



# Driver identification Keypad

## ***EC-19521***



### **Introduction**

The **EC-19521 keypad** is used for Driver ID input within the scope of the driver authentication feature of the tracking unit. This method is more flexible than the Dallas key option as the driver no longer needs to carry the Dallas key and it prevents problems caused by the loss of Dallas keys.

The user enters a Driver ID of up to 12 digits and then presses the star (\*) key. The keypad transfers the Driver ID to the tracking unit, via the Dallas interface. The tracking unit activates the Driver Authentication process, sends a driver ID message to the control center and / or deactivates the vehicle immobilizer according to the feature's programmable parameters.

## Compatibility

The **EC-19521 Keypad** supports tracking devices that are supporting 1-wire protocols. Amongst them are: Teltonika, Queclink, Digital Matter.

## Main Capabilities

The **EC-19521 keypad** supports the following main capabilities:

- Driver ID of up to 12 digits in length (0-9 followed by star (\*)).
- Background light allows convenient operation at night.
- Audible indication for dialing process.
- Visual indication when the Driver ID is transmitted.
- Transmits the Driver ID to the tracking unit via 1-Wire® protocol simulating the DS1990A Serial Number iButton operation.
- Average minimum power consumption.

## The keypad Interfaces

The following table presents the **EC-19521 keypad** interfaces. For each interface the wire, functionality and recommended connection is described.

Wire Name	Wire Color	Interface	Functionality	Connection
Power	Red		Powering the keyboard	Vehicle power supply
Ground	Black		Powering the keyboard	Vehicle ground
Buzzer	Green	Pulled down input	Control of vocal	Tracking unit output
Door	Blue	Pulled down input	Activate the background light	Vehicle doors
Data	Orange	1-Wire protocol	Communication with the tracking device	Tracking unit dallas interface

## Installation

The **EC-19521 keypad** is intended to be installed on the dashboard of the vehicle using the attached screws or using 3M double-sided adhesive tape eliminating the need to drill holes in the vehicle panel.

Install the keypad wires according to the following instructions:

1. Connect the red wire to the vehicle battery via a 3A fuse.
2. Connect the black wire to the vehicle ground.
3. Connect the orange wire to the tracking unit Dallas interface.
4. Connect the blue wire to the vehicle doors sensor.
5. Connect the green wire to the appropriate tracking unit output interface if additional vocal indications generated by the tracking unit are required.
6. NOTE: The doors input is activated on transition from high to low while the buzzer is activated when the buzzer input is high

## Operating Instructions

The following section presents the process by which driver authentication is performed using the **EC-19521 keypad**.

1. When power is connected to the Keypad. Two beeps (of different frequencies) are heard and the led is activated for a short time.
2. When a vehicle door is opened, the Keypad background light is activated for one minute allowing convenient operation at night.
3. Key in the required code on the Keypad by pressing the correct combination of the 0-9 keys. Each key press activates the background light for 1 minutes and a short beep is heard.
4. Complete The Process By Pressing The Star(\*)key.Two short beeps heard. The LED is activated for a short time indicating that the Driver ID is transmitted to the tracking unit.
5. NOTE: If the Driver ID dialling is not terminated with the "\*" key within 7 seconds, the driver authentication attempt is terminated. This is indicated by three short beeps.
6. A vocal indication may indicate reception of authorized or unauthorized Driver ID. These vocal indications are generated by the tracking unit according to pre-programmed parameters.

## Electrical Specifications

Parameter	Description
Supply voltage	8 V - 28 V
Current consumption	< 5 mA typical
Protection	The device will not be damaged if the power supply wires are connected with inverted polarity
Communication protocol	1-Wire® protocol supporting DS1990A Serial Number iButton
Communication distance	10 meters maximum

## Physical and Environmental Specifications

Parameter	Description
Dimension	55mm x 44mm x 23mm
Working temperature	-20°C to 70°C
Wire length	150 cm

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