

Fuel Filler Security Module

1 Introduction

1.1 About the Accessory

The BAK-Q80/BAK-Q60 fuel filler security module is an anti-theft strainer that will block access to the fuel tank via the filling hole, while not obstructing the fuel flow when refilling.

1.2 Legal Information

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1.3 Compatibility

The fuel filler security module is compatible with the following devices with the newest firmware version:

- HCV5
- LCV5
- Pro5
- FM-Tco4 HCV
- FM-Tco4 LCV
- FM-Pro4
- FM-Eco4
- FM-Eco4 S
- FM-Eco4 T

1.4 Contact Information

General enquiries

Website: ruptela.com

E-mail: info@ruptela.com

Phone: +370 5 2045188

Technical support

E-mail: support@ruptela.com

Phone: +370 5 2045030

1.5 Document Changelog

Version	Date	Modification
2.0	2021-03-22	Updated: Manual structure and design.

1.6 Notations

The following notations are used in this document to highlight important information:

Bold text

Used to indicate user interface elements or for emphasis.

Italic text

Used to indicate items that belong to a list and can be selected.

Note



Used to highlight important information or special conditions.

2 Description and Mounting

The security module consists of a plug module and an anti-theft strainer module. It works by monitoring the presence of the transponder, situated in the fuel plug over the plug module.

The plug module can be connected to the tracking device via the DIN connector. When configured, information on whether the fuel tank is opened or closed will be sent to the server. If the fuel tank is opened, the system interprets it as a change in output state and this information is sent to the server.

The anti-theft strainer module consists of a pipe with perforated walls and bottom. The shape of the bottom and the holes has been designed as not to obstruct the fuel filling operation, while at the same time it protects from fuel theft.

2.1 Mounting

Follow these steps to secure the fuel filler security module:

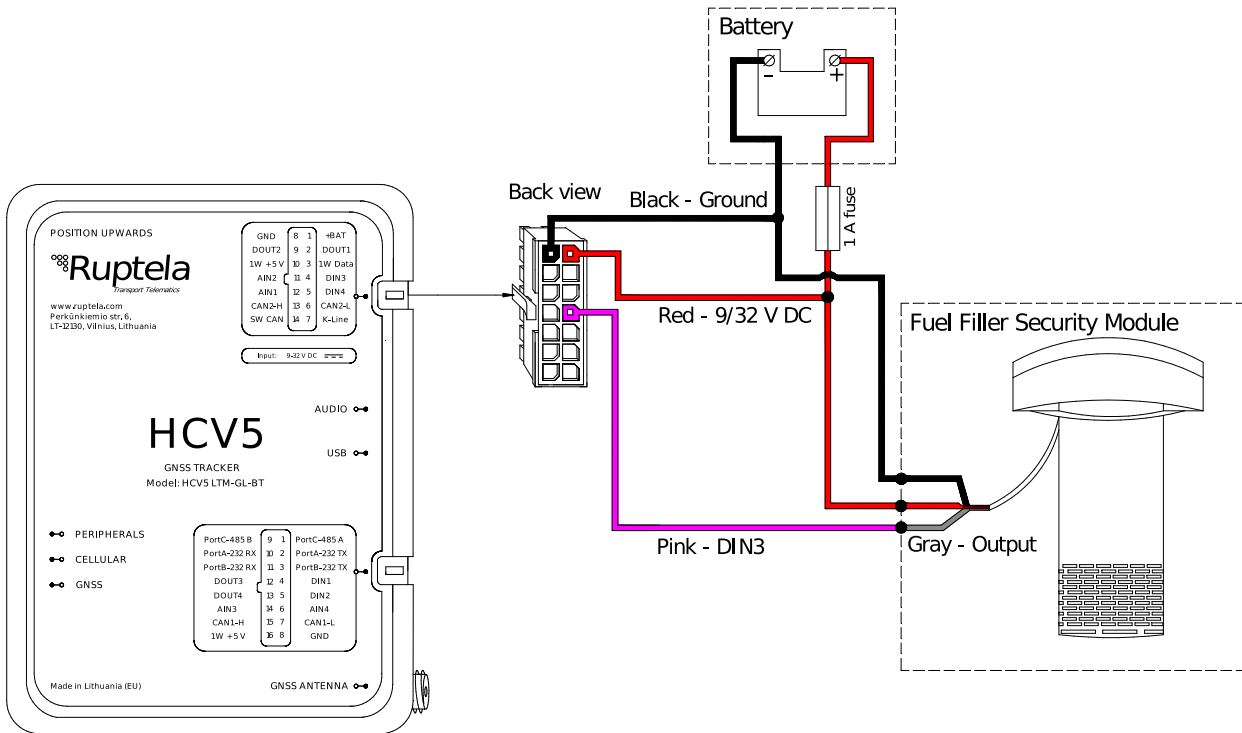
1. Unscrew the original plug from the fuel filler.
2. Degrease the tank fuel filler and the flange of the plug module using a cloth supplied in the assembly kit.
3. Put silicone onto the fuel filler and the flange of the plug module.
4. Put a seal onto the flange of the plug module.
5. Mount the plug module along with the seal onto the fuel filler, turn the screw clockwise until it is tightly screwed. It is recommended to use a flange to prevent the plug module cable from sticking outside the vehicle.
6. Carefully drill a Ø4 mm hole through the mounting holes in the filler.
7. Put the mounting sleeve onto the removable rivet and place it in the riveter. Rivet both holes.
8. The cable must be protected by using a protective pipe, which must be tightened on the flange of the plug module housing. For this step, use a cable tie. Guide the cable to your FM device in such a way that all possible thermal and mechanical damage caused by day-to-day use of the vehicle is minimal.
9. Thread the seal line with beads through the seal holes and tie it around the protective pipe. Seal it.
10. Put silicone into the mounting holes and push the rubber caps inwards.
11. Cut away the protruding cap parts.

12. Screw the plug into the plug module and do it again several times to check if the plug module was assembled onto the fuel tank correctly.
13. Put the plug cover on the plug module and tighten the string. Ensure that the plug cover fully sticks to the fuel filler. Secure the loose string.

3 Connection

3.1 Connection to 5th Gen Advanced Family Devices

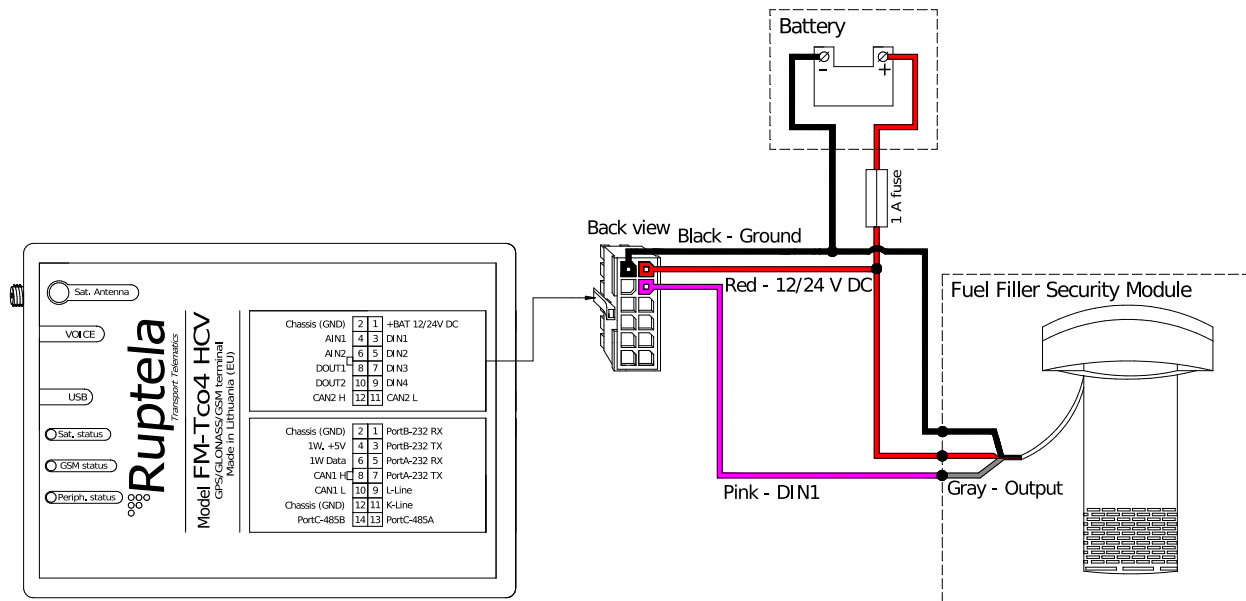
Connect the fuel filler security module to your tracking device as follows:



Alternatively, fuel filler security can be connected to DIN1 (yellow/black wire, pin 4), DIN2 (pink/black wire, pin 5), DIN4 (yellow wire, pin 5).

3.2 Connection to 4th Gen Advanced Family Devices

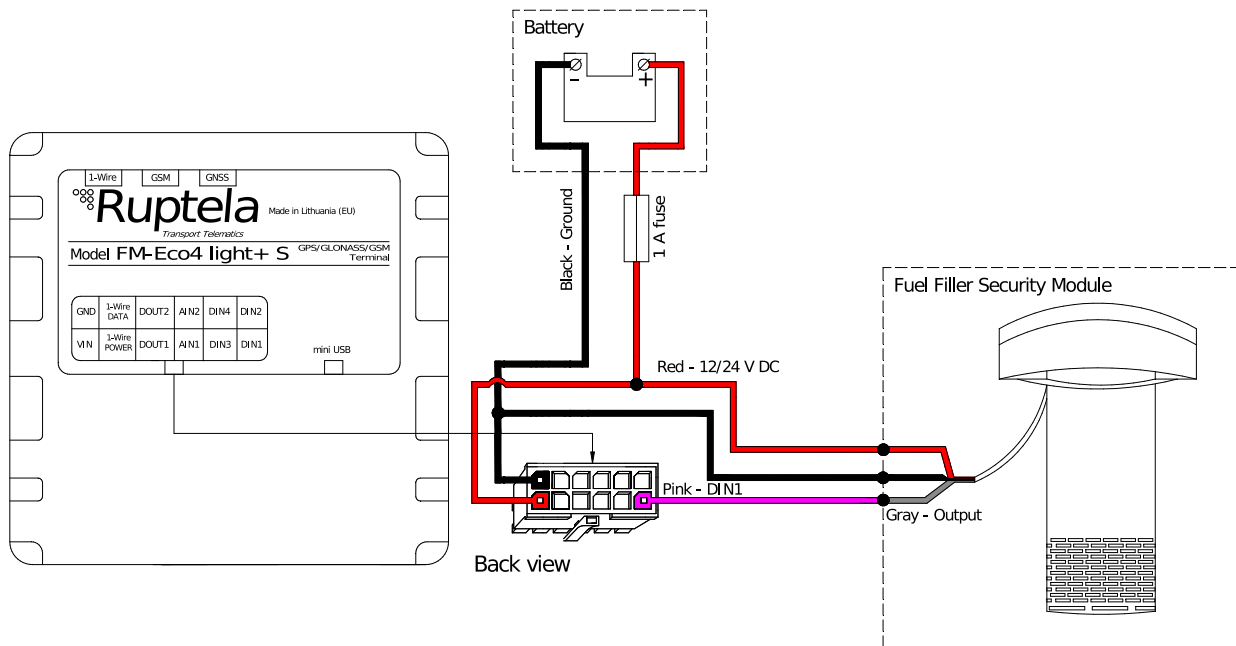
Connect the fuel filler security module to your tracking device as follows:



Alternatively, fuel filler security module can be connected to DIN2 (blue wire, pin 5) DIN3 (white wire, pin 7), DIN4 (yellow wire, pin 9).

3.3 Connection to FM-Eco4 Series Device

Connect the interlock device to your tracking device as follows:



Alternatively, fuel filler security module can be connected to DIN2 (blue wire, pin 5) DIN3 (white wire, pin 7), DIN4 (yellow wire, pin 9).

4 Configuration

i This functionality requires the use of the advanced configurator.

4.1 Starting the Configuration

To start the configuration, follow these steps:

1. Open the advanced configurator. Select your tracking device.
2. Select the COM port to which your device is connected.
3. Click **Connect**.
4. Click the **Options** button in the **IO events** section to open the **IO Settings** window.

The screenshot shows the advanced configurator interface with several elements highlighted by red boxes and numbered callouts:

- COM3**: A red box highlights the COM port selection dropdown, with a circled '2' next to it.
- Connect**: A red box highlights the 'Connect' button, with a circled '3' next to it.
- HCV5**: A red box highlights the device model selection dropdown, with a circled '1' next to it.
- IO events Options**: A red box highlights the 'Options' button in the 'IO events' section, with a circled '4' next to it.

The interface includes various configuration sections such as Global, APN settings, Connection settings, Configuration Password, Authorized numbers, Eco-Drive, Authorized IDs, Wireless, Audio settings, Movement sensor sensitivity, Driver registration, Trip type detection, Geofencing, Auto-geofencing, GNSS, Offline tracking, Towing detection, Impact detection, Sleep, Data sending, Data collection, Network, Operator list, and IO events.

4.2 Configuring the Fuel Filler Security Module

Follow these steps to configure the fuel filler security module:

1. Select an empty parameter slot.
2. In the **ID** section select *DINX* from the drop-down list for the same DIN that you used for the connection.
3. Enable the slot by ticking the **Enable** checkbox.
4. Set **Event on** to *Change*.
5. Set Priority to *High*.

The screenshot shows the 'IO settings' window for parameter slot 1, which is named 'DIN3'. The configuration is as follows:

- IO properties:**
 - Enable:** Checked (indicated by a red box and circled '3').
 - Make a Call:** Unchecked.
 - ID:** Set to 'DIN3' (indicated by a red box and circled '2').
 - Level:** 0.
 - Delta:** 0.
 - Debounce:** 1000 ms.
 - Event on:** Set to 'Change' (indicated by a red box and circled '4').
 - Include data only on event:** Unchecked.
 - Priority:** Set to 'High' (indicated by a red box and circled '5').
 - Switch to:** No Switch.
 - SMS Alert:** Unchecked.
 - Alert text:** Event on high and Event on low fields are empty.
- Interfaces:** All checkboxes (Port A, Port B, Port C, K-Line, CAN, CAN2, 1-Wire) are unchecked.
- LCV Autoselect:** Start button is active; Enable I/Os checkbox is unchecked.
- DIN modes:** DIN1 mode, DIN2 mode, DIN3 mode, and DIN4 mode are all set to 'Positive mode'.
- Digital outputs:** DOUT1, DOUT2, DOUT3, and DOUT4 are all set to 'Disabled'. Inverted checkboxes are unchecked.
- IO counters:** Records on event: 1.
- Buttons:** 'Clear all IO', 'Enable common IO', and 'Enable IO' buttons are visible.

4.3 Finishing the Configuration

To finish the configuration, close the **IO settings** window. Click **Send CFG** to send the configuration to the device.

The screenshot shows a configuration window for a device. On the left, there are two dropdown menus: 'COM5' and 'HCV5'. Below them are buttons for 'Disconnect', 'Send CFG' (highlighted with a red border), 'Get CFG', and 'Send FW'. Further down, there is a section for device information: 'IMEI: 866600049035322', 'FW: 00.03.60.03', 'BL: 0x54 0x2d', 'BLE St: (5) No power', 'BLE APP:', 'BLE BL:', and 'BLE SD:'. The main area is divided into several sections: 'Global' (Protocol: UDP selected, TCP unselected), 'APN settings' (Name, User, Psw, Lock FM device to the SIM card, AutoAPN), 'Connection settings' (IP1, Port1, IP2, Port2, Two servers, SSL client authentication, Identification string, Periodical redirect, SSL settings, DNS settings), 'Driver registration', 'Trip type detection', 'Geofencing', 'Auto-geofencing', 'GNSS', 'Offline tracking', 'Towing detection', and 'Impact detection'. On the right side, there are sections for 'Configuration Password', 'Authorized numbers', 'Eco-Drive' (checked), 'Authorized IDs' (checked), 'Wireless' (checked), 'Audio settings', and 'Movement sensor sensitivity' (a slider set to 8 out of 10).