

Bluetooth temperature sensor configuration description

Introduction

Bluetooth Temperature Sensor can collect temperature and humidity data from the surrounding environment and transfer it to other devices via Bluetooth 4.0. Wireless connectivity capability removes the need to use wires during device installation. Sensor's characteristics are small-size and low-weight, it is easily portable and provides highly accurate measurements.

Feature was first introduced to FM devices with these firmware versions:

- FM-Tco4 HCV BT - 00.02.24.XX
- FM-Tco4 LCV BT - 00.02.24.XX
- FM-Pro4 BT - 00.02.24.XX

You can get the latest firmware and configurator from our documentation website: doc.ruptela.it

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Document change log

Date	Version	Change details
2016-09-07	1.0	Initial draft.

Description

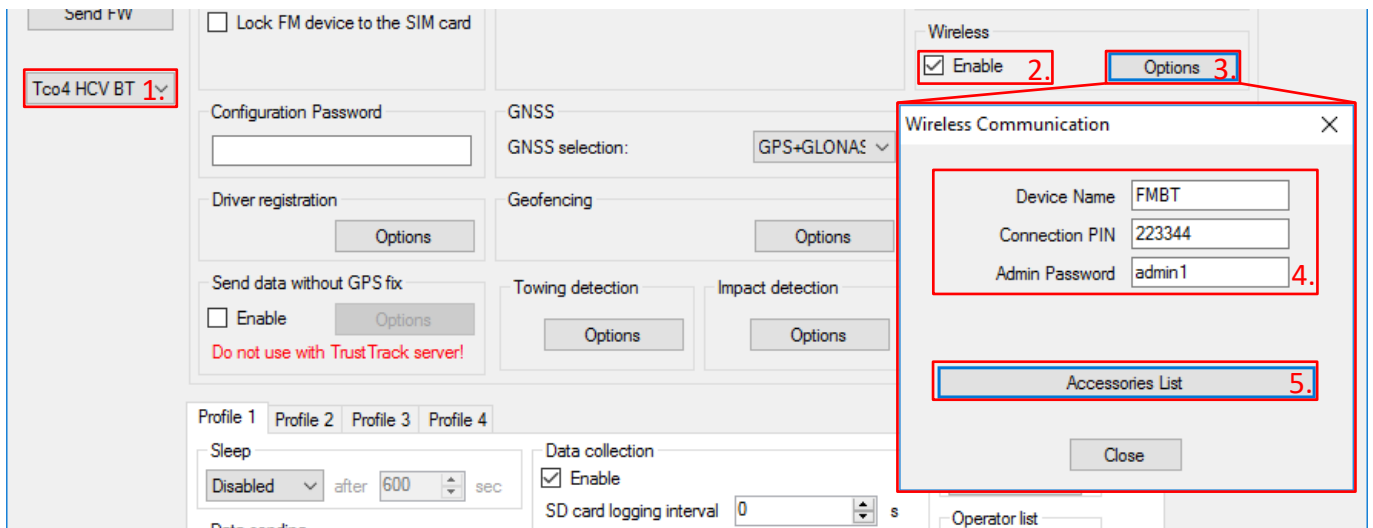
Bluetooth temperature and humidity sensor uses Bluetooth Low Energy technology to transmit temperature and humidity values.

- Every Bluetooth sensor has its own unique ID. In the configurator this ID's is linked to a specific I/O event. Measurement data from the sensor will be sent via this I/O assigned to it.
- Every Bluetooth sensor works in the broadcast mode. That means that they broadcast data periodically. The user cannot change the broadcast frequency.
- The FM device scans its environment searching for a transmission from the device with a known ID. If it detects such transmission, it captures corresponding data packets.
 - If device receives data from the sensor with a known ID, it sends this data via an I/O event assigned to it.
 - If there is no data in the package, the "No data" error code is included into the corresponding I/O event.
- If no package is received within two minutes period, the event is triggered with "Sensor not available" error code.
- Currently there can be up to five sensors connected to one FM device.

Configuration

Wireless communication settings

1. In the main configurator window choose your device (*Tco4 LCV BT, Tco4 HCV BT, Pro4 BT*).
2. Under **Global** settings, in the **Wireless** section tick the **Enable** check box to make your device discoverable by other Bluetooth devices.
3. Click the "Options" button.
4. **Device Name**, **Connection PIN** and **Admin Password** fields are used to set up device connection with the "Universal App". In this case you don't need to change anything.
5. Click on the "Accessories List" button. It opens up a new "Bluetooth Accessories" popup window.

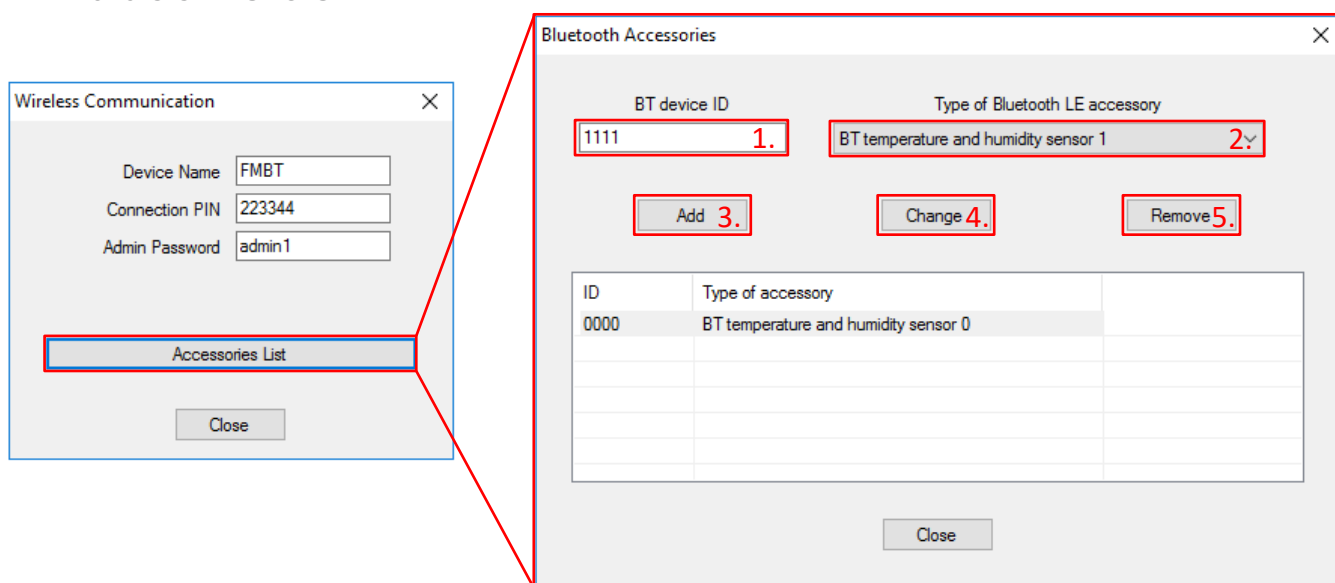


Add a Bluetooth temperature sensors to the Bluetooth accessories list

1. Enter a Bluetooth temperature sensor ID number in the **BT device ID** field. Only numbers can be used. Allowed ID length is from 1 to 16 digits.
2. Select one of the temperature sensors in the **Type of Bluetooth LE accessory** drop down list.
3. Click the "Add" button. The Bluetooth temperature sensor ID number will be assigned to the selected sensor and its corresponding I/O parameter. Assignment will be displayed in the list below. Enter another ID, select other temperature sensor and click "Add" again. Repeat this procedure as many times as necessary.

Additional options

4. You can assign an ID number to a different sensor. Click on the corresponding assignment in the list below. Choose a different sensor or type in a different ID number and click "Change".
5. You can remove assignments from the list. Select the corresponding assignment in the list below and click "Remove".



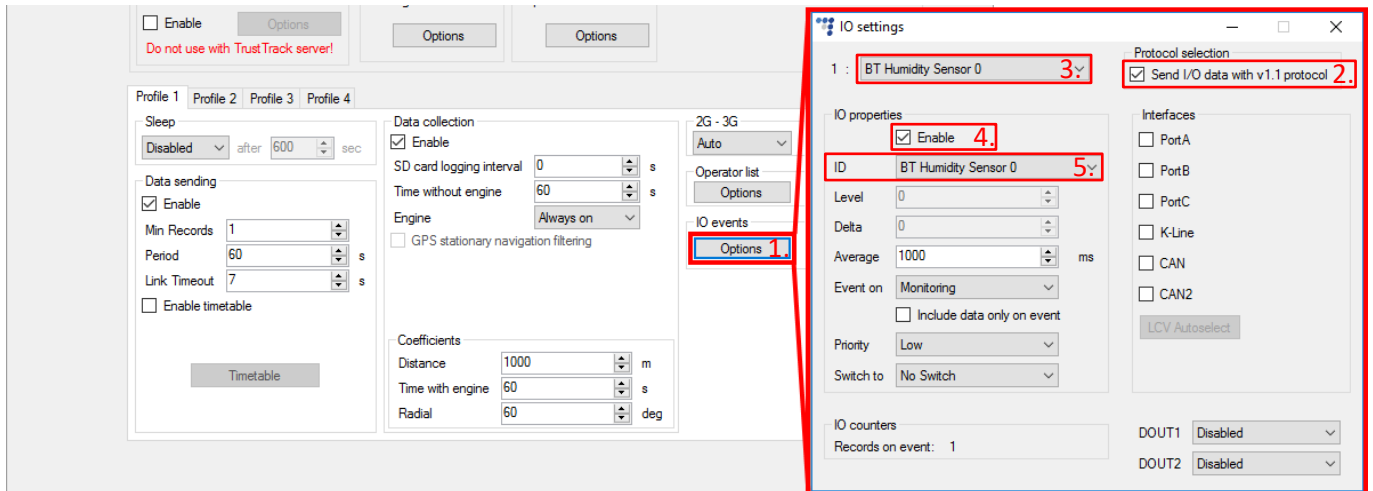
Enable I/O parameters

1. In the **I/O events** section click on the "Options" button. It opens up a new "I/O settings" window.
2. In **Protocol selection** section put a tick in **Send I/O data with v1.1 protocol** checkbox. After this step, Bluetooth temperature sensor I/O parameter will be displayed in the I/O list.
3. Select a slot that you want to enable.
4. In the **I/O properties** section tick the **Enable** check box, otherwise the slot will remain empty.
5. **ID** contains the parameters list. Choose a parameter you want to enable for the selected slot. To monitor temperature or humidity data from the Bluetooth temperature sensor, choose one of its parameters. These options could be used:
BT Humidity sensor 0 ... 4, BT temperature Sensor 0 ... 4.

More details about these parameters available in the next chapter.

Note

You have already added "BT temperature and humidity sensor X" to the Bluetooth accessories list. Make sure to enable its corresponding I/O parameter "BT Humidity Sensor X" or "BT Temperature Sensor X". They are numbered and these numbers should match.



Bluetooth temperature sensor I/O parameters

There are ten I/O parameters assigned to the wireless temperature and humidity sensor.

- Five for the temperature sensing.
- Five for the humidity sensing.

More details about each I/O parameter can be found in "FMIOData+size+description" document, which is available at: <https://doc.ruptela.it/display/AB/FM4>

Note

To enable Bluetooth temperature sensor I/O parameters you have to use an extended v1.1 protocol version.