

LED display connection and configuration

Introduction

The LED display is a peripheral integrated into Ruptela FM devices. The user can connect the LED display to the FM device via its RS232 interface to display the vehicles current speed.

The LED display can be connected to these FM devices:

- FM-Tco4 HCV
- FM-Tco4 LCV
- FM-Pro4

This feature description applies to FM devices with the latest firmware version in them. You can get the newest firmware and configurator from our documentation website: doc.ruptela.it

Legal notice

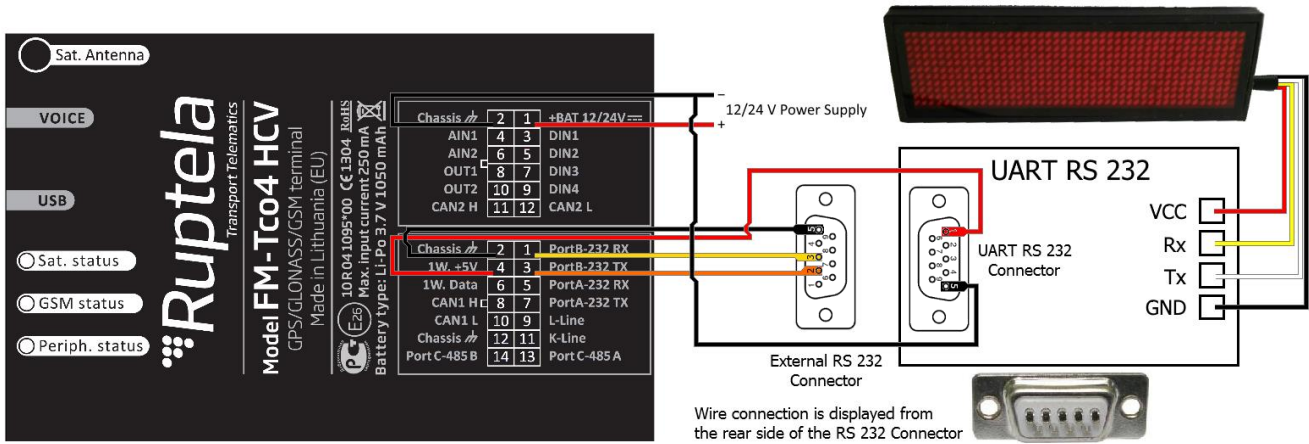
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Document change log

Date	Version	Change details
2017-06-20	1.0	Initial draft
2018-11-15	1.1	Compatible device list updated.

Connection

The LED display can be connected to the FM device using a RS232 connector and a RS 232 UART. The connection example and pinouts are provided below.



FM Device side	External RS 232 Connector
Orange - PortB-232 TX	2 Pin
Yellow - PortB-232 RX	3 Pin
Black - Chassis	5 Pin

Note
The power wire connection is wired straight to the UART because power transfer via the RS232 connection is not supported by the RS232 standard. Connecting the power wire differently than shown may cause various issues.

FM Device side	UART RS 232 Connector
Red - 1 Wire +5V	1 Pin
Black - Chassis (GND)	5 Pin

Note
The power connection from the FM device is optional. Power can be connected from an external source, but must not exceed +5 VDC.

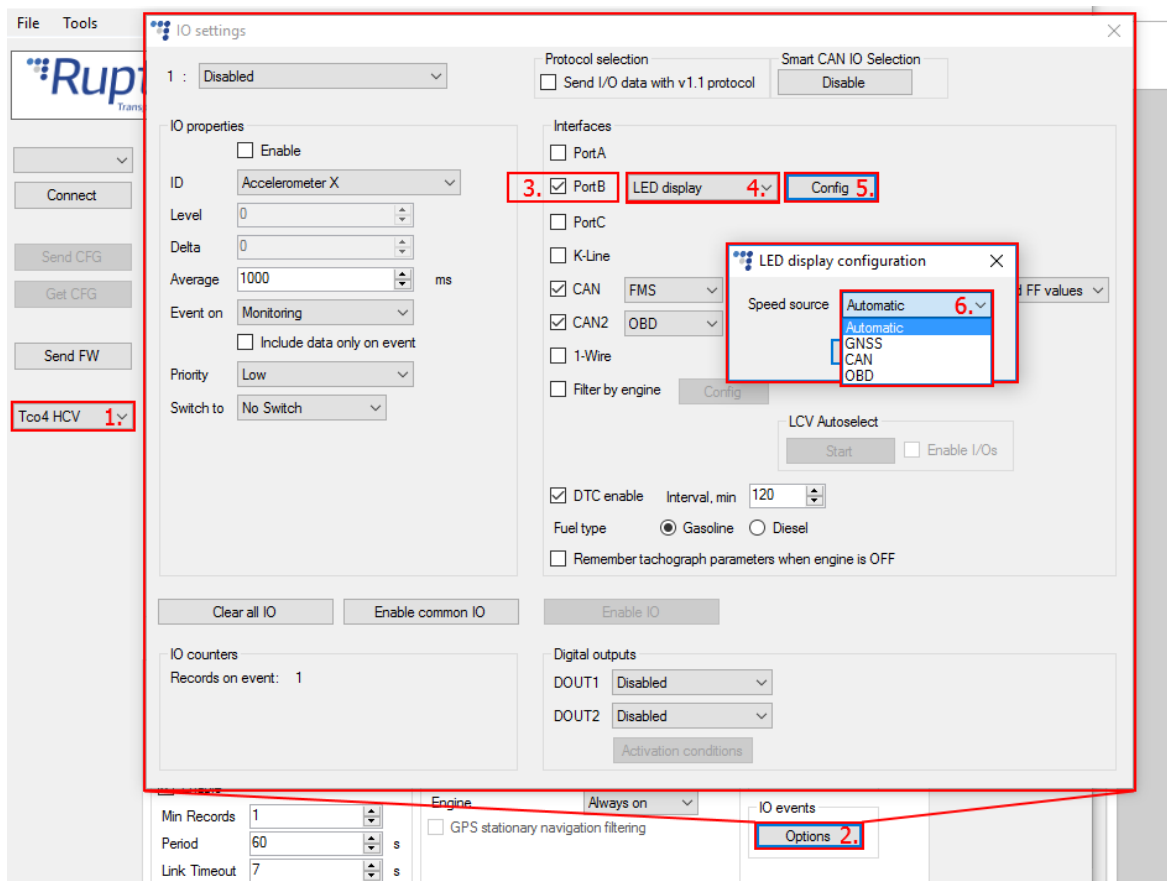
LED Display	UART RS 232
Red	VCC
Yellow	Rx
White	Tx
Black	GND

Configuration

Follow these steps to configure the LED display:

1. In the main configurator window select your device (*FM-Tco4 HCV*, *FM-Tco4 LCV* or *FM-Pro4*).
2. **IO events Options** button opens up a new **IO settings** window, here you can enable or disable various interfaces.

3. In the **Interfaces** section, put a tick either on **PortA** or **PortB** checkbox. This should be the same FM device interface that was used in connection of the LED display (*the example picture displays the connection to **PortB***).
4. Use the drop-down list on the right of the selected port to select *LED display*.
5. A **Config** button will appear to the right, click it to configure the LED display.
6. Only one setting exists for the LED display – **Speed source**. One of four options can be selected:
 - *Automatic* – the system automatically selects one of the best sources available, if the source no longer gives out information, another will be selected, until the best source is available again. (sources are selected by the following priority: CAN, OBD, GNSS).
 - *GNSS* – provides speed information from the GPS;
 - *CAN* – provides speed information from the configured CAN interface (available in the drop-down list only if a CAN interface was configured);
 - *OBD* – provides speed information from OBD (available in the drop-down list only if OBD was configured on a K-Line or CAN interface).



Other LED display working conditions

LED display will work and display the current speed even if the device goes to sleep mode. If the vehicle is not moving, the display will show "0".

Note

In cases when the vehicles ignition is turned off, but the vehicle is moving (towed or similar), the LED display will show the current speed.