# Installationplan of the Easy RFID

No time for manuals? We know, but it will take only 2 minutes of your time to read this manual, and then about 20 – 30 minutes for the installation. Promise! :-)

The Easy RFID consume (unlike other available solutions...) no significant power in standby mode. It´s only active when you press the button. The **antenna module** is separated from the **control module**. The antenna can be installed visible or behind any plastic parts but not behind metal.
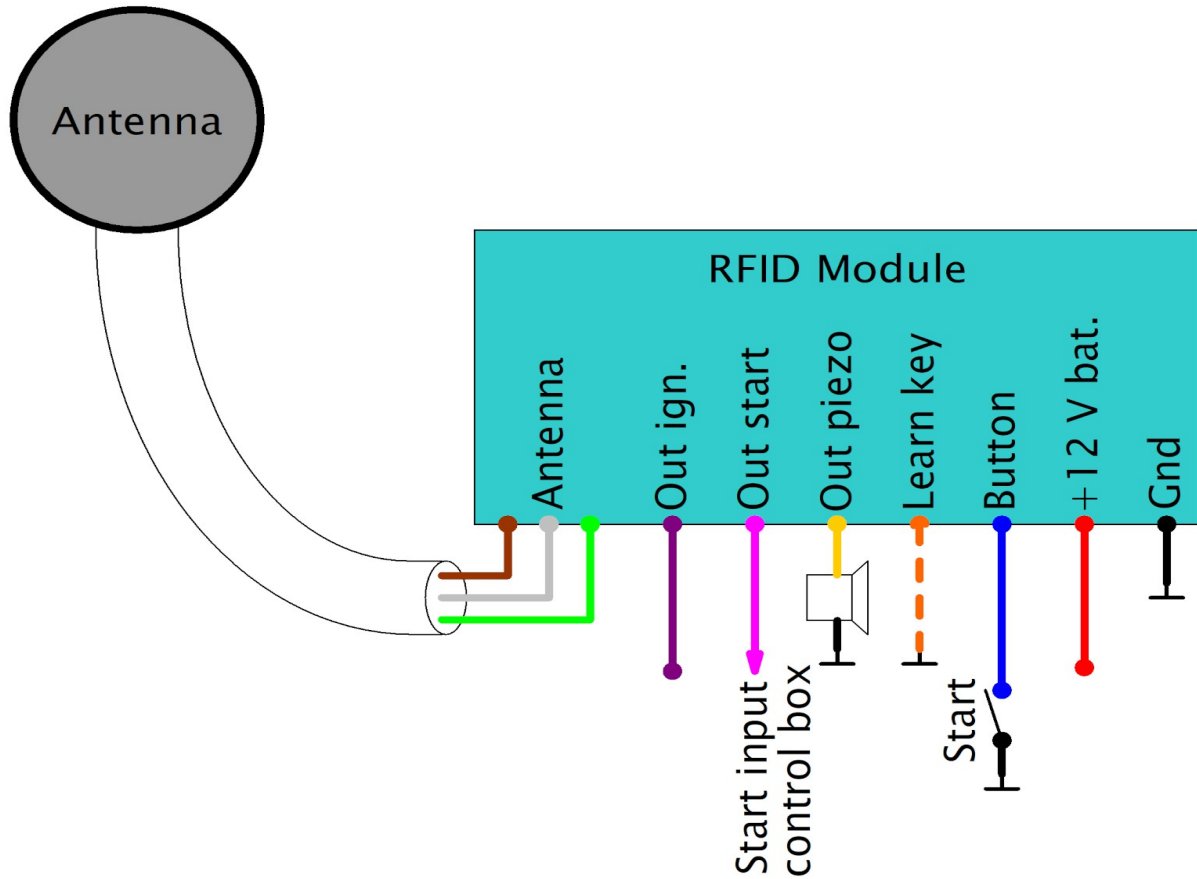
The Connections are as follow:

Ground (black): This cable is connected to the frame or the minus pole of the battery.

12V input (red): Connect the 12 V from the Battery to the EASY RFID via the red cable. You can use the wire, formally used as the connection from the battery to the ignition lock. We recommend to wire a 20 A Fuse into the line from the battery. The internal load switches turn off after a few seconds if currents above 30 Amperes are present but they get up to 150°C warm in case of a short circuit what lead to gaps in the casting compound and your control module is no more water proofed.

Ignition Output (violet): This cable supplies the bike with the necessary power for ignition / lights / turn lights and the horn. The output can switch 20 Ampere.

Starter button output (pink): This cable is connected to the start button input of your control box. It simulate the starter button.

Piezo output (yellow): This cable can be connected to the accompanying Piezo speaker. So you can make a successful recognizing of the tag hearable. However, it´s not necessary to implement the piezo in the bike if you don´t like it.

Start button (blue): Your Start button is connected to this cable. The other cable of the start button is wired to ground.

Programming cable (orange): This line is connected to ground if you want to store a new tag in the rfid module. The training process can be repeated anytime in case if you lost a tag. This line must be de connected from ground if the learn procedure is done.

Installation:

The antenna has two built in 3mm studbolts to mount this unit in your bike. The badge side with the rfid logo should not be covered with metal, what will decrease the operating range significantly. To operate with your EASY RFID, the tag is to be placed in front of the Logo.

The control device can be placed anywhere you want. However, there´s a status led in the control module implemented that flashes 2 times when using a not identified tag and even 3 times or 4 times when stored a new tag in the control device. So it might make sense to implement the control module in the way that you can identify the led.

The Easy RFID comes together with a small piezo speaker that can be connected to the yellow cable. The piezo will beep if you now hold a tag in front of the rfid logo. Just leave this line (and also the Piezo speaker) unused
If you don´t want to have your bike beeping.

After having connected all the wires to the Main unit and having ensured grounding you just have to connect the three thin wires of the grey cable that comes out of the antenna:

> white to white
> Brown to brown
> Green to green

That´s it :-)

Operation:

A press on the button activate the RFID module for 15 seconds. The ignition output switch on if you hold an identified tag within 15 second close to the antenna. A "beep" inform you that the ignition is on. The module fall back to sleep if it don´t recognize a tag within this time. You can control now the starter by pressing the button once again if the ignition is switched on. With a short press less than a ¼ second on the button the ignition and also the Easy RFID is switched off again. A longer press activate the start button output for the input of your control box.

The status led on the control device flashes for 2 times if a tag in range of the antenna is not identified and the Easy RFID falls back to sleep again and consume no current.

The Easy RFID can learn the id of 2 different tags (125 kHz, EM4001). The orange cable is connected to ground if you want to store a new tag. Press the start button and hold the tag after the press in front of the antenna. The status led flashes for 3 times (tag one) or 4 times (tag two). The maximum distance is about 6 - 8 cm, depending on the used tag.

By the way: The small mini implants made for pets that can be bought for 3 or 4 Euros on the web have a smaller range. The used antenna is of course smaller and allows often only a range of a few mm.

Here´s a summary of the status led signals:

1 x flashes: The tag has succesfully recognized and the Ignition output is activated.The piezo indicate it as well.
2 x flashes: The tag has not been recognized and te EASY RFID falls asleep again after release the button.
3 x flashes: The EASY RFID had learned the first tag.
4 x flashes: The EASY RFID had learned the second tag.

Please consider that the EASY RFID may only be installed by qualified service-technicians.
Any liability of the manufactor for damages or accruing disadvantages of the user caused by inappropiate using or installing the EASY RFID are distincly excluded.
Please notice the respective traffic regulations. Further on, the Company Axel Joost Elektronik declares that the EASY RFID is applicable to the usable CE-Norms and the regulations of ROHS are accomplished. The EASY RFID is conform to 2014/53/EU, EN50364, EN00330 For further quesitions we are available at info@elektronikbox.de.

However, we wish you a lot of fun with the EASY RFID and always have a good and safe ride!

Techn. specs:

Dimensions control module: 40 mm x 25 mm x 12 mm, antenna module: Diameter 29 mm x 19 mm
Power consumption in standby mode: About 30 uA
Housing: black ABS, potted with 2-K Casting compound
Input Voltage range: 9 - 16 Volt
Connections: Control cables: 0,14 mm², poer cables 1,5 mm², 20cm lenght each
Maximum range to tag: 6-8 cm, depending on the monting position and the used tag
Maximum ambient temperature: 60 degrees Celsius
Maximum current from 12 V connection: 20 Amperes permanent