Kiwitron
SMART INDUSTRY SOLUTIONS

Edition 17.04.2024

KeyOne

X000425 - X100425

Manual for installation, use and maintenance

Kiwitron
SMART INDUSTRY SOLUTIONS

CE

Declaration of Conformity - (DoC)

We

Manufacturer:	Kiwitron S.R.L.
Address:	Via Vizzano 44, 40037 Sasso Marconi (BO) - Italy

Declare that the DoC is issued under our sole responsibility and belongs to the following product:

KeyOne

X100425; X100425IU; X100425EU;

X000425; X000425IU; X000425EU;

Object of the declaration:

Immobilizer, telemetry and data logger for industrial motor vehicles

The subject of the above declaration is in accordance with the following rules:

Electromagnetic Compatibility Directive 2014/30/EU

Directive RED 2014/53/EU

and therefore complies with the following norms / standards:

UNI EN 12895:2019 Industrial trucks - Electromagnetic compatibility

and related standards / ETSI standards

Place: Sasso Marconi (BO) - Italy **Valid from:** 12/28/2022

Last update: 01/10/2024

Person authorized to compile the technical file: Daniele Parazza

Legal representative: Andrea Filippini

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SMART INDUSTRY SOLUTIONS

UK CA

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Statutory Instruments: S.I. 2016:1091

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Reviews

Version	Comments	Amended chapters
00	First release	All

Tab.1 - Document revisions

Purpose and field of use

Users	Installer; Operator of the vehicles on which it is installed; Qualified personnel authorised to maintain the device.
Purpose	Provide information needed for: ● The correct installation of the device; ● The correct awareness of operators to safety issues; ● Using the device under safe conditions.

Tab.2 - Purpose and field of use

Key

	Warning/Caution - Important safety information
	General information and suggestions
	PROHIBITION: Operations or actions NOT permitted.

Tab.3 - Key

Safety instructions and warnings

The device must be operated by appropriately trained and qualified personnel.

Before installing and operating the device, please read and understand this manual carefully to avoid damaging the product and putting your own safety at risk.

The technical information in this document is provided for information purposes only and does not constitute a contractual commitment.
Kiwitron s.r.l. reserves the right to make any graphic or functional changes to devices and/or software without prior notice.

The system must be installed in such a way that the driver of the vehicle is not prevented in any case from bringing the vehicle into a safe state and in any case always strictly following the instructions in the user and maintenance manual.

The Kiwitron device **cannot** replace the safety devices of the vehicle on which it is installed.

The Kiwitron device **must** be installed in compliance with general safety regulations.

It is forbidden to install the device in order to disable or alter the operation of the safety systems already installed on the vehicle.

It is forbidden to use the system to operate contactors, as opening them while current is passing would cause an electric arc.

Warn the operator of the vehicle before carrying out any remote operation (web cloud or remote connection via PC) to prevent dangerous situations.

Where the device is installed in such a way that a maximum/minimum performance limit can be activated dynamically, the safety of the machine and the operators must be respected. In any case it is forbidden to command the complete stop of the vehicle but only a reduction of its speed. Any change in the operating parameters of the vehicle shall not create potential danger situations. In any case, connection and calibration operations external to the systems provided by Kiwitron are the sole and complete responsibility of the installer, including any risk analysis that may be necessary.

Do not use the device in the presence of flammable gases or fumes, in the vicinity of filling stations, fuel depots, chemical plants or during blasting operations. **Avoid any potentially explosive atmosphere.**

Warnings on the emission of radio waves

The device receives and emits radio waves.

The maximum power radiated by the device is below the thresholds imposed by regulations.

The wireless modules used for GPRS and Wi-Fi transmissions meet all the security requirements required for high frequency radio wave communications.

Interference may be generated if used in the vicinity of equipment such as TVs, radios, computers or any unshielded electrical and/or electronic equipment.

Observe the restrictions imposed on the use of electronic devices if the vehicle on which the device is installed is used in hospitals (or other health facilities) or near an airport. In all areas where there are restrictions imposed due to the use of electronic devices.

Intended use

The device is designed for use only on self-propelled forklifts or industrial vehicles with electric, endothermic or hybrid drive that comply with the Machinery Directive 2006/42/EC.

Uso non consentito

Any use of the anticollision device not expressly described in this manual is not permitted.

And in particular:

It is not permitted to install Kiwitron device on vehicles that can travel on public roads.

On forklifts crossing tracks unless a vehicle restraint system is already fitted on the starting consent.

Kiwitron device and its accessories and additional sensors are assistance systems.

Kiwitron device and its accessories and additional sensors are not safety devices as they are not covered by Annex IV of Directive 2006/42/EC and therefore cannot be used for residual risk reduction.

Kiwitron device is not an explosion-proof device.

Kiwitron device cannot be installed on two- or more-axle vehicles with electric traction, with an endothermic engine, such as cars, trucks, mopeds, motorcycles and public-service operating machines.

Risk assessment

It is the obligation of the operator (owner of the vehicle) to carry out an environmental risk analysis prior to installation.

During the installation phase, it is mandatory to ensure that any malfunctioning of the device does not compromise either the safety or the productivity of the operators and the plant.

It is essential to assess the situation should the device be malfunctioning.

It is possible that the machine is not activated following a correct login, or that the slowdown is activated without a collision having occurred.

Before setting up the access control function with blocking of the vehicle in case of failed login, it is mandatory to verify that this condition falls within those provided by the vehicle manufacturer and that it does not introduce additional dangers in case of abnormal situations.

Limitations on liability

Kiwitron s.r.l. is released from any liability for damage caused by:

- Misuse of the device.
- Use by unqualified and/or trained personnel.
- Incorrect installation.
- Power supply defects.
- Improper maintenance.
- Unauthorised changes or interventions.
- Incorrect manoeuvres.
- Use of non-original spare parts.
- Use of accessories not provided for or not authorised in writing.
- Total or partial failure to comply with the instructions.
- Unusual cases.
- Cases not in accordance with the regulations and legislation currently in force in the country of installation.

Kiwitron s.r.l. is not aware of the specific ways in which its buyer will use the sold device and is therefore not able to know whether such use may violate the rights of third parties. In addition, the sold device is not usable in a single mode but can be configured according to customer needs. Therefore, Kiwitron s.r.l. is not liable in any way for any unlawful use of the sold device that violates the rights of third parties resulting from patent rights or other industrial property titles.

Kiwitron s.r.l. is relieved of any responsibility in the case of installation of the device on vehicles also authorised for use on public roads: it is in fact the responsibility of the operator to decide on the installation and use of the device on the vehicle. In this case it is **absolutely mandatory** to disable the blocking function of the vehicle (immobilizer) and slowing down in the event of a collision, to avoid creating situations of hindrance or danger (for example blocking the vehicle while crossing railway tracks).

Technical assistance and manufacturer's warranty

Technical assistance
In the event of faults, please contact Kiwitron technical assistance department.

Kiwitron s.r.l.

Customer service

Tel. +39 051 1889 3470

Mail: support@kiwitron.it

web site: www.kiwitron.it

Warranty

The warranty shall not apply to breakage and/or defects caused by:

- Misuse of the device.
- Use by unqualified and/or trained personnel.
- Incorrect installation.
- Power supply defects.
- Improper maintenance.
- Unauthorised changes or interventions.
- Incorrect manoeuvres
- Use of non-original spare parts.
- Use of accessories not provided for or not authorised in writing
- Total or partial failure to comply with the instructions
- Unusual cases
- Cases not in accordance with the regulations and legislation currently in force in the country of installation.
- The warranty does not extend to parts that wear out as a result of normal use such as cables and electrical connectors.

Please refer to the sales documentation for all contractual warranty terms.

General description

Glossary

Term	Definition
CAN bus	The Controller Area Network, also known as CAN bus, is a multicast fieldbus serial standard (mainly in the automotive environment), introduced in the 1980s by Robert Bosch GmbH, to connect different electronic control units (ECUs). CAN has been expressly designed to operate flawlessly even in highly electromagnetically disturbed environments and can use a balanced potential difference line such as RS-485 as the transmission medium.
Data logger	A datalogger, or data recorder, is a digital electronic device powered by an internal battery; it is equipped with microprocessor, sensors and memory for data acquisition.
Immobilizer	It is an electronic device that, when installed on a vehicle, prevents its theft and allows its location.
Working profile	Set of preset parameters for running (or not) system functionality.

Tab.4 - Glossary

Descrizione e scopo del sistema KeyOne

The KeyOne is a remote control system (Immobilizer, telemetry and datalogger) that is installed on trucks and industrial vehicles with drivers on board and/or ground or driverless vehicles such as:

- Front lift trucks powered by electricity or heat engines.
- Lifts with covering forks, retractable, with forks between the side members.
- Electric company vehicles (caddy, motor scooters, toy trains, etc.).

KeyOne is supplied in Kit with different configuration possibilities.

Typically the Kit is made of:

- KeyOne device
- GPS Antenna
- Wiring (2 versions available: standard or alternative)

KeyOne available versions are:

- KeyOne (cod. X000425)
- KeyOne with RS232 (cod. X100425)

Fig.1 - KeyOne device X100425 with RS232 interface

Fig.2 - GPS antenna cod. R100070

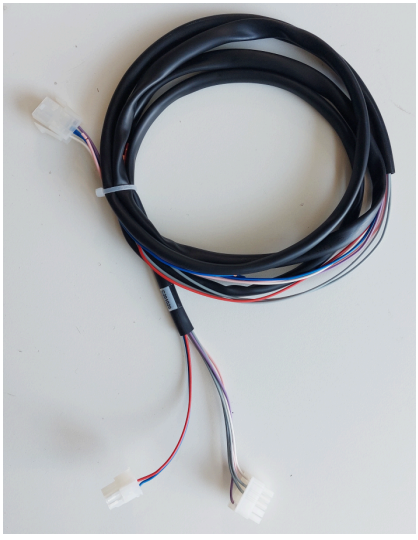

Fig.3 - Simplified wiring cod. C201020

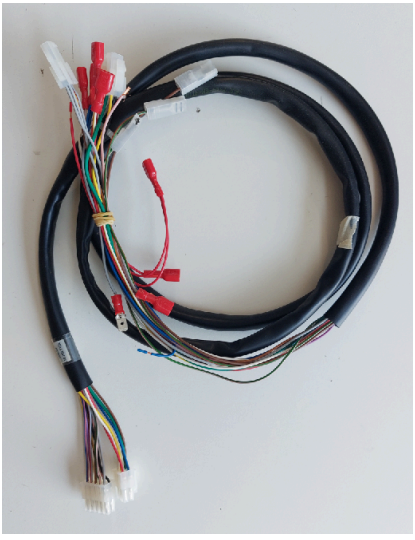

Fig.4 - Complete wiring cod. C001020

Operating principle

The system needs to be installed on the vehicle by connecting it to the power source (battery) and connecting the various sensors on the vehicle (these actions are described in the following chapters).

A software configuration of the remote control system is then made during installation.

- All settings can be made with the aid of PC configuration software (available from www.kiwitron.it in the download section) or via web via Kiwisat, the Kiwitron cloud portal.
- As a telecontrol system, KeyOne records data continuously during operation.
- From the Kiwisat portal, you can get a real-time view of your vehicles and manage maintenance remotely from any PC or smartphone.
- From the Kiwisat portal, "real-time" data for each connected vehicle are displayed with operating graphs, battery monitoring and complete point-by-point views of vehicle routes. The efficiency of the vehicles is thus fully displayed and various alarm thresholds can be set for each vehicle.
- It can be used both for automatic and computerized management of the names of vehicle users and as an immobilizer on any vehicle with a voltage of 12-24 VDC and for vehicle tracking. (Option with GPS/GPRS).

Funzionalità KeyOne

Since this is a fully customizable system, there may be installation examples not currently included in this version of the document.

KeyOne is a company fleet management system with the following functionalities:

- Satellite tracking.
- Shock detector.
- Battery analyser.
- Data transmission via SIM 2G/LTE.
- Expandable system with additional dedicated functionality.

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KeyOne technical data

Mechanical specifications			
Dimensions	100 x 100 x 35 mm 3,9 x 3,9 x 1,4 in	Material	Polycarbonate
Weight	350 g 12,3 oz		

Electrical specifications				
Power supply (Vdc)	12-24	Power consumption (W)	**typ.** 4	**max** 5

Internal battery 1 C Lipo 3,7 V 2300 mAh
Triaxial accelerometer
MicroSD memory slot (FAT, FAT16, FAT32)
SIM card slot
Interfaces
CAN bus (2A & 2B)
USB (Device)
RS232 Full (Host) (only for X100425)

KeyOne technical data		
Input/Output		
3 x Positive digital input (100 V tolerant, Activation threshold > 2 V) 1 x Positive analog input (Range analog.: 0 - 5 V) 2 x Output photorelay (Max 60 V, 400 mA)		
GPRS/LTE - GPS/GNSS module		
Output consumption from 1 to 2 W		
	2G	850/900/1800/1900 Mhz
	4G	2100/1900/1800/AWS 1700/850/900/700/800/850/700 Mhz

Tab.5 - KeyOne technical data

Installation

Special Velcro-type adhesives are available for installation on request, allowing simple, quick and non-invasive installation.

To protect the health of operators, place the keyone reader at a distance of at least half a meter from the driver's seat, so as to limit exposure to electromagnetic waves emitted by wireless devices.

In versions equipped with one or more antenna connectors, this **must not touch** or be placed near **metal parts (with electrical potential)** such as the frame, as it may adversely affect the system.

It is forbidden to place device near sources of strong heat or exposed to bad weather.

It is forbidden to install keyone devices in positions that limit the driver's vision or that can be an obstacle to his movements. It is forbidden to install keyone devices in positions that limit the driver's vision or that can be an obstacle to his movements.

Avoid placing the keyone device with metal parts that cover the top, it may generate wireless device malfunctions.

It is strictly forbidden to make fixing holes on the vehicle structures in order to install keyone devices. Use only brackets or fixing systems that do not compromise the structure of the vehicle.

Installation scheme

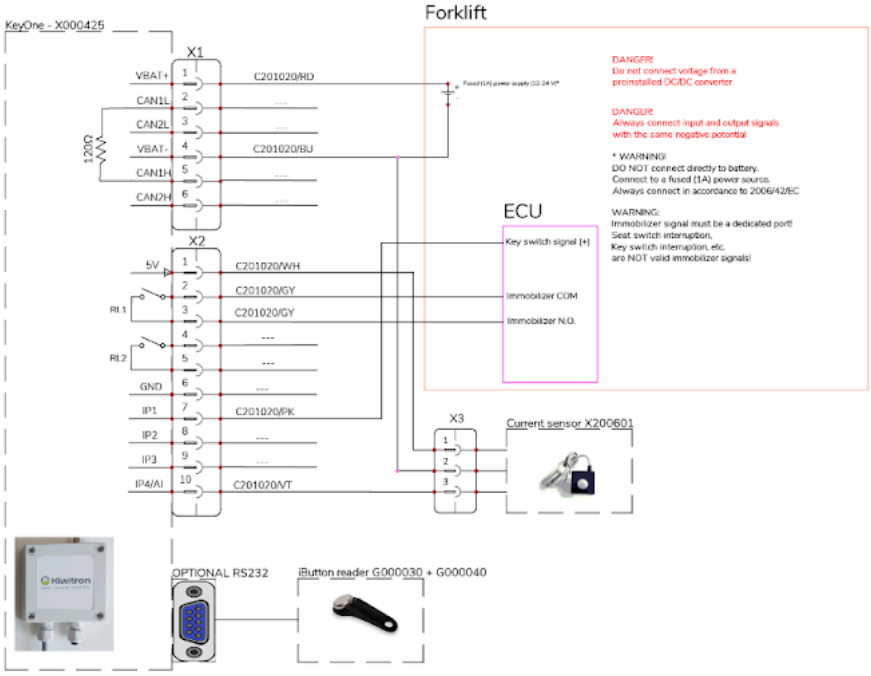
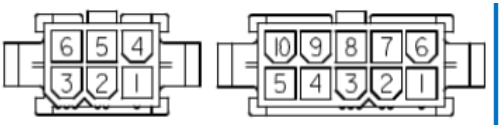


Fig.5 - Installation scheme

KeyOne standard pinout



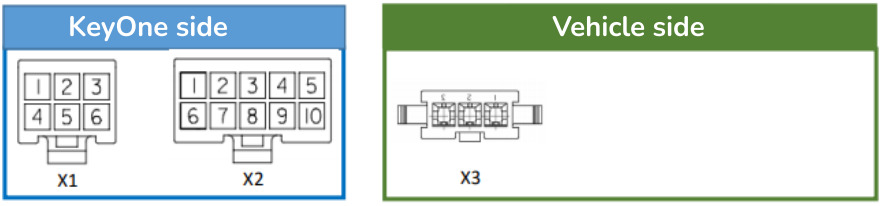
X1 X2 RS232

Position	Function
X1.1	Positive power supply (12-24 VDC)
X1.4	Negative power supply
X1.2	CAN1 L (120 Ohm)
X1.5	CAN1 H (120 Ohm)
X1.3	CAN2 L
X1.6	CAN2 H
X2.1	5V Output for sensor
X2.2	COM RL1 60V - 400 mA contact
X2.3	NA RL1 60V - 400 mA contact
X2.4	COM RL2 60V - 400 mA contact
X2.5	NA RL2 60V - 400 mA contact
X2.6	GND

Position	Function
X2.7	Positive input 1 (1,5-60V)
X2.8	Positive input 2 (1,5-60V)
X2.9	Positive input 3 (1,5-60V)
X2.10	Positive input 4 (analog. 0-10V)
RS232	RS232 connector

Tab.6 - KeyOne pinout

Standard wiring C201020 pinout



C201020 - KeyOne side

Position	Colour	Function
X1.1	Red	Positive power supply 12-24 VDC
X1.4	Blue	Negative power supply
X2.1	White	5V Output for sensor
X2.2	Grey	COM RL1 60V - 400 mA contact
X2.3	Grey	NA RL1 60V - 400 mA contact
X2.7	Pink	Positive input 1 (1,5-60V)
X2.10	Purple	Positive input 4 (analog. 0-10V)

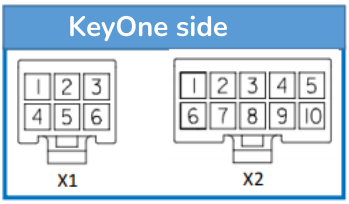
Tab.7 - Wiring C201020 pinout - KeyOne side

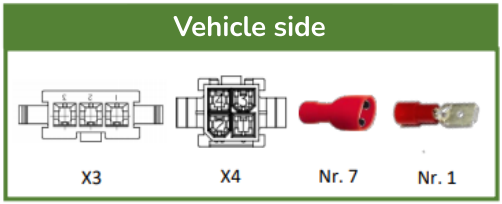
C201020 - Vehicle side

Position	Colour	Function
X3.1 X3.2 X3.3	White Blue Purple	Current sensor wiring
-	Red	Positive power supply 12-24 VDC
-	Blue	Negative power supply
-	Grey	COM RL1 60V - 400 mA contact
-	Grey	NA RL1 60V - 400 mA contact
-	Pink	Positive input 1 (1,5-60V)

Tab.8 - Wiring C201020 pinout - vehicle side

Alternative wiring C001020 pinout





C001020 - KeyOne side

Position	Colour	Function
X1.1	Red	Positive power supply 12-24 VDC
X1.2	Yellow	CAN 1 L (120 Ohm)
X1.3	White	CAN 2 L
X1.4	Blue	Negative power supply
X1.5	Green	CAN 1 H (120 Ohm)
X1.6	Brown	CAN 2 H
X2.1	Grey	5V Output for sensor
X2.2	Green/Pink	COM RL1 60V - 400 mA contact
X2.3	Green/Brown	NA RL1 60V - 400 mA contact
X2.4	Grey/Red	NA RL2 60V - 400 mA contact
X2.5	Blue/Red	COM RL2 60V - 400 mA contact

Position	Colour	Function
X2.6	Black	GND
X2.7	Pink	Positive input 1 (1,5-60V)
X2.8	Brown/Yellow	Positive input 2 (1,5-60V)
X2.9	White/Yellow	Positive input 3 (1,5-60V)
X2.10	Purple/White	Positive input 4 (analog. 0-10V)

Tab.9 - Wiring C001020 pinout - KeyOne side

C001020 - Vehicle side

Position	Colour	Function
X3.1	Grey	Output 5V
X3.2	Brown/Yellow	Positive input 2 (1,5-60V)
X3.3	Grey/Red	NA RL2 60V - 400 mA contact
X4.1	Grey	Positive power supply X4
X4.2	Black	GND
X4.3	Green	CAN 1 H (120 Ohm)
X4.4	Yellow	CAN 1 L (120 Ohm)
	Grey	Positive power supply X4
	Grey	5V Output for X4 (opt.)
	Blue + Blue/Red	Negative power supply
	Red	Positive power supply 12-24 VDC
	Red	Positive power supply 12-24 VDC
	Red + Resistance	Positive power supply input
	Purple/White	Positive input 4 (analog. 0-10V)

Position	Colour	Function
	Bianco/Giallo	Positive input 3 (1,5-60V)
	Marrone	CAN 2 H
	Bianco	CAN 2 L
	Verde/Marrone	NA RL1 60V - 400 mA contact
Filo	Rosso	Positive power supply 12-24 VDC
Filo	Blu	Negative power supply
Filo	Rosa	Positive input 1 (1,5-60V)

Tab.10 - Wiring C001020 pinout - vehicle side

Connection with standard wiring C201020

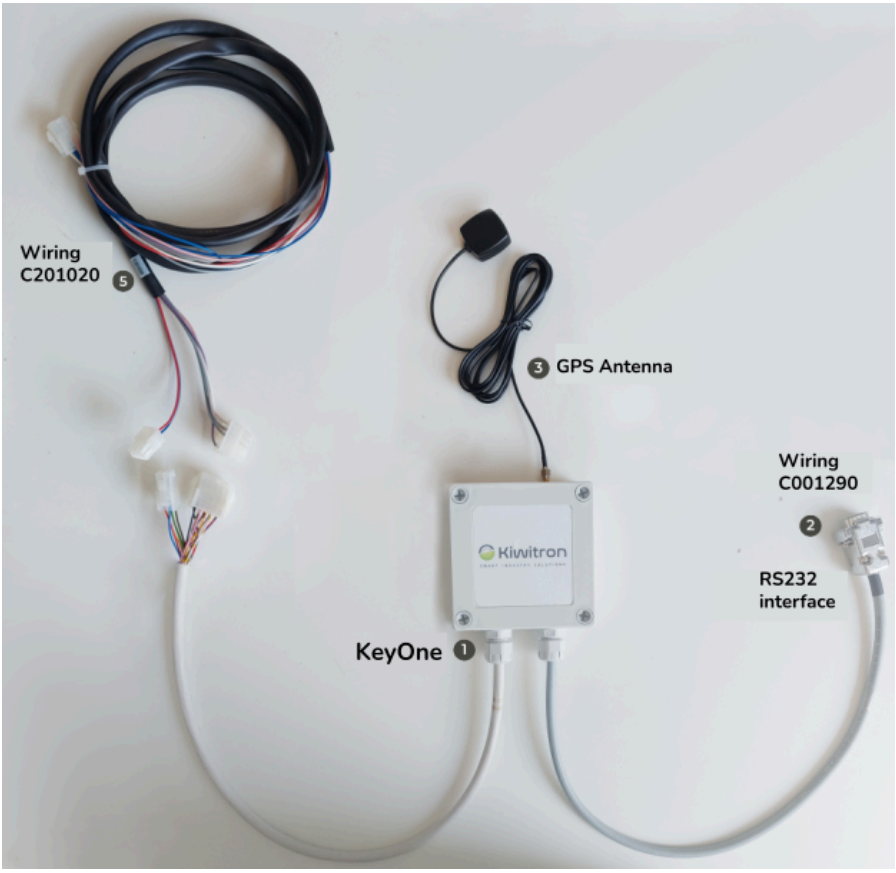


Fig.6 - Connections KeyOne X000425 - C201020

Connection with alternative wiring C001020

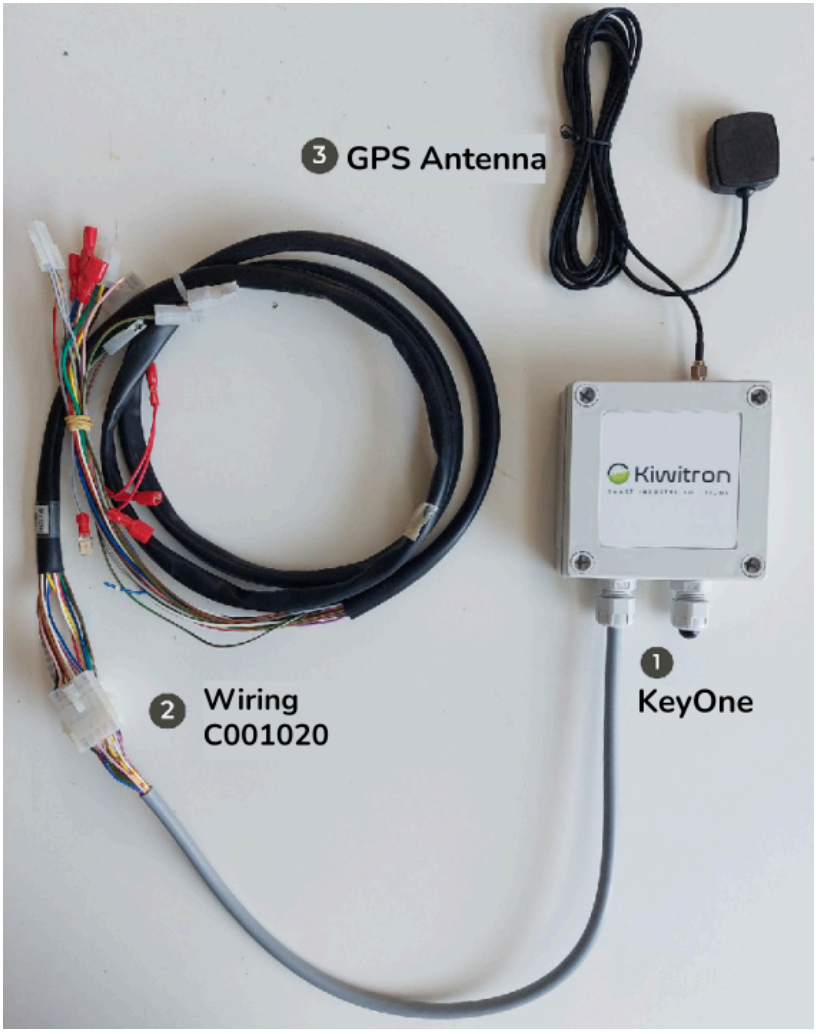


Fig.7 - Connections KeyOne X000425 - C001020

Connections with accessories

KeyOne system can be connected to different accessories:

1. Current sensor
2. iButton Key
3. Bar Code Reader

Fig.8 - Current sensor

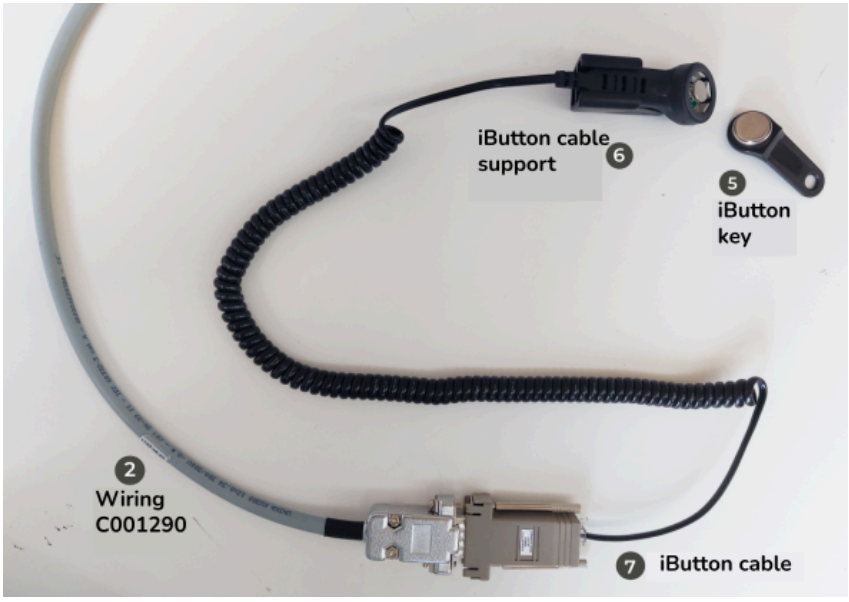


Fig.9 - iButton key

Fig.10 - Bar Code reader (G006890)

For connection to accessories see the following image.

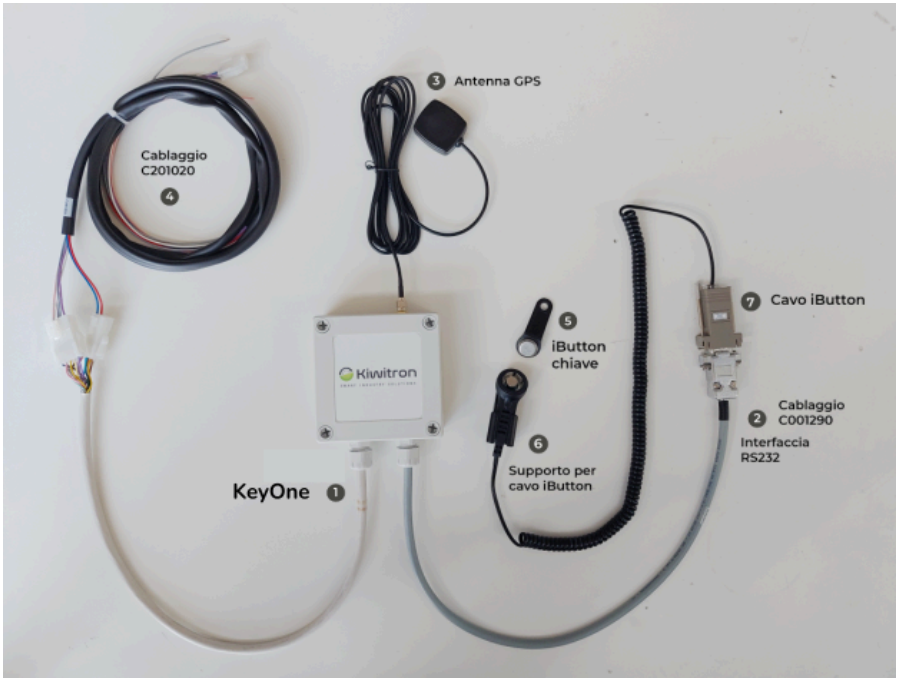
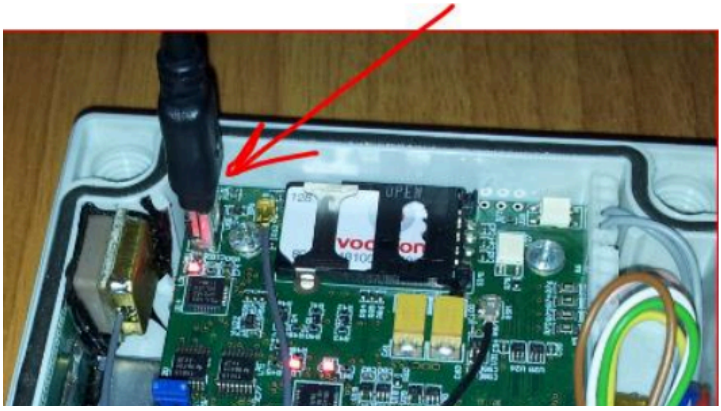


Fig.11 - KeyOne accessories connections

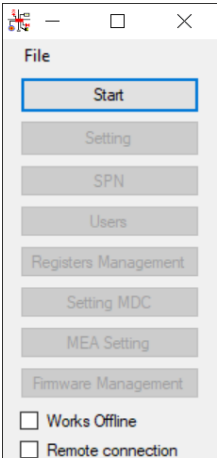
Use and maintenance

First configuration

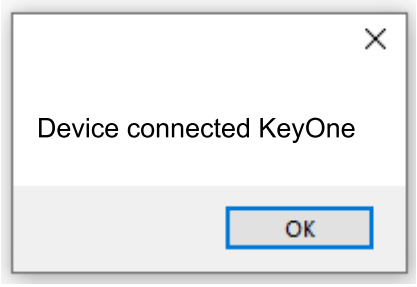
1. Connect USB cable to the device:



2. Execute “KeyOne” software and click “Start”:



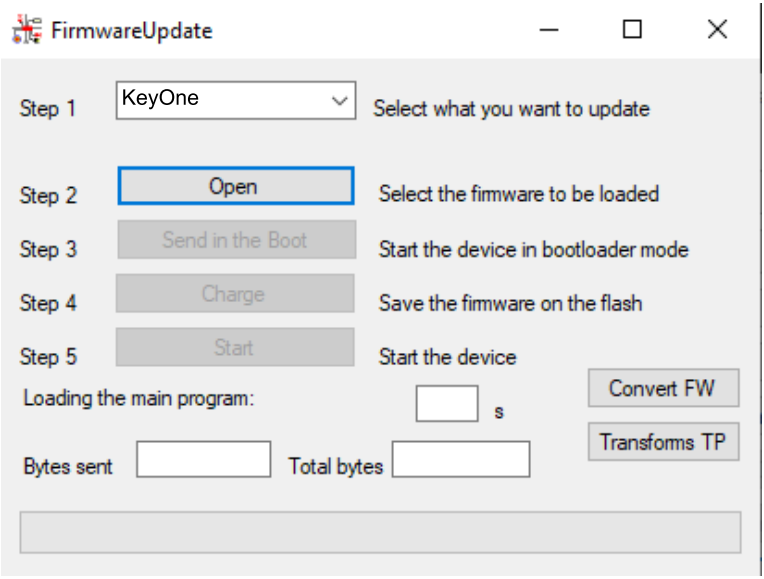
3. Click “OK”



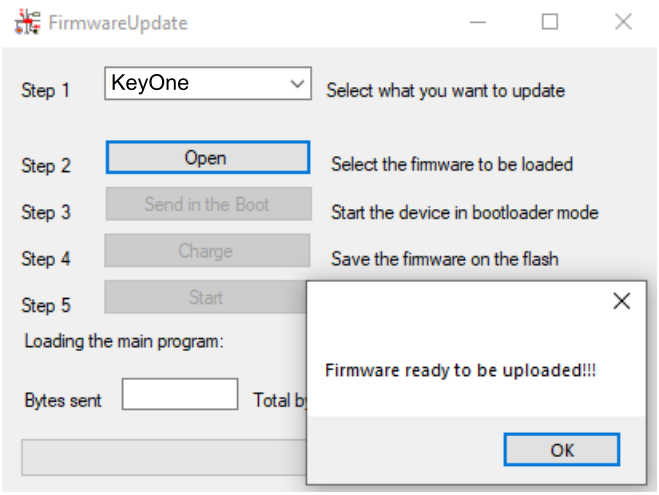
Firmware update (optional)

Check if full administrator permissions are available on software installation folder

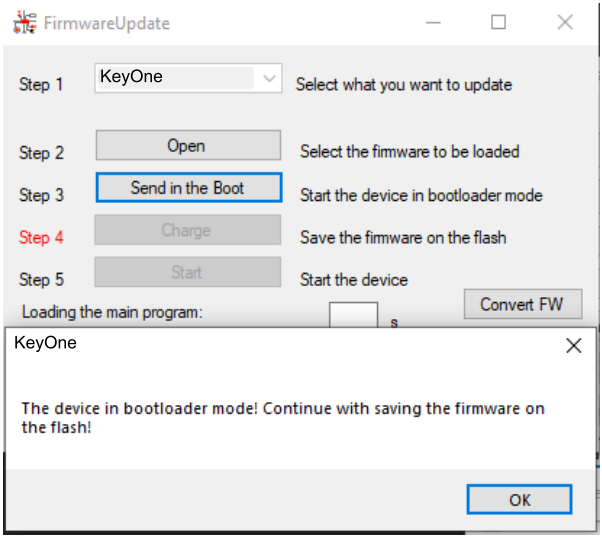
1. Click “Firmware management” and select Step 1



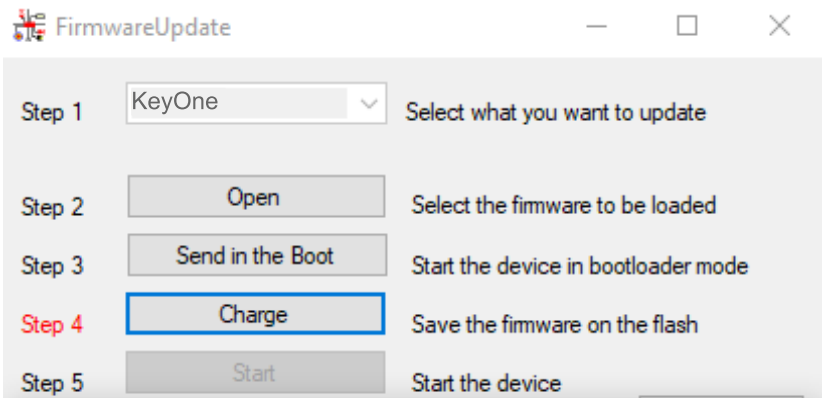
2. Click “Open”, select file MDTA1_xxxA.bin and click “OK”



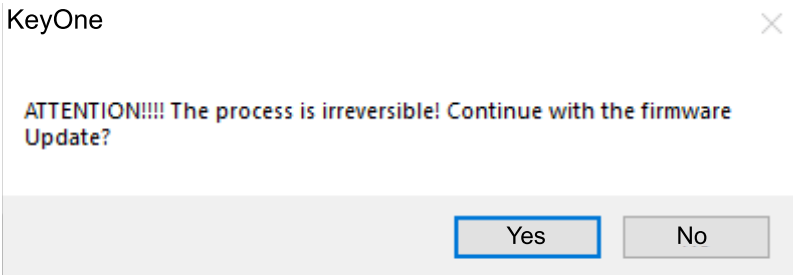
3. Click “Send in the Boot” and click “OK”



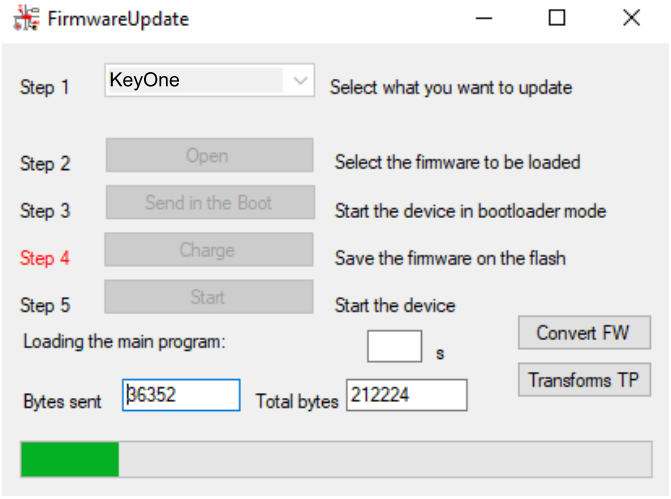
4. Click “Charge”



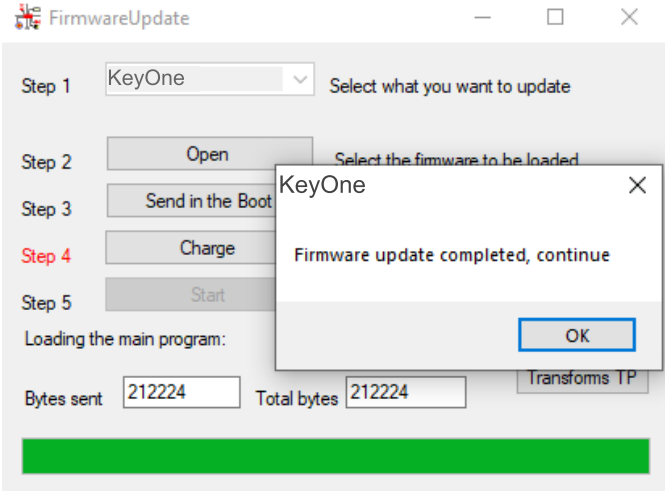
5. A warning window will inform you that the process is irreversible. Click on “Yes”.



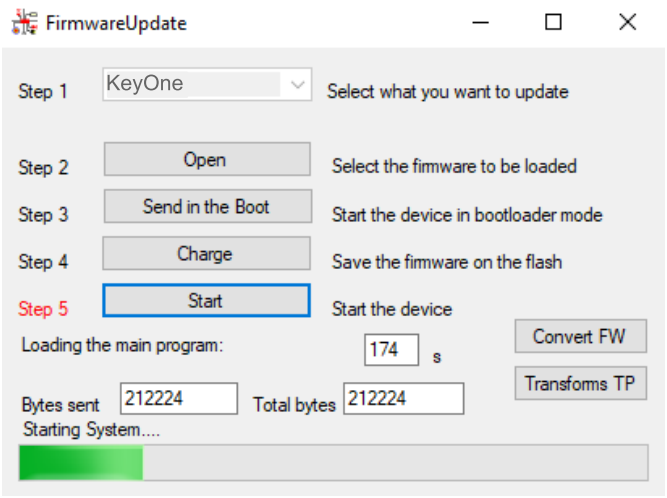
6. Wait for the firmware upload completion on the device:



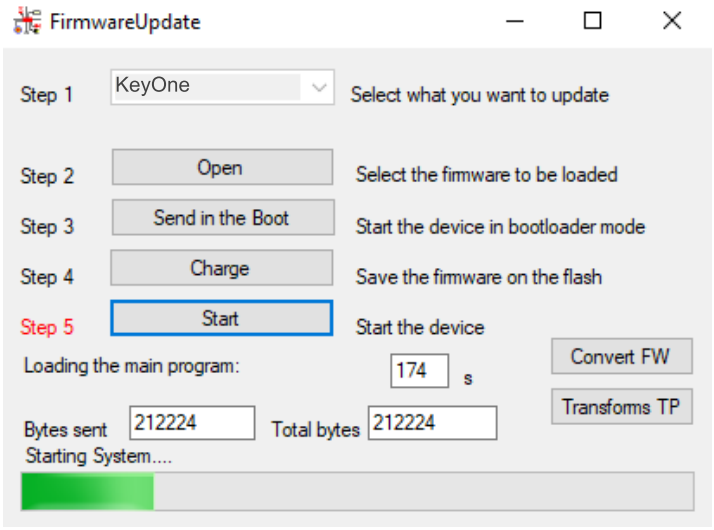
7. If the update is successful a confirmation window will appear. Click ”OK”:



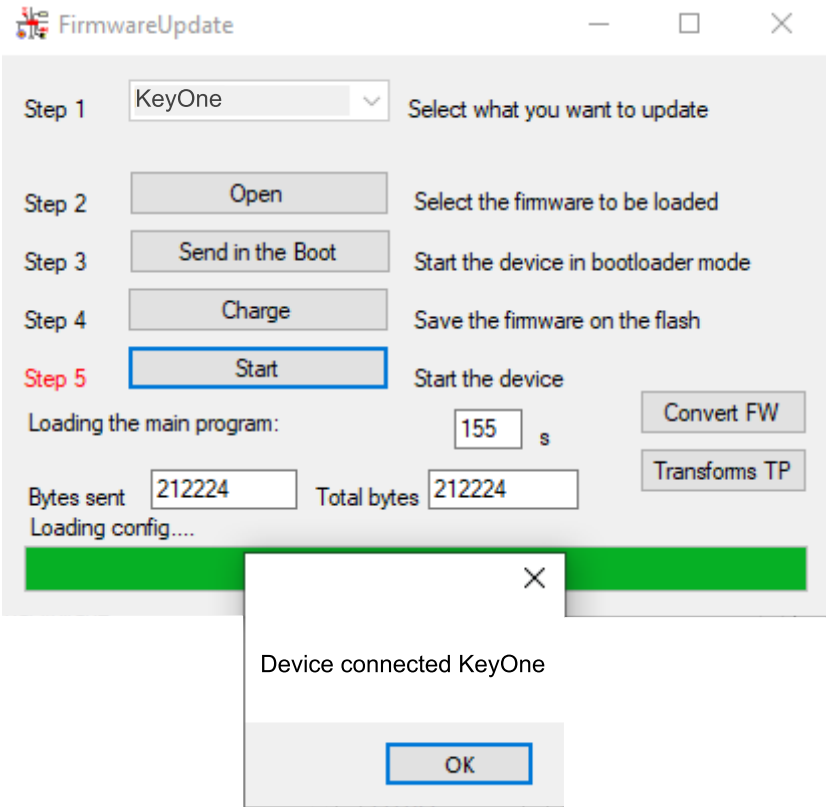
8. Start the device within 180 seconds clicking on “Start”:



9. Wait for the completion:

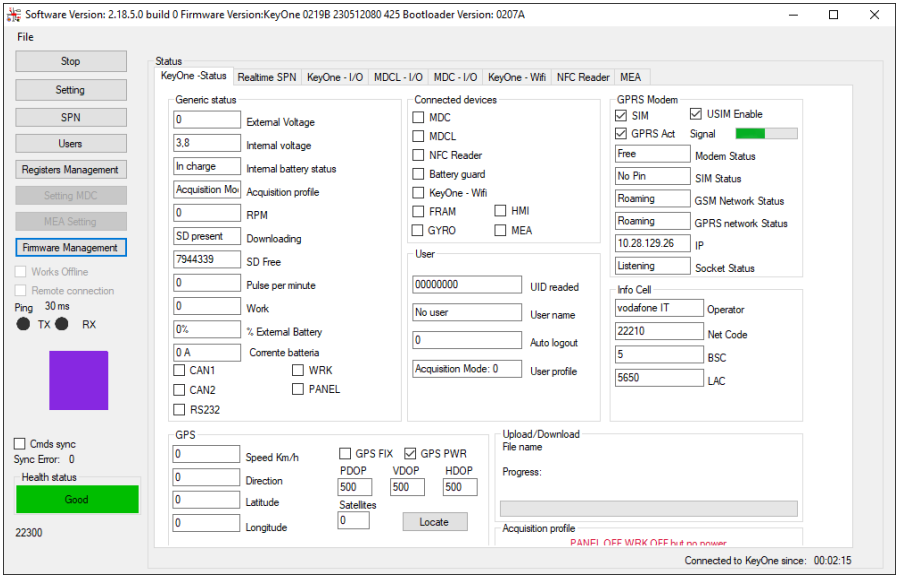


10. A confirmation message will appear. Click on "OK"



11. **<u>Do a complete reset (disconnecting battery, USB and power supply).</u>**
12. Reconnect and restart the software.

Dashboard: Basic parameters check



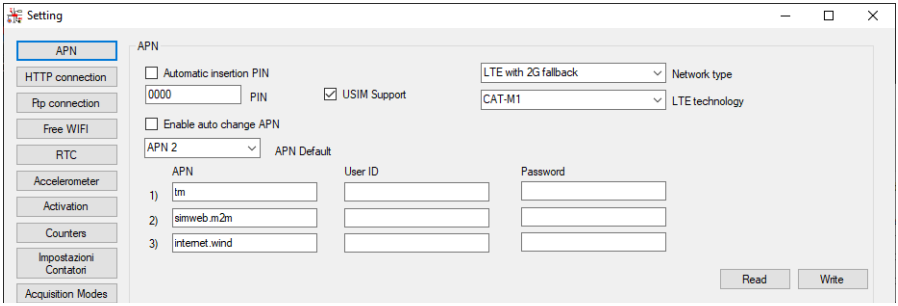
- Check GSM signal
- Check MODEM status
- Check GSM, GPRS network registration status
- Check GPS status

Use LED2 to check the modem status:

- low frequency → not connected
- frequency > 1 second → registered

Settings

APN

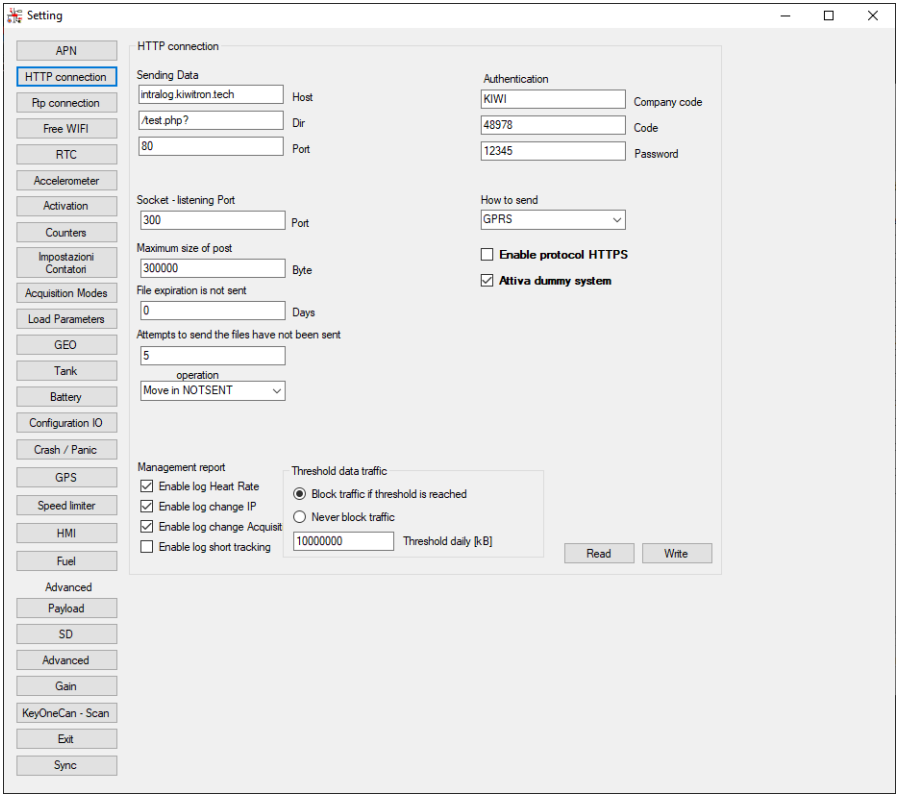


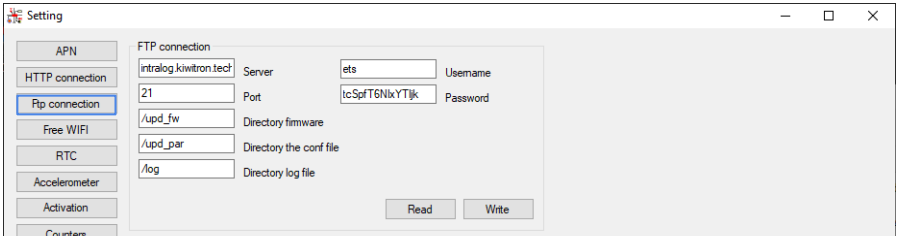
If the SIM is READY, i.e. does not have PIN, you go directly to APN management.

If the SIM is NOT READY, i.e. has PIN, you have to flag “Automatic Insertion PIN” field and then define the PIN. (Note: If the PIN is inserted incorrectly, the system tries a second time and then stops and leaves the third and last attempt to enter it to the operator in order to avoid the SIM block.

The system can manage the automatic change of three different APNs. Select the APN used by default and fill in at least the corresponding APN field. The other parameters are optional, to be used only if necessary.

HTTP e FTP connections

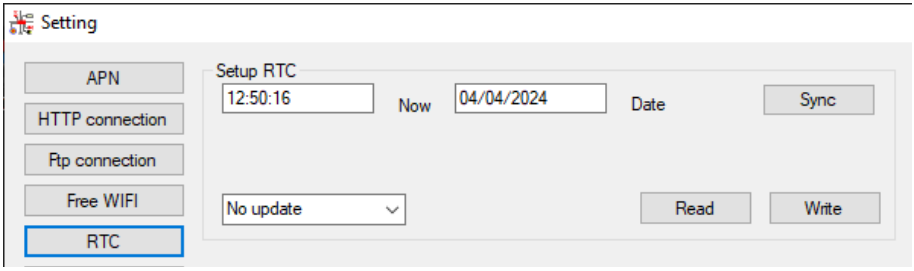




The http and ftp connection parameters are configured by default when the device is manufactured.

It is recommended to change the parameters only if necessary.

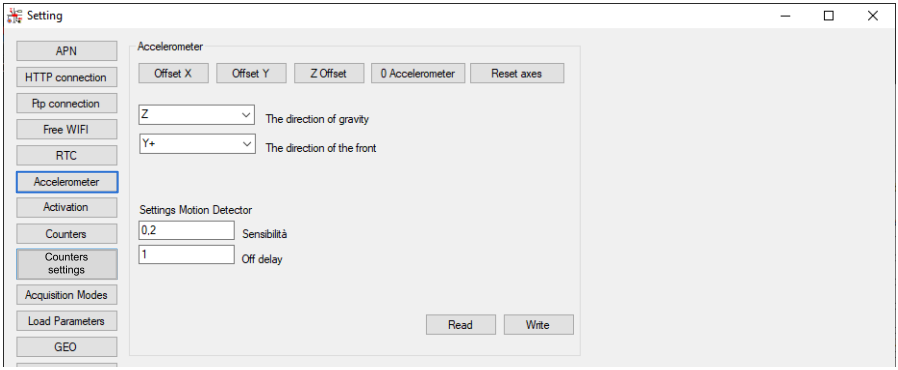
RTC



The device is equipped with a real time clock that allows to correctly date the logs. The functionality of the RTC is guaranteed by the buffer battery which has a duration of a few years. However, it may be necessary to synchronize the time and/or date from time to time. This is possible through the "synchronize" button or through periodic automatic synchronization using the GPS network.

To save any changes, click on "Write" and confirm.

Accelerometer



An accelerometer is installed on the device, useful for detecting any impacts or particular customizable conditions. In order to use the system correctly, it is necessary to configure the parameters of the "Accelerometer" menu after installing the device on the vehicle.

In particular, it is important to correctly indicate the orientation of the device in space, specifying which axes the "gravity direction" and the "front direction" are associated with.

In particular, the positive Z axis corresponds to the outgoing axis from the device cover, and the positive Y axis corresponds to the outgoing axis from the wiring side of the device.

The vehicle motion detection function can be set for various purposes (e.g. wake-up count of hours of use) and a sensitivity threshold can be configured from 0.1 g up to 1 g.

It is also essential to enter the "deactivation delay" time to indicate the time interval without any motion detection before the system indicates the actual static condition. This value can be customized between 1s and 10s.

After a modification it is necessary to press on “Write” and confirm.

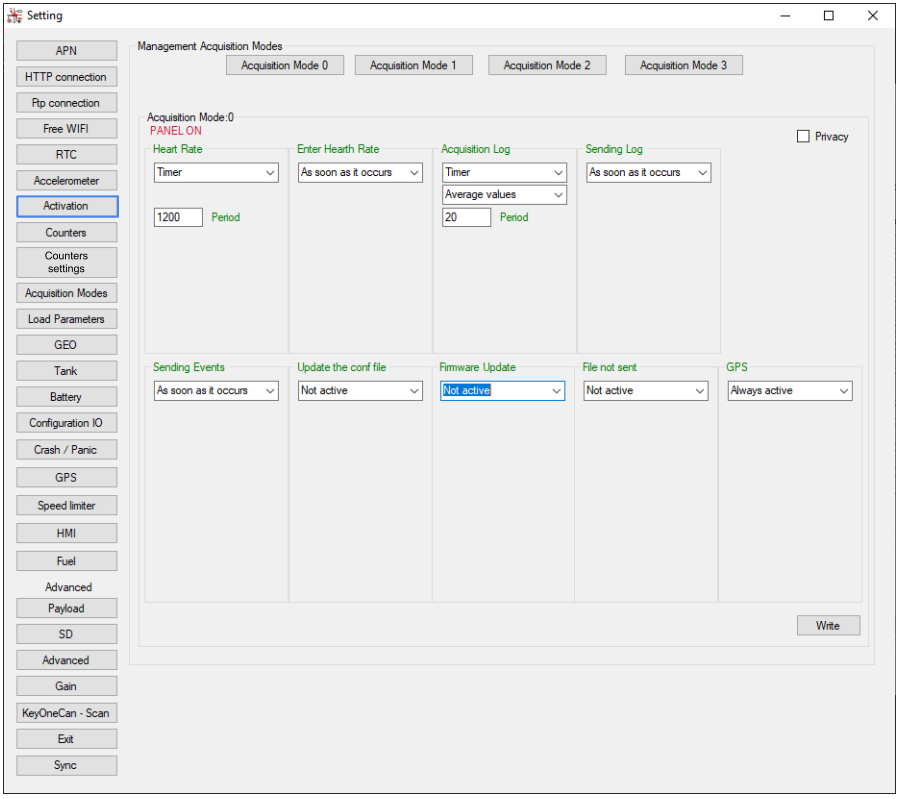
Activation

The system has four operating profiles enumerated from 0 to 3.

Profile 3 identifies the “panel OFF” condition with the device not powered.

Profile 2 identifies the “panel OFF” condition with the device powered.

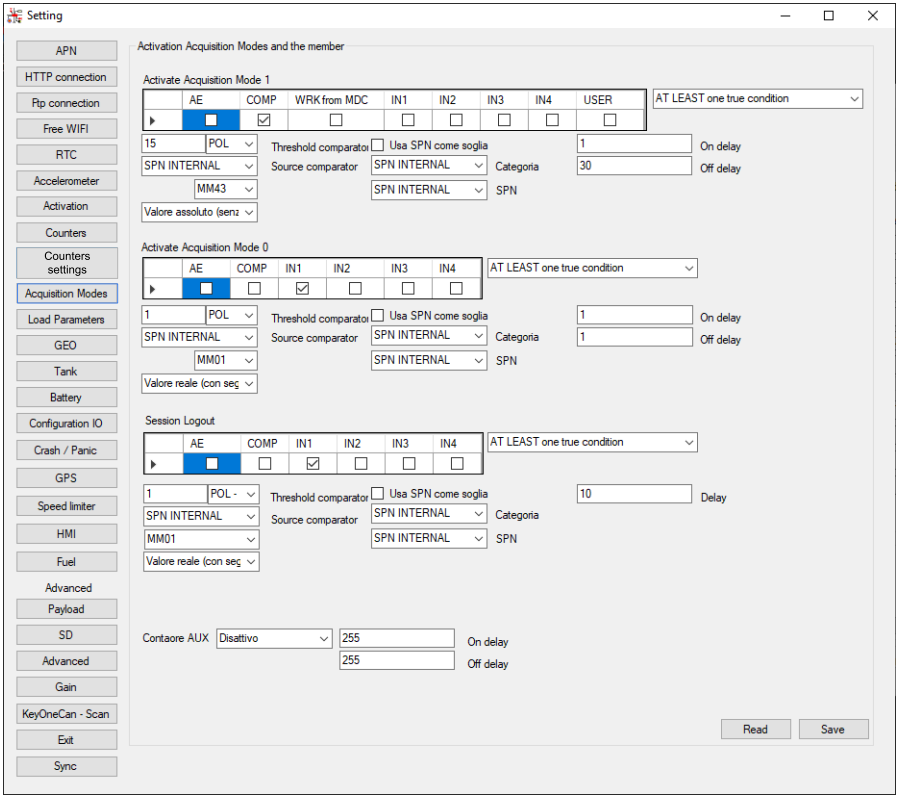
Profiles 1 and 0 are customizable.



For each profile it is possible to enable and configure different device features.

The menu is intuitive and is preconfigured in the production phase with default parameters. Change the parameters only if necessary.

Acquisition modes



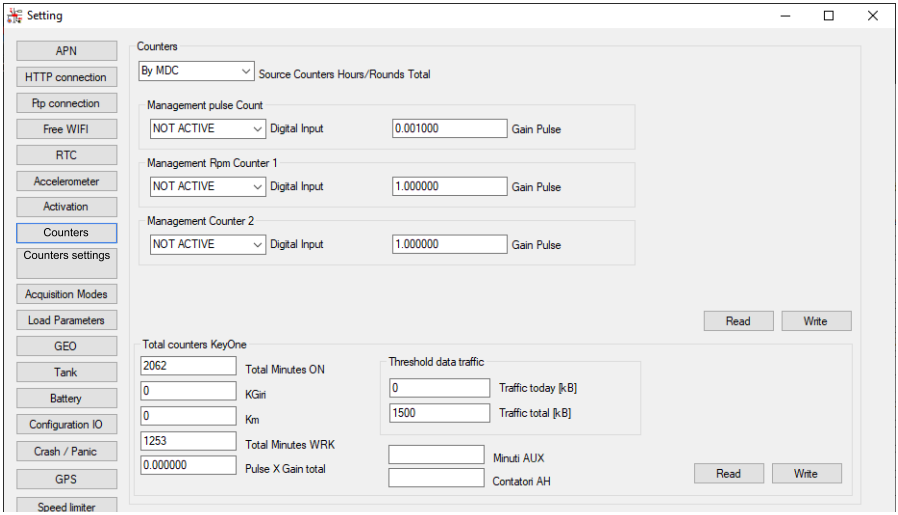
Profiles 2 and 3 are automatically activated by the system based on the power and panel status.

Instead, it is possible to customize the activation of profiles 0 and 1 according to the conditions to be flagged on this screen:

- AE (Always Enabled): requires the enabling of the profile regardless of any other condition.
- COMP (Comparator): it is a condition verified by the configurable comparator immediately below the list of flags. To configure the comparator it is necessary to choose the source SPN from the menu, the threshold value and its operating polarity. (For more info on SPNs see the dedicated chapter).
- IN1,2,3,4 : Condition of the device inputs.
- USER (condition that can only be used if the badge reader accessory is present): The condition is verified if a user has logged in with their badge.

"Session Logout" is used only if the badge reader is present, and is useful for establishing the criteria with which a user can end his session, that is, how his "logout" occurs.

Counters

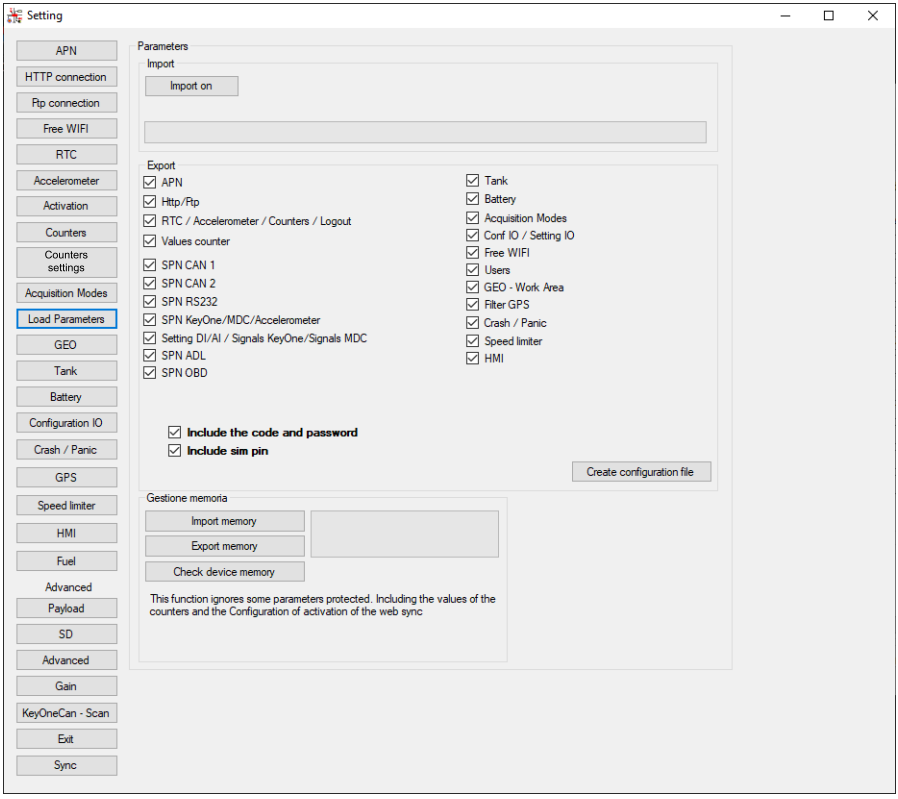


It is possible to configure different counters (Hours of use, Thousands of total laps, Km traveled, Total minutes of work etc.).

To do this, in the Counters menu it is necessary to select the data source and the relative pulse gain, to adapt the source data to the parameter to be monitored.

Load parameters

Using the "Load Parameters" menu it is possible to generate and export a file of the current device configuration, and then import it to other devices (for example for a quick configuration of all devices in the fleet).

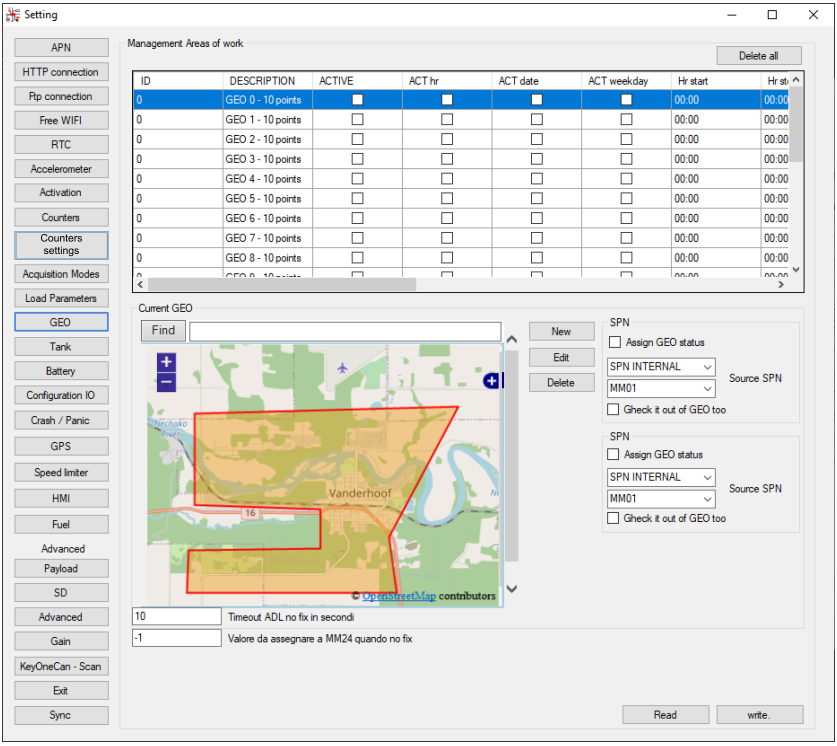


It is possible to select the parameters to export by checking the related flags in order to modify only the necessary parameters, leaving the rest of the configuration unchanged.

GEO

Work areas are areas that can be drawn on the map. It is possible to configure 21 different Areas of work more or less complex based on the number of points used on the map. Once an area has been set, with the aid of the GPS the system is able to determine whether the vehicle is inside or outside each of the 21 GEOs, and it is possible to associate an action with this condition.

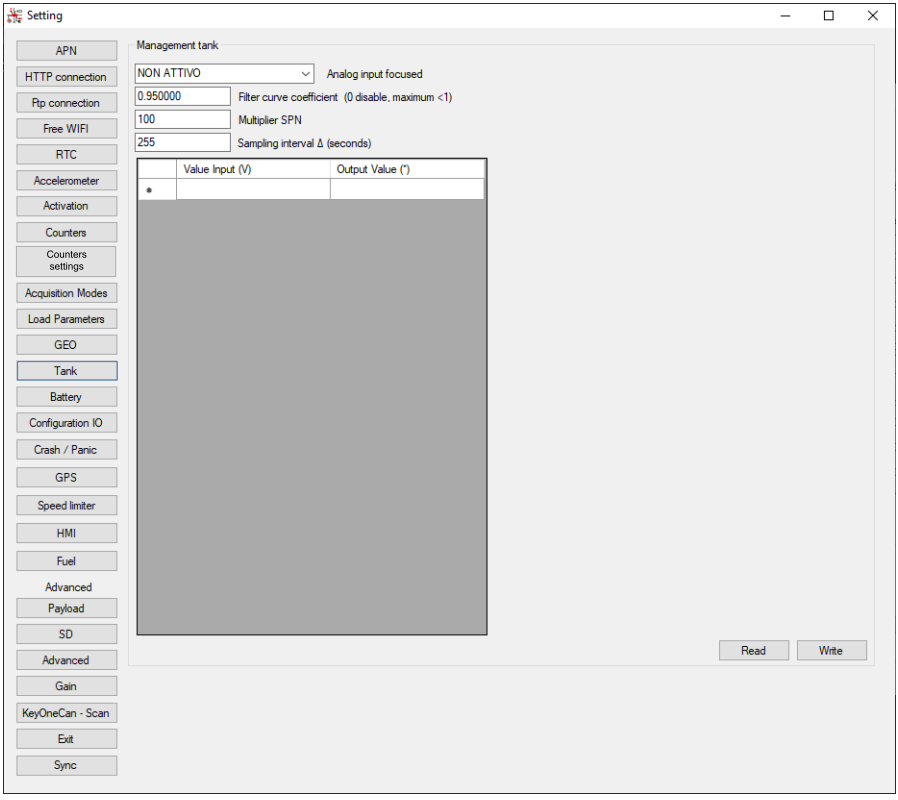
To draw an area, proceed by selecting the desired ID from the list and clicking on "New", or by modifying existing areas by clicking on "Edit".



Tank

Using this menu, you can manage the consumption monitoring by pointing an analog input to the tank float.

It is possible to readjust the raw values read from the analog input into real parameters by applying a multiplier and a curve filter coefficient. It is also possible to choose the time interval between one sampling and the next, in order to find the meeting point between reactivity and accuracy of the measurement.

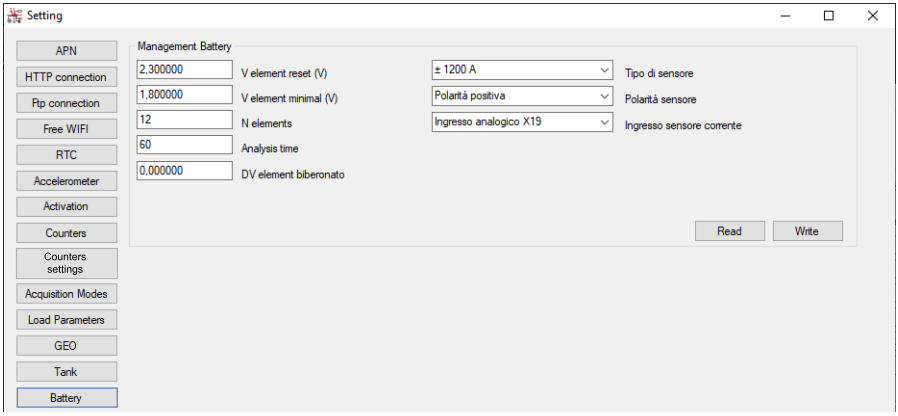


Battery

The battery menu is used to set the battery parameters to allow the battery monitoring to function properly.

Parameters:

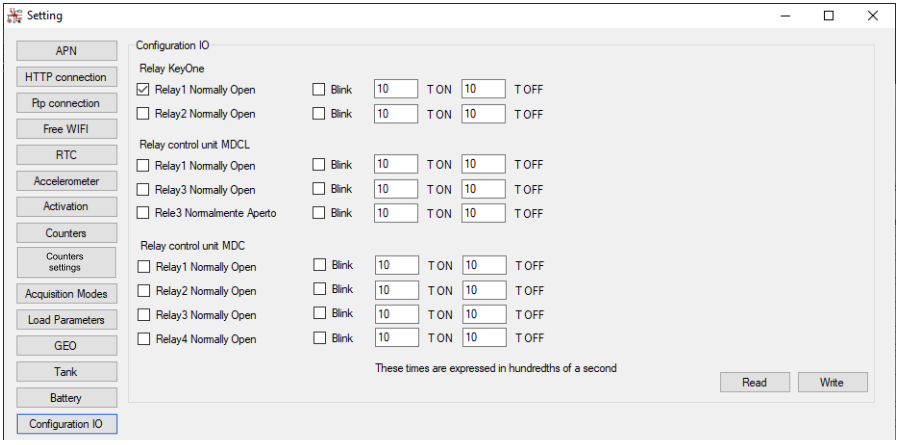
- V reset element: is the reference voltage of a charged element.
- V minimum element: it is the reference voltage of an unloaded element.
- N elements: number of elements making up the battery
- Analysis time: time used by the algorithm to analyze the state.
- DV partial charge element: Voltage difference to identify partial recharge.



Configuration IO

In this menu it is possible to configure the operating mode of the relays on the MDT device and on the MDC and MDCL “slave” devices.

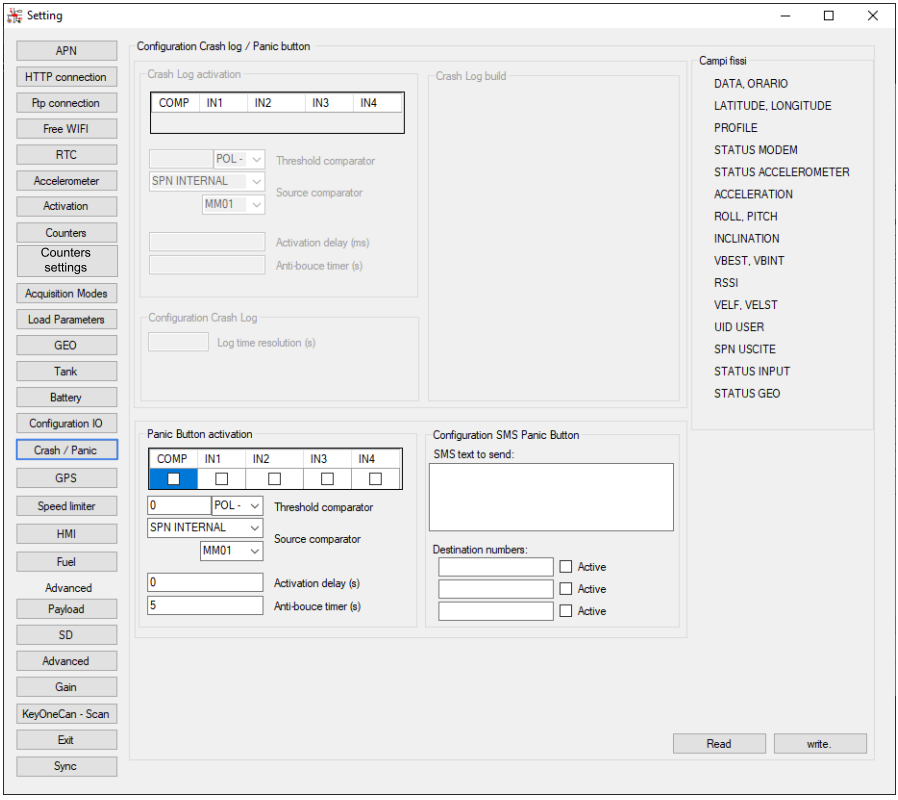
It is possible to set each relay as normally open, normally closed, and as "momentary" (blink) by setting the on state time and off state time respectively in hundredths of a second.



Crash / Panic

This screen allows you to configure the crash and panic features. In order to use these features, the device must have the shield dedicated to the detection of accidents, and the external accessory for the panic button.

Using the dedicated fields it is therefore possible to configure the panic button activation mask based on the input used for its connection, and the text of any sms to be sent to up to three recipients.

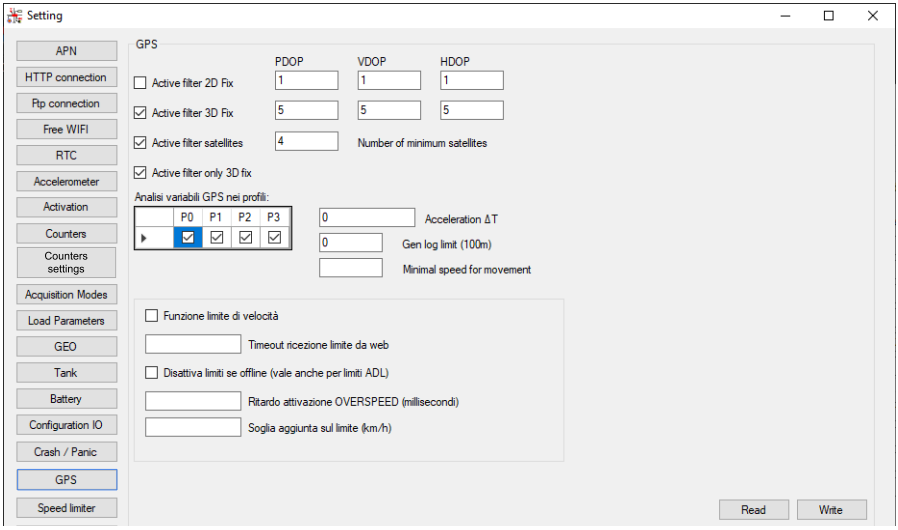


GPS

In this menu it is possible to customize the GPS functionality (it is recommended to keep the default configuration).

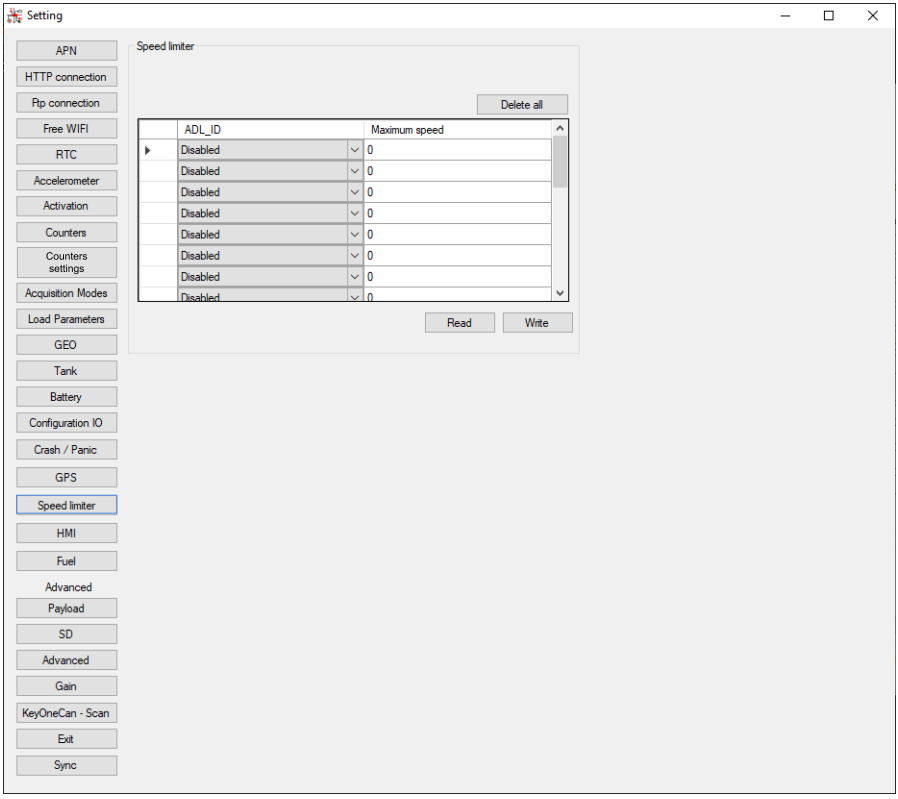
It is possible to activate the fix filters on 2D and 3D, by setting the relative Positional, Vertical and Horizontal dilution thresholds. It is also possible to activate a filter on the number of satellites available, in order to improve the reliability of the data.

The analysis can be subordinated to the activation of certain profiles, and it is possible to estimate acceleration data based on the GPS speed, as well as to subordinate the generation of logs to the achievement of certain distances (hectometers).



Speed limiter

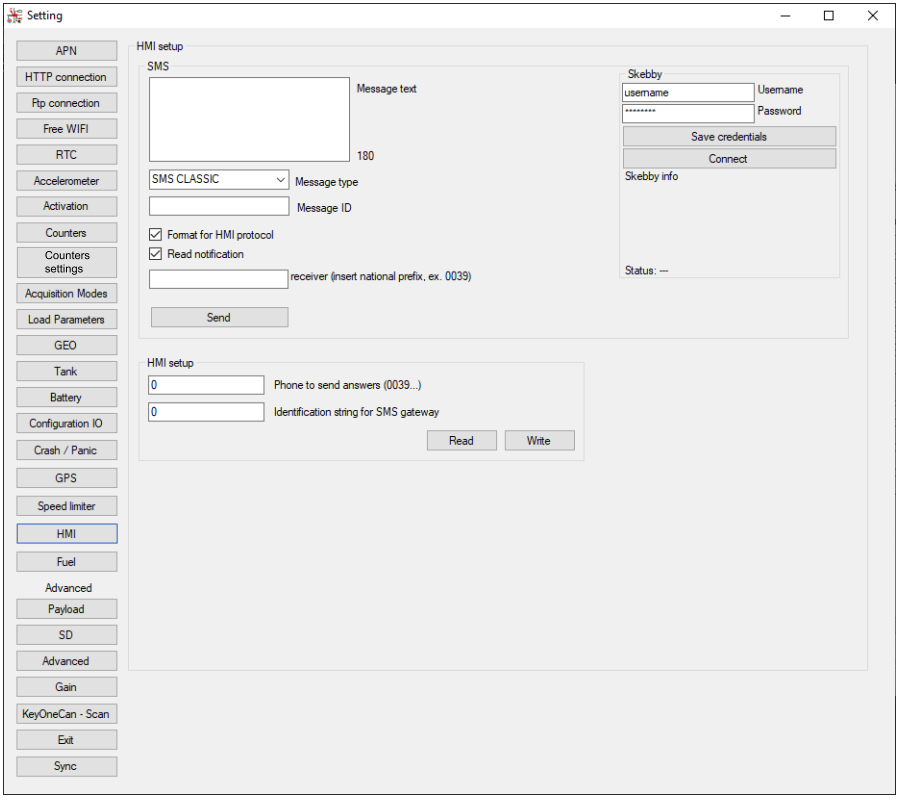
In this menu it is possible to limit the speed of the vehicle within different work areas.



HMI (Human Machine Interface accessory needed)

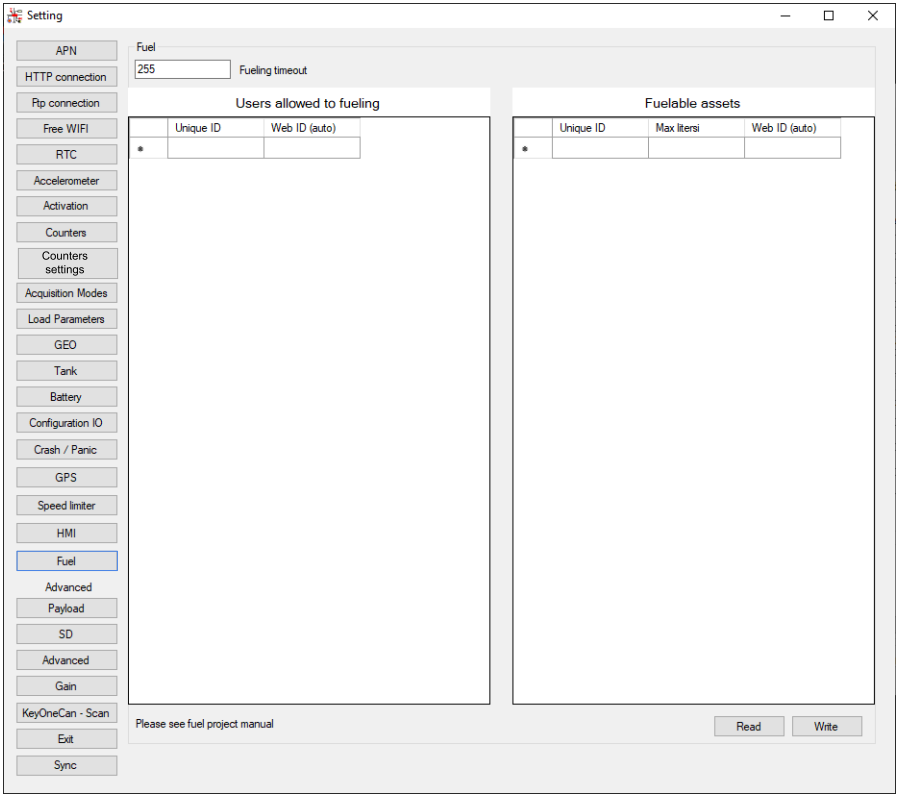
In this menu the response SMS of the human machine interface is configured:

The first box is a utility that relies on the skebby service for sending SMS, while the second box allows you to actually configure the reply SMS.



Fuel

This is a custom function that cannot be used on the standard version of the device. Please refer to the specific manual.



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