mikroProg™
for FT90x

mikroProg™ is a fast USB programmer with hardware debugger support. Smart engineering allows mikroProg™ to support all FT90x microcontrollers in a single programmer.

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS

FT90x

To our valued customers

I want to express my thanks to you for being interested in our products and for having confidence in MikroElektronika.

The primary aim of our company is to design and produce high quality electronic products and to constantly improve the performance thereof in order to better suit your needs.

Nebojsa Matic
General Manager

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Introduction to mikroProg™

mikroProg™ for FT90x is a fast programmer and hardware debugger. Smart engineering allows mikroProg™ to support all FT90x devices in a single programmer! Outstanding performance, easy operation, elegant design and low price are its top features. It is supported in all three MikroElektronika compilers for FT90x (mikroC, mikroBasic, mikroPascal)

Key features

- **Hardware Debugging**
- No need for firmware update
- New microcontrollers supported via latest version of **mikroProg Suite™ for FT90x** software

What you see

1. Flat cable
2. USB MINIB connector
3. DATA transfer indication LED
4. ACTIVE indication LED
5. LINK indication LED
6. POWER indication LED

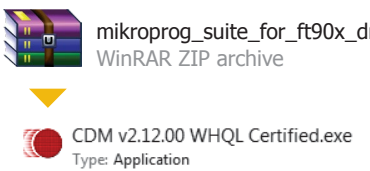
1. Driver installation

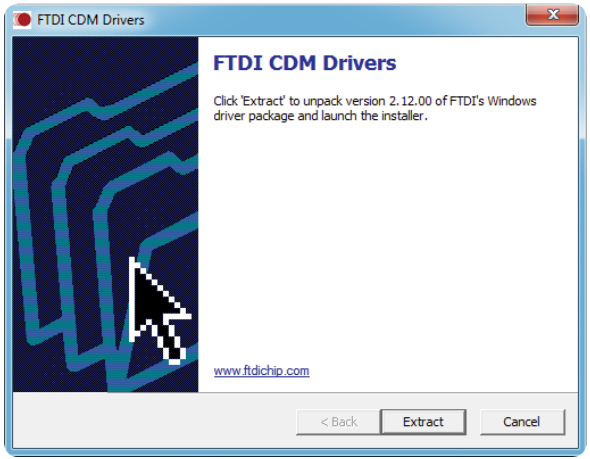
On-board mikroProg™ requires drivers in order to work. Drivers can be found on the link bellow:

www.mikroe.com/downloads/get/2216/mikroprog_suite_for_ft90x_drivers.zip

When you download the drivers, please extract files from the ZIP archive. Folder with extracted files contains folders with drivers for different operating systems. Depending on which operating system you use, choose the adequate folder and open it.

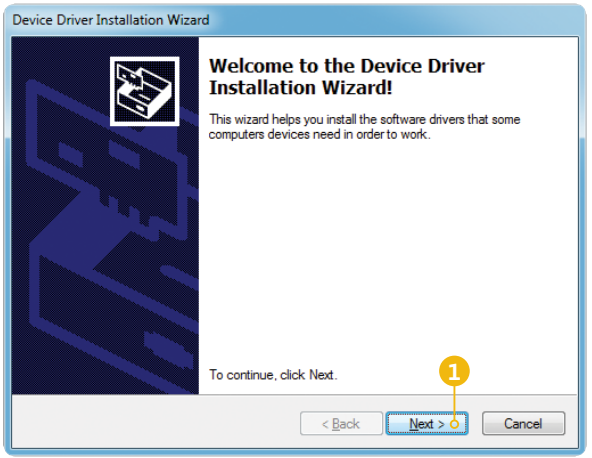
When you locate the drivers, please extract the setup file from the ZIP archive. You should be able to locate the driver setup file. Double click the setup file to begin installation of the programmer drivers.





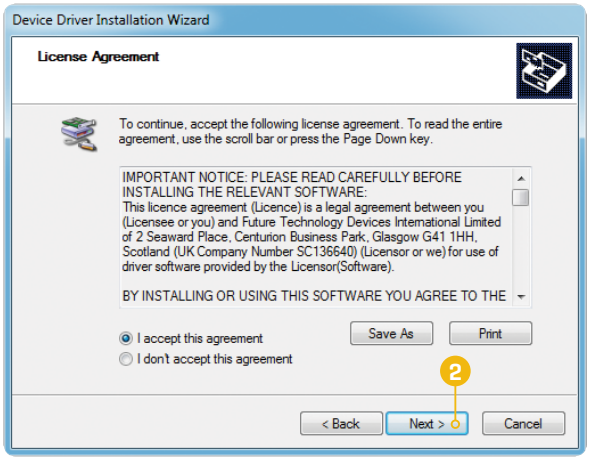
NOTE: Make sure to disconnect mikroProg™ before installing drivers.

step 1 – Start installation



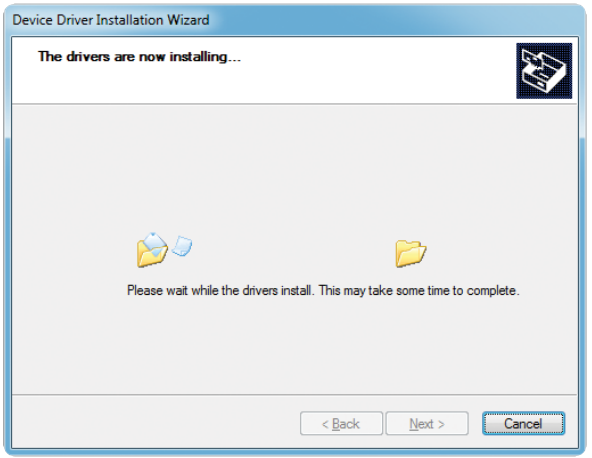
1 In welcome screen click the **Next>** button

step 2 – Accept EULA



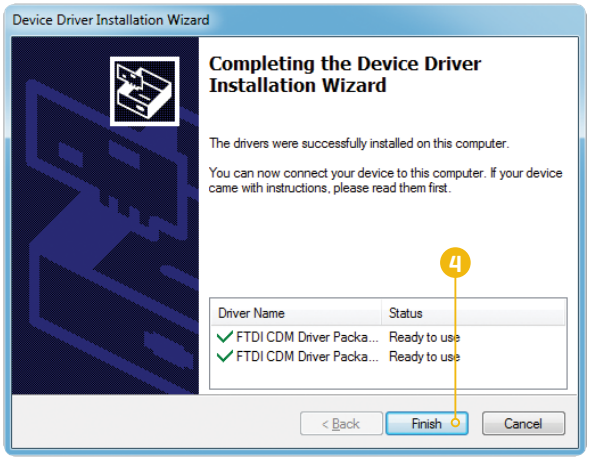
2 Accept EULA and click **Next**

step 3 – Installing the drivers



3 Drivers are installed automatically

step 4 – Finish installation

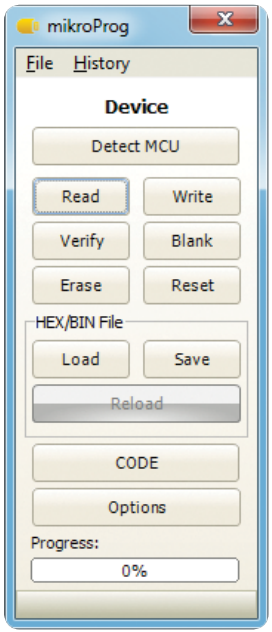


4 Click the **Finish** button to end installation process

2. Connecting to a PC

After driver installation is complete, you can connect the programmer with your PC using the USB cable provided in the package. Green **POWER LED** should turn ON, indicating the presence of power supply. Amber-colored **LINK LED** will turn ON when link between mikroProg™ for FT90x and PC is established. Link can be established only when correct drivers are installed on your PC.

3. mikroProg Suite™ for FT90x software



A standalone app called mikroProg Suite™ for FT90x is available for the mikroProg™ for Ft90x programmer. This software is used for programming all FT90x MCUs (although the same can be done from the compilers). It features an intuitive interface and SingleClick™ programming technology. Software installation is available on following link:

www.mikroe.com/downloads/get/2215/mikroprog_suite_ft90x_v100.zip

After downloading, extract the package and double click the executable setup file to start the installation.

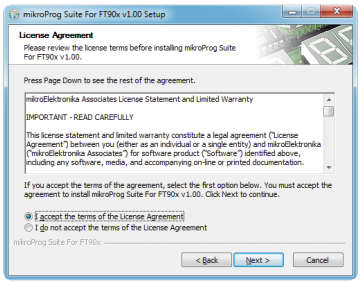
mikroprog_suite_ft90x_v100.zip
WinRAR ZIP archive

mikroProg_Suite_For_FT90x_v100_setup.exe
Installer for mikroProg for FT90x

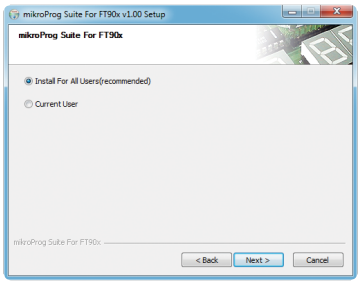
< Figure 3-1:
mikroProg Suite™ for FT90x window

Software installation wizard

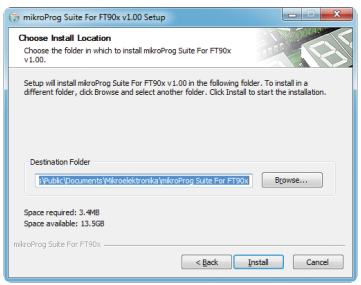
1. Start Installation



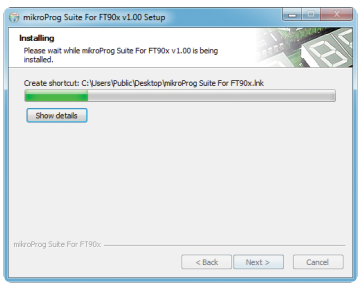
2. Accept EULA and continue



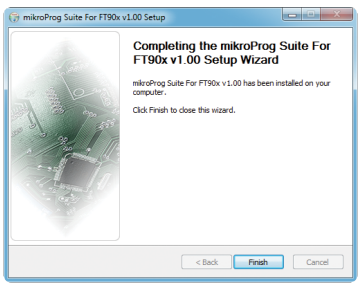
3. Install for All users or Current user



4. Choose destination folder



5. Installation in progress



6. Finish installation

4. Connecting with a target device

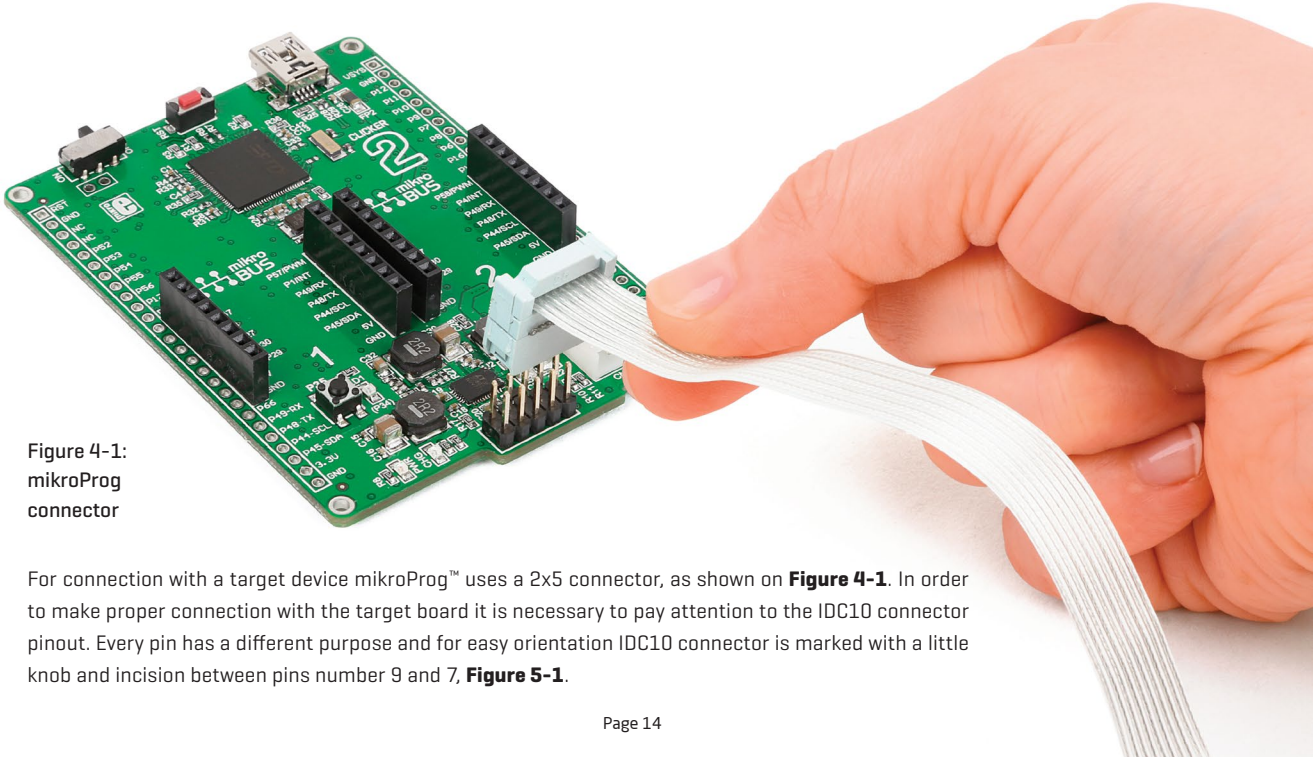


Figure 4-1: mikroProg connector

For connection with a target device mikroProg™ uses a 2x5 connector, as shown on **Figure 4-1**. In order to make proper connection with the target board it is necessary to pay attention to the IDC10 connector pinout. Every pin has a different purpose and for easy orientation IDC10 connector is marked with a little knob and incision between pins number 9 and 7, **Figure 5-1**.

5. Connector Pinout

1. **RST** - Reset
3. **DBG** - One-Wire programmer/debugger line
5. **FSRC** - EFUSE Program source input
7. **MISO** - SPI interface for eFUSE
9. **SS** - Chip Select line for eFUSE SPI

2. **WSW -** 5V Power Supply
4. **GND - Ground**
6. **VPP - EFUSE Program source input (**
8. **MOSI - SPI interface for eFuse**
10. **SCK - Clock**

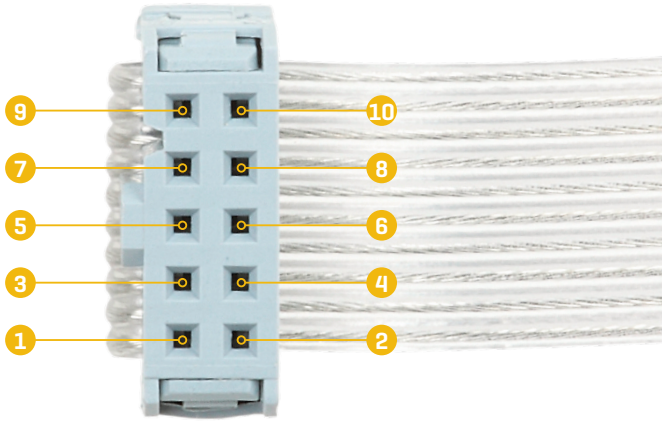
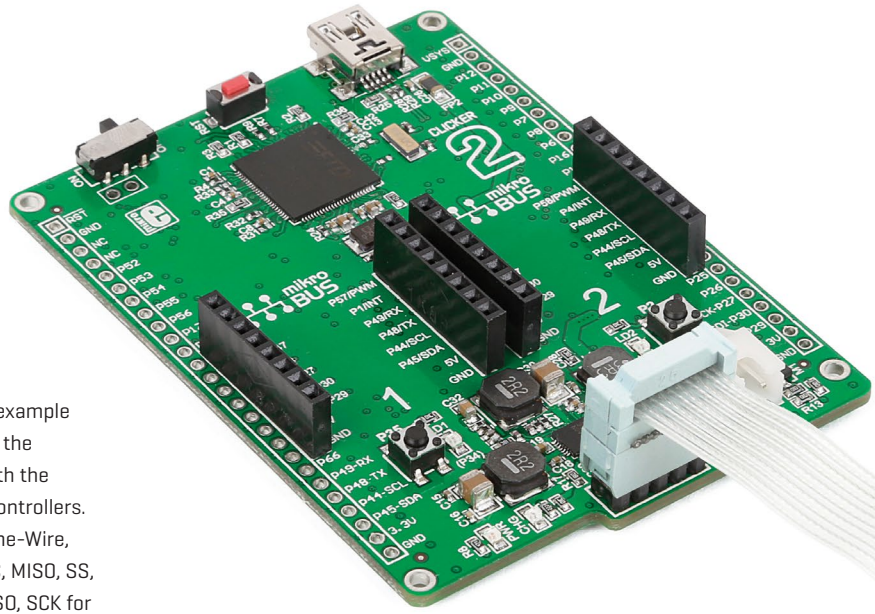


Figure 5-1: Female connector pinout

7. Connection schematic example



The following example demonstrates the connection with the FT900 microcontrollers. DBG line for One-Wire, and RST, FSRC, MISO, SS, VPP, MOSI, MISO, SCK for EFUSE programming.

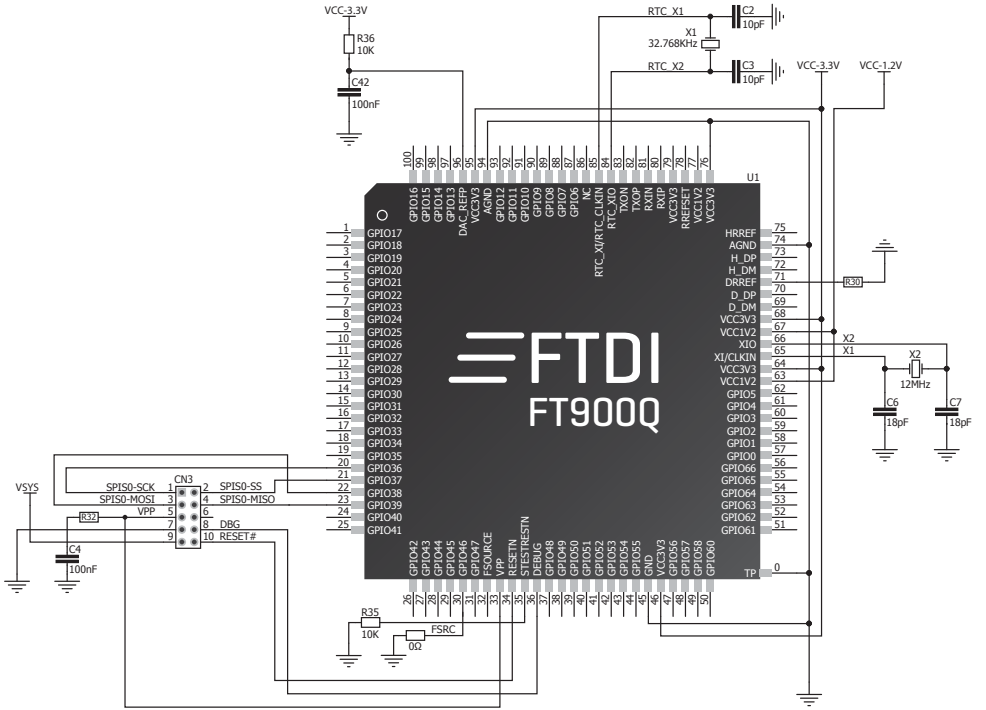


Figure 7-1: Connection schematic for FT900 MCU via 2x5 male header

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