**TELTONIKA T-ModemUSB (TMU-102)**

**User's guide V1.1**

# Contents

# 1. INTRODUCTION

This document describes how to install and use T-ModemUSB and it's software.

T-ModemUSB is a device designed to be connected to the PC through USB. You can connect to the Internet with the modem and PC by using bearers of GSM network. T-ModemUSB supports following bearers: EDGE, GPRS, CSD, HSCSD, SMS.

## 2. PACKAGE CONTENTS

T-ModemUSB is supplied for clients in carton with all contents, which are needed for connection to PC und normal work:

1) Carton,
2) Warranty card,
3) „T-ModemUSB" modem,
4) „USB A" ⇔ „USB B" cable,
5) CD with User's guide and drivers,
6) GSM antenna (only by special order).

> *Notice: producer of the modem don't supply SIM card, which is necessary for connection to GSM network! You can obtain SIM card from your GSM service provider!*

If any of the components is missing, please contact your local distributor.

# 3. TECHNICAL SPECIFICATIONS

## 3.1. Data transfer

T-ModemUSB supports all bearers of GSM networks. Which channel can be used, depends on GSM operator and capacity of date transfer in particular GSM network.

- EDGE class 6 (3+1, 2+2);

- GPRS class 10 (4+1, 3+2);

- HSCSD class 2;

- CSD;

- SMS textual messages.

## 3.2. Mechanical specifications

Housing of the T-ModemUSB modem is plastic. Piece of the modem is overlaid with rubber, so housing is more stable on different surfaces. External dimensions of the device are shown on picture 1.
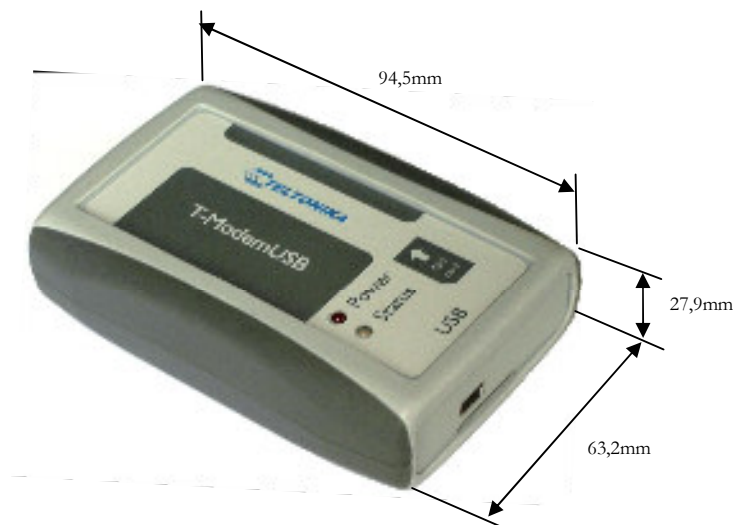


Picture 1. Image and dimensions of the device

## 3.3. Electrical and operating specifications

Modem is supplied from 5V USB interface. Device don't need any external power supply. PC connected to T-ModemUSB must contain USB interface, what fits USB 1.1 or USB 2.0 standards.

*Notice: USB connection must support high power mode, which allows device to use current to 500 mA.*

Electrical parameters of the device are shown in the Table 1.

Table 1. Electrical parameters

| Parameter | Min | Typical | Max | Unit |
|---|---|---|---|---|
| Power supply voltage | +4.5 | +5V | +5.5V | V |
| Average power consumption | - | 360 | 2000 | mW |

Operating conditions and other parameters are shown in the Table 2.

Table 2. Operating conditions and etc

| Parameter | Min | Typical | Max | Unit |
|---|---|---|---|---|
| Weight | | 120 ± 10 | | g |
| Operating temperature | -25 | | +55 | °C |
| Storage temperature | -40 | | +85 | °C |

*Notice: if the settings outreach the fixed characteristics device can be damage!*

## 3.4. Indication

T-ModemUSB has 2 LED for indication. LED are on top part of the device. By the LED's we can indicate in which state is modem, hasn't it any troubles. Table 3 presents indication of status.

3 table. Description of modem status.

| "Power" LED is on | Power supply is connected |
|---|---|
| "Status" is green and blinking | Modem is powering up |
| "Status" is green | The device is ready |
| "Status" is yellow and blinking | No SIM card, PIN is not entered or no GSM service |
| "Status" " is yellow | Connection active |

# 4. MODEM SETUP

## 4.1. Connecting modem to computer

1) Turn off your PC;
2) Insert SIM card to the device as label shows on the device and ensure that you pulled SIM card to the end;
3) Plug the small connector of the USB cable to the device;
4) Plug the big flat connector of the USB cable to a free USB port of your PC.

## 4.2. Installing modem drivers

1) Switch your PC on and boot Microsoft Windows.

**WinXP OS:**

2) Windows will automatically detect and start installing drivers for "T-ModemUSB", "USB Serial Port" and "USB High Speed Serial converter". Windows XP already has these drivers and should perform this step without user intervention. Occasionally, if you are asked for the drivers or want to install newer drivers, point to the folder "\Drivers\T- ModemUSB\Windows" on the CD.

3) Windows will detect "Nokia Mobile Phones 12 Data/Fax" and ask you to install drivers. You will see the dialog as on the picture 2.

4) Select „Install from a list or specific location". Click „Next".

5) Click "Browse" and point to CD folder "\Drivers\T-ModemUSB\Windows" and click „Next".

6) If you are warned that the driver has not passed Windows Logo testing, click „Continue Anyway". After this selection needed files are copied. It could take a few minutes.

7) After copy of drivers files you see a dialog, which tells installing was successfully. Click „Finish".



2 fig. New hardware dialog

**Win95/98/ME/2000 OS:**

1) OS will automatically detect the  new device and ask for drivers for USB Serial Port", „USB High Speed Serial Converter" and „T-ModemUSB".

2) Select „Search for the best drivers in these locations" and click „Browse". Click "Browse" and point to CD folder "\Drivers\T-ModemUSB\Windows"

3) Select file "ftdibus.inf" when installing „USB Serial Port" (or „USB High Speed Serial Converter").

4) Select file „T-Modem.inf" when installing „Nokia Mobile Phones 12 Data/Fax".

5) When drivers will have been successfully installed, restart your computer.

## 4.3. Installing „T-Modem Control Tool"

Insert the CD, which is found in the package;

1)   An installation program will launch automatically. If it doesn't, open file „\Software" on the CD;
2)   Click "Next" in 3 upcoming dialog boxes;
3)   Click "Install" in final dialog box;
4)   When program will have installed all needed files, you will see a dialog about successful installing. Leave checkbox „Launch T-Modem" and click „Finish";
5)   Program will start and detect COM port, to which T-ModemUSB is connected.

For security of SIM cards are used unique PINs (Personal Identification Number). Before you take GSM network service you must enter PIN code. „T-ModemUSB" supports 2 main GSM security modes: „PIN Check ON ", „PIN Check Off". Using mode „PIN Check On" you have each time to enter PIN code, when modem switches on. Using mode „Off" you enter PIN code once and on next plugs you needn't to do this again.

„T-Modem Control Tool" program is designed for security setting up. Switching on the PIN Check:

1)   Start „T-Modem Control Tool";
2)   Select „Search For T-Modem";
3)   Select „Modem -> PIN query";
4)   Select „PIN code enabled"  and click OK.

Switching off the PIN Check:

1)   Start „T-Modem Control Tool";
2)   Select „Search For T-Modem";
3)   Select „Modem -> PIN query";
4)   Select „PIN code disabled" and click OK;
5)   You see a new dialog, were you have to enter your PIN Code of your SIM card
6)   Enter PIN and click OK
7)   If your PIN Code has been successfully entered, you will see a dialog, wich confirms Cancel of PIN Code Check.

## 5. Setting up an Internet connection

Before connecting to the internet you should ask your GSM operator for detailed information how to configure your PC. In this chapter you get general information and procedures for Setting up an Internet connection in your PC.

First ensure, that:

- You have a GSM SIM card with activated date transfer service;
- T-ModemUSB ready-to-work – SIM card is plugged in, modem is connected to your PC, drivers are installed;
- Dial-up networking is installed on your PC;
- TCP/IP protocol is installed on you PC.

T-ModemUSB support two basic types of connections:

- GPRS, EDGE packet date transfer. You have to know **APN, username and password**;
- CSD, HSCSD date transfer. You have to know **phone number** of dial-up server;

## 5.1. Settings of Internet connection

1) Click „Start -> Settings -> Control Panel";
2) Double click with left mouse button on "Network connections" (WinXP), "Network and dial-up connections" (Win2000), "Dial-up connections" (Win95/98/ME);
3) Click "Create a new connection";
4) Type in a desired name for connection, e.g. „Internet connection";
5) Enter the dial-up number (usually *99# or *99***1# for  GPRS / EDGE);
6) Enter Username and password which are given by your GSM operator.

If you use GPRS/EDGE date transfer, you have to set up APN – Access Point Name.

7) Start „T-Modem Control Tool";
8) Select „Search For T-Modem";
9) Select „GPRS -> Settings";
10) Select a needed modem, enter APN – Access Point Name;