

## **EDU10 Getting Started**

### **Download the software package with demo's**

Follow this link to Velleman support: <http://www.velleman.eu/support/>

Click on "Downloads per product (drivers, manuals, software, ...)".

Enter Product code: EDU10 and then click Search button.

Download and extract the software package for EDU10.

### **Install the standard PICKIT2 / EDU10 program utility:**

In the folder "\PICKit 2 v2.61", run setup.exe.

This will install the program PICKit 2 v2.61.

When installation is complete, you can connect the EDU10 to the computer's USB port.

Double click the "PICKit 2 v2.61" icon on the desktop.

The "PICKit 2 Programmer - EDU10" should show text:

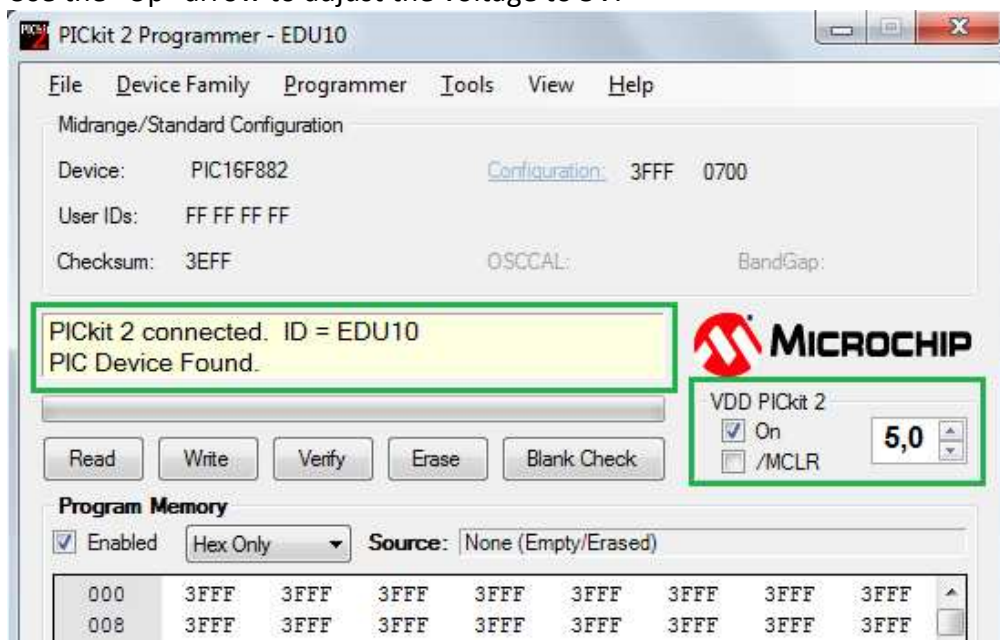
"PICKit 2 connected ID = EDU10

PIC Device Found"

### **Run the EDU10 Startup demo**

Click on "On" check box in the panel "VDD PICKit 2" to turn the EDU10 power on.

Use the "Up" arrow to adjust the voltage to 5V.



Now the PIC16F882 on EDU10 should be running its default "Startup" program.

You can test the board by pressing buttons SW1..SW4 and RESET (SW5).

There should be following response:

SW1:

- Turn on LD7
- Show '7' on the 7-segment display.

SW2:

- Turn on LD6
- Show '6' on the 7-segment display.

SW3:

- Turn on LD5
- Show '5' on the 7-segment display.

SW4:

- Turn on LD4
- Sound is generated.
- Display all segments+dot on the 7-segment display.

RESET mode:

- LDR is programmed as light detector.
- LDR turns LED LD8 on/off depending on light.
- Potentiometer RV1 changes the display brightness.
- If NTC voltage <1V or >4V then "E" (Error) is displayed on the 7-segment display.

## Running other demos

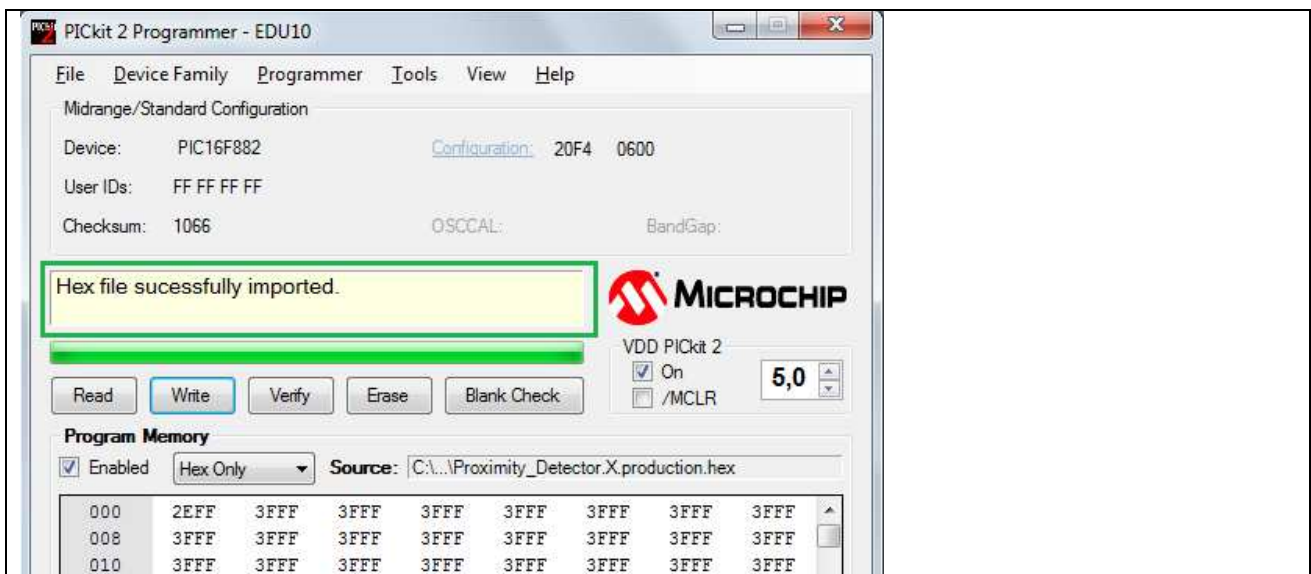
In the software package for the EDU10 there are several demos written in assembly and C. You can use the PICkit 2 Programmer software to reprogram the PIC16F882 on the EDU10 board with the downloaded demo code.

Here are the steps to make the board to work as "Proximity\_Detector".

In the PICkit 2 Programmer's menu select File -> Import Hex.

Then locate the "C" folder in the downloaded software package.

There locate the file Proximity\_Detector.X.production.hex in the subfolder  
\\Proximity\_Detector.X\\dist\\default\\production and click Open button.



Then click the Write button to program the device.

The white LED should now start flashing.

If you now put a reflecting object near the LED then a buzzer 'beep' is generated.

The beep pitch is proportional to the reflection (distance of object).

## Edit and compile the source code of the demos

To edit and compile the ASM code examples you have to download and install MPLAB® X or MPLAB® IDE.

To edit the and compile the C code examples you have to download and install MPLAB® X and XC8 compiler.

You'll find them at <http://www.microchip.com>.  
Click on Design Support / Development Tools.

MPLAB X requires Java to be installed in order to run.  
You can use this link to download Java for your computer:  
<http://www.java.com/en/download/index.jsp>

**Important:** When compiling the ASM demo projects in MPLAB® X, please use the menu option or button "Clean and Build Project" when first time compiling the code. If not done, you'll get an error message.

The ASM demos written in MPLAB® X are in the subfolder ASM\_X and the demos written in MPLAB® IDE are in the subfolder ASM\_MPLAB.