Tapioca, TpC-FS0W123

Quick Start Guide

Portable Serial (USB) to Wi-Fi adapter for deported HMI apps on mobile devices

June - 2023

Package Contents

Tapioca NFC, BLE, Wi-Fi to USB Serial fieldbus adapter includes:

- 1x **TpC-FS0W123**

Photo Not Available

Notes: ...

LED descriptions

LED functionality can be controlled from Tapioca's Duetware Java Virtual Machine. For more information refer to the online documentation.

LED	Available on Pin
Green	TGT_RST
Red	TGT_ CLK

Power Consumption Characteristics

Tapioca is a low power consumption device. Typical power consumption for **TpC-FS0W123** is **550 mW** (with possible peak at up to 1 W).

Power Supply

TpC-FS0W123 is powed by the target system via the USB connection.

1. Connect to a Target

Connect Tapioca by USB cable into the USB port on the target system.

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2. Connect to Your Mobile

Tapioca connects to Android and iOS mobiles via Wi-Fi, BLE, and Near Field Communication (NFC).

It is pre-configured for serial or Modbus communication with target systems using the **Tap Toolbox** app.

Get Tap Toolbox

Go to **Google Play Store** or to the **App Store**. Download and install IoTize **Tap Toolbox**.

Note: For Android mobiles (with NFC) and iOS (iPhone XR/XS). Activate NFC and a data connection, then hold the mobile to the NFC indicator on Tapioca. Tap Toolbox will be proposed automatically for installation.

Connect mobile to Tapioca

1. Activate the mobile's Bluetooth and Data connections.

2. Power the Tapioca.

3. Launch **Tap Toolbox** and select Scan to find your Tapioca.

4. Select you Tapioca from the list of Wi-Fi of BLE connections.

After you are connected, **Tap Toolbox** provides the utilities:

- **Terminal**: sends/receives characters via USB.

- **Modbus**: drive one or more Modbus (slave) devices. Only Modbus-RTU is supported.

3a. Terminal utility

Selecting **Terminal** opens this utility for sending text commands and visualizing responses.
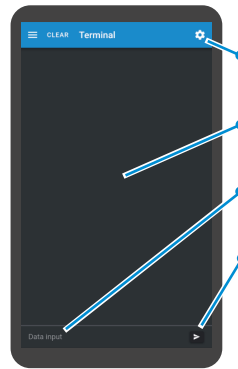
Settings: set input format and visualization parameters

Display: visualization area for commands and responses.

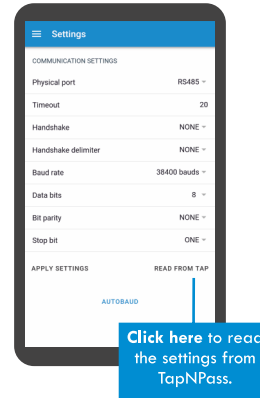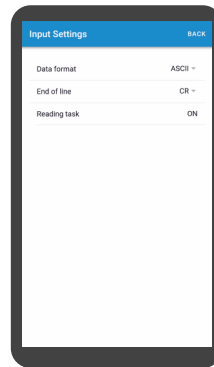**Data input**: click to access keyboard and type text commands.

Send button

UART settings

Click the menu icon on the left and select **Settings**.

These settings are common to **Terminal** and **Modbus** utilities.

Input Settings

Click ⚙ in the **Terminal** display. These settings are specific to the Terminal utility.

Click here to read the settings from TapNPass.

3b. Modbus utility

Selecting **Modbus** opens this utility for reading and writing Modbus (slave) registers.

Settings: Set parameters that are specific to the Modbus communication with the target.

Registers: List of registers to monitor.

Register definition: Displays values of parameters of the selected register.

Input field: Enter the value to be written when using the write register command.

**Command buttons**: execute the read of write commands.
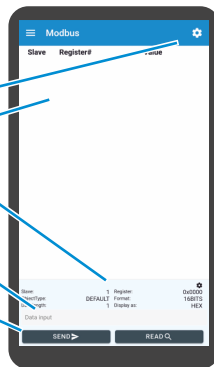
Define a register to monitor

Click in the **Registers** area, then enter:

- **Slave id** (8-bit value)
- **Register address** (16-bit value)
- **Type** (default is 'holding register')
- **Format**: registers are 16-bit. They are truncated for 8-bit values. 32-bit values use 2 consecutive registers.
- **Length**: the number of consecutive registers to be accessed.
- **Display mode** (HEX or DEC)

Click on **Save** and then **Read**.

The register is listed in the **Register** display and the values are in the **Register definition** field.
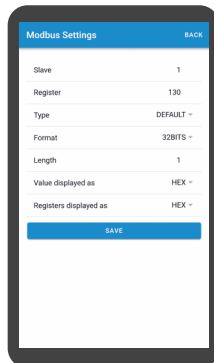
Save a register for later use

- Click on the register in the **Registers** area
- Swipe to the left
- Click on the **Save** button

This saves the register and related settings to a list of registers.

4. Advanced Configuration

Your Tapioca can be configured to:

- Require login for access to features or data.
- Open an HMI app that you created for your systems or your user.

The **IoTize Studio** configuration environment, detailed documentation, application notes and app development resources are available online at:

http//docs.iotize.com/GettingStarted/Tapioca/

5. Troubleshooting

App won't display any register values

If Tap Toolbox utility does not display any values from your Modbus slave, verity that:

- Connection cord is plugged into Tapioca and the target.
- The serial communication settings are appropriate for the target.
- The slave address is correct for the target.
- For a new Tapioca, the initial configuration allows access without login for both the Modbus and Terminal features. If the configuration has been changed, you will have to obtain the login from the configuration project or the user who configured the Tapioca.