mikroProg™ for AVR®

mikroProg™ for AVR® is a fast USB programmer. With it's outstanding performance, simplicity and unique design it is a great tool for programming Atmel® AVR microcontroller family.

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS

USB

AVR

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 AVR® is a fast USB programmer. It is a great tool for programming Atmel® AVR microcontroller family. Outstanding performance, easy operation, elegant design and low price are it's top features.

Key features

What you see

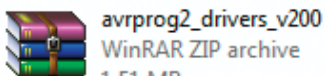
01 Flat cable
02 USB MINIB connector
03 DATA transfer indication LED
04 ACTIVE indication LED
05 LINK indication LED
06 POWER indication LED

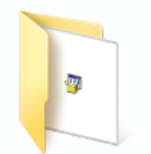
1. Driver installation

mikroProg™ requires drivers in order to work. Drivers are located on the **Product DVD** that you received with the mikroProg™ package:

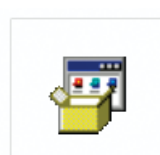
DVD://download/eng/software/development-tools/avr/avr-prog2/avrprog2_drivers_v200.zip

When you locate 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 adequate folder and open it.





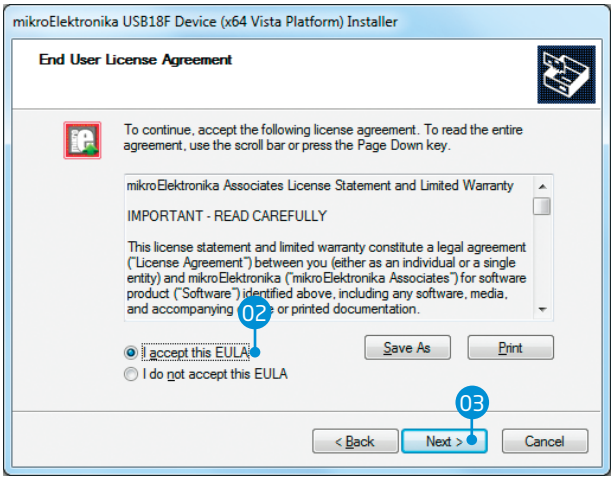
In the opened folder you should be able to locate the driver setup file. Double click on setup file to begin installation of the programmer drivers.



step 1 - Start installation

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

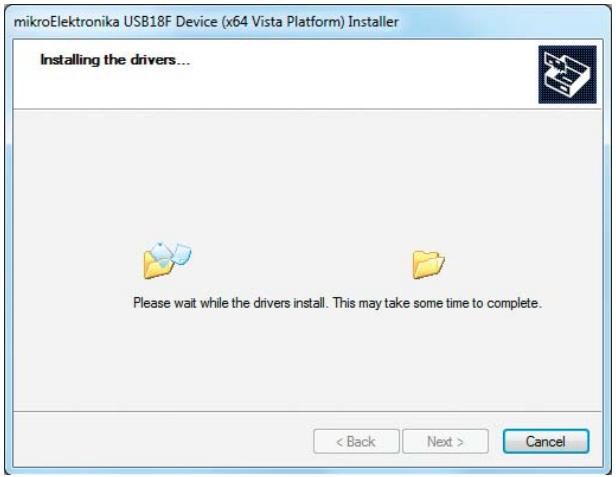
step 2 - Accept EULA



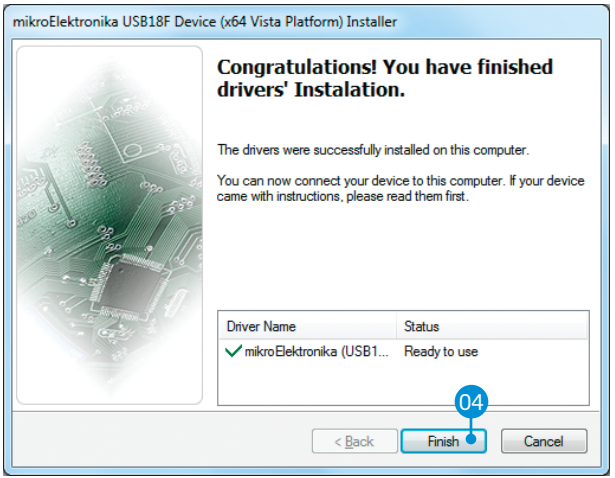
02 Select **I accept this EULA** option

03 Click the **Next>** button

step 3 - Installing the drivers

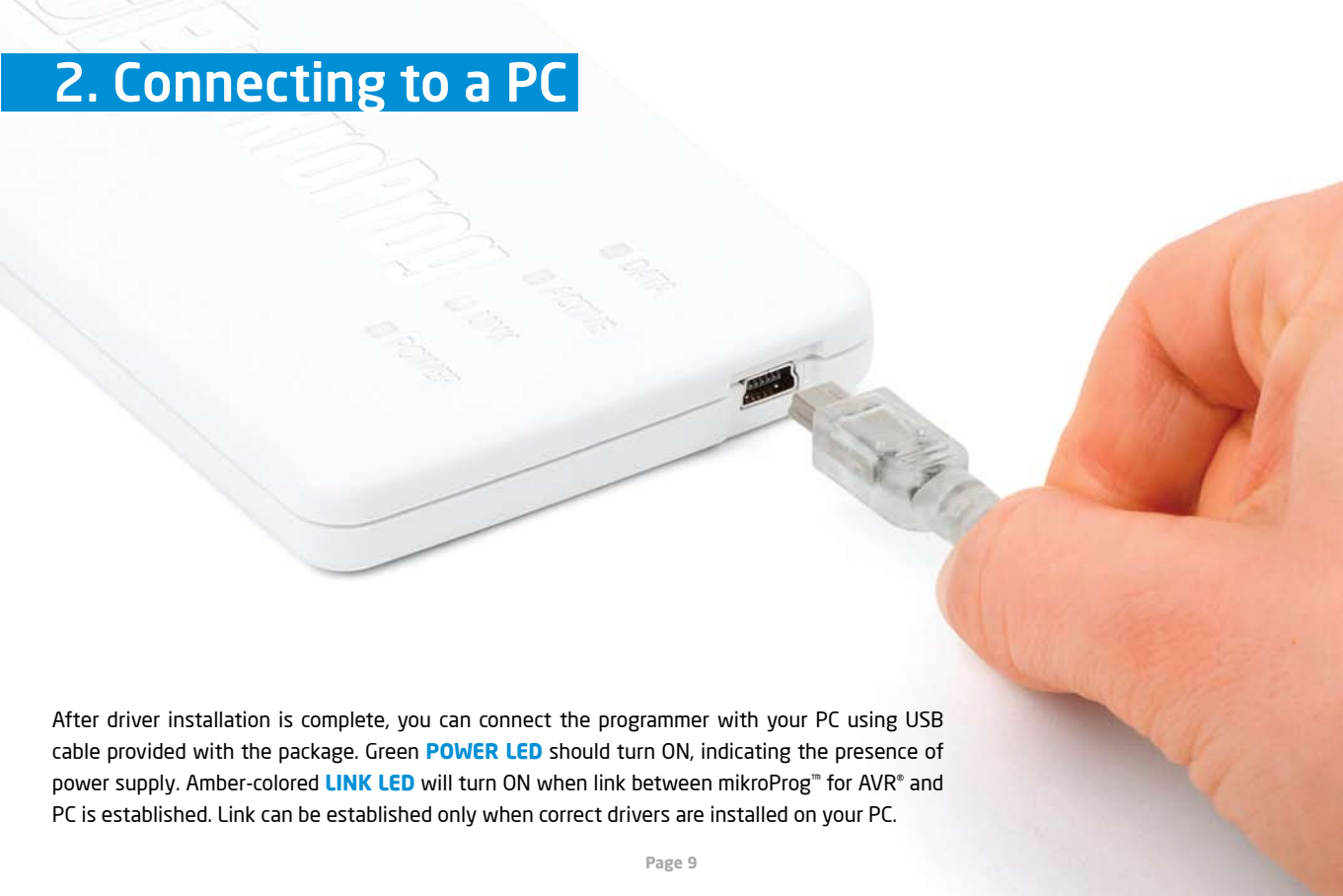


step 4 - Finish installation



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

2. Connecting to a PC



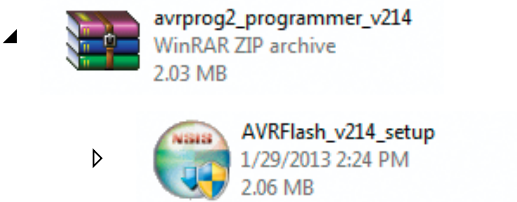
After driver installation is complete, you can connect the programmer with your PC using USB cable provided with the package. Green **POWER LED** should turn ON, indicating the presence of power supply. Amber-colored **LINK LED** will turn ON when link between mikroProg™ for AVR® and PC is established.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

3. AVRFlash software

mikroProg™ for AVR® programmer requires special programming software called AVRFlash. This software is used for programming AVR® microcontrollers from Atmel®. It features intuitive interface and SingleClick™ programming technology. Software installation comes on a Product DVD:

DVD://download/eng/software/development-tools/avr/avrprog2/avrprog2_programmer_v214.zip

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



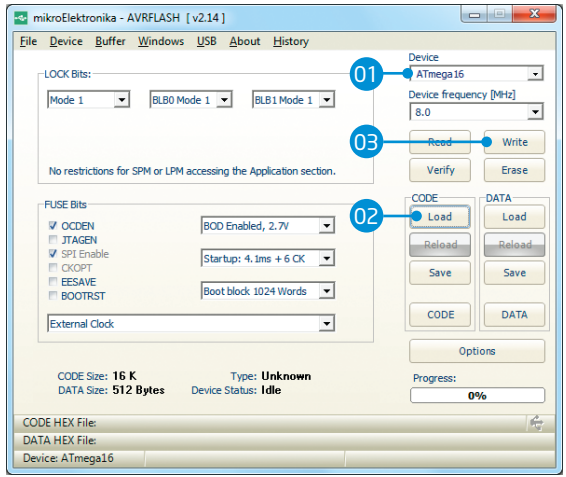


Figure 3-1: AVRFlash software window

Quick Guide

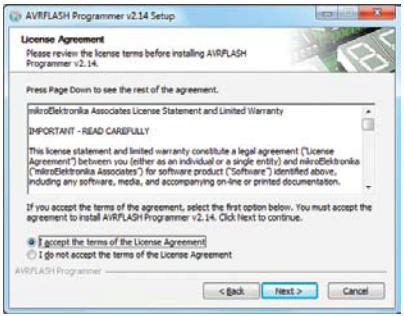
01 Select the microcontroller to be programmed

02 Click the **Load** button to open pop-up window and select the .hex code to be loaded in microcontroller

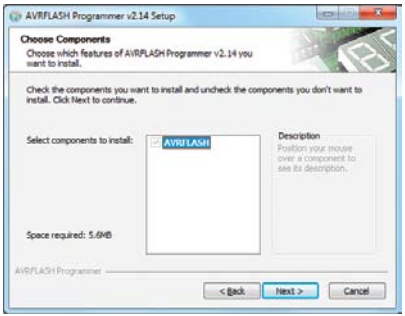
03 Click the **Write** option to start programming

Software installation wizard

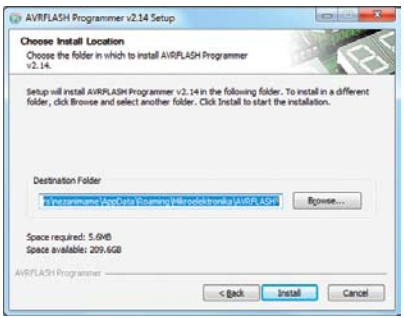
01 Start Installation



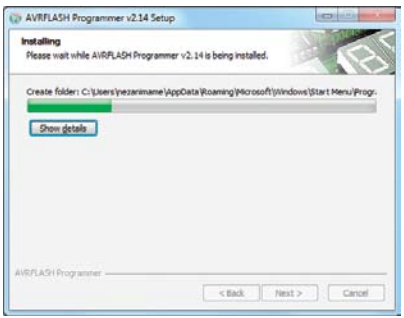
02 Accept EULA and continue



03 Click Next > button



04 Choose destination folder



05 Installation in progress

06 Finish installation

4. Connecting with a target device

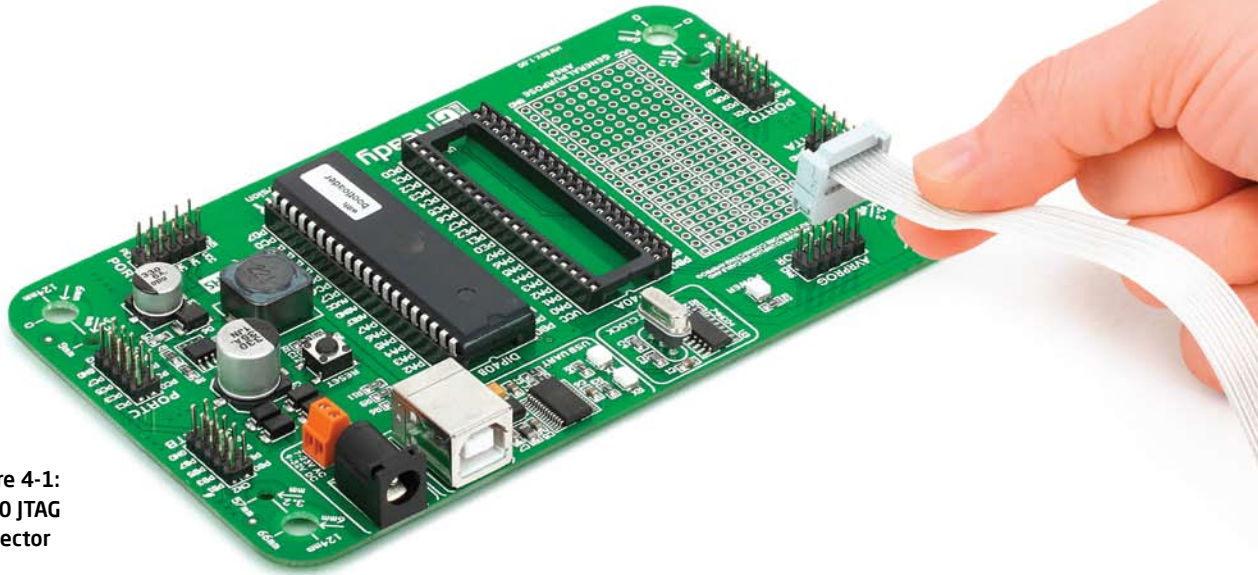


Figure 4-1: IDC10 JTAG connector

For connection with a target device mikroProg™ uses IDC10 connector, as shown on **Figure 4-1**. In order to make proper connection with the target board it is necessary to pay attention to 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

01 **MOSI** - Master output slave input
03 **NC** - Not connected
05 **RST** - Reset pin
07 **SCK** - Clock
09 **MISO** - Master input slave output

02 **VCC** - Power supply
04 **NC** - Not connected
06 **NC** - Not connected
08 **NC** - Not connected
10 **GND** - Ground

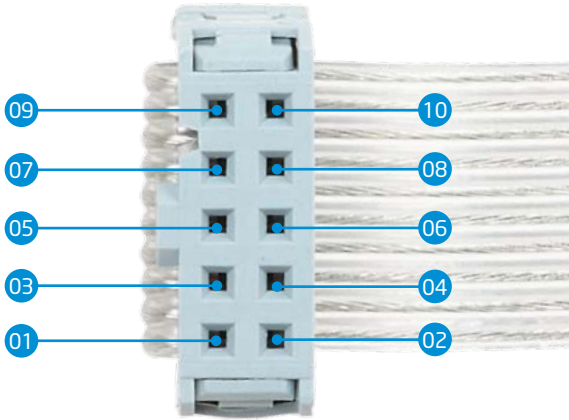
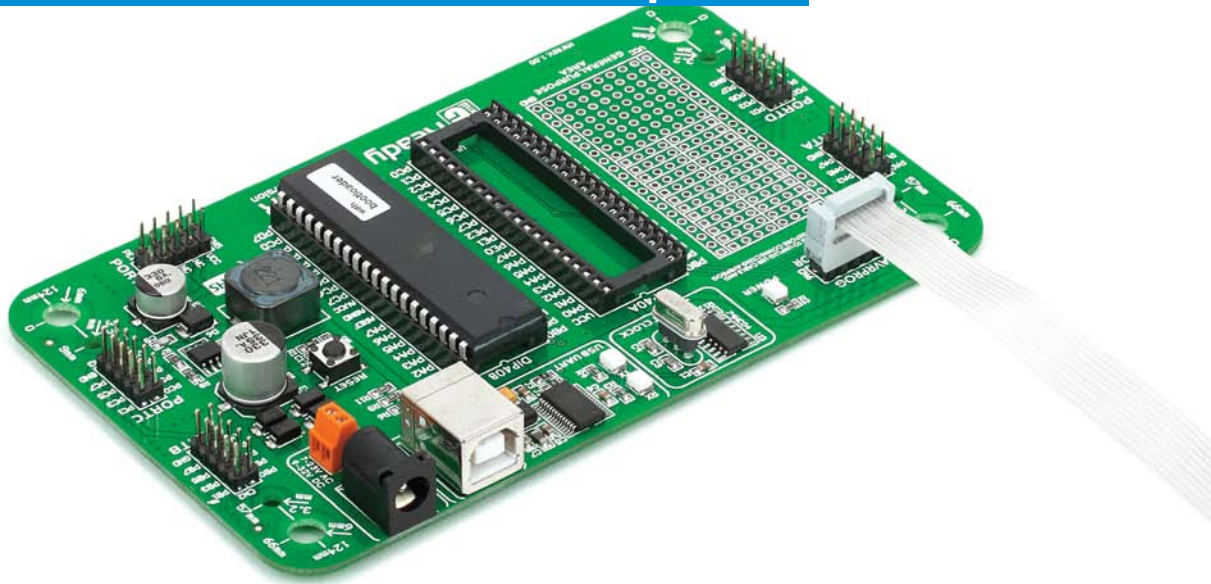


Figure 5-1: Female connector pinout

6. Connection schematic example



Following example demonstrate connections with one of the most popular supported microcontroller. MCU use MISO, MOSI, SCK and RST lines for programming. In order for microcontroller to work properly, decoupling capacitors must be connected as close as possible to microcontroller's VCC pins. Whichever microcontroller you decide to use, make sure to connect each pin properly.

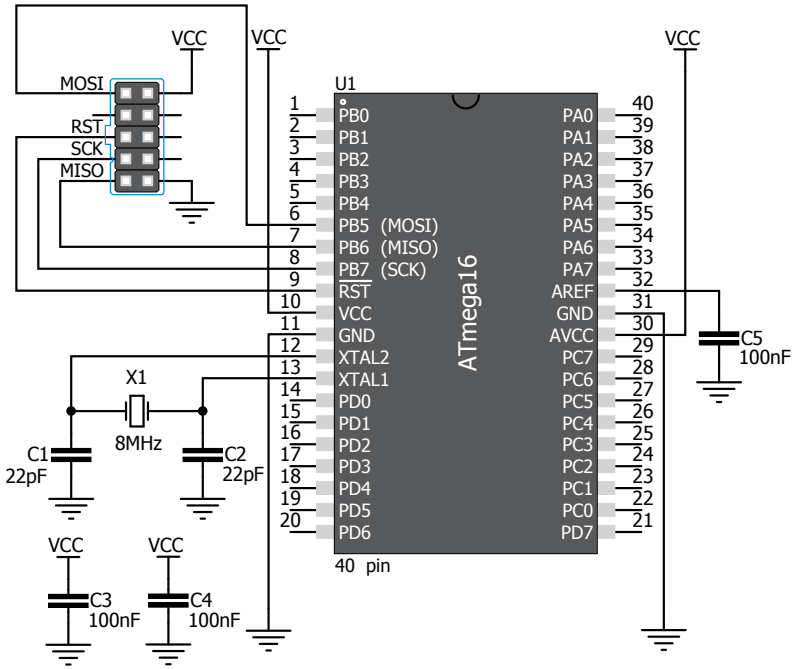


Figure 6-1: Connection schematic for 40-pin ATmega16 MCU via 2x5 male header

Notes:

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