

Cellocator™ Keypad

Product Overview



Proprietary and Confidential

Version 1.2

Revised and Updated: August 30, 2020



Cellocator™ Keypad

Product Overview

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1 Introduction

1.1 Overview

The **AR0226 Cellocator keypad** is used for Driver ID input within the scope of the driver authentication feature of the Cellocator 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 Cellocator keypad supports 12v and 24v.

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 Cellocator unit, via the Dallas interface. The Cellocator 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.

The new Cellocator Keypad replaces the Cellocator Keypad AR0188 & AR0189 which does not support the Cellocator Cello family. There is no functional difference between the two keypad models.

1.2 Compatibility

The Cellocator Keypad supports the Cellocator Cello family.

1.3 Abbreviations

Abbreviation	Description
CAN	Controller Area Network
CCC	Command and Control Center
EOB	Enfora on Board
FMS	Fleet Management System
OTA	Over the Air
TOB	Telit on Board

1.4 References

#	Reference	Description
1	NA	
2		

1.5 Revision History

Version	Date	Description
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1.0	13/02/2011	Initial version
1.1	8/9/2013	Electrical Specifications: Communication distance is 10 meters maximum
1.2	30/8/2020	Remove the AR0225, which supports 12v, since the AR0226 support 24v and 12v.



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2 Product Description

2.1 Main Capabilities

The keyboard supports the following main capabilities:

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

2.2 The keypad Interfaces

The following table presents the 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 the vocal indication (buzzer)	Cellocator unit output
Door	Blue	Pulled up input	Activate the background light	Vehicle doors
Data	Orange	1-Wire® protocol	Communication with the Cellocator unit	Cellocator unit Dallas interface

2.3 Installation

The 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 Cellocator unit Dallas interface.
4. Connect the blue wire to the vehicle doors sensor.
5. Connect the green wire to the appropriate Cellocator unit output interface if additional vocal indications generated by the Cellocator unit are required.

NOTE: The doors input is activated on transition from high to low while the buzzer is activated when the buzzer input is high.

2.4 Operating Instructions

The following section presents the process by which driver authentication is performed using the Keypad.

NOTE: When power is connected to the Keypad. Two beeps (of different frequencies) are heard and the led is activated for a short time.

NOTE: When a vehicle door is opened, the Keypad background light is activated for one minute allowing convenient operation at night.

1. 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.
2. Complete the process by pressing the star (*) key. Two short beeps are heard. The LED is activated for a short time indicating that the Driver ID is transmitted to the Cellocator unit.

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.

3. A vocal indication may indicate reception of authorised or unauthorised Driver ID. These vocal indications are generated by the Cellocator unit according to pre-programmed parameters.

2.5 Technical Specifications

2.5.1 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



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2.5.2 Physical and Environmental Specifications

Parameter	Description
Dimensions	55mm x 44mm x 23mm
Working Temp.	-20°C to 70°C
Wire length	150 cm

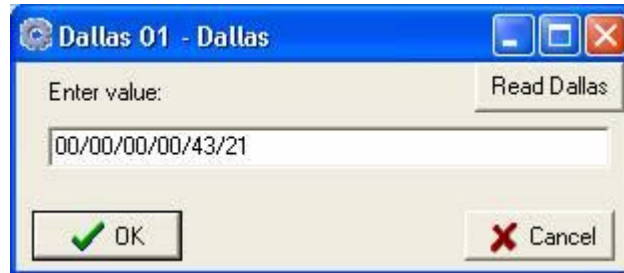
3 Application Notes

3.1 Keypad Code Programming and Viewing

The Cellocator Programmer facilitates programming and viewing of Keypad Code.


For programming the Keypad Code perform the following procedure:

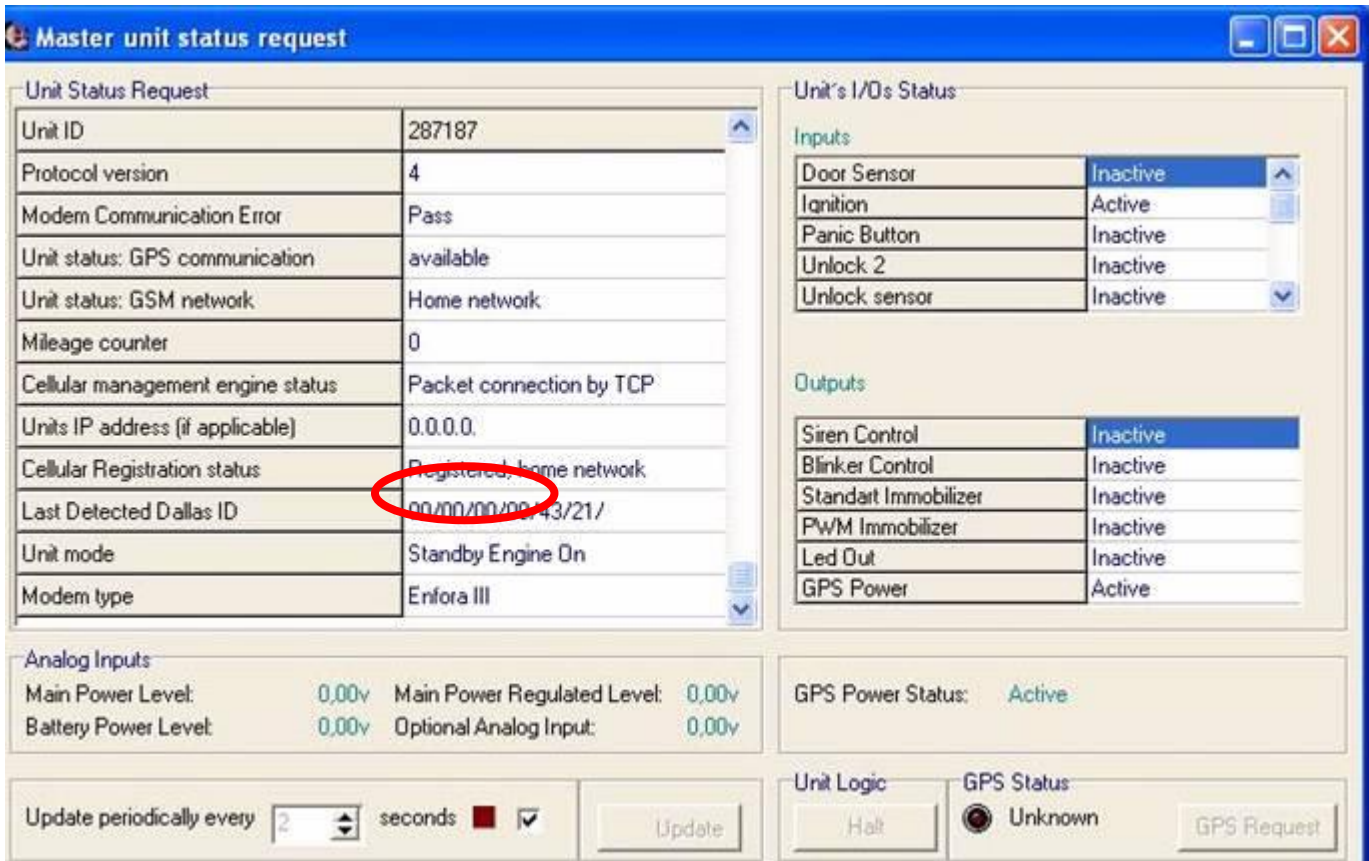
1. Verify that the Cellocator unit is connected to the Cellocator Programmer.
2. In the **Dallas Authentication > Dallas Button** folder, select the desired Dallas code entry and double click it.
3. Dial the required Keypad code in the **Enter Value** field (4321 in the example below) and click **OK**.



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For reviewing the last dialed Keypad Code perform the following procedure:

1. Verify that the Cellocator unit is connected to the Cellocator Programmer.
2. Dial the code via the Keypad.
3. Press the **Master Status** button () on the Programmer tool bar.
4. Scroll down the **Unit's Status** data, the last detected Dallas number (4321 in the example below) is listed.



Master unit status request

Unit Status Request	
Unit ID	287187
Protocol version	4
Modem Communication Error	Pass
Unit status: GPS communication	available
Unit status: GSM network	Home network
Mileage counter	0
Cellular management engine status	Packet connection by TCP
Units IP address (if applicable)	0.0.0.0
Cellular Registration status	Registered, home network
Last Detected Dallas ID	00/00/00/00/43/21/
Unit mode	Standby Engine On
Modem type	Enfora III

Unit's I/Os Status	
Inputs	
Door Sensor	Inactive
Ignition	Active
Panic Button	Inactive
Unlock 2	Inactive
Unlock sensor	Inactive
Outputs	
Siren Control	Inactive
Blinker Control	Inactive
Standart Immobilizer	Inactive
PwM Immobilizer	Inactive
Led Out	Inactive
GPS Power	Active

Analog Inputs			
Main Power Level:	0.00v	Main Power Regulated Level:	0.00v
Battery Power Level:	0.00v	Optional Analog Input:	0.00v

Update periodically every seconds

Unit Logic GPS Status Unknown