

Installation Fleet Tracker (SBC3)

VERSION	DATUM	AUTOR	DATEINAME
1.1	21. MAI 2012	SM	EINBAU FLOTTENSBC3_ENGLISCH_V11.DOCX

The installation should be done by qualified personnel, who is experienced in dealing with electronic and electrical equipment and installations. It is not intended for home users and customers.

Connecting the antennas

The device is equipped with connectors for a cellular network antenna (GSM antenna) and a satellite antenna (GPS antenna).

Please connect now the two antennas according to the picture below. You cannot interchange the two antennas because they have different connectors.



Connector for GSM-antenna

Connector for the GPS-antenna

Connecting the unit to the vehicle

Please connect the Telic SBC3 remote control unit to the vehicle according to the following instructions using the connection cable which can be bought as accessory part.

Please do not connect the connector to the Telic SBC3 remote control unit before all cables you intent to use are connected to the vehicle in order to prevent a shortcut.

Power Supply

Depending on the intended mode of usage, you can connect the device to the power supply in two different ways.

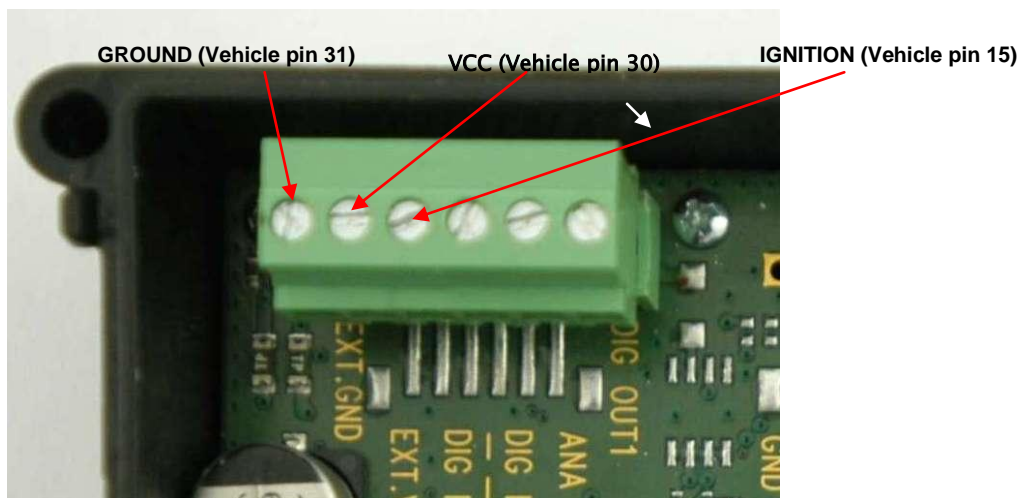
(Note that Variant 2 is the suggested cabling scheme for most applications and the Tracker.com application are optimised for this mode)

The device must stay active after ignition off (Variant 1)

This operating mode has the disadvantage that the device continues to consume power while the ignition is off. This means that the battery of the vehicle can eventually run out of energy. A discharged battery could result in the vehicle not being able to start its engine after a few days without operation (depending on the size, age and charge level of the battery).

The advantage of this operating mode is that the device is able to connect faster to the GSM network and it can find faster a new GPS position after ignition was switched from “OFF” to “ON”. This means that for example working time calculations will be more precise.

If the Telic SBC3 remote control unit is configured not to use the power save feature, then the device can detect and report in this mode that it is moving (e.g. if it is stolen or while a construction machine is transported on a truck) even while ignition is off.



To operate the Telic SBC3 remote control unit in this mode the grey and yellow wires must be connected to the GROUND (pin 31 of the vehicle) and the pink wire must be connected to VCC (pin 30 of the vehicle).

The green wire must be connected to ignition (pin 15 of the vehicle) in this mode.

The device must be switched off when ignition is switched off (Variant 2)

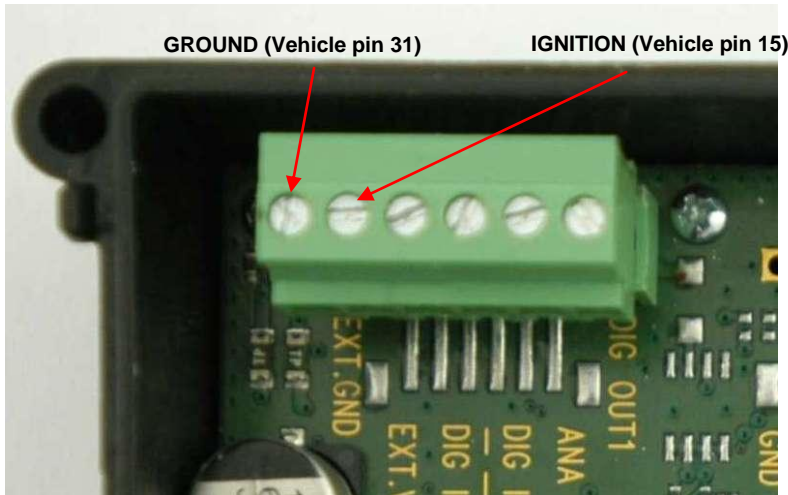
This operating mode has the advantage, that the device does not consume any power while the ignition is off. This means, that the battery of the vehicle cannot run out of energy which means, that the vehicle will always be able to start its engine even after a few days without operation.

You can configure how long the SBC3 should stay awake. Furthermore you can configure the input which arouses the SBC3 again.

The disadvantage of this operating mode is that it takes the device longer to connect to the GSM network and it takes longer to find a new GPS position after ignition was switched from “OFF” to “ON”. This means that for example working time calculations will be less precise.

In addition it can happen in this operating mode that short trips are not registered at all.

If the Telic SBC3 remote control unit is configured not to use the power save feature then the device can detect and report in this mode that it is moving (e.g. if it is stolen or while a construction machine is transported on a truck) even while ignition is off, but only as long as the internal backup battery can provide enough energy (typically a few hours)



To operate the Telic SBC3 remote control unit in this mode the grey and yellow wires must be connected to GROUND (pin 31 of the vehicle), and the pink and green wires must be connected to IGNITION (pin 15 of the vehicle).

If you connect the device according to the above mentioned scheme to the cigarette lighter and even if the cigarette lighter is switched on and off together with the IGNITION (which is the case in most vehicles) the routes driven by the vehicle will be reported correctly.

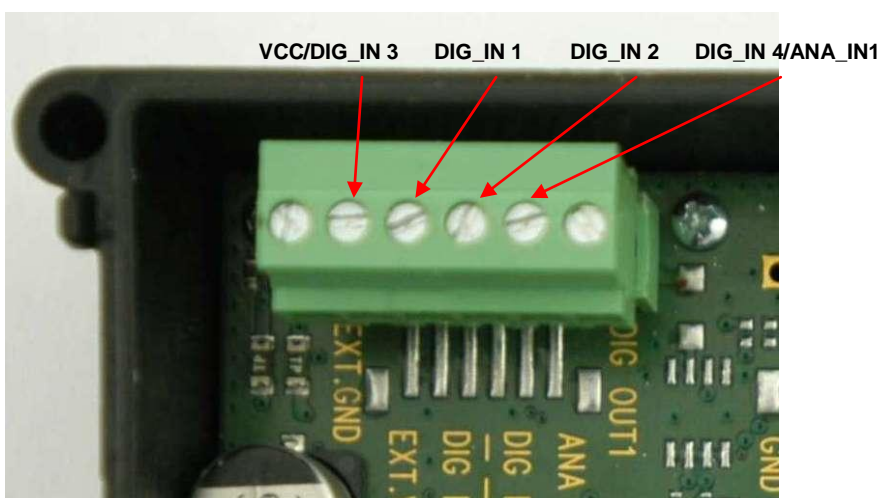
Fuses

The device contains internal fuses to protect it against >60 V high voltage and wrong connection to the vehicle.

These fuses cannot be changed by the user. So please pay attention while installing the device.

If you think the fuses are damaged (which rarely occurs in a 12 volt / 24 volt vehicle) please contact your supplier.

Digital inputs

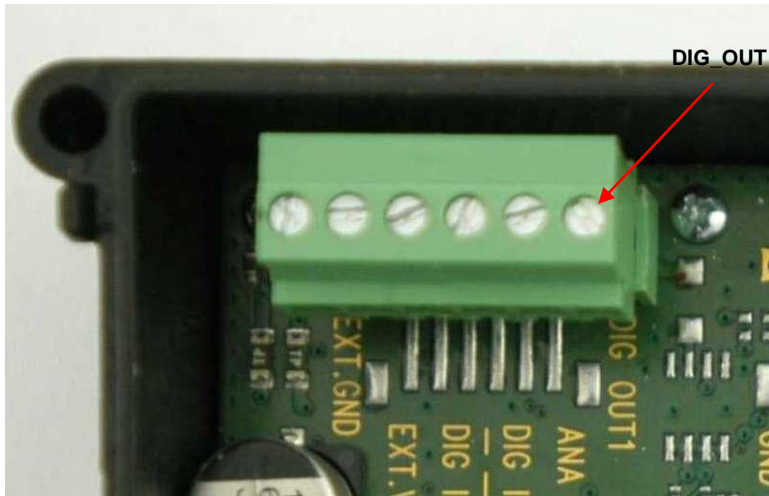


The digital inputs can be connected to any signal which reports "ON" or "OFF". The inputs can be used with a voltage up to 36 volt.

Voltages between 0 volt and 1 volt are detected as "low"

Voltages between 7 and 36 volt are detected as "high"

Digital output



Outputs are low side switches. If active they will make a connection to GND. If not active it is high impedance. A current of max. 1A can be drawn.

Wiring description of the connector



Signal	Cable Colour
VCC / DIG_IN3	Pink
GND	Grey and Yellow
DIG_IN1	Green

Signal	Cable Colour
DIG_IN2	Brown
DIG_IN4 / ANA_IN1	White
DIG_Out1	Blue

If you do not use some of the wires of the connector then please ensure, that these wires cannot accidentally contact any metal parts of the vehicle.

11.2 CAN interface

The Telic SBC3 remote control unit provides a CAN interface to collect data directly from the vehicle. It is important to remember when using the CAN interface it must be properly terminated.

Please get into contact with support@tracker.ch or the contact person for your project for your individual installation.

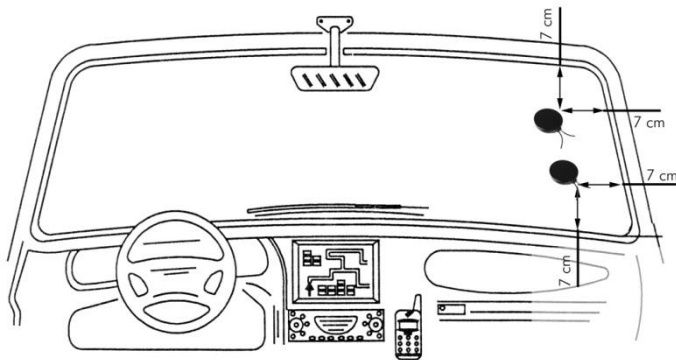
Install the Remote Surveillance Module

In order to protect your vehicle from theft and vandalism the device should be installed in a location where the device, its antennas, and its power supply are well-hidden and where it is easy at the same time to switch the main switch of the device (located below the SIM card holder) on and off.

Using the corresponding two screws and holes in the device, please install the device in a suitable, dry location.

When installing the antennas, please be aware that the antennas must have a free view to the sky (not blocked by metal or liquids) in order to receive good signals.

The antenna should have a minimum distance of 7 cm to metallic components of the vehicle in each direction.



The combined GSM/GPS antenna (accessory part) is only intended to be mounted inside the vehicle because the antenna cannot withstand wet environments.

Other types of antennas (e.g. roof antennas) are available. Please contact your supplier of the device.

A perfect place for the combined GSM/GPS window antenna is inside the vehicle glued to the windshield with the adhesive side of the antenna under the white protection paper. Please clean the window with alcohol or a similar product and then remove the white paper in order to fix the antenna at the desired place.



If you choose another place for the antenna please ensure that the side of the antenna with the white paper points towards the sky. This is important because this side of the antenna is the active one.

Attention:

A buckled or furled cable can (even if its isolation is not damaged) reduce the quality of the received signal significantly.

Please also be aware that metallised windshields can also strongly interfere with the signals of the GPS satellites causing poor reception of the GPS position signals.

In addition the antenna should not be mounted behind the OFF position of the windscreen wiper.

Verification by the LEDs



The device has three LEDs. The blinking patterns of these LEDs can give you valuable information about the proper function of the device:

Power:

The left indicator consists of a green and a red one.

The green LED will be permanently on, when the Telic SBC3 has external power supply and the battery is full charged. While charging the battery, the indicator is red.

Please note: If it is off, this does not mean, that the Telic SBC3 remote control unit has been switched off. Instead, if this LED is off, this means, that the device currently does not receive any power from an external power source.

Com:

The yellow LED reflects the GSM status and also, whether the device is switched on.

Off: the GSM module is not switched on

Permanently on: GSM is switched on, but no GSM networks available. Reasons can be poor GSM reception or GSM error, but also startup/wakeup (for about 1 minute) or shutdown/suspend (for about 10 seconds)

Blinking once: device is logged into the GSM network, no connection to server

Blinking twice: device is logged into GSM network, GPRS is attached, established TCP/IP connection to server

GPS:

This LED blinks green and indicates the status of the GPS-receiver:

Off: GPS is not switched on
1 time blinking: position acquisition not possible
2 times blinking: 2D-Fix (no valid height)
3 times blinking: 3D-Fix (GPS data is complete)

After start-up as well as after a phase without GPS reception the device only accepts 3D GPS positions. This ensures, that 2D position reports with serious deviations from the real position are not reported to the control centre. After a while, 2D position reports are accepted because the GPS receiver then had enough time to evaluate the signal quality of all available GPS satellite.

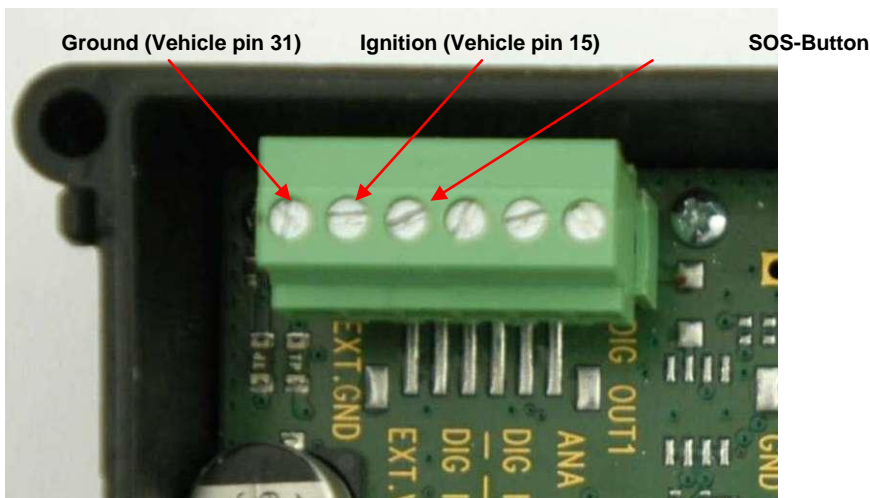
SOS-Alarm

Wiring description

Variant 1: The device should stay active after switching off the ignition (this option is currently not available)

Variant 2: The device should be turned off, after switching off the ignition.

This variant is suitable for the matching variant of the general instruction.



The SCB3 is connected by the grey and the yellow wire to the Ground (Vehicle pin 31) and with the pink and green wire to the ignition (vehicle pin 15).

If it is not used somewhere else, the brown wire is connected to DIG_IN1 and to a button. Alternatively the green oder blue wire can be used.

SBC3 Connection	Color	Vehicle
EXT.GND	grey + yellow	Ground (PIN 31)
EXT.VCC / DIG_IN3	pink + green	Ignition (PIN 15)
DIG_IN1	brown	SOS Button

Wiring suggestion SOS-Variant 2

The button has to be connected, so that the connection in the initial position is open. If it's pressed, the cable to the DIG_IN1 (12V / 24V from battery, not over ignition) is provided with voltage.

The SOS Button is working while the vehicle is turned on as well as if it's off. The button should be pressed for at least 3-4 seconds.

Note: For the functionality of the SOS button while the vehicle is switched off, the battery of the SBC3 needs to have enough power.

1 Profile Settings / Configuration

As the configuration of the device needs to be adjusted, please provide the following information when contacting the tracker.com-Support:

Inquiry to change the profile settings for the SOS function of the SBC3 Fleettracker.

Devicecode: _____ (p.ex. S 12345)

SBC3-SOS Wiring: SOS-Variant _ (p.ex. SOS Variant 2)