mikroProg™ is a fast USB programmer with hardware debugger support. Smart engineering allows mikroProg™ to support all STM32® ARM® Cortex™-M3 and Cortex™-M4 microcontrollers in a single programmer.
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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mikroProg™ for STM32® is a fast programmer and hardware debugger. Smart engineering allows mikroProg™ to support all STM32® ARM® Cortex™-M3 and Cortex™-M4 devices in a single programmer! Outstanding performance, easy operation, elegant design and low price are its top features. It is supported in mikroElektronika, as well as in other ARM® compilers.
Key features

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

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

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

http://www.mikroe.com/downloads/get/2053/mikroprog_suite_for_arm_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 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

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

step 2 - Accept EULA

02  Click **Change button** to select new destination folder or use the suggested installation path

03  Click the **Next** button
step 3 - Installing the drivers

Drivers are installed automatically

step 4 - Finish installation

Click the Finish button to end installation process
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 STM32® and PC is established. Link can be established only when correct drivers are installed on your PC.
mikroProg™ for STM32® programmer requires special programming software called mikroProg Suite™ for ARM®. This software is used for programming all of STM32® ARM® Cortex™-M3 and Cortex™-M4 microcontroller families. It features intuitive interface and SingleClick™ programming technology. Software installation is available on following link:

http://www.mikroe.com/downloads/get/1809/mikroprog_suite_for_arm.zip

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

Figure 3-1: mikroProg Suite™ for ARM® window
Software installation wizard

01 Start Installation
02 Accept EULA and continue
03 Install for All users or Current user
04 Choose destination folder
05 Installation in progress
06 Finish installation
4. Connecting with a target device

For connection with a target device mikroProg™ uses IDC10 JTAG 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 VCC-3.3V - Power supply
03 GND - Ground
05 GND - Ground
07 TRST - JTAG reset
09 GND - Ground

02 TMS/SWDIO - JTAG Mode Select/SWD data I/O
04 TCK/SWCLK - JTAG Clock/SWD clock
06 TDO - JTAG Data output
08 TDI - JTAG Data input
10 #RESET - System Reset

Figure 5-1: Female connector pinout
In order to connect mikroProg™ to 20-pin male JTAG connector it is necessary to use appropriate adapter, such as the mikroProg™ to ST-LINK V2 adapter, Figure 6-1. This adapter should be first placed on 2x10 male connector. Then you should plug in the mikroProg™ into 2x5 male header, Figure 6-2.
Figure 6-3: mikroProg™ to ST-Link V2 adapter connection schematics
Following examples demonstrate connections with some of the most popular supported microcontrollers. Each one is carefully selected as a representative of the entire family. All MCUs use TMS, TCK, TDO, TDI, TRST, #RESET lines for JTAG programming or SWDIO, SWCLK for SWD (Serial Wire Debug) programming. These lines are located on same microcontroller pins within a family.
Figure 7-1: Connection schematics for 64-pin STM32F10x/STM32L15x MCU via 2x5 male header
Figure 7-2: Connection schematics for 100-pin STM32F10x/STM32L15x MCU via 2x5 male header
Figure 7-3: Connection schematics for 100-pin STM32F20x/STM32F40x MCU via 2x5 male header
Figure 7-4: Connection schematics for 144-pin STM32F20x/STM32F40x MCU via 2x5 male header
Figure 7-5: Connection schematics for 176-pin STM32F20x/STM32F40x MCU via 2x5 male header
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