a failure in connection), the transmitter will warn you about the functional failure by intermittent beeping and the “**Loop error**” LED flashes on and off.

### 2. Warning zone leaving

After some 20 seconds of permanent presence in the warning zone, your dog will be warned to leave it by a few short correcting pulses.

### 3. Correcting zone leaving

If your dog stays motionless in the correcting zone for about 20 seconds, the system will stop emitting the correcting pulses. The correcting cycle will be restored, after your dog leaves this zone.

## Replacement of electrodes

Before replacing the electrodes, make sure that you have correctly turned off the collar (remove the battery from it).

If you have a longwooled dog, use long electrodes (they are typically delivered as the accessories to the delivery) and vice versa (for short electrodes, refer to Optional accessories). Electrodes should be slightly tightened by hand. Do not use pliers or any other tools to tighten the electrodes as you can cause an irreparable damage to the product.

## Checking your DOGtrace™ d-fence

### Checking the correct functionality

You can check any time whether your **d-fence** operates correctly and visualize its operation using the testing discharge lamp.

**Before you are going to carry out this check, make sure that the receiving collar is turned off (the battery is removed from it).**

Connect the testing discharge lamp to the electrodes and ensure a reliable contact (you can pull in the lamp wires under the electrodes or to make a loop round the electrodes).

Install a battery in the collar. Connect the transmitter to the power adapter (plug the power adapter in the mains socket outlet) and turn on the transmitter by setting the switch to “**ON**”. Walk slowly towards the antenna wire. At first you should hear a warning beep and after approaching closer to the wire, the testing discharge lamp should be lit.

**In this case your unit works perfectly.**

**Before the testing discharge lamp is disconnected, remove the battery from the collar!**

### Checking the preset mode

If you need it or when the behavior of your dog is changing as it is getting used to the **d-fence**, you can check the mode you set some time ago.

## *Training method*

### **We are starting to use the collar**

The initial period of use can start when the young dog is at the age of 6 months after its elementary training is finished. Do not put the receiving collar on a pet being in poor state of health (heart problems, epilepsy, etc.) or to a dog that has problems with its behavior. The dog will need to get used to wearing the collar: let him wear it for a few days without applying to it.

### **Proceed gradually and slowly**

It is necessary to draw attention of your dog so that it can create quickly a link between its incorrect behavior and its correction, firstly by the sound signal: **“sound warning zone”** followed by the **“correcting zone”** pulse. The marks can help it visualize the beginning of the warning zone.

### **Encourage it by patting and stroking**

After being admonished by a pulse, when the pet has already learned to obey and return, it should be encouraged. The pet will understand it much more quickly and its efforts to obey will be growing. When it is fully aware of the link between the pulse and its wrong behavior, you can devote to your own work, but never forget to encourage it for its good behavior in order to strengthen its ability to understand the “conception of obedience”.

## *Tips and information*

### **For the best results**

#### **Adjustment and positioning of the collar**

It is very important to adjust the collar around dog's neck properly. Its positioning permits to detect the dog's breakaway from the permitted area and makes the electric correcting pulses to be efficient. If you want to obtain the best results from your unit, you must ensure **a good contact between the collar and the dog's skin** by careful adjustment of the belt; when the belt is too loose, it will not work properly; when it will be too tight, the dog may have problems with breathing or it will be uncomfortable for it. If it is necessary, replace the long electrodes with short ones (refer to the section about the replacement of electrodes).

#### **Battery check**

Make sure that the battery is in order; its state may influence the correct operation of the receiving collar. When the temperatures are below zero, the battery is less efficient than at room temperature.

#### **Checking the attachment of the electrodes**

Make sure before every mounting that the electrodes are properly attached (by hand).

## Basic requirements

- Never lay the antenna wire close to electric and telephone cables, television or satellite antenna leads. If you are unable to avoid crossing these conductors, try to cross them at the right angles if it is possible (avoid parallel running of the antenna cable along them).
- Disconnect the power adapter of the transmitter from the mains during a thunderstorm, namely unplug the antenna connector.

## Safety measures

- Keep the **d-fence** transmitter and the receiver out of children's reach.
- Avoid water penetration in the collar when it is open (namely when batteries are being changed), in the transmitter unit or in the power adaptor.
- Remove the batteries from the collar if you will not use it for 3 months or longer.
- Never leave a flat battery in the collar; it may leak and damage your receiving belt.
- If you did not use the collar for a long time, check it carefully whether it works properly.
- Before every application check the attachment of the electrodes (by hand).
- Do not put the collar in places that are exposed to high temperatures, e.g. at the car window.
- Before the collar is to be attached for the first time, you should have your dog examined by your vet to be sure that it is capable of wearing the receiving collar.
- The system is automatically activated as soon as your pet enters the restricted zone, however, despite the excellent reliability of the product, it might be activated unintentionally in certain circumstances. Therefore, you should never leave your dog unattended while it is wearing this collar.
- Repeated friction of electrodes against the pet's skin can cause skin irritation. If this happens, take off the collar and do not use it until all traces of skin irritation disappear.
- Do not let the dog wear the collar for more than 12 hours a day and take it off when taking your pet home.

## Maintenance

Do not use volatile substances such as thinners and petrol to clean your **d-fence**. Clean the receiver regularly with a damp cloth and dry it with a soft cloth. To retain water-tightness, we recommend you to replace the rubber seal under the receiver's cover once a year.

## Troubleshooting

- Before turning to your supplier with a problem, re-read carefully this Service Instructions manual and make sure it is not caused by a low battery voltage or due to incorrect use.
- If there is a problem with operation, reinitialize the system by removing the battery from the receiving collar. Wait a few minutes and then reinstall the battery, minding the correct polarity. Check the function as per the description in section "Checking your d-fence".
- Check to see if the collar is duly attached to and adjusted round the dog's neck; make sure that the electrodes are in contact with its skin. If necessary, replace short electrodes with long ones.
- Check the state of battery.
- Make sure that the antenna wire is properly connected to the transmitter, the loop is not cut off, and that its resistance is not too high (the loop resistance must be below 10  $\Omega$ ).
- Make sure that the power adapter is correctly connected to the transmitter and to the mains power supply.
- Make sure that the switch on the rear side of the transmitter is set to "**ON**" (and if the green LED is on).
- Make sure that there is no strong source of radio interference in the neighborhood.
- If the problem persists, contact your supplier.

## Warranty

1. This warranty is only valid when the Certificate of Warranty and your purchase document are submitted.
2. This warranty does not apply to the following:
  - new batteries
  - components subject to normal wear-and-tear (e.g. collar strap)
  - direct or indirect damage caused during transportation of the product back to the supplier
  - destruction of or damage to the product by user's misuse or negligence (e.g. masticated by dog, breakage, disruption, etc.)
  - unauthorized intervention or repair
3. If a manufacture fault is found, the manufacturer shall repair or replace the product.
4. In the event of incorrect use of the product, no claims against the supplier or the manufacturer can be made.
5. The manufacturer reserves the right to modify properties of the product due to technical improvement or in connection with a new legislation.
6. The information presented in this manual can be subject to alterations without prior notice.

## Characteristics

### Transmitting generator

- First zone (warning zone): **infinitely adjustable within 0,4 to 5 meters**
- Second zone (correction zone): **infinitely adjustable within 0,3 to 1,5 meters**
- Wire: **single, insulated 1 to 2,5 mm<sup>2</sup>, max. length 1200 meters**
- Power supply: **adapter 230 V/50 Hz, 15 V/100 mA**
- Bounded area: **larger than nine hectare**
- Watertightness: **not watertight**
- Operating temperature: **-10 °C to +50 °C**
- Dimensions (L×W×H): **150×120×40 mm**

### Collar

- Dimensions: **62×40×32 mm**
- Weight: **65 grams (box, battery)**
- Power supply: **CR2 3V lithium battery**
- Battery serviceability: **6 months in standby mode**
- Adjustable neck circumference: **20 to 70 centimeters**
- Operating temperature: **-10 °C to +50 °C**
- Number of intensity pulse levels: **8**
- Watertight, reliable in any mode

### Antenna wire

- Cross-section: **1 or 2,5 mm<sup>2</sup>**