Lock-Unlock vehicle doors

Introduction

CANREADER2 is a universal adapter that facilitates connection between vehicle's CAN bus and an analogue car alarm system. The unit allows reading information from the CAN bus and controlling certain vehicle's units. Together with FM devices by Ruptela it can be used to remotely control vehicle's doors.

In certain cases Ruptela device alone can be used to perform such operation, however this applies only to some specific vehicle models. It also requires additional knowledge about vehicle's central lock electronic scheme.

Feature can be used with these FM devices:
- FM-Eco4/4+
- FM-Eco4 light/light+
- FM-Pro4
- FM-Tco4 HCV
- FM-Tco4 LCV

You can get the most recent versions of firmware and configurator from our documentation web site: doc.ruptela.lt
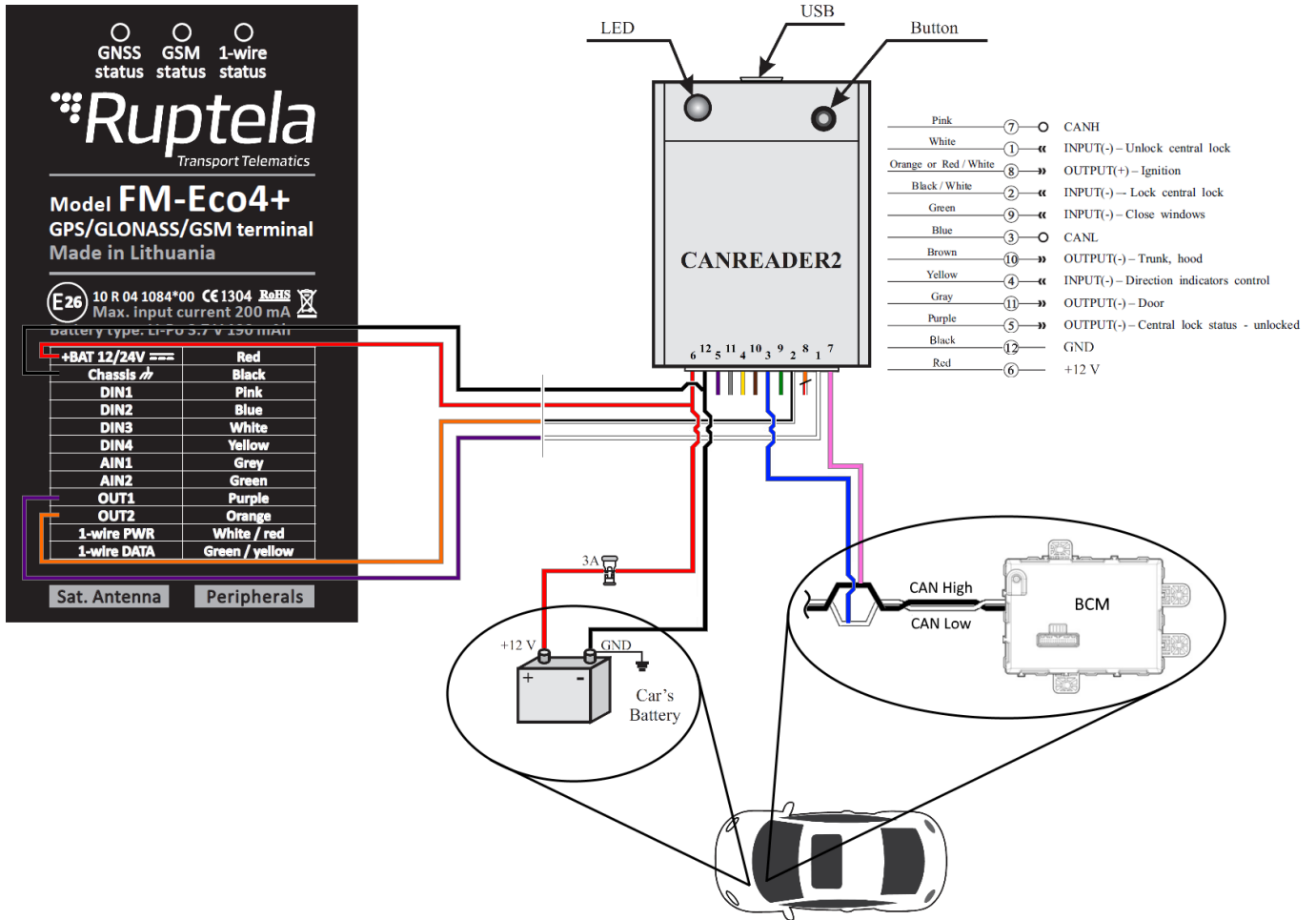
Legal notice

Document change log

Date	Version	Change details
2016-11-18	1.0	Initial draft
2016-11-21	1.1	Scheme for direct connection to BCM module

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Connection via Canreader2

Below you will find connection example for FM-Eco4/4+ and FM-Eco4 light/light+ devices. Same scheme would work and can be applied for FM-Tco4 HCV, FM-Tco4 LCV and FM-Pro4 devices.

Pink	⑦ —O CANH
White	① «« INPUT(-) – Unlock central lock
Orange or Red / White	⑧ »» OUTPUT(+) – Ignition
Black / White	② «« INPUT(-) → Lock central lock
Green	⑨ «« INPUT(-) – Close windows
Blue	③ —O CANL
Brown	⑩ »» OUTPUT(-) – Trunk, hood
Yellow	④ «« INPUT(-) – Direction indicators control
Gray	⑪ »» OUTPUT(-) – Door
Purple	⑤ »» OUTPUT(-) – Central lock status - unlocked
Black	⑫ GND
Red	⑥ +12 V

FM-Eco4+ label:

+BAT 12/24V	Red
Chassis	Black
DIN1	Pink
DIN2	Blue
DIN3	White
DIN4	Yellow
AIN1	Grey
AIN2	Green
OUT1	Purple
OUT2	Orange
1-wire PWR	White / red
1-wire DATA	Green / yellow

Note

For additional information about CANREADER2 configuration and its functions refer to the "Kodinis raktas" website http://www.kodinis.lt

Wiring

FM Device side	CANREADER2 side
Red – +Battery 12/24V DC	Red – +12V DC
Black – -Battery/GND/Chassis	Black – -Battery/GND
Purple – DOUT1	White – Input(-) Unlock central lock
Orange – DOUT2	Black-White – Input(-) Lock central lock
--Optional--	
Orange – DOUT2	Green – Input(-) Close windows

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Direct connection to BCM module

This connection method requires deep knowledge about vehicle's central lock electronic scheme. When analogue signals (voltage levels) lock/unlock vehicle's doors, a direct connection to the BCM module can be used.

Connection example for FM-Tco4 HCV, FM-Tco4 LCV and FM-Pro4 devices:

Connection example for FM-Eco4/4+ and FM-Eco4 light/light+ devices:

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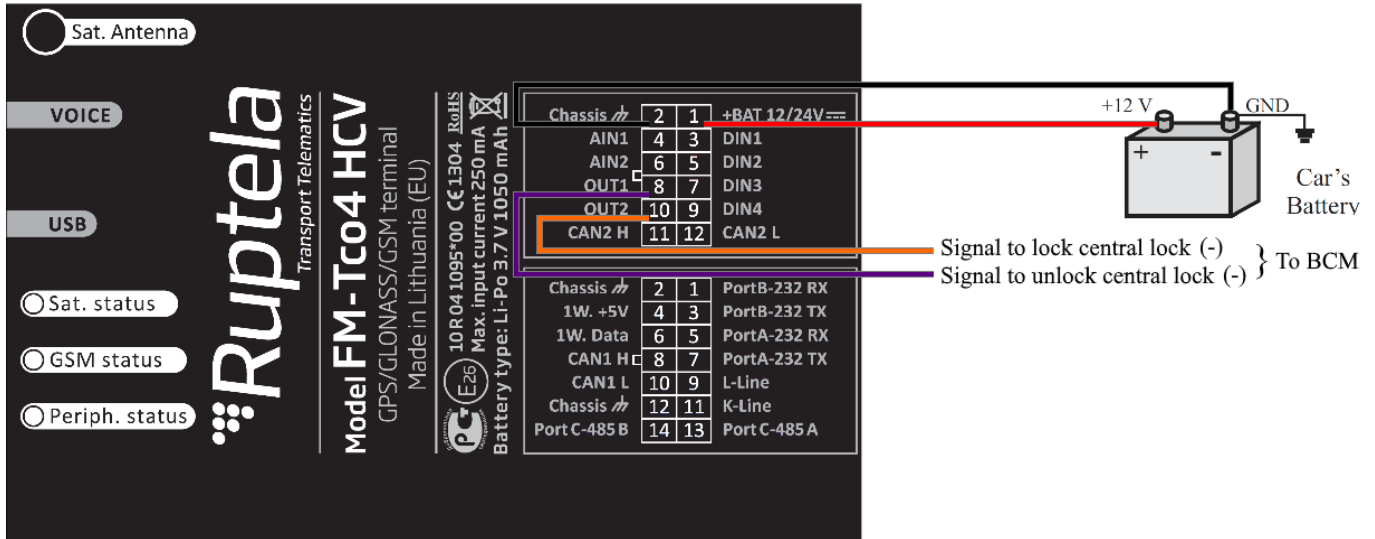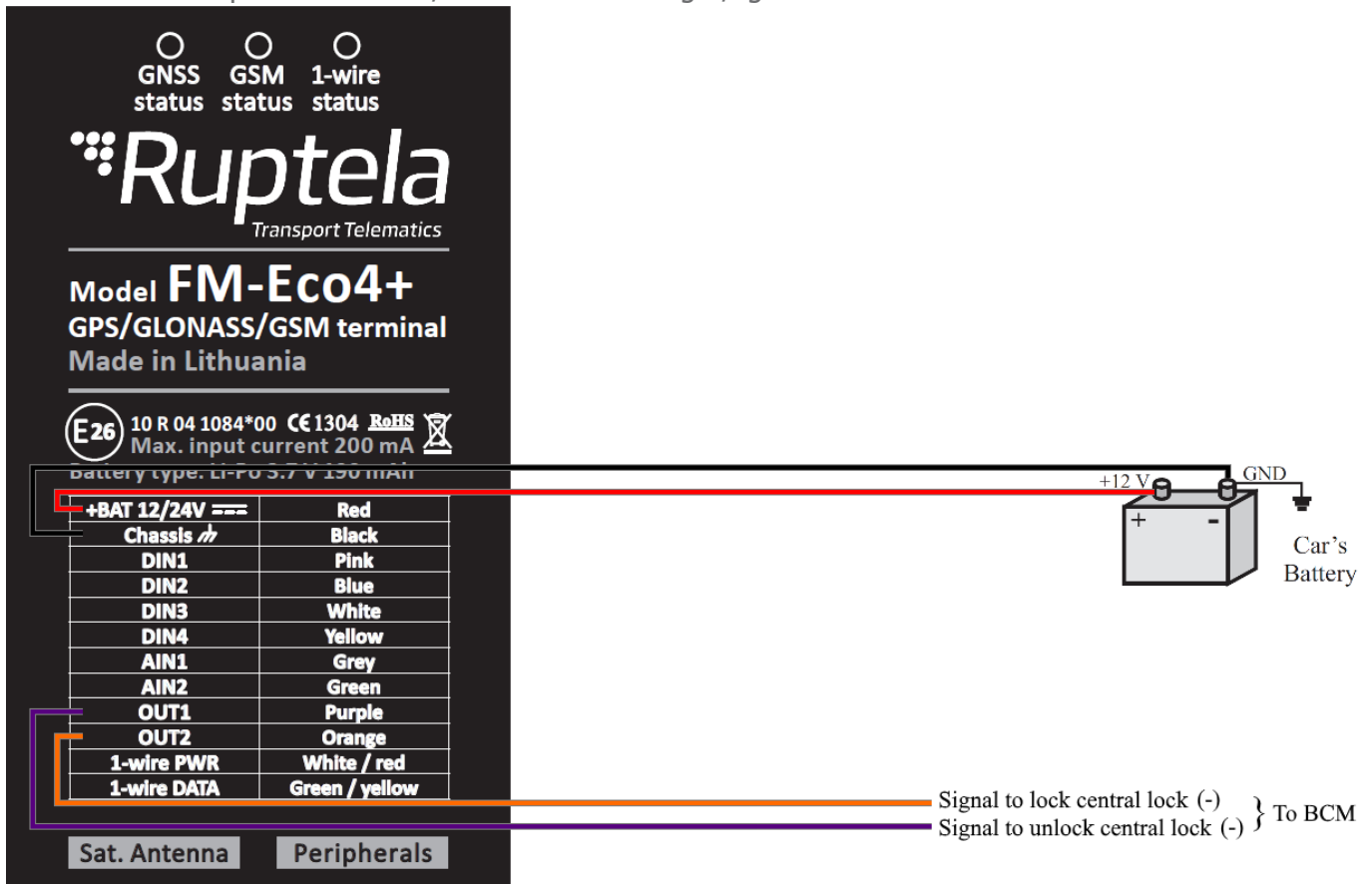
Configuration

Follow these steps to configure your FM Device:

1. In the main configurator window choose your device *(Tco4 HCV, Tco4 LCV, Pro4 or Eco4)*.
2. **IO events** "Options" button opens up a new "IO settings" window, here you can enable or disable IO parameters.
3. Make sure that both **DOUT1** and **DOUT2** are set to *Disabled*.

After configuration, close the "IO settings" window and send configuration to the device.
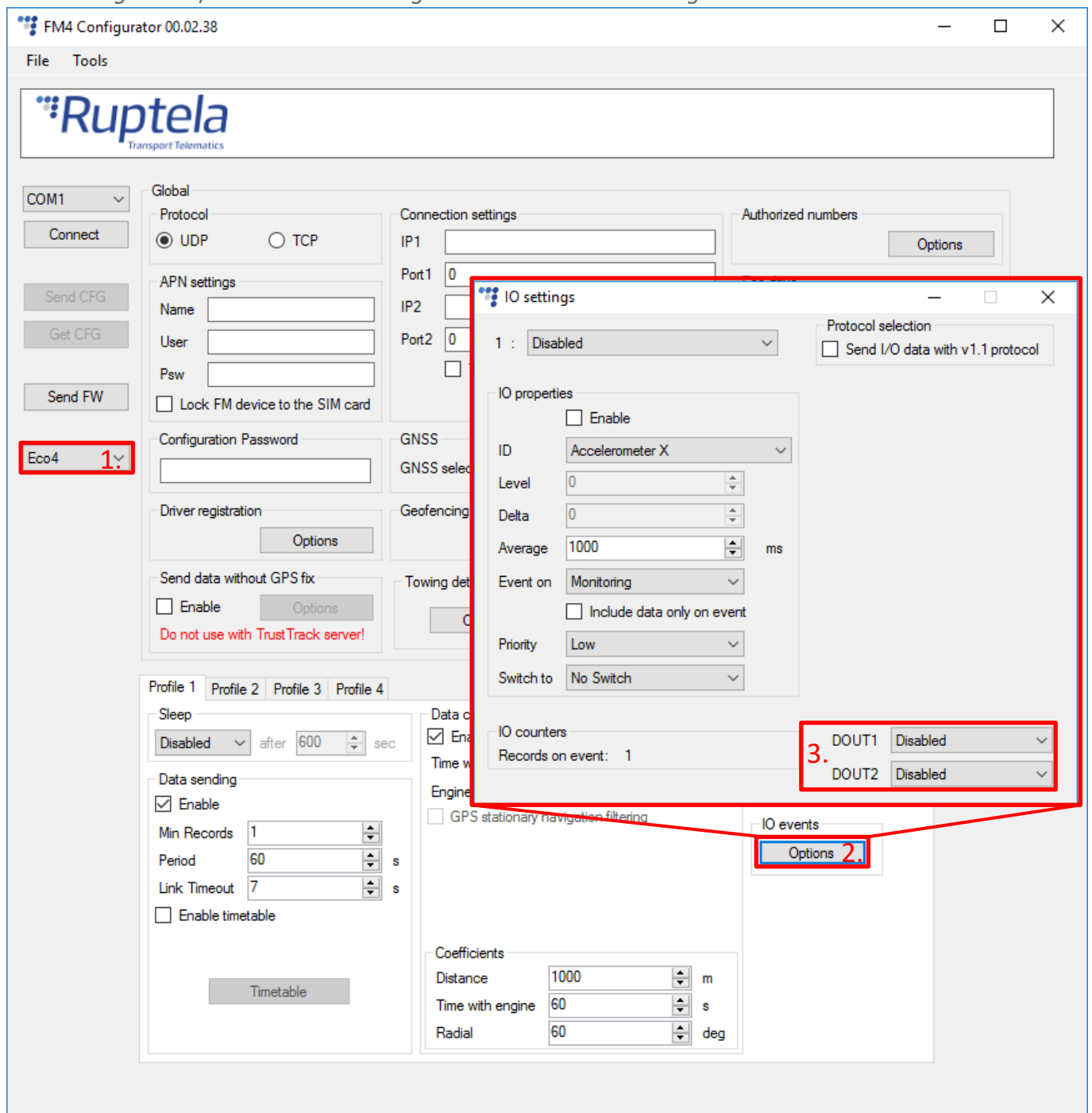
SMS commands

Locking and unlocking vehicle's doors will be done via SMS commands. With "setiotime" command the FM device is able to switch DOUT for a temporary period of time. User must provide pulse lengths for the logical '1' & '0' values. After the pulse device restores the previous DOUT status.

In default state both DOUTs are in logical '1' state. '0' means GND and '1' means no GND.

Unlock doors command
pass setiotime 0 500,

Lock doors command
pass setiotime ,0 500

Command structure

pass	SMS password
setiotime	SMS command
0 500,	Sets DOUT1 logical state to '0' for 500 ms time period. After this pulse device restores the previous DOUT1 status.
,0 500	Sets DOUT2 logical state to '0' for 500 ms time period. After this pulse device restores the previous DOUT2 status.

Response
If command was successfully executed, you will receive this response:
setiotime set OK

If there was an error, you will receive this response:
setiotime syntax error in DOUTX settings: error text

Note
For additional information about "setiotime" SMS command refer to our "SMS Commands List". You can find it here: https://doc.ruptela.lt/display/AB/FM4

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