

# Gallagher Fence Control

## Installation and operating instructions

### Introduction

Thank you for your interest in the Gallagher Fence Control (SKU 090402). This document covers the initial commissioning and functionality of the product.

#### The Fence Control performs the following tasks for you:

- Registration and monitoring of fencing voltage on pasture fence
- Checking the functionality of the selected fence wire
- Checking the battery or power supply of the energizer
- Notification of acute problems via SMS and registration of events via the internet

The following is necessary for successful monitoring of your electric fence:

- **Fence Control**  
Monitoring of pasture fencing.
- **Electric fencer**  
The Fence Control is compatible with most common electric fence devices.
- **Compatible SIM card**  
Use requires a SIM card from a supported network operator. See page 8 for more information.



#### **SIM card must not have an active PIN**

SIM cards usually come with an active PIN. You must remove the PIN on your SIM card before you can use the SIM card for fencing management. More on this on page 8.

#### **Credit and activation**

Make sure your mobile phone provider's SIM card is activated. In the case of a prepaid card tariff, it must have sufficient call credit.

- **Connection accessories**  
The Fence Control is usually supplied with an accessory set for 9V-12V battery-powered fence devices.

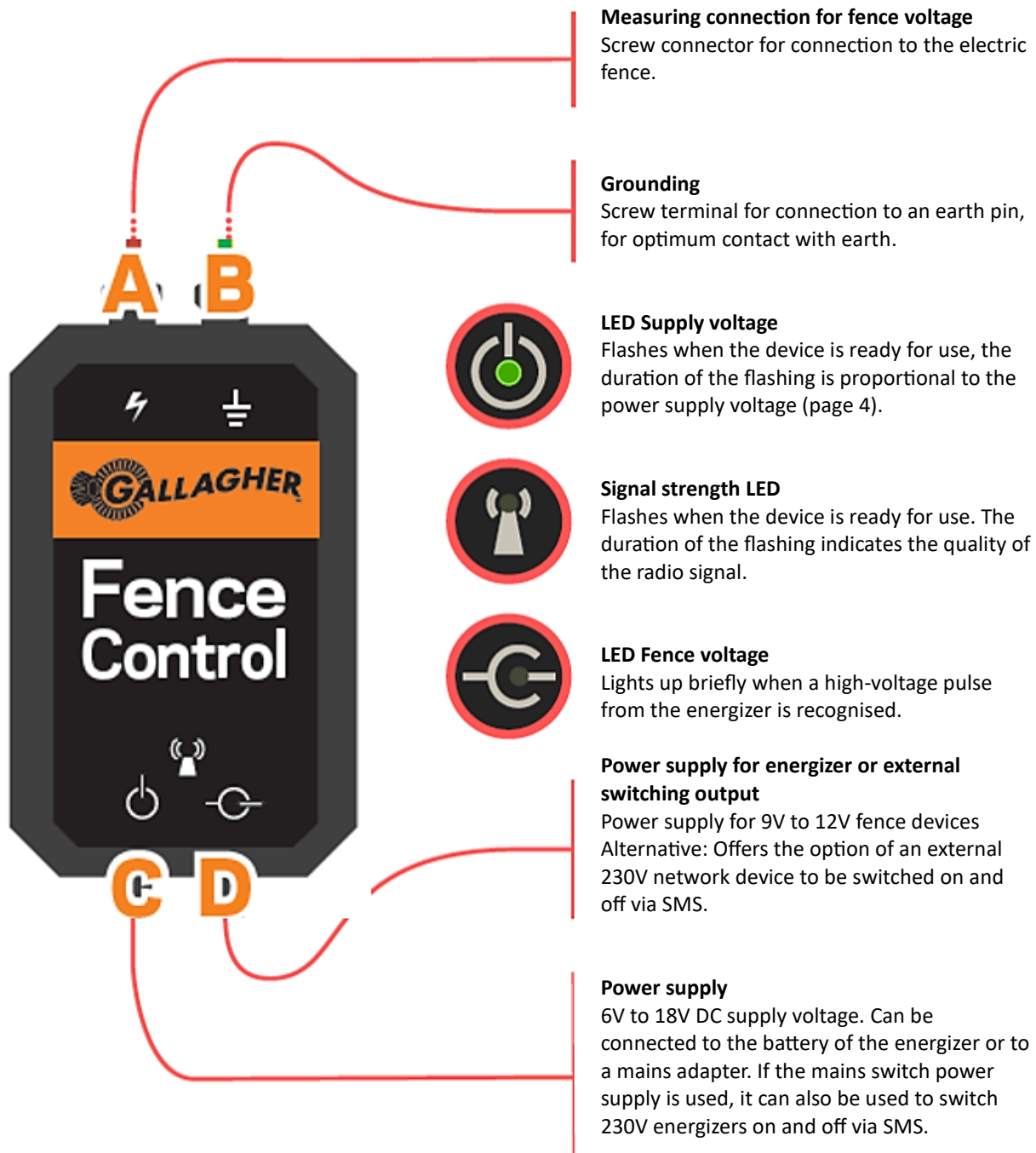
#### **Accessories for battery-operated 12 V electric fencing**

- Fencing connection cable
- Earth wire
- Battery connection cable
- Connection cable energizer

#### **Required accessories for 230V AC mains covers**

- Mains switch power unit Can be ordered separately under part number 090501

## Device description



### Technical data

Product name,	Gallagher Fence Control
Mobile radio link,	GSM / LTE-M 900/1800 MHz
Rechargeable battery,	Li-ion battery / 3.7V / 1200mAh
Power supply,	6V to 18V DC / 15mA
Switching output,	9V to 15V DC / 2A
Measuring voltage range,	500V to 15,000V up to an impact strength of 15 joules
Operating temperature,	-20°C to +50°C
Storage temperature,	-40 °C to +50 °C
IP protection class,	IP66
Dimensions,	142 x 80 x 30 mm

## Commissioning

1. The cover of the Fence Control housing can be opened upon delivery. Open it carefully.
2. Insert the SIM card into the SIM card holder as described in the instructions on the antenna. Slide back the tab of the SIM card holder and open it.



### ***SIM card must not have an active PIN***

SIM cards usually come with an active PIN. You must remove the PIN on your SIM card before you can use the SIM card for Fence Control. More on this on page 8.



### ***Credit and activation***

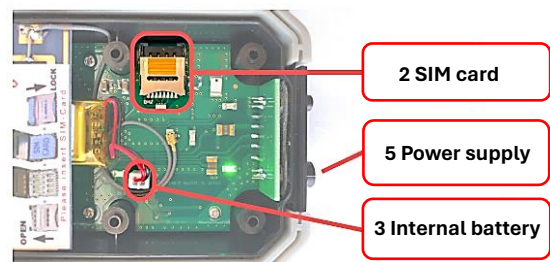
Make sure your mobile phone provider's SIM card is activated. In the case of a prepaid card tariff, it must have sufficient call credit.

3. The internal battery of the Fence control is disconnected on delivery. Connect the battery. The Fence Control should now start. You can recognise this by the flashing pattern of the 3 LEDs.
4. Carefully close the cover of the Fence control housing, making sure the seal is in place, and screw down the housing with the six screws provided to ensure it is watertight.
5. Now connect the power supply (battery or mains adapter). The Fence Control indicates the current status via an LED pattern. You will find a description of the LED patterns on page 4. Wait until the "Ready to use" LED pattern appears before continuing.



***Any SMS messages you send to the Fence Control before the "Ready to use" status is active will be deleted.***

6. Send an SMS with the content "abo 1234" to the mobile phone number of the inserted SIM card. If you receive a reply, this number is now registered in Fence Control and fence voltage monitoring is activated. Additional configuration options can be found on page 9. Congratulations - commissioning of the Fence Control is now complete!



## Selecting the preferred language

The Fence Control will automatically change the language to the country of origin of your SIM card.

If the language does not automatically switch to the correct one automatically, or you want to select another language, you can always set it manually using one of the following SMS commands:

- **language nl / de / fr / en** (choose the desired language)

## Ready to use - interpreting the LED flashing pattern

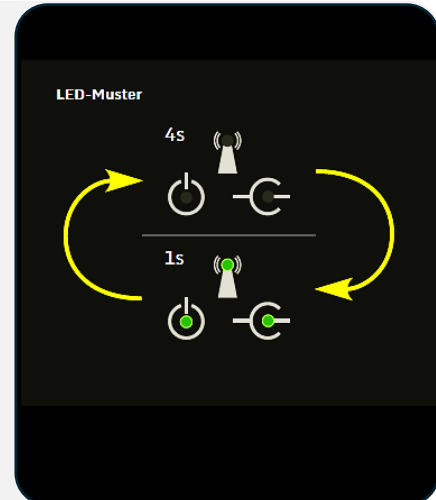
You can tell the status of the device monitoring the fence from the light patterns of the 3 LEDs on the front of the device. The Fence Control usually has one of the following three statuses:

### Status Fence Control

#### Internal battery voltage too low

Indicates that the Fence Control's internal battery is not sufficiently charged for use. Feed the Fence Control with power and wait until the Fence Control switches to "Network Search" status.

- This is often the case when the Fence control is put into use after a long time.
- Charging time is up to 2 hours.
- This voltage is not the same as the supply voltage of your energizer.

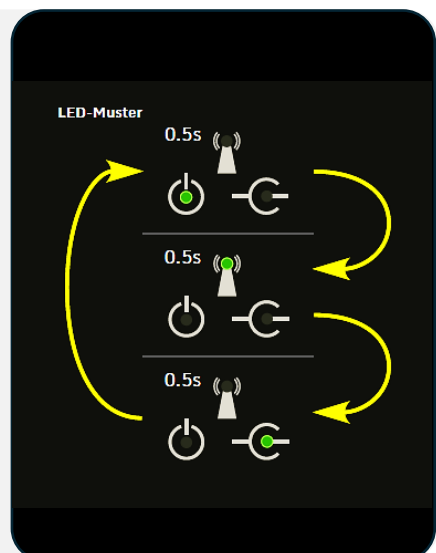


### Status Fence Control

#### Network search

In this status, the Fence Control searches for available mobile phone base stations and tries to connect to them. Once a connection to a base station has been established, the Fence Control switches to the "Ready to use" status.

- Make sure a supported and activated SIM card with deactivated PIN is inserted.
- Signing up usually takes up to five minutes.
- If problems occur during this step, you can look for suggested solutions on page 8.

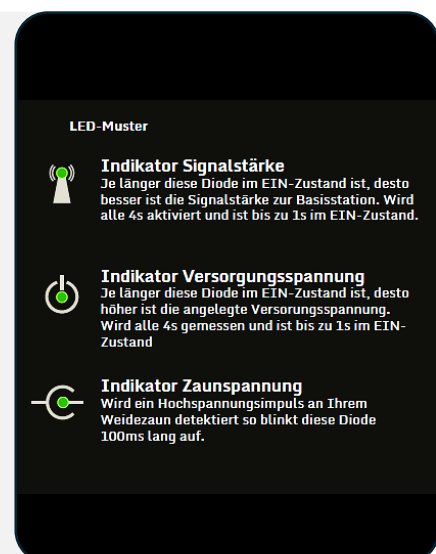


### Status Fence Control

#### Ready to use

The Fence Control is connected to a mobile phone base station and can now be configured and queried via SMS. In this status, each of the 3 LEDs must be evaluated separately.

- Make sure your phone number is registered in Fence Control's phone list (see "abo" command on page 9).
- While receiving and sending an SMS, the signal strength indicator flashes 5 times in a very short time.
- Other flashing patterns may also occur during a firmware update





## Use with a 230V energizer

### 1. Earthing wire - earthing pin

Connect to the earth terminal of the Fence Control (B).

Insert the earthing pin firmly into the ground at least one metre away from the earthing of the energizer. Make sure the ground is sufficiently moist.

(Ground pin not included)

### 5. Connection cable with crocodile clip

Connect to the measurement terminal (A) of the Fence Control.

Clamp the heart clip onto the fence wire.

### 2. 230V mains switch power supply unit (art. no. 090501)

Connect to the power connector of the Fence Control (C).

Insert the connecting cable of the 230V energizer into the mains switch and plug it into a 230V socket.

(230V power supply not included)

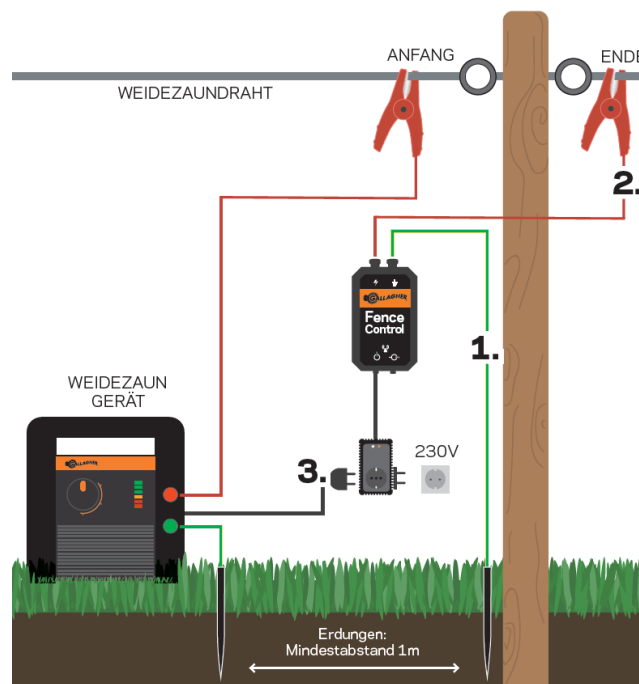


If you have the 230V mains switch, connect the power supply of your energizer to the Schuko plug of the mains switch. This allows you to easily switch your energizer on and off via an "on" or "off" SMS command.



### Ensure soil moisture

If the earth into which the earthing pins are inserted is too dry, the fence voltage cannot build up and the Fence Control cannot measure the fence voltage correctly.



## Warnings and alarms

If there is a problem with your fence, Fence Control informs you via text message. A distinction is made between alarms and alerts.

### Alarms

An alarm is triggered if the Fence Control measures a fence voltage permanently below the selected warning threshold. In this case, the Fence Control sends an SMS to all phone numbers in the phone list in the order in which the participants were added. The Fence Control waits 5 minutes between each alarm SMS. If a user answers the Fence Control with the SMS command "ok" during this time, no further alarm SMS is sent and the Fence Control is in recovery mode. In this mode, the Fence Control waits for an SMS command "info" or "on". Be sure to send this SMS after you have fixed the fence problem so that the Fence Control is ready for the alarm again.

### Warnings

An alert has a lower priority than an alarm. There are 2 different alerts:

#### Strong voltage fluctuations recognised

After switching on with the SMS command "on", the Fence Control starts analysing the fence voltage.

In this phase, the Fence Control also tries to determine the quality of the fence wire used. If the Fence Control detects unusually strong fluctuations in fence voltage here, it switches off, sends an alert to the administrator (first ranked phone number in the phone list, see page 9).

Should you receive this text message, check the energizer and the wire used.

Attention  
Your pasture fence has strong voltage fluctuations on. Check the fence and wire.



#### Sudden large voltage drop

If the fence voltage drops by more than 20% in a very short time, a warning message is sent. This SMS is sent successively to all phone numbers in the phone list. unless the problem is resolved.

Attention  
Extraordinary voltage dip!  
From 7000 V to 5000 V  
BAT: 9.5V



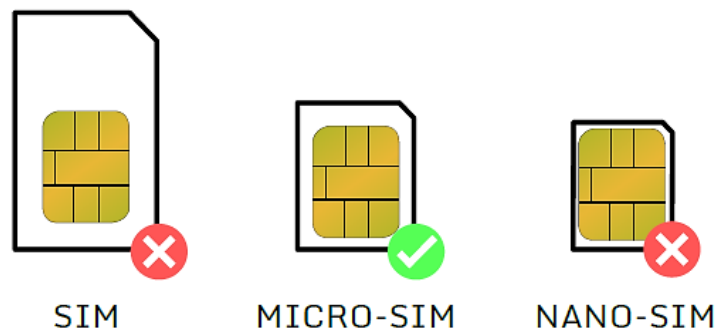
#### Only operate the Fence Control with the lid closed

The fence voltage is determined with optical measuring elements. The cover of the Fence Control must be closed so that the Fence Control can recognise fence voltage problems.

## Mobile phone provider - choosing a suitable SIM card

Communication between the Fence Control and the phone takes place via the **GSM** or **LTE-M** mobile phone network - depending on availability. For this, a **micro-SIM card** must be inserted in the Fence Control.

When inserting the SIM card, make sure it is in the correct position and lock the SIM card holder as described on the label inside the Fence Control.



### **PIN is not allowed:**

The inserted SIM card must not have an active PIN code. All commercially available mobile phones can delete the PIN code of the SIM card. Insert the SIM card in your mobile phone and refer to your mobile phone's user manual to see how to delete the PIN code of the SIM card. If this does not work, contact your mobile phone operator.

### **Credit required:**

The Fence Control supports prepaid cards and rate cards. Make sure that you have enough credit for text messages and data volume. You can use your mobile phone provider's online portal to check the remaining available credit.

**When "web"** is active (see page 12), Fence Control consumes a maximum of 500MiB data per month.



## SMS commands - Installation

The Fence Control is operated, configured and alerted via SMS. The following pages describe all supported commands and their response. If you send the Fence Control a text message that it cannot interpret, it will not send a reply back.

The SMS consists of commands and **<parameters>**. They are not case-sensitive.



### Response time can vary widely.

As a rule, the response time of the Fence Control should not exceed 15 seconds. Depending on the strength of the reception signal of your mobile phone and the Fence Control and the use of the mobile network, a reply SMS may take longer in exceptional cases (several hours).

As long as your phone number is not in the phone list, the Fence Control will accept only the command **"abo"** - and only if you enter the correct PIN as a parameter. No other commands are responded to in this case.

So the first step is always:

### Register a phone number

**abo <PIN>**

Stores the phone number that sent this SMS command at in Fence Control's phone list.

If the Fence Control has not yet stored a phone number, this phone number is stored as the administrator.

Up to 5 phone numbers can be stored.  
The **<PIN>** is preset to 1234 on delivery from the factory.

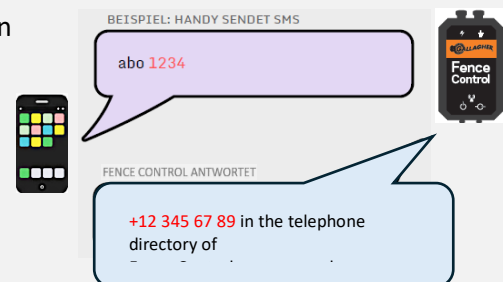
For all other SMS commands, you must telephone number in the Fence Control phone list registered.

### Parameter description

**<PIN>** ... alphanumeric password of 4 to 15 digits



For security reasons, it is recommended to change your PIN after logging in for the first time using the **"pin new"** command.



## Cancelling a phone number

```
unabo <INDEX>
```

Delete phone numbers from the phone list.

### Parameter description

<INDEX> ... Number from 1 to 5. If the parameter is not (optional) is given, your own phone number will be removed from the phone list.

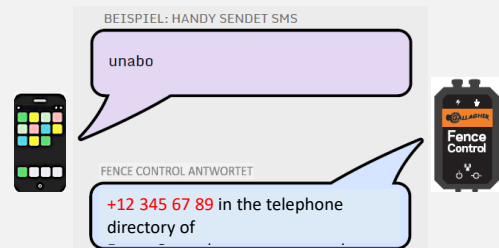
### Without parameters

Deletes the phone number sending this SMS command from the Fence Control's phone list.

If you want to send any more SMS commands, you need to log in again.

**unabo <INDEX>** (administrator only)

Deletes the phone number with the index <INDEX> from the phone list.



## Changing the security PIN

```
pin new <PIN> ADMINISTRATOR ONLY
```

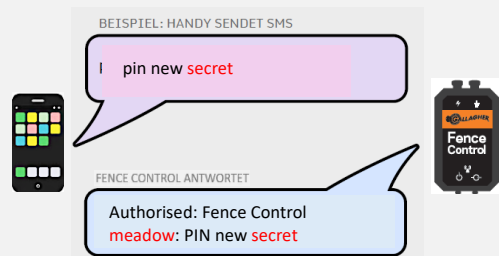
Assignment of a new security PIN. Small and capital letters and numbers can be used. This PIN is also your password in the Fence Control web.

### Parameter description

<PIN> ... alphanumeric password of 4 to 15 digits



For safety reasons, it is recommended, your PIN after the first login with the change the "pin new" command.



## Assign a name to your Fence Control

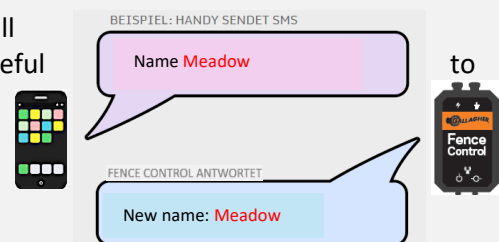
```
name <NAME>
```

Gives the Fence Control a name as a prefix. From now on, all SMSs of the Fence Control will have the prefix <NAME>. Useful keep an overview when using multiple Fence Controls.

### Parameter description

<NAME> ... alphanumeric text of up to 20 characters

### Configure warning threshold fence voltage



## warning threshold <VALUE>

Configure or query the fence voltage warning threshold

### Parameter description

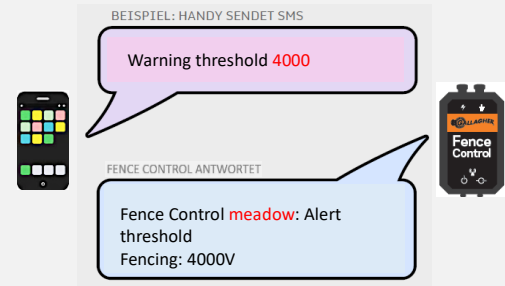
<VALUE> ... Integer between 1000 and 8000  
(optional) (standard 2000)

### Without parameters

Querying the current warning thresholds for fence and power supply voltage

### alert threshold <VALUE>

If the fence voltage falls below the set value <VALUE> in volts, the Fence Control sends an alarm to all phone numbers in the phone book, in sequence, at a 5-minute interval.



## Configure delivery warning threshold

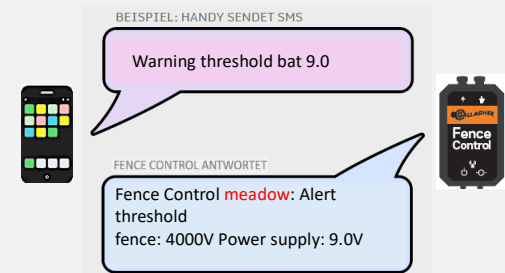
## warning threshold bat <VALUE>

### Parameter description

<VALUE> ... Decimal number between 7.0 and 12.0 or  
Keyword "off" (default 10.0)

### alert threshold bat <VALUE>

If the supply voltage falls below the set <EVALUE> in volts, the Fence Control sends an alarm to the administrator.



## Activating the WEB for Fence Control

web <STATUS>

### Parameter description

<STATUS> ...on activates upload in the Fence Control WEB (optional) from switch uploads to the Fence Control WEB off number (10-120) Upload only every number of minutes

### Without parameters

Query the web ID or current WEB status. The web ID identifies your Fence Control in the Fence Control WEB (<https://gallagher.wz247.at>). Use this in combination with your PIN to access your data.

### web on

The data transfer from Fence Control to the Fence Control WEB is activated. When activated for the first time, your web ID will be sent to you in a separate text message after you have successfully logged on to the Fence Control WEB. The WEB is active by default.

### web off

Data transfer from Fence Control to the Fence Control WEB is deactivated.

### web number

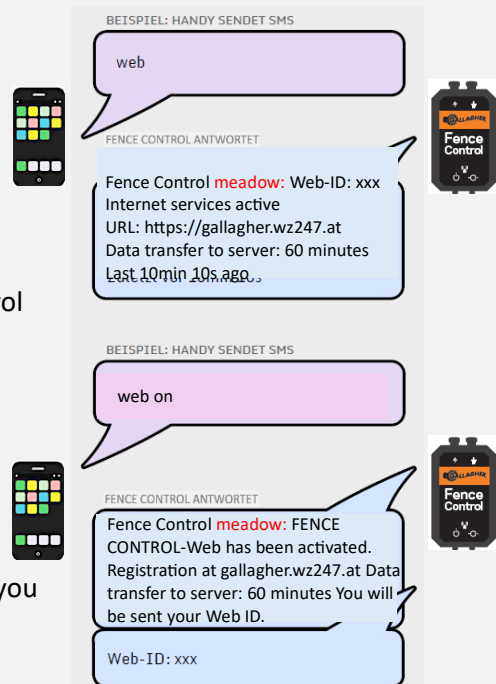
The number specifies the transmission interval of a data block from Fence Control to the Fence Control WEB. By default, data is sent to the Fence Control WEB every 60 minutes.



To use the Fence Control WEB, your chosen mobile phone subscription must have at least 500MiB of internet data per month.



The Fence Control WEB is a free service and serves as a digital logbook. We reserve the right to make changes of any kind to the Fence Control WEB, including monetisation, resolution or functional improvements. Your data will be stored on our servers.



## SMS commands - Control

### Switch on pasture fence or external device

**on** <DEVICE>

If possible, the Fence Control activates the energizer and starts measuring the fence voltage. It may take several minutes for the Fence Control to operate in normal mode and sends alarms and alerts.

#### Parameter description

<device> ... **wz** or **ext**  
(optional)

#### Without parameters

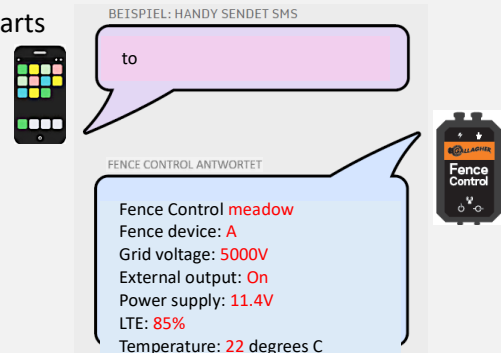
Switches the energizer and the external Switch on the switching output of the Fence Control and start the measurement.

#### on **wz**

Turns on the energizer and starts the measurement.

#### on **ext**

Turns on the external output.



### Switch off the meadow fence or external device

**off** <device>

#### Parameter description

<device> ... **wz** or **ext**  
(optional)

#### Without parameters

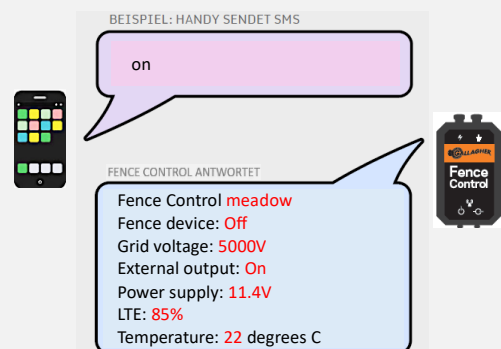
Turns off the energizer and the external switching output of the Fence Control.

#### from **wz**

Switches off only the energizer.

#### from **ext**

Turns off external output only.



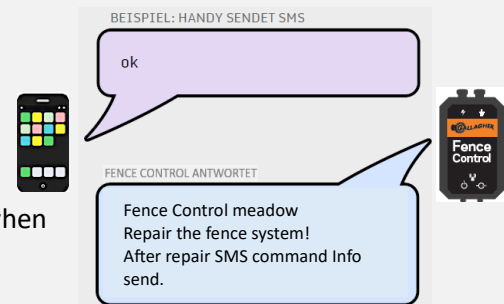
## Accept alarm message

ok

Confirmation for the Fence Control that the sent alarm message has been recognised by the receiver. The Fence Control does not send any further alarm messages to other participants in the telephone list.



This command is only active during an alarm and when Multiple phone numbers in the phone list be effective. It is meant to help reduce the number of SMS messages sent to save costs.



## SMS commands - Automation

### Daily automatic information

auto info <TIME>

Sends an info message every day at the specified time to the calling subscriber.

#### Parameter description

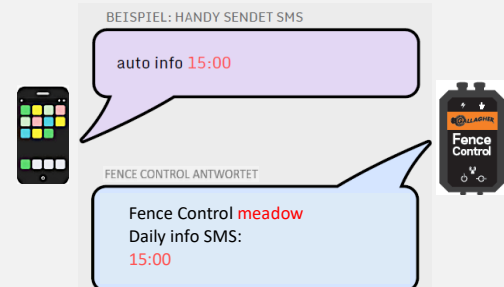
<TIME> ... Time in the format hh:mm  
(optional)

#### Without parameters

Retrieve the times entered to send a daily info SMS.

#### auto info <TIME>

The Fence Control sends an info-SMS daily on <TIME> to the phone number sending this SMS command.



## Switching on and off daily

```
auto <STATUS> <DEVICE> <TIME>
```

Configuring daily switching on or off of energizer or the external fence output of the Fence Control.

### Parameter description

<STATUS> .... **on** Enable at the specified time  
**off** Switch off at the specified time  
**del** Delete a command  
<DEVICE> ..... **wz** for switching the fence  
(optional) **ext** for switching the external output  
<TIME> ... Time in the format hh:mm

**auto on** <TIME>

Switches the energizer and the external output daily in at <TIME>.

**automatically off** <TIME>

Switches the energizer and the external output out daily at <TIME>.

**automatically on wz** <TIME>

Turns on the energizer daily at <TIME>.

**automatically out wz** <TIME>

Turns off the electric fence daily at <TIME>.

**auto on ext** <TIME>

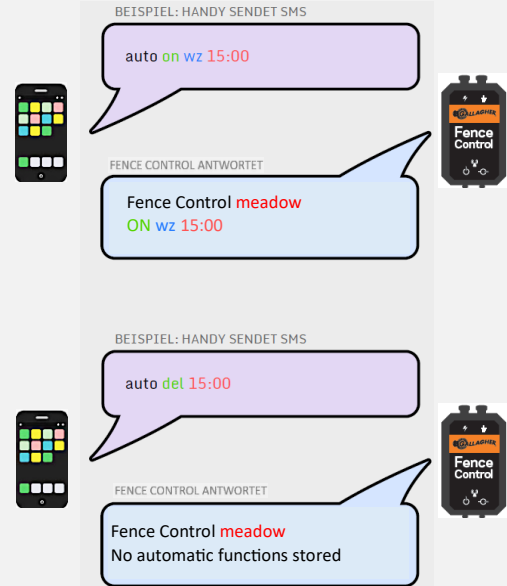
Turns on the external output daily at <TIME>.

**automatically off ext** <TIME>

Turns off the external output daily at <TIME>.

**auto del** <TIME>

Removes an existing daily command that is to <TIME> was executed.



## SMS commands - Information

### Status request

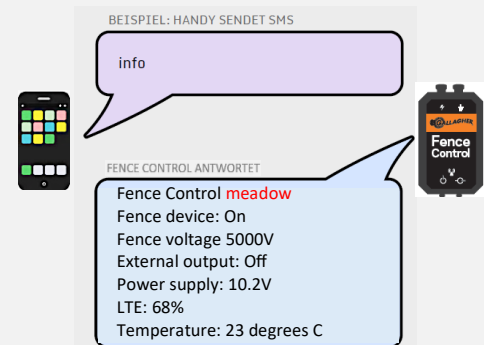
#### info

Status query for all Fence Control parameters.  
The parameters include:

- Name of the Fence Control
- Condition of the energizer
- Measured fence voltage on the energizer
- Measured supply voltage
- Status of the external output
- Mobile radio parameters
  - Selected network (GSM or LTE-M)
  - Signal strength in %
- Measured temperature inside the Fence control



The temperature measured in the Fence Control may differ greatly from the ambient temperature on site and should therefore not be used to determine the outside temperature.



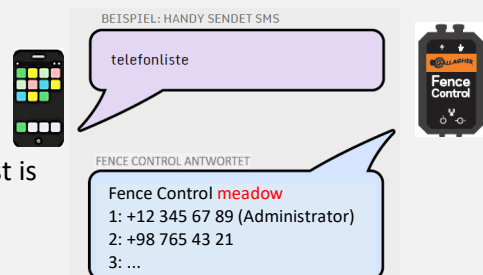
### List of subscribed telephone numbers

#### phonebook

Retrieving all registered telephone numbers (users) in the Fence Control's phone list. A maximum of 5 phone numbers can be stored in the Fence Control.



The first phone number that appears in the phone list is always considered the administrator. When the administrator logs out, it automatically the second phone number the administrator.



### List of all commands and link to operating instructions

#### help

The Fence Control will send you all available commands (without parameter description) and the link to the current operating instructions.



## SMS commands - System

### Querying the geolocation

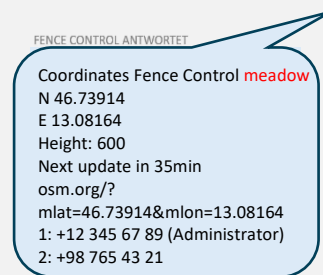
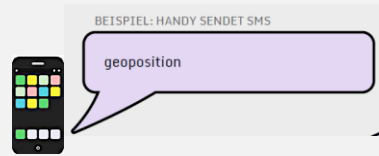
#### geoposition

Query the current position of the Fence Control, if this can be determined. The response contains the latitude and longitude determined by the Fence Control determined latitude and longitude

and the approximate height. The given coordinates may, depending on signal strength, vary by a few to a few hundred metres.



To determine geopositioning, the Fence Control must be placed in the open field. At indoors, the position of the Fence Control cannot be determined. The position determination can take several hours.



### Firmware version and firmware update

#### help

Querying and updating the current firmware of the Fence control

#### Parameter description

<CMD> ...reset to factory settings update

Install newer firmware

(optional)

<PIN> ...alphanumeric PIN of your fence controller

(optional)

#### Without parameters

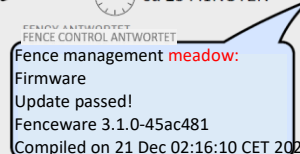
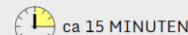
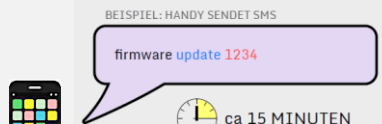
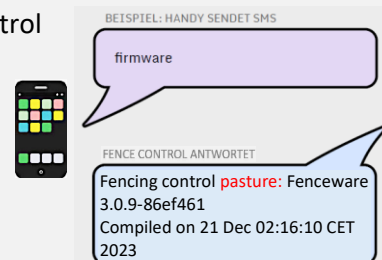
Querying the firmware version of the Fence Control

**Firmware reset** <PIN> (administrator only)

Resetting the Fence Control to the factory setting

**firmware update** <PIN> (administrator only)

When new firmware is available, Fence Control downloads and installs it. This usually takes about 15 minutes, but can take considerably longer in poor wireless conditions. The Fence Control's web must be active for this (see "web" command on page 12) and your mobile phone subscription requires sufficient available internet data volume (an update requires about 512kb of data).



## What to do if...

### **the LEDs light up simultaneously for one second at five-second intervals?**

The internal battery is charged. The charging time is up to 2 hours.

### **the LEDs are not flashing or on?**

Check that the battery is connected in the Fence Control and make sure it is connected correctly. Secure the power supply to the Fence Control.

### **the LEDs light up in short succession while running?**

The Fence Control cannot find a mobile network or cannot log in. Check the Mobile phone reception and deactivate the PIN of the SIM card.

### **the power supply LED lights up only very briefly or not at all?**

The power supply is too low or missing. Check the operation of the external battery or the power unit and the power connection.

### **the mobile phone's light is only on for a very short time?**

The mobile phone reception of the Fence Control is very weak. Check whether at this location the mobile phone network is available.

### **the Fence Control does not send an SMS response to an SMS request?**

Make sure you are included in the Fence Control's phone list. To do this, send the SMS command "abo 1234" to the Fence Control. There must be a SIM card with call credit in the Fence Control.

### **I do not have access to the Fence Control WEB?**

Try sending the "web on" command. Check that there is a SIM card in your Fence Control and that it has credit.