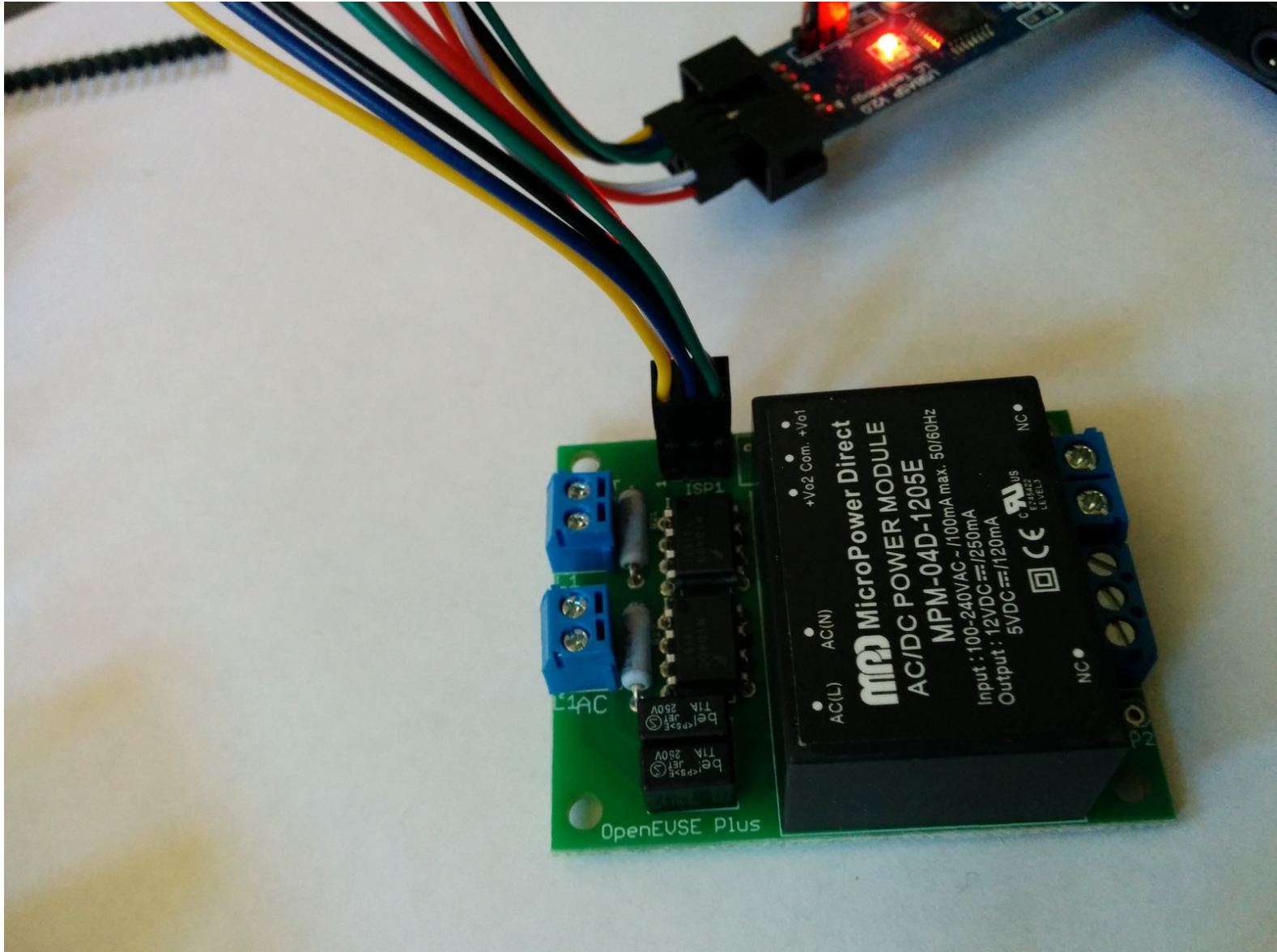


# OpenEV

## How to Load OpenEVSE Firmware (WinAVR)

Guide on how to load OpenEVSE firmware with OpenEVSE Programmer and WinAVR software.

Written By: Christopher Howell





## TOOLS:

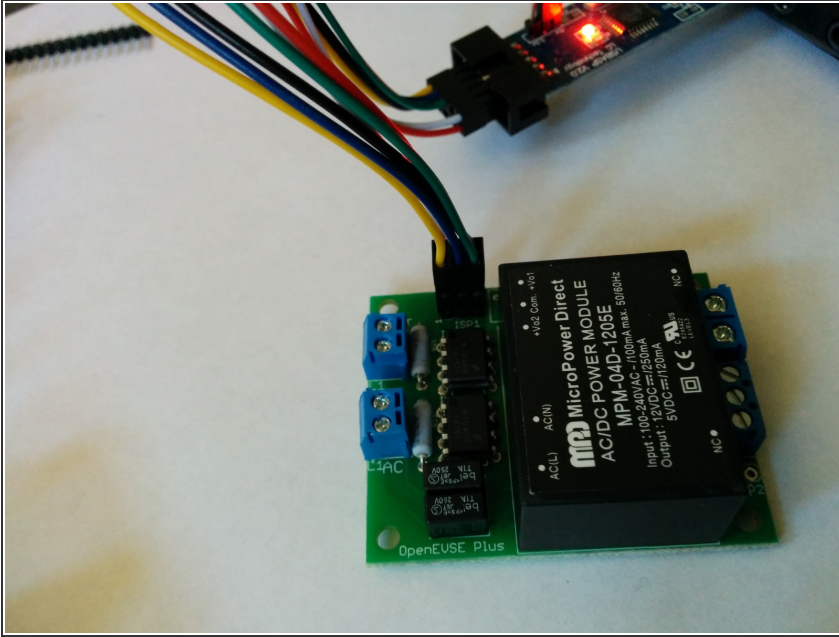
- [Windows PC](#) (1)



## PARTS:

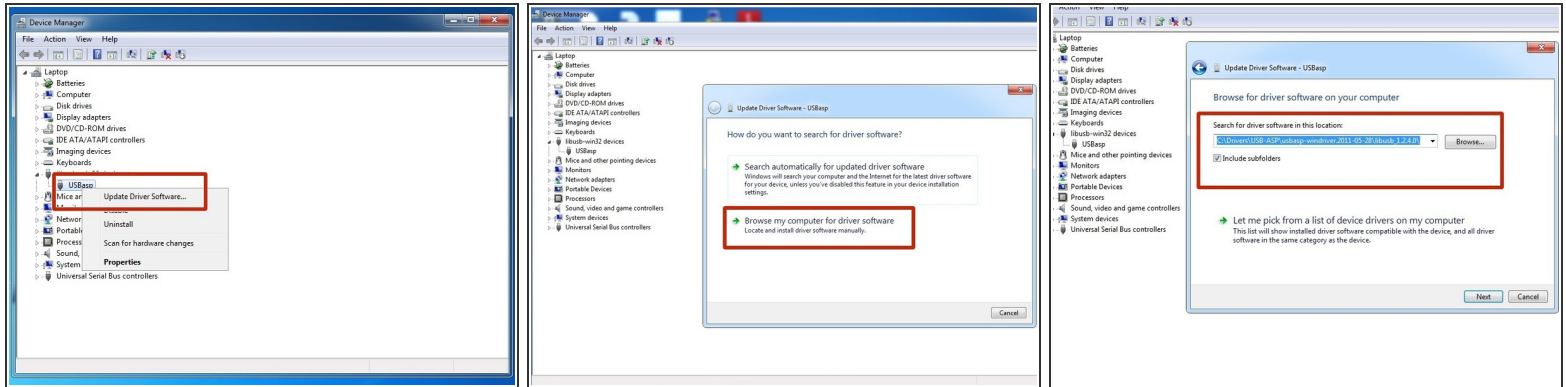
- [OpenEVSE Plus](#) (1)
- [OpenEVSE Programmer](#) (1)

## Step 1 — How to Load OpenEVSE Firmware



- This Guide explains the Firmware loading process for OpenEVSE.
- ① This guide is specifically intended for the Windows Operating system. Advanced users may use a similar process for MacOS and LINUX.

## Step 2 — Installing Device Driver.



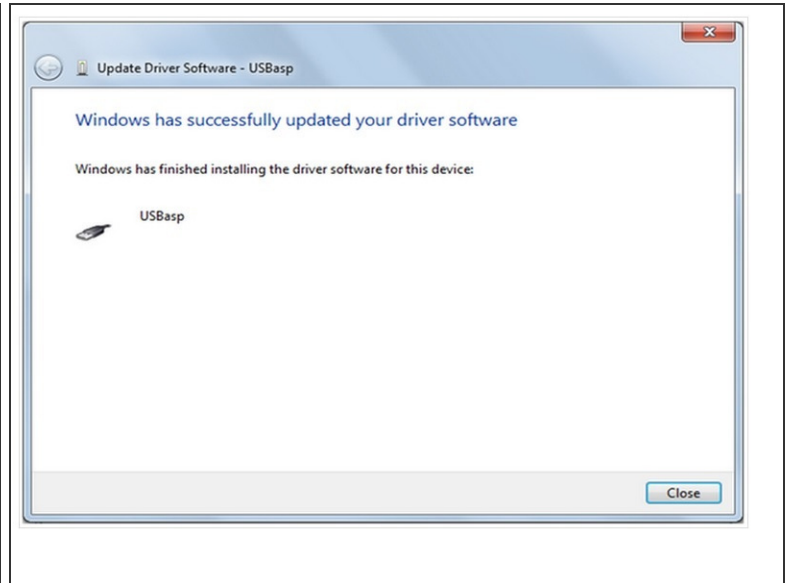
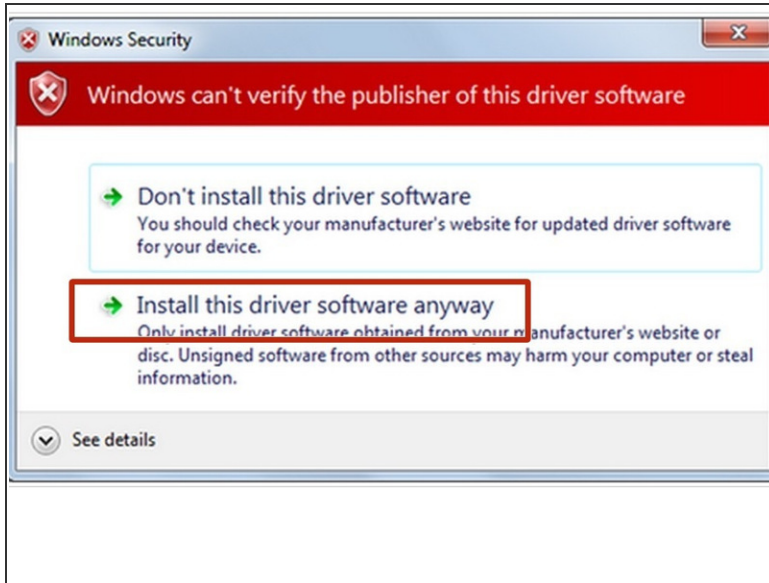
- Download Windows Driver for the OpenEVSE Programmer. [Windows Driver](#). Extract files into a folder of your choice. Example C:\Drivers\AVRISP\



Windows 8 / 8.1 requires additional steps to disable "Driver Signature Enforcement" follow this [Sparkfun Guide](#). **Windows 7 and earlier may continue.**

- Plug in the OpenEVSE Programmer. Go into Device manager by right clicking on "My Computer" and selecting Manage or through the Control Panel
- Locate the USBasp programmer. It is likely the unknown USB device. Right click and select "Update Driver Software"
- Select "Browse my Computer for driver software". Click Browse and Select the location where you saved the extracted files.

### Step 3 — Installing Device Driver (Continued)



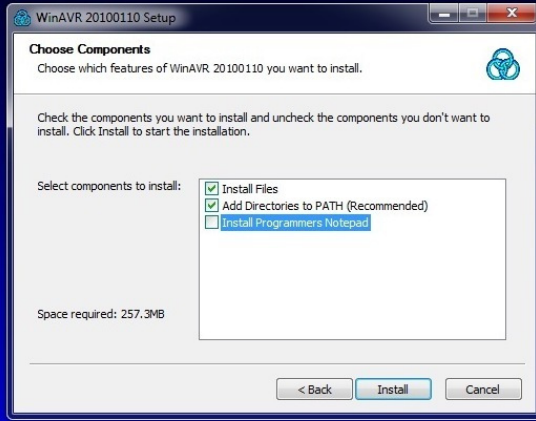
⚠ Depending on your Windows version and settings, you may receive a warning. Select "Install this driver software anyway".

- The driver should now be installed and you should receive a window that says Windows has successfully updated the Device Driver.

ℹ No device drivers are needed for MacOS and LINUX.

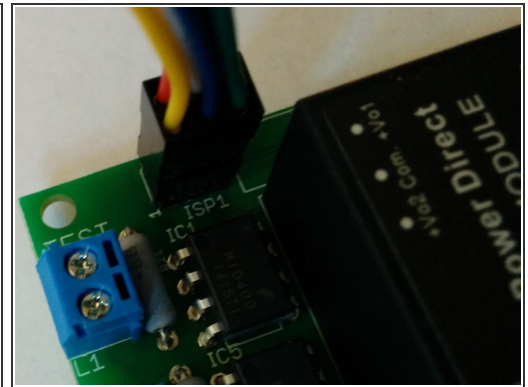
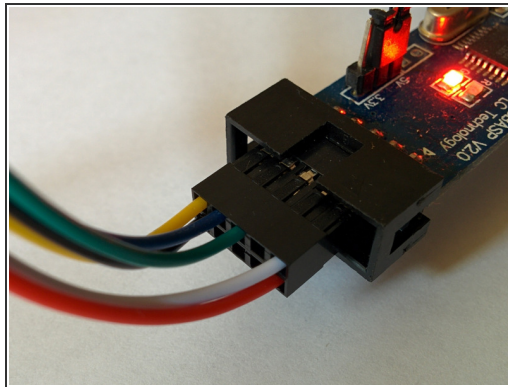
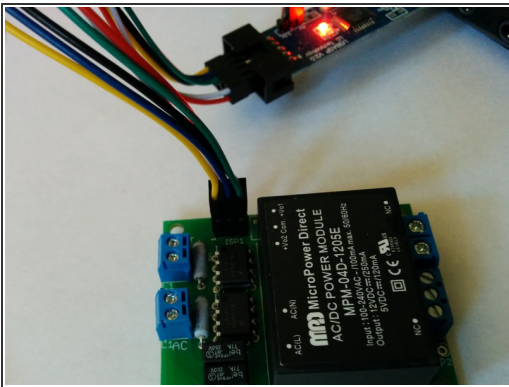


## Step 4 — Install WinAVR



- Download and install the WinAVR software. [WinAVR](#)
- Select BOTH the Install Files and Add Path Options. Developers Notepad is Optional.

## Step 5 — Connect OpenEVSE to programmer



- Connect Programmer to OpenEVSE then connect to USB port on PC.
- i* The yellow wire on the 6 pin connector aligns with pin 1 of the ISP connector.

## Step 6 — Loading firmware

```

avrdude: verifying flash memory against open_evse.hex:
avrdude: load data flash data from input file 0x05:
avrdude: input file 0x05 contains 1 bytes
avrdude: reading on-chip flash data:

Reading : ##### ! 100% 0.01s
avrdude: verifying ...
avrdude: 1 bytes of flash verified
avrdude: safemode: Fuses OK
avrdude done. Thank you.

C:\Users\Chris\Google Drive\OpenEVSE\Load_FW\OpenEVSE_FW_2_2_0>avrdude -c USBasp
-p m328p -U flash:w:open_evse.hex

avrdude: warning: cannot set sck period. please check for usbasp firmware update
avrdude: AVR device initialized and ready to accept instructions

Reading : ##### ! 100% 0.02s
avrdude: Device signature = 0x1e950f
avrdude: NOTE: FLASH memory has been specified, an erase cycle will be performed
        To disable this feature, specify the -D option.
avrdude: erasing chip
avrdude: warning: cannot set sck period. please check for usbasp firmware update
avrdude: reading input file "open_evse.hex"
avrdude: input file open_evse.hex auto detected as Intel Hex
avrdude: writing flash (27072 bytes):

Writing : ##### ! 100% 20.33s

avrdude: 27072 bytes of flash written
avrdude: verifying flash memory against open_evse.hex:
avrdude: load data flash data from input file open_evse.hex:
avrdude: input file open_evse.hex auto detected as Intel Hex
avrdude: input file open_evse.hex contains 27072 bytes
avrdude: reading on-chip flash data:

Reading : ##### ! 20% 2.80s

```

- Download a pre-compiled HEX file from the [OpenEVSE Sources](#) for your OpenEVSE product and your desired configuration.
- Extract files into a local folder.
- Run the flash.bat file. Programming and verification should take about 60 seconds.
- ❗ If the command window pops up and goes away immediately there is a problem with the Device driver and/or the WinAVR installation.
- ❗ Warning can not set SCK period is normal and can be ignored.

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