Update procedure for a new firmware or application version

Only tested on Windows 10!

This description is just valid, if you successfuly built and installed a firmware and application the first time according to the dev setup instructions.

Open Visual Studio Code. It opens with the last project you used.

In case the opened project is not the sensormodule project, open "Sensormodul (Workplace)", you will find it in File->Open Recent menu.

Press Ctrl-Shift-G (Opens Source Control).

Below "SOURCE CONTROL PROVIDERS" you will find all projects necessary for the firmware:

- knx-sensor
- knx-wire
- knx-logic
- knx-common
- knx

Do for each of them the following:

Click on the project name (i.e. knx-sensor).

There is an additional area called "knx-sensor Git", having a text box below with a text "Message". At the end of the Git-Area you see 3 dots (...) indicating a menu. Click on these 3 dots.

In the upcomming menu click on the topmost entry "Pull".

As said, do this for each project.

As soon as all 5 pulls are finished, continue with the build steps form the initial documentation:

The current board version from MASIFI is v3.1. Due to the fact, that I have to test the release with diferent versions, it might happen, that the firmware is released for any of the tested versions v2, v3 or v3.1.

Please ensure always - with each update - that the released version fits to your hardware! To do this, do the following: Find the version of your hardware board (v1, v2, v3 or v3.1).

```
In knx-sensor, edit the file platformio.ini:
- there is a line
        -DBOARD_MASIFI_V...
- change the line to the according version of your hardware
        -DBOARD_MASIFI_V31
  or
        -DBOARD_MASIFI_V3
```

```
  or
        -DBOARD_MASIFI_V2
  or
        -DBOARD_MASIFI_V1

- there exist different versions with CRYSTALLESS setting.
  Ensure that
        -DCRYSTALLESS
  is always
        ;-DCRYSTALLESS
  or the line is removed.
```

Press Ctrl-Shift-B, select the "**Build PlatformIO** knx-sensor" build task and press enter.

Now the compiler starts, this may take a while, there will be many yellow warnings, they can be ignored.

At the end, there should be a message like

```
Linking .pio\build\build\firmware.elf
Building .pio\build\build\firmware.bin
Checking size .pio\build\build\firmware.elf
Advanced Memory Usage is available via "PlatformIO Home > Project Inspect"
RAM:   [==        ]  22.0% (used 7216 bytes from 32768 bytes)
Flash: [======    ]  55.7% (used 145892 bytes from 262144 bytes)
============================= [SUCCESS] Took 34.60 seconds ======
```

Now you successfully build the updated Firmware for the Sensormodule.

How to upload the Firmware to your Hardware

Connect your device via USB to your PC

Open (again) the file Sensormodul/src/Sensormodul.cpp

Press Ctrl-Shift-B, select "**Upload USB** knx-sensor" build task and press enter.

Wait until file is uploaded.

Afterwards you have to reprogram physical address (PA) and Application from ETS.

How to build a knxprod for this firmware

Do this just if the updated firmware comes with an updated knxprod.

Open https://github.com/mumpf/multiply-channels/releases

Download the newest release of multiply-channels, currently it is version 2.1.2. In case you have already the newest version downloaded, you can skip this and the following copy step.

The executable is MultiplyChannels.exe

Save it to C:\Users\<username>\bin (this directory should already exist from your initial setup).

Go to the Visual Studio Code instance, which is containing the knx-sensor project

Press Ctrl-Shift-P, enter "run test task" and click the appearing "Tasks: Run Test Task"

In the following dropdown select "**MultiplyChannels-Release** knx-sensor"

Wait for the success message in the terminal window

The freshly build

- Sensormodul-v3.x.knxprod

you will find in the release directory of the knx-sensor project

You can import this knxprod in your ETS (minimum 5.6) like any other knxprod.

You can do an update of the application in ETS. This allows to keep all parameters and group addresses (GA) of the old application.Application update procedure is described in the "Applicationdescription Sensor".