

# GESYSENSE standalone Battery Replacement Software Manual

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Dokument / File	Version	Freigabe	Bearbeiter
GesySense/UserDoc/GesySense_Battery_Replacement_E-v1.0.docx	v1.0	18.02.2016	lue



## Preface

This document describes the procedure of battery replacement for GesySense sensors. It refers to the standalone utility “GesySense Battery Replacement”. Instructions how to replace the battery of the sensor modules itself can be found in the GesySense\_HW Manual.

## Change Status

Version	Chapter	Comment	Date/Initials
1.0	All	Initial release	18.02.2016 / lue

## Related Documents

GesySense\_HW Manual-EN-v1.1.pdf

Hardware Manual of the GesySense system components

## Acronyms

TTP                      Hardware device code for GesySense Configurator

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# 1 Introduction

The GesySense system computes the battery level for the sensors. The implemented algorithm is based on the measured temperature, number of transferred messages and the start date of the sensor. So the system needs to know, that a battery replacement was done.

To have an accurate battery level value, the start date in the sensor itself and in the GesySense receiver needs to be updated. Without this updates the reported battery level will stay the identical as before.

To simplify the necessary procedure, Gesytec provides a small standalone utility, the “**GesySense batter replacement**” **Software**, which allows to perform the updates without having the project database of the GesySense Manager or GesySense Logit.

Using the GesySense Configurator, the GesySense Battery Replacement Software accesses the data in the sensors using the near field interface of the sensor and the GesySense Receiver with the standard RF communication.

## 1.1 Needed Components

- A PC or Tablet, running Windows 7 or higher
- The **GesySense Battery Replacement** software
- GesySense Configurator
- GesySense Receiver needs to have firmware version 0.96 or higher
- If there is an update necessary a serial connection to the GesySense Receiver is necessary. In case of a GesySense Receiver/LAN, the update can be applied, by copying the update file to the microSD card. In that case, the used PC needs to have a microSD card reader.
- In case of GesySense Receivers, prior to an ID of 8.12050, use the standalone **TTRDownload** utility.

## 2 Handling

### 2.1 Installation

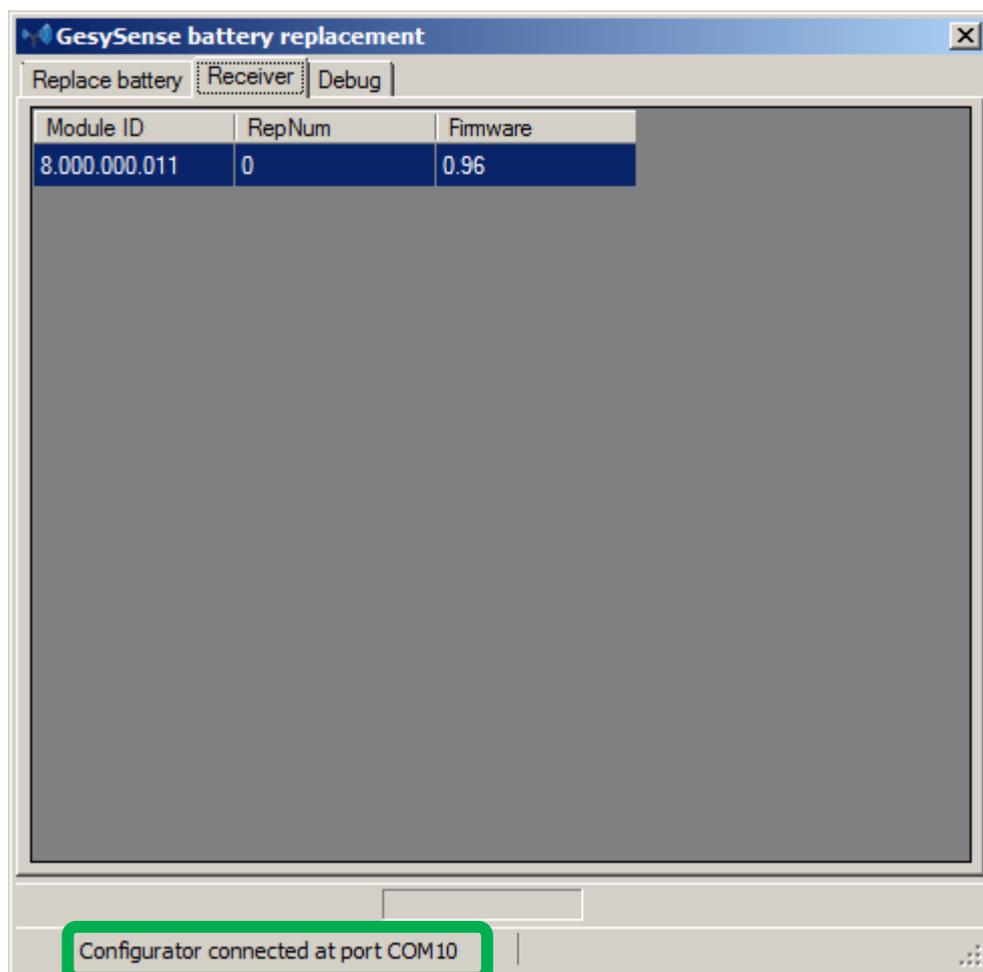
Please first install the software by starting **setup.exe**. The installation procedure will guide you through the setup. This will install the driver for the GesySense Configurator too.

### 2.2 Handling

Connect the GesySense Configurator to the PC. The LED will be blinking green now.

Start the “**GesySense battery replacement**” software. This is placed in the **Gesytec->GesySense** section of the start menu.

When the software has started, it displays in the status line, whether the configurator was found or not:



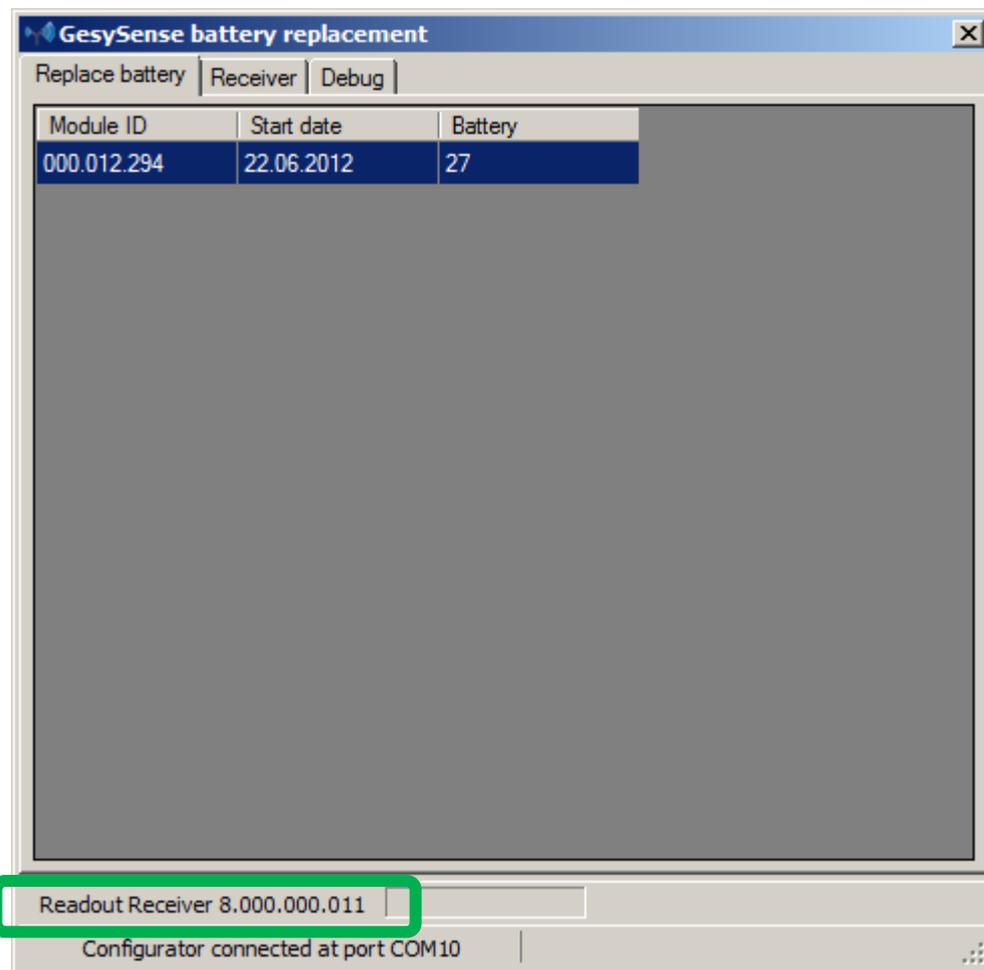
If the Configurator is connected properly, the LED is permanently on.

Now, the software is waiting for beacon messages from the GesySense Receiver. On receiving that beacon messages the software will fill the Receiver list with entries, showing the Module ID, the Repeater Number, and the firmware version



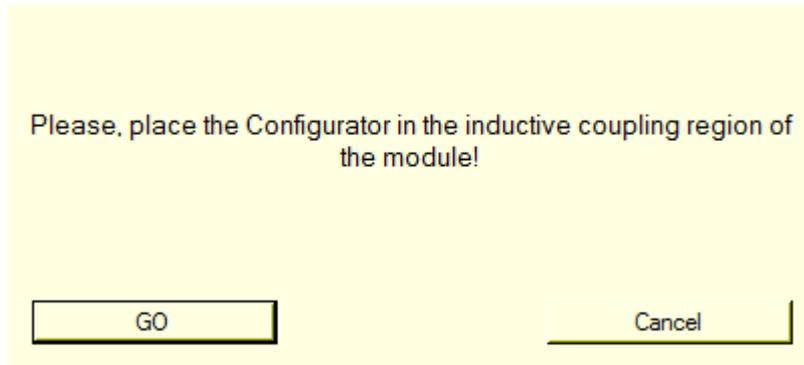
*Because the beacon message is sent in an interval of one minute, the recognition of the Receiver and all Repeaters takes some time. The Receiver will be shown with Repeater number 0. If the Firmware version is less than 0.96, an update of the Receiver is mandatory. Please refer to the chapter “Receiver update”.*

When the software has detected the Receiver, it will request the list of configured sensors. The Receiver, which is actually requested is shown in the status line. The sensors are displayed in the list, named “Replace battery”:



*Retrieving the sensor list from a Receiver may take up to 2 minutes.*

Now click on the field with the Module ID of the sensor with the replaced battery. The software will show a dialog:

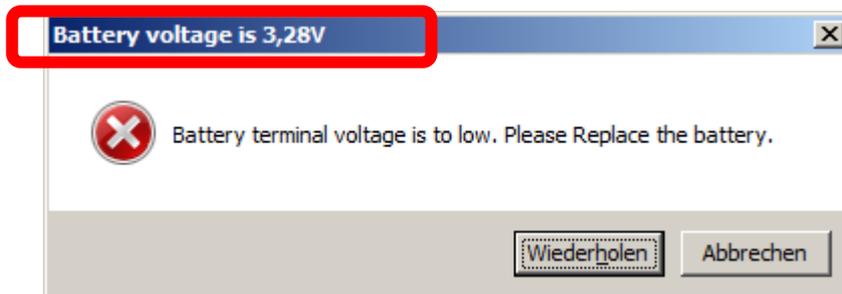


Place the GesySense Configurator on the sensor



and press the OK button in the dialog or on the configurator itself. Wait until the configurator beeps.

The software checks the battery voltage of the sensor. If it is lower than 3.4 Volts, it will refuse performing the update procedure:



If everything went fine, the software has updated the start date of the sensor in the sensor itself, in the GesySense Receiver and the updated configuration of the GesySense Receiver was stored persistent.



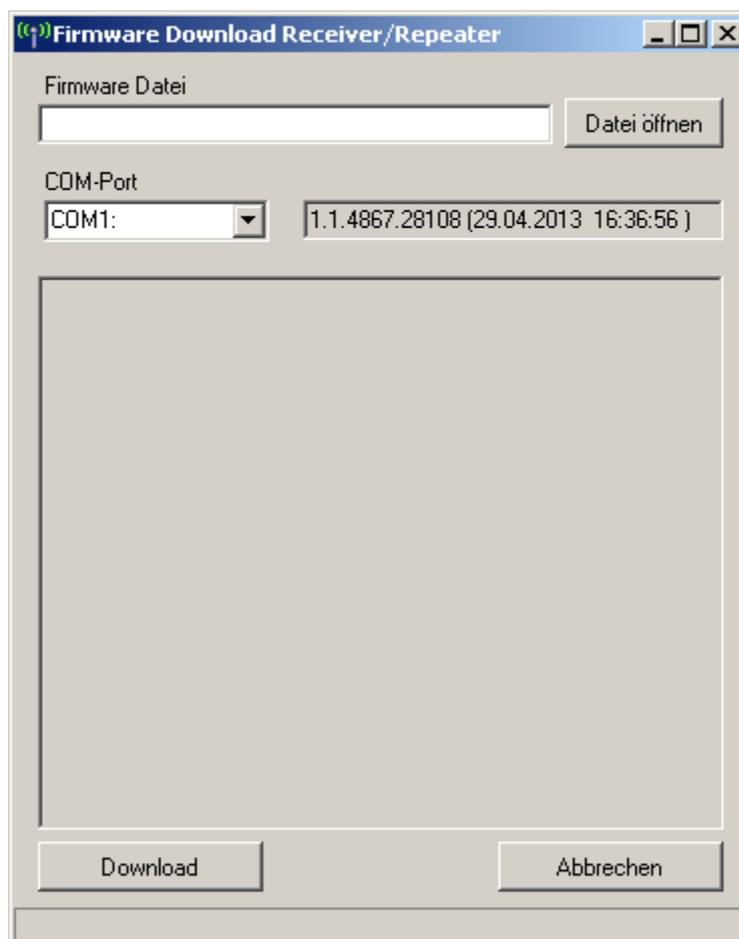
*Because the battery level in the GesySense Receiver is just computed on receiving measurements (5 minutes interval usually) and the slow scan polling cycle of the GesySense Battery Replacement software with the GesySense Receiver it may take up to five minutes until the correct battery level is shown.*

## 3 Receiver update

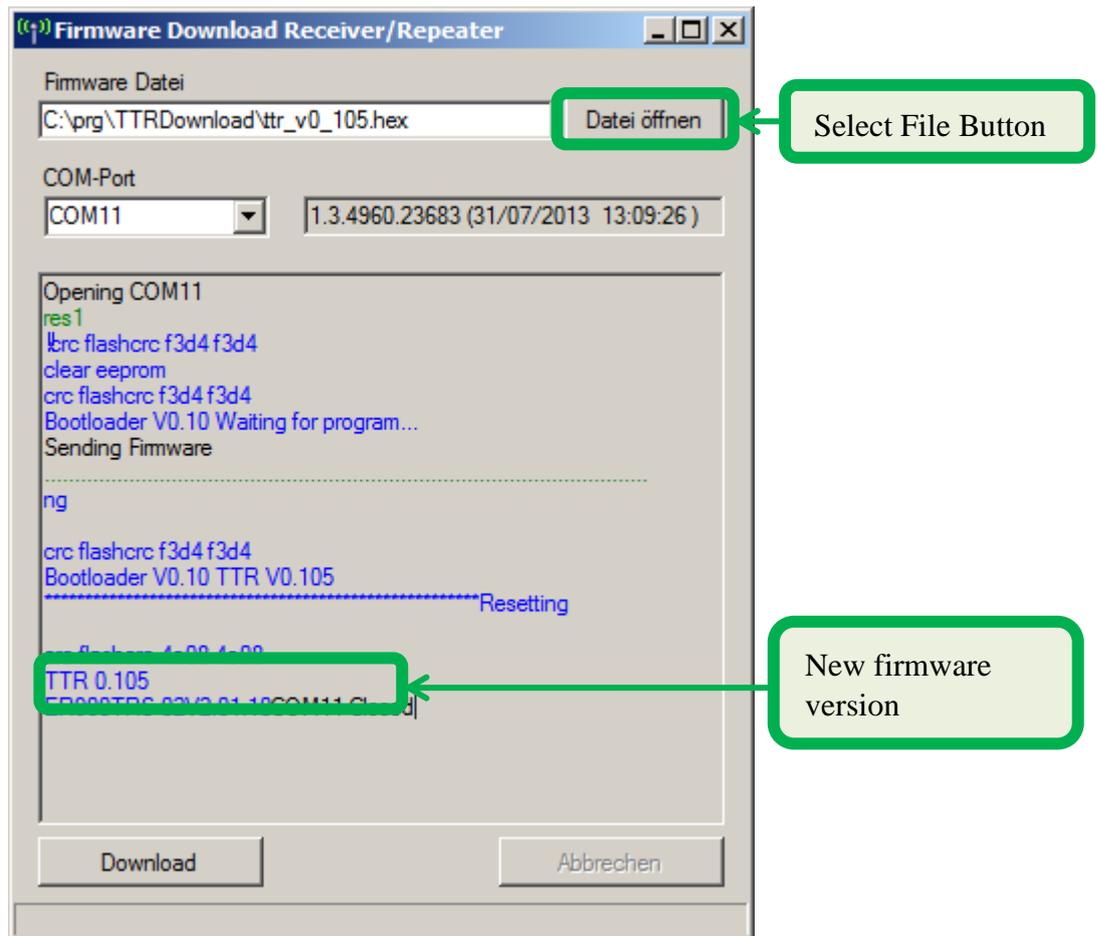
### 3.1 GesySense Receiver

If the firmware version of the GesySense Receiver is less than 0.09 an update is necessary.

For a GesySense Receiver just click on the row in the Receiver list. This opens the firmware update dialog. You need to have a serial connection to the Receiver.



Select the firmware file (extension .hex), the COM-Port, where the PC is connected with the GesySense Receiver and press the Download button.



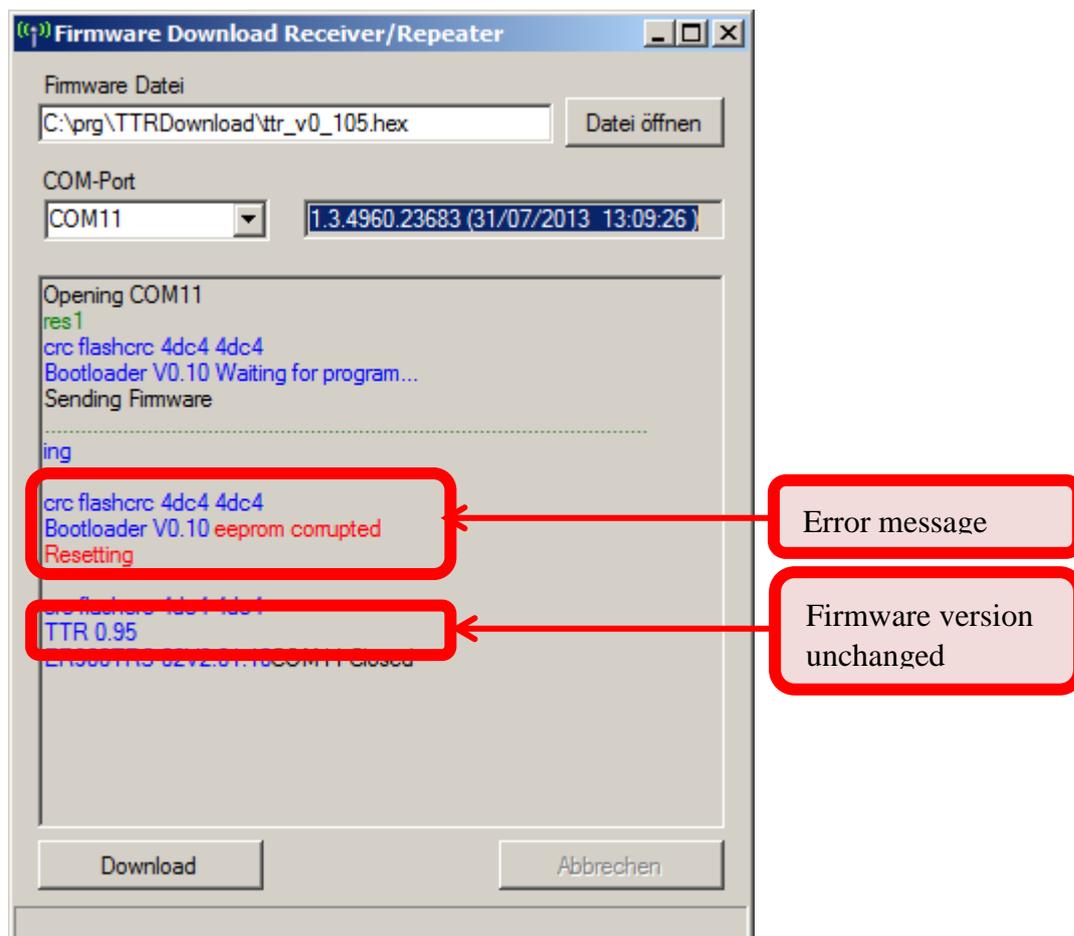
During the download the three LEDs Status, Radio and Comm. will show red.

### 3.1.1 GesySense Receiver with bootloader prior V0.12



*Bootloader of the GesySense Receiver prior version V0.12 can't download firmware files larger than 64 Kbyte. This is for all devices, having an ID lower than 8.12050 or before 21. August 2012. In that case, use the standalone **TTRDownload** utility directly.*

If during the download this error happens:



You need to download the **clearflash\_v0\_01.hex** firmware file in an additional step. This prepares devices, having an old bootloader to receiver firmware files with more than 64 Kbyte size.

## 3.2 GesySense Receiver/LAN

Unplug the GesySense Receiver/LAN from its power supply. Extract the micro SD card carefully and connect the card to a PC. Now copy the firmware file (extension .BIN) to a folder named UPDATE (upper case). Place the microSD card again in the GesySense Receiver/LAN and turn the device on. The device will check the content of the UPDATE folder within the next 2 minutes and performs the update.