ThermoKing TouchPrint

Introduction

ThermoKing TouchPrint device is designed specifically to meet the recommendations of Food Hygiene Regulations with the regard to transport and delivery of chilled and frozen foodstuffs in refrigerated vehicles. Connection to the Ruptela FM-Tco4 HCV enables TouchPrint device, to send data to a remote server. Therefore users can monitor temperature readings from anywhere in real time.

Feature for different FM devices is available starting with these firmware versions:

- FM-Tco4 HCV - 00.02.09.04

You can get the latest firmware and configurator from our FTP server: doc.ruptela.lt

Legal notice

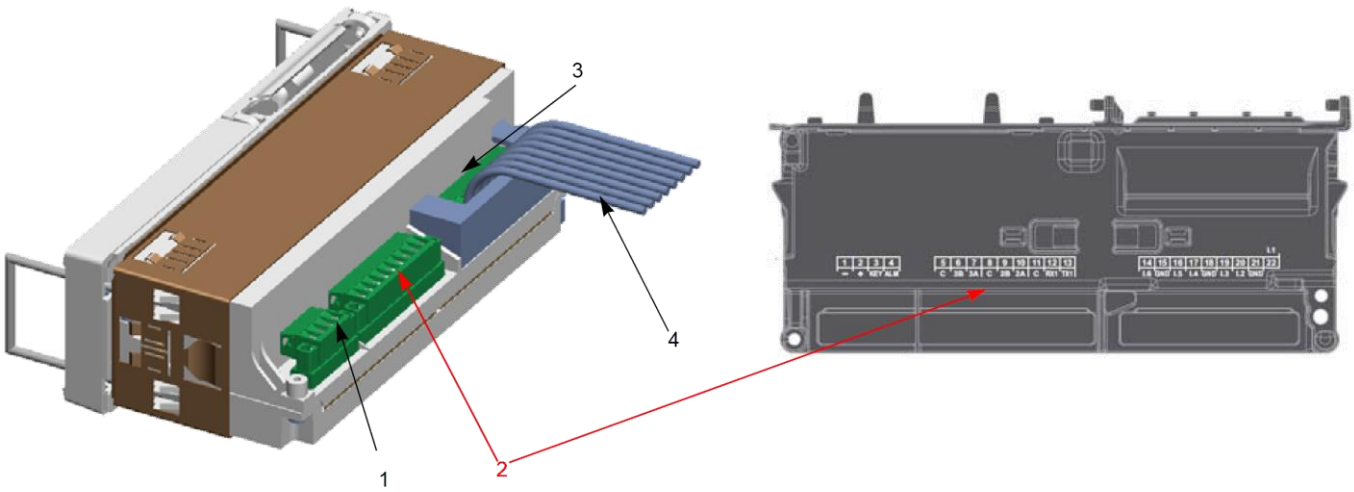
Document change log

Date	Version	Change details
2016-03-04	1.0	Initial draft
2016-04-14	1.1	Added ThermoKing TouchPrint serial interface configuration requirements
2016-06-09	1.2	Wiring setup updated

Connection

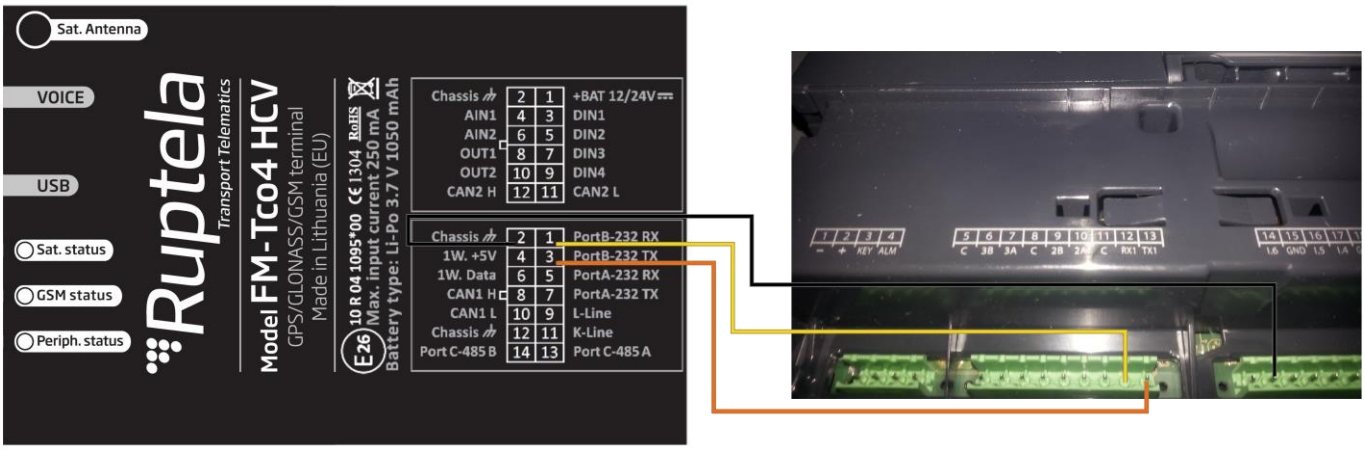
TouchPrint has various input/output ports on the back side of the device. These electrical connections (with screw removable connectors) will have an optional plastic element covering them, with the possibility to "seal" it so that to avoid the disconnection.

The standard version includes only one serial communication port. This RS-232 serial connection port can be used to interface with a 3rd party communication device to send some information.



1. Power Terminal
2. Serial Communication terminal (RS232/RS48)
3. Input terminal
4. Sensor Harness

Connection between FM-Tco4 HCV and TouchPront device RS232 ports



FM Device side	TouchPrint device side
Yellow - PortB-232 RX	RS232 RX1 (Pin 12)
Orange - PortB-232 TX	RS232 TX1 (Pin 13)
Black - Chassis	GND (Pin 15 or Pin 18 or Pin 21)

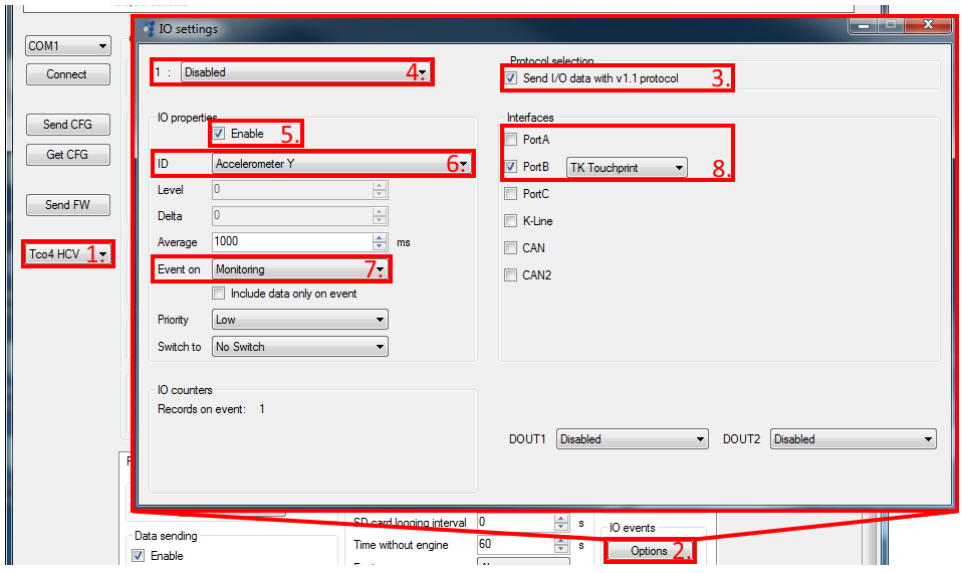
ThermoKing TouchPrint configuration

FM-Tco4 HCV can interface with the TouchPrint RS232 serial port only if it was configured properly. RS-232 port baud rate on the TouchPrint device has to be set to 9600. This is default value programed during the production process. FM-Tco4 HCV does not support other baud rates for this device. ThermoKing TouchPrint serial interface configuration instructions can be found in device user manual.

FM device configuration

Follow these steps to configure your FM Device:

1. In the main configurator window choose your device *(FM-Tco4 HCV)*.
2. IO events "Options" button opens up a new "IO settings" window, here you can enable or disable IO parameters.
3. In Protocol selection section put a tick in Send I/O data with v1.1 protocol checkbox. After this step, TouchPrint IO parameters will be displayed in the IO list.
4. Select a slot that you want to enable.
5. In the IO properties section tick the Enable check box, otherwise the slot will remain empty.
6. ID contains the parameter list. Choose a parameter you want to enable for the selected slot. One parameter can be enabled only one time. List of ThermoKing TouchPrint parameters that can be enabled:
   TK Touchprint input 1, TK Touchprint input 2, TK Touchprint input 3, TK Touchprint input 4, TK Touchprint input 5, TK Touchprint input 6.
7. Choose Event on field values for each parameter. For TouchPrint IO's Event on can be set to *Monitoring, Change* or *Hysteresis.* More details about these parameters available in "TouchPrint IO parameters description" table below.
8. In the Interfaces section, put a tick on either PortA or PortB checkbox. This should be the same device interface that is used in connection to the TouchPrint device. In the drop down list on the right choose "*TK Touchprint*". Only one sensor can be connected at the same time.



TouchPrint IO parameters description

IO parameters used with TouchPrint device.

IO ID	Parameter name	Size, B	Min. value	Max. value	IO factor	Description
509	TK Touchprint input 1	2	-32751	32767	0,1 °F/Bit	32768 – probe error 32769 – ADC not ready 32770 – data not available
510	TK Touchprint input 2	2	-32751	32767	0,1 °F/Bit	32768 – probe error 32769 – ADC not ready 32770 – data not available
511	TK Touchprint input 3	2	-32751	32767	0,1 °F/Bit	32768 – probe error 32769 – ADC not ready 32770 – data not available
512	TK Touchprint input 4	2	-32751	32767	0,1 °F/Bit	32768 – probe error 32769 – ADC not ready 32770 – data not available
513	TK Touchprint input 5	2	-32751	32767	0,1 °F/Bit	32768 – probe error 32769 – ADC not ready 32770 – data not available
514	TK Touchprint input 6	2	-32751	32767	0,1 °F/Bit	32768 – probe error 32769 – ADC not ready 32770 – data not available

Event on for TouchPrint IO's can be set to *Monitoring, Change* or *Hysteresis.*

In ThermoKing Touchprint device configuration all these inputs can be configured as a probe or a switch. Therefore, depending on configuration, inputs can send temperature values or 0/1 values.

Note

To enable ThermoKing TouchPrint IO parameters in the IO settings window extended protocol version v1.1 has to be used.