

Explore the next sense



Getting Started Guide Acconeer XE132 Entry Module Evaluation Kit

March 2022

V1.3

Installation guide

The XE132 is used for evaluation of both XM132 and XM131.

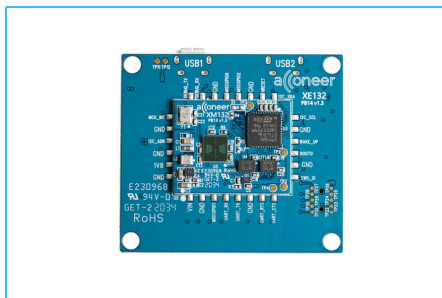
The XE132 is delivered non-flashed. This installation quick guide will show you how to get the Acconeer XE132 Module Server up and running. For a hands-on instruction video, please visit Acconeer channel.

<https://youtu.be/PTcQ0FpRz7E>

Preparing the HW Installation

The Evaluation kit for Our Entry Module (XM132) differs from previous EVK in that it comes already soldered onto the breakout board. All you need is the micro USB cable.

XE132 EVK



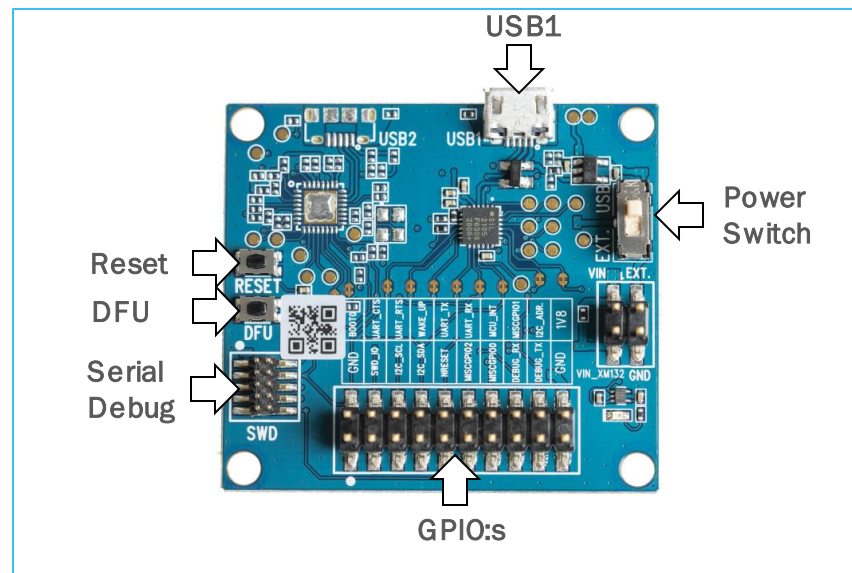
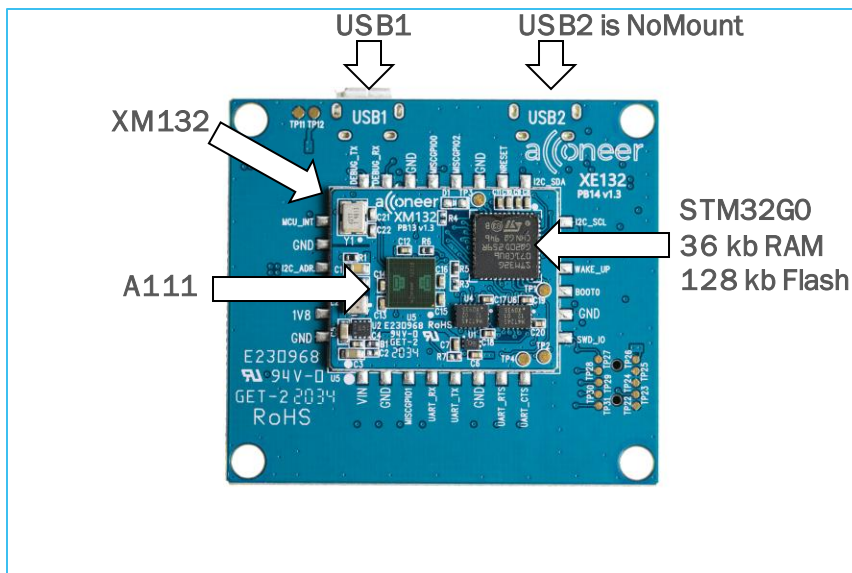
Additionally*:

- USB Micro Cable for connection to PC

* Not provided by Acconeer.

HW Overview

XE132 EVK Front and Back Side



Preparing the SW installation

The following applications will be required to complete an installation. Also, they will be very useful when working with the Radar Sensor Module Server. Please download and install:

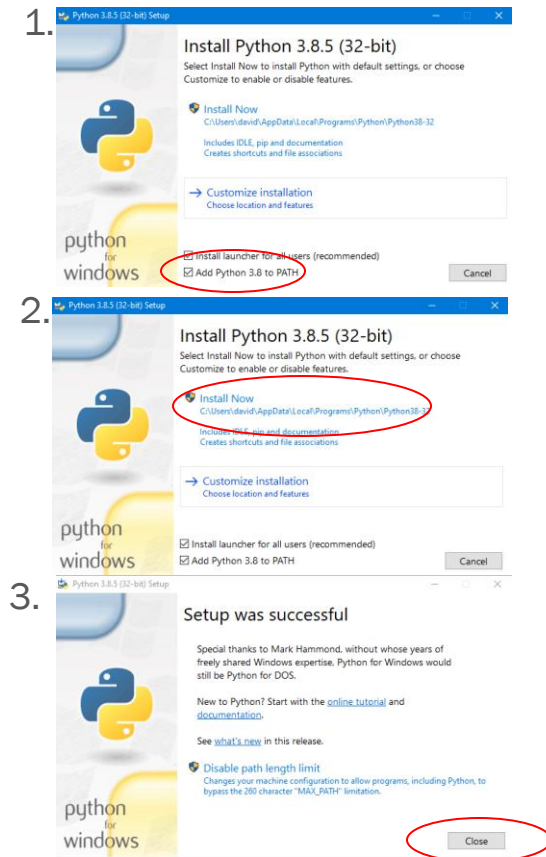
- Acconeer Module SW Image for XM132: Available from <https://developer.acconeer.com/>
- Acconeer Exploration tool: <https://github.com/acconeer/acconeer-python-exploration>

For all users (Windows, Linux):

- Python: Available from <https://python.org/downloads>

Installing python

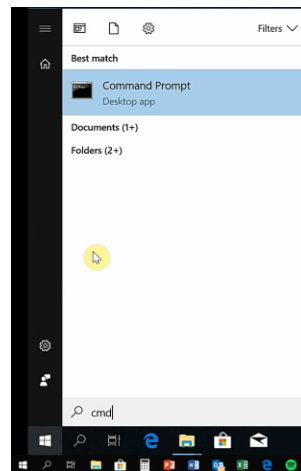
- Start the installer file that you downloaded from python.
- Make sure the Add Python to PATH option is selected. (Pic 1)
- Click Install Now. No need for a customized Installation. (Pic 2)
- Close once the installation is completed. (Pic 3)



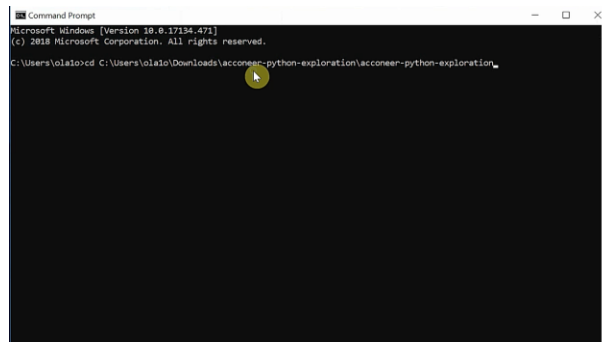
Installing Exploration tool

- Unzip the file downloaded from Acconeer. Acconeer-python-exploration
- Start windows command prompt. (Pic 1)
You can always find it by searching for “cmd”.
- In the command prompt, change the directory to where you unzipped the exploration tool by typing the command `cd` followed by the path to the folder. (Pic 2)

1



2



Installing Exploration tool

- In Command Prompt: Run the command: `python -m pip install -U --user setuptools wheel`
- Then the command: `pip install --user -r requirements.txt` (Pic 1)
- Wait until the installation has finished and run the next command: `python setup.py install --user` (Pic 2)

1

```

Microsoft Windows [Version 10.0.17134.471]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\olaio>cd C:\Users\olaio\Downloads\aconeer-python-exploration\aconeer-python-exploration
C:\Users\olaio\Downloads\aconeer-python-exploration\aconeer-python-exploration>pip install --user -r requirements.txt
Requirement already satisfied: setuptools in c:\users\olaio\appdata\local\programs\python\python37-32\lib\site-packages
(from -r requirements.txt (line 1)) (40.6.3)
Collecting numpy (from -r requirements.txt (line 2))
  Using cached https://files.pythonhosted.org/packages/42/5a/ef3de1cd47a5a6baca41215fba0528ee277259604a56229190abf8a6d
2/numpy-1.15.4-cp37-none-win32.whl
Collecting pyserial (from -r requirements.txt (line 3))
  Using cached https://files.pythonhosted.org/packages/0d/e4/2a744dd9e3be04a8c0907414e2a01a7c88bb3915cbe38cc06e209f59c3
0/pyserial-3.4-py2.py3-none-any.whl
Collecting matplotlib (from -r requirements.txt (line 4))
  Using cached https://files.pythonhosted.org/packages/3f/16/4500e22ea8d11f4946bd902695d0113f82a0aaca45f352478f157ca6623
d/matplotlib-3.0.2-cp37-cp37m-win32.whl
Collecting pyqtgraph (from -r requirements.txt (line 5))
  Using cached https://files.pythonhosted.org/packages/cd/ad/307e0280df5c19986c4206d138e3a8954afc722cea991f4adb4a163376
9/pyqtgraph-0.10.0.tar.gz
Collecting PyQt5 (from -r requirements.txt (line 6))
  Using cached https://files.pythonhosted.org/packages/26/78/c215008e70982944272b6c329a76cc11259e7378a3e23418fbeb0d48de9
6/PyQt5-5.11.3-5.11.2-cp35-cp36-cp37-cp38-none-win32.whl
  
```

2

```

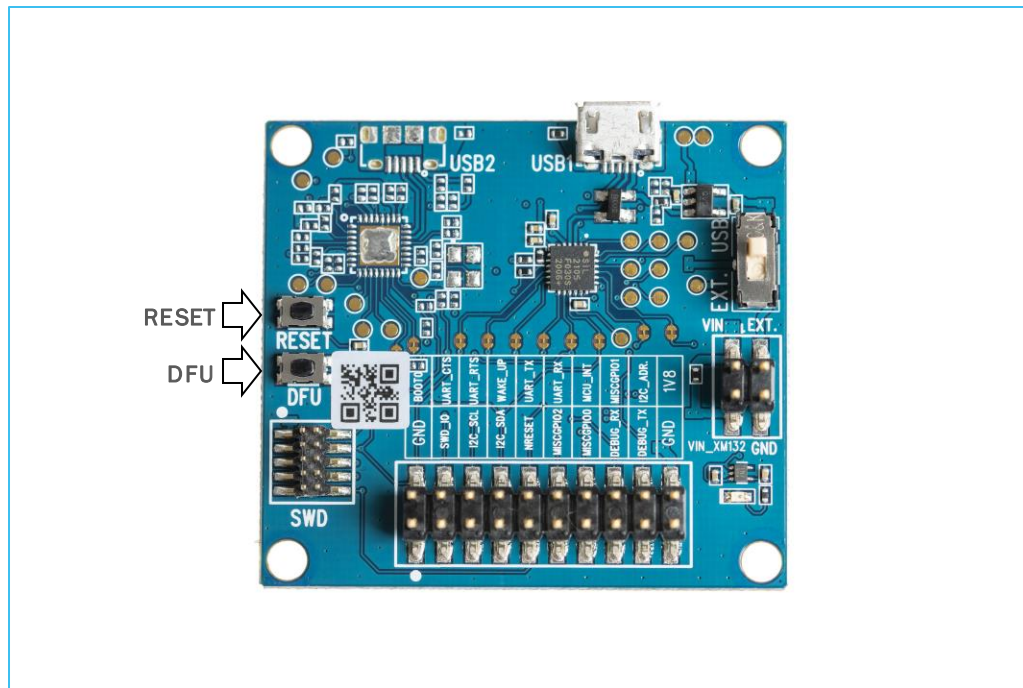
Collecting pyqtgraph (from -r requirements.txt (line 5))
  Using cached https://files.pythonhosted.org/packages/cd/ad/307e0280df5c19986c4206d138e3a8954afc722cea991f4adb4a163376
9/pyqtgraph-0.10.0.tar.gz
Collecting PyQt5 (from -r requirements.txt (line 6))
  Using cached https://files.pythonhosted.org/packages/26/78/c215008e70982944272b6c329a76cc11259e7378a3e23418fbeb0d48de9
6/PyQt5-5.11.3-5.11.2-cp35-cp36-cp37-cp38-none-win32.whl
Requirement already satisfied: kivyolver!=1.0.1 in c:\users\olaio\appdata\roaming\python\python37\site-packages (from m
atplotlib->-r requirements.txt (line 4)) (1.0.1)
Requirement already satisfied: pyParsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.1 in c:\users\olaio\appdata\roaming\python\python3
7\site-packages (from matplotlib->-r requirements.txt (line 4)) (2.3.0)
Requirement already satisfied: cyclus>=0.10 in c:\users\olaio\appdata\roaming\python\python37\site-packages (from matplo
tlib->-r requirements.txt (line 4)) (0.19.0)
Requirement already satisfied: python-dateutil>=2.1 in c:\users\olaio\appdata\roaming\python\python37\site-packages (fro
m matplotlib->-r requirements.txt (line 4)) (2.7.5)
Requirement already satisfied: PyQt5_sip<4.20,=>4.19.11 in c:\users\olaio\appdata\roaming\python\python37\site-packages
(from PyQt5->-r requirements.txt (line 6)) (4.19.13)
Requirement already satisfied: six in c:\users\olaio\appdata\roaming\python\python37\site-packages (from cyclus>=0.10->
matplotlib->-r requirements.txt (line 4)) (1.12.0)
Installing collected packages: numpy, pyserial, matplotlib, pyqtgraph, PyQt5
Running setup.py install for pyqtgraph ... done
The scripts pyupdate5.exe, pyrcc5.exe and pyuic5.exe are installed in 'C:\Users\olaio\AppData\Roaming\Python\Python37
\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed PyQt5-5.11.3 matplotlib-3.0.2 numpy-1.15.4 pyqtgraph-0.10.0 pyserial-3.4

C:\Users\olaio\Downloads\aconeer-python-exploration\aconeer-python-exploration>
C:\Users\olaio\Downloads\aconeer-python-exploration\aconeer-python-exploration>
C:\Users\olaio\Downloads\aconeer-python-exploration\aconeer-python-exploration>python setup.py install --user
  
```


Start Boot Mode (DFU Mode)

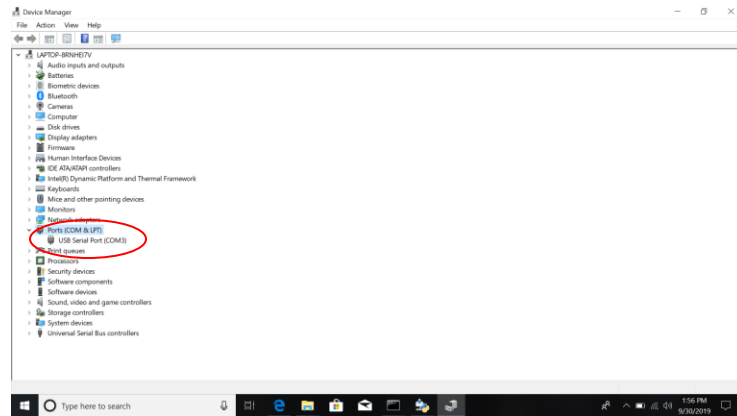
1. Press the DFU-button and hold it.
2. Press the RESET-button and hold it.
3. Release the RESET-button.
4. Release the DFU-button

Now the module is in DFU mode and ready to be flashed.



Flashing

1. Start Device Manager in Windows
2. Find the COM-Port that the XE132 is connected to. COM5 in our example.
3. Install the flashing utility: `pip install stm32loader`
You might need to add `stm32loader` to the `PATH` environment variable
4. In the command prompt directory where you placed XE132 Entry Module Server run the following command: `stm32loader -p COM5 -e -w -v acc_module_server.bin`
5. Make sure COM5 above is replaced with your COM port.
6. Now the XE132 is flashed and ready to use.
Make sure to restart the module by pressing the RESET button.



```

Command Prompt
2020-09-10 14:41 <DIR>          .
2020-09-10 14:41 <DIR>          ..
2020-09-10 14:41 <DIR>          acconeer_xm132_module_software_v2_5_0
2020-09-10 14:40             678 660 acconeer_xm132_module_software_v2_5_0.zip
2020-09-10 14:33 <DIR>          portable_exploration_tool
2020-09-10 14:30             8 386 098 portable_exploration_tool.zip
2020-09-10 14:30             26 777 232 python-3.8.5.exe
3 File(s)           35 841 990 bytes
4 Dir(s)           87 835 947 008 bytes free

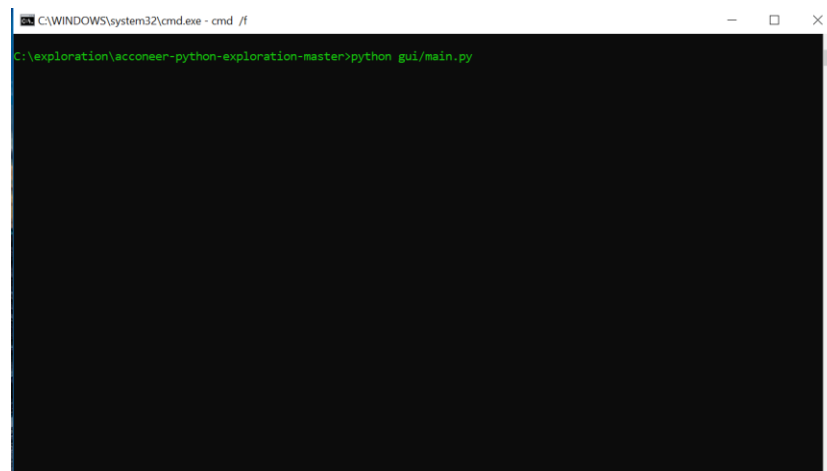
C:\Users\Acconeer CS\Downloads>cd acconeer_xm132_module_software_v2_5_0
C:\Users\Acconeer CS\Downloads\acconeer_xm132_module_software_v2_5_0>dir
Volume in drive C has no label.
Volume Serial Number is B296-ECF3

Directory of C:\Users\Acconeer CS\Downloads\acconeer_xm132_module_software_v2_5_0
2020-09-10 14:41 <DIR>          .
2020-09-10 14:41 <DIR>          ..
2020-09-10 14:41 <DIR>          xm132_module_software
0 File(s)           0 bytes
3 Dir(s)           87 835 947 008 bytes free

C:\Users\Acconeer CS\Downloads\acconeer_xm132_module_software_v2_5_0>cd xm132_module_software
C:\Users\Acconeer CS\Downloads\acconeer_xm132_module_software_v2_5_0\xm132_module_software>cd bin
C:\Users\Acconeer CS\Downloads\acconeer_xm132_module_software_v2_5_0\xm132_module_software\bin>stm32loader -p COM5 -e -w -v acc_module_server_xm132.bin
    
```

Run the exploration tool

- Run the following command in the command prompt: `python gui/main.py`
- Choose Serial as Interface in the dropdown.
- Click Connect
- Choose a service or a detector and click Start. (We used Envelope as an example)
- The result should be a graph showing the envelope data output from the sensor. Shown in next page.

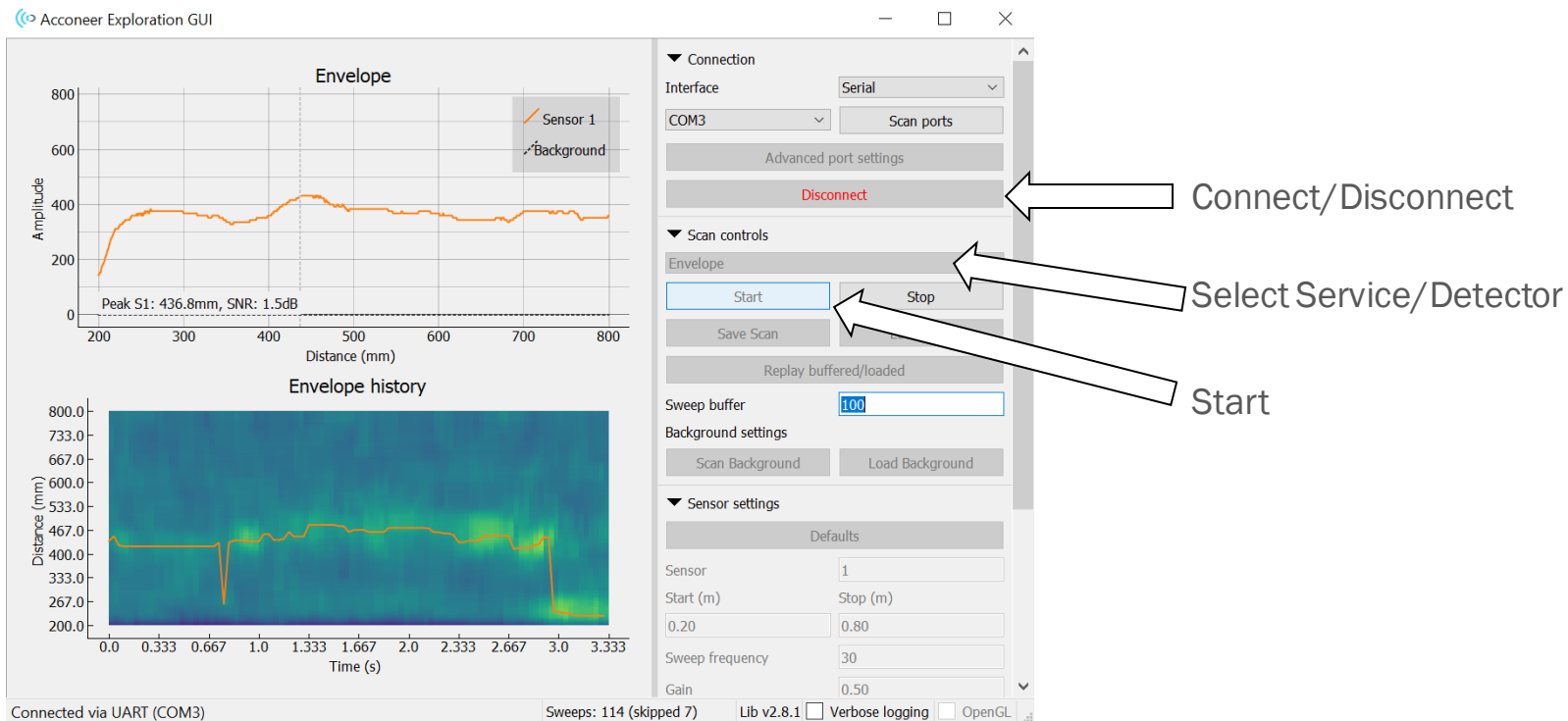


A screenshot of a Windows command prompt window. The title bar reads "C:\WINDOWS\system32\cmd.exe - cmd /f". The command prompt shows the following text:

```
C:\exploration\acconeer-python-exploration-master>python gui/main.py
```

The rest of the window is black, indicating that the program has started and its output is not visible in this view.

Exploration Tool GUI, Envelope graph



a((oneer