

Getting Started Guide Acconeer A121 XE125 Entry+ Module Evaluation Kit

Nov 2023

Installation guide

The XE125 is delivered without SW. This installation quick guide will show you how to get the Acconeer XE125 Exploration Server up and running. For a hands-on instruction video, please visit Acconeer's YouTube channel. [Getting started with the XE125 EVK – YouTube](#)

Preparing the HW Installation

The Evaluation kit for Our Entry+ Module (XM125) comes soldered onto a breakout board. All you need is a USB-C cable.

XE125 EVK



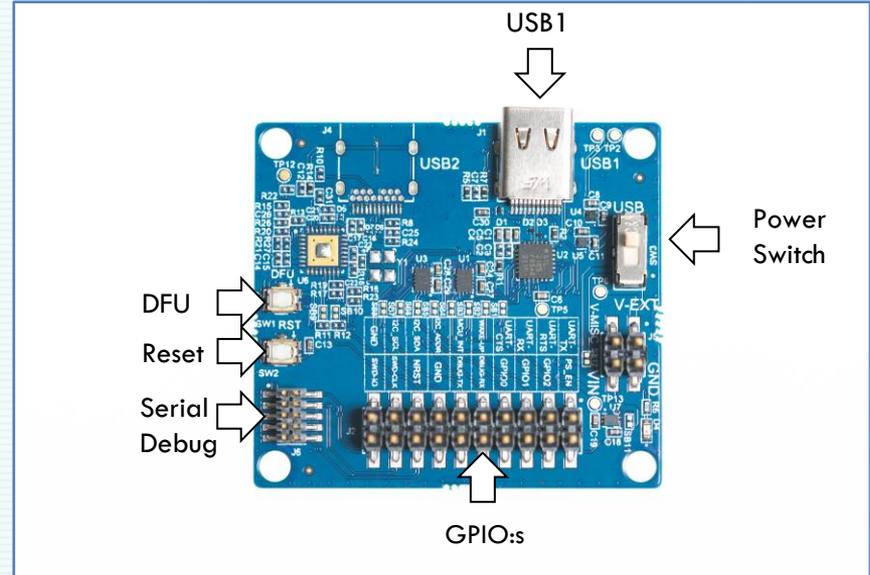
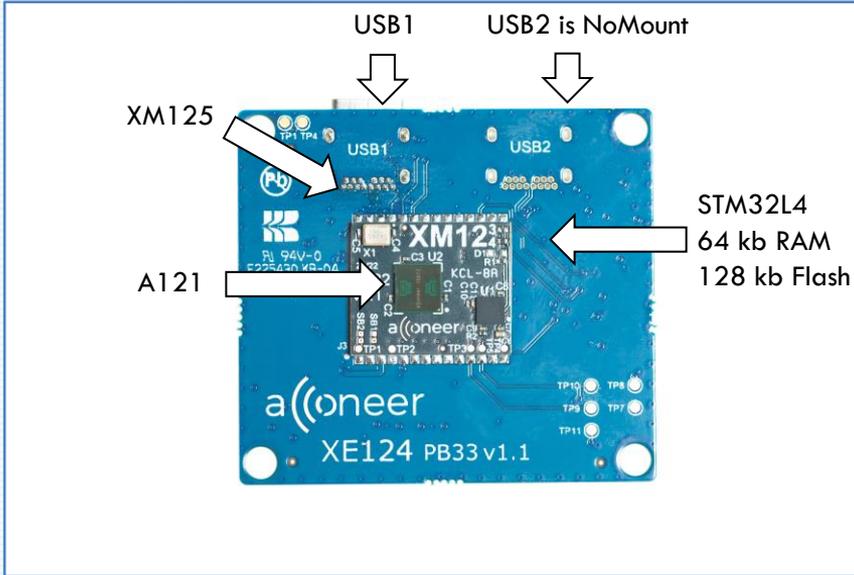
Additionally*:

- USB-C Cable for connection to PC

* Not provided by Acconeer.

HW Overview

XE125 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 Exploration Tool. The Exploration Tool will let you view the data stream in real time. In order to run the Tool you need to install the Exploration Server firmware on the module. Please download and install:

- Acconeer *acconeer_xm125_exploration_server_a121*: Available from <https://developer.acconeer.com/>
- Acconeer Exploration tool: <https://github.com/acconeer/acconeer-python-exploration>

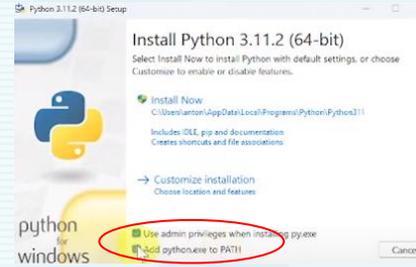
For all users (Windows, Linux):

- Python: Available from <https://python.org/downloads> version 3.11.5 is recommended.

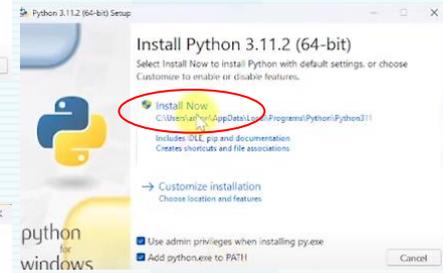
Installing Python

- 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)
- Disable Path Length Limit (Pic 3)
- Close once the installation is completed (Pic 4)

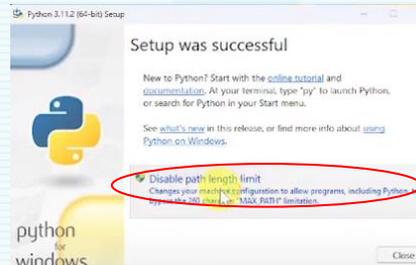
1.



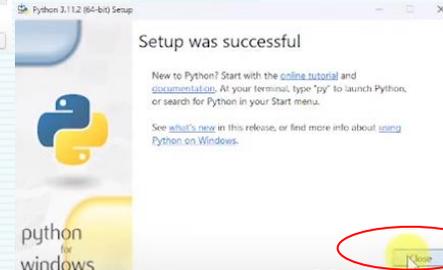
2.



3.

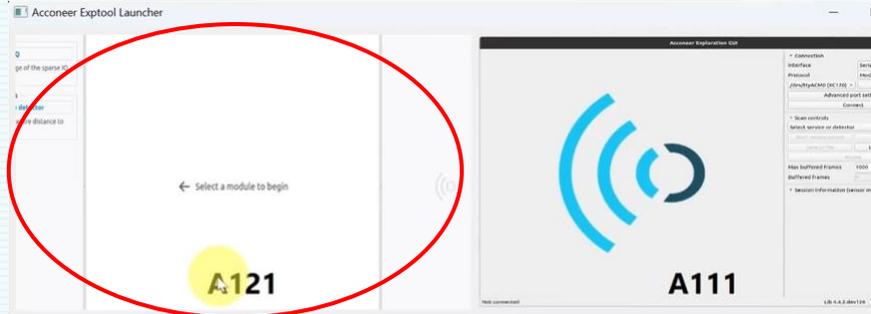


4.



Installing Exploration Tool

- 1. In Command Prompt: Run the command: `python -m pip install --upgrade acconeer-exptool[app]`
- 2. You can then start the Exploration Tool by running the following command: `python -m acconeer.exptool.app`
- Select the sensor version you are running. A121 in this case. See next page.



```
1 Microsoft Windows [Version 10.0.22621.1265]
(c) Microsoft Corporation. All rights reserved.

C:\Users\anton>python -m pip install --upgrade acconeer-exptool[app]
```

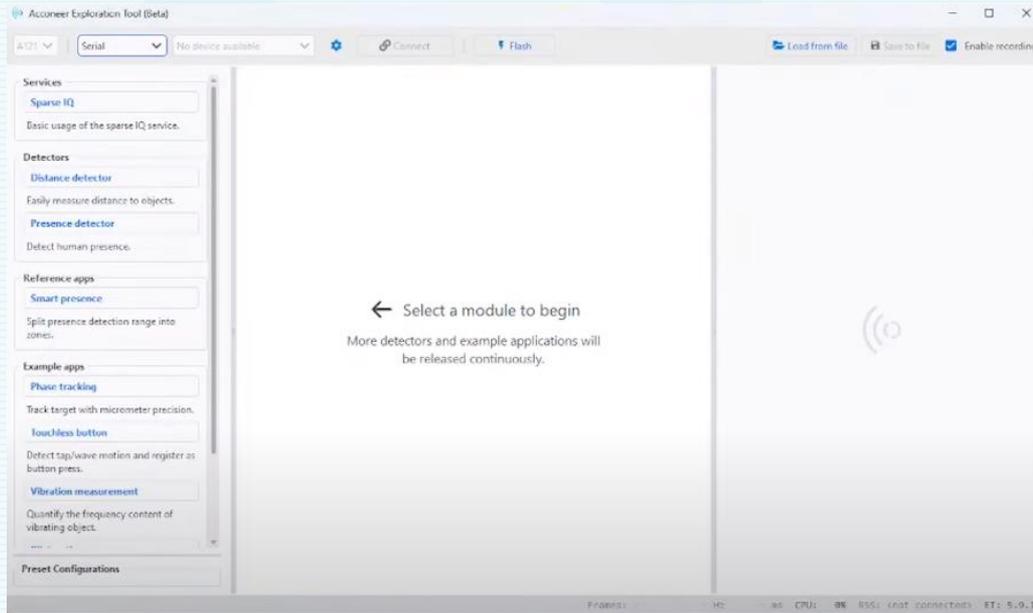
```
2 Command Prompt - python - x +
Downloading Pygments-2.14.0-py3-none-any.whl (1.1 MB)
1.1/1.1 MB 11.8 MB/s eta 0:00:00
Collecting soupsieve>=1.2
Downloading soupsieve-2.4-py3-none-any.whl (37 KB)
Installing collected packages: pyserial, pypirc, darkdetect, commonmark, charset-normalizer, urllib3, typing-extensions, soupsieve, six, shiboken6, pyyaml, pyusb, pyqt5darktheme, pygments, psutil, platformdirs, pillow, packaging, numpy, kimsolver, idna, fonttools, docutils, cycler, certifi, attrs, scipy, rich, requests, qtgy, python-dateutil, PySide6-Essentials, pyqtgraph, h5py, contourpy, beautifulsoup4, textual, qtawesome, PySide6-Addons, matplotlib, bsu, pyside6, acconeer-exptool
DEPRECATION: pypirc is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://github.com/pypa/pip/issues/8559
Running setup.py install for pypirc ... done
DEPRECATION: bsu is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://github.com/pypa/pip/issues/8559
Running setup.py install for bsu ... done
Successfully installed PySide6-Addons-6.4.2 PySide6-Essentials-6.4.2 acconeer-exptool-5.9.1 attrs-22.2.0 beautifulsoup4-4.11.2 bsu-0.1 certifi-2022.12.7 charset-normalizer-3.0.1 commonmark-0.9.1 contourpy-1.0.7 cycler-0.11.0 darkdetect-0.7.0 docutils-0.19 fonttools-4.38.0 h5py-3.8.0 idna-3.4 kimsolver-1.4.4 matplotlib-3.7.0 numpy-1.24.2 packaging-23.0 pillow-9.4.0 platformdirs-3.0.0 psutil-5.9.4 pygments-2.14.0 pyqt5darktheme-2.1.6 pyqtgraph-0.13.1 pyserial-3.5 pyside6-6.4.2 python-dateutil-2.8.2 pyusb-1.2.1 pyyaml-6.0 qtawesome-1.2.2 qtgy-2.3.0 requests-2.28.2 rich-12.6.0 scipy-1.10.1 shiboken6-6.4.2 six-1.16.0 soupsieve-2.4 textual-0.18 typing-extensions-4.5.0 urllib3-1.26.14

[notice] A new release of pip available: 22.3.1 -> 23.0.1
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\anton>python -m acconeer.exptool.app
```

Installing Exploration Tool

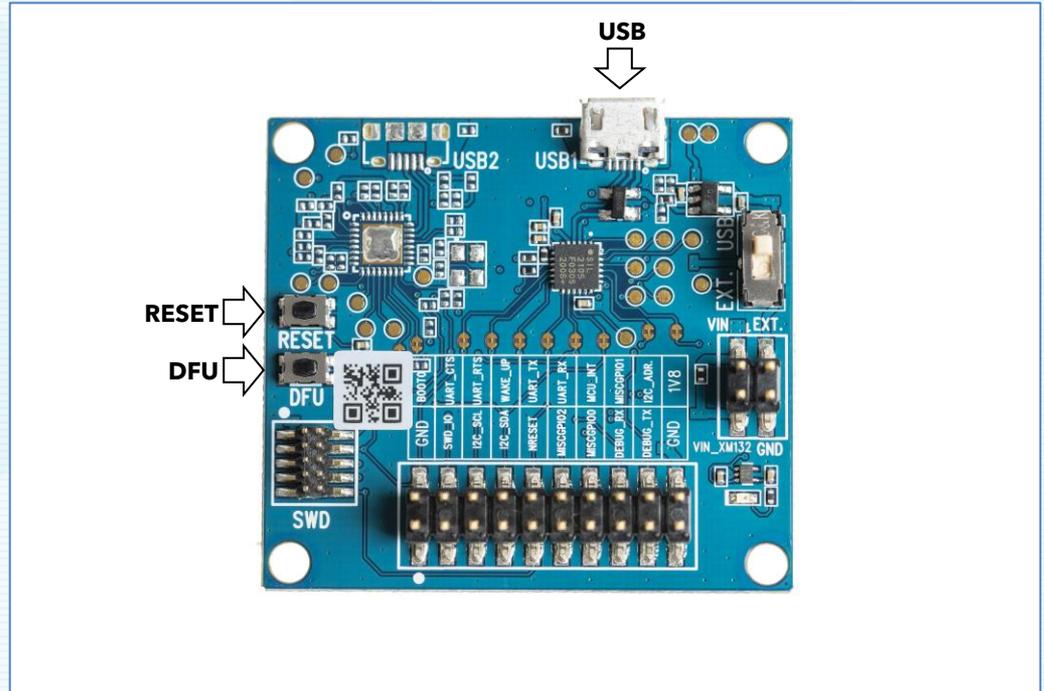
- The Exploration Tool will open like the image below



Start Boot Mode (DFU Mode) for flashing

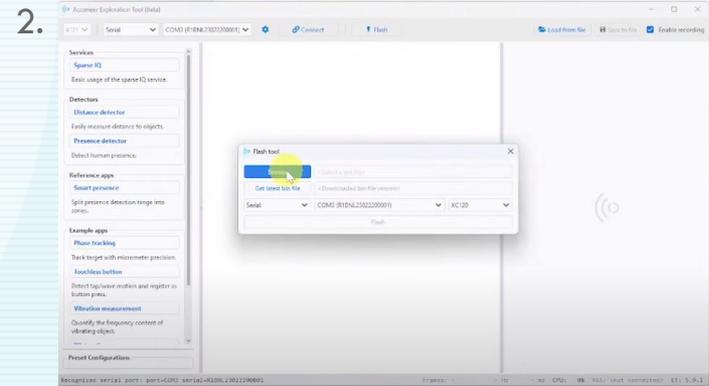
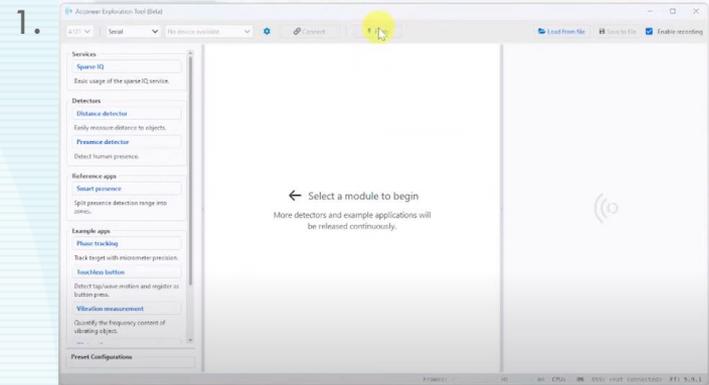
1. Make sure your EVK is connected to the PC with a USB cable
2. Press the DFU-button and hold it
3. Press the RESET-button and hold it
4. Release the RESET-button
5. Release the DFU-button

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



Flashing

1. Unzip the XM125 Exploration Server that you downloaded earlier (page 5)
2. Go to the Exploration Tool Window and Click Flash (#1 top image)
3. Click Browse (#2) and locate and select your Exploration Server binary file
4. Select the correct COM port (See next page)



Flashing

5. Open the Device Manager (#1)

6. Select the Enhanced COM port (#2)

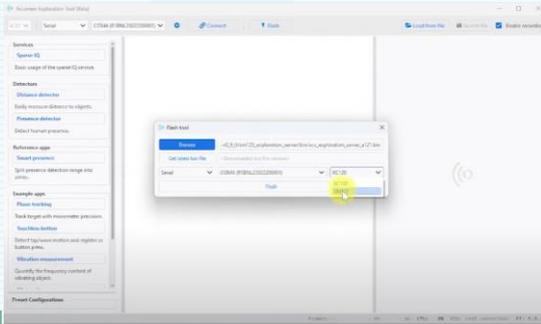
7. If no COM ports are found you need to install drivers
[CP210x USB to UART Bridge VCP Drivers - Silicon Labs \(silabs.com\)](https://www.silabs.com/usb-to-uart-bridge-vcp-drivers)

8. Select the correct Acconeer Module (#3)

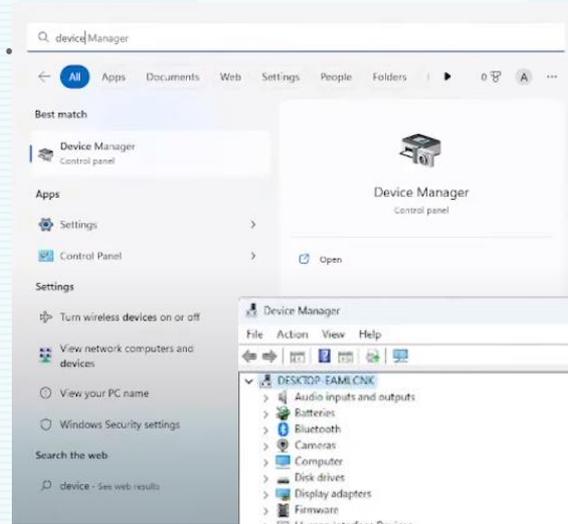
9. Click Flash

10. When the flashing is done you need to reset the Module either by pressing the RESET button or by unplugging/replugging the cable

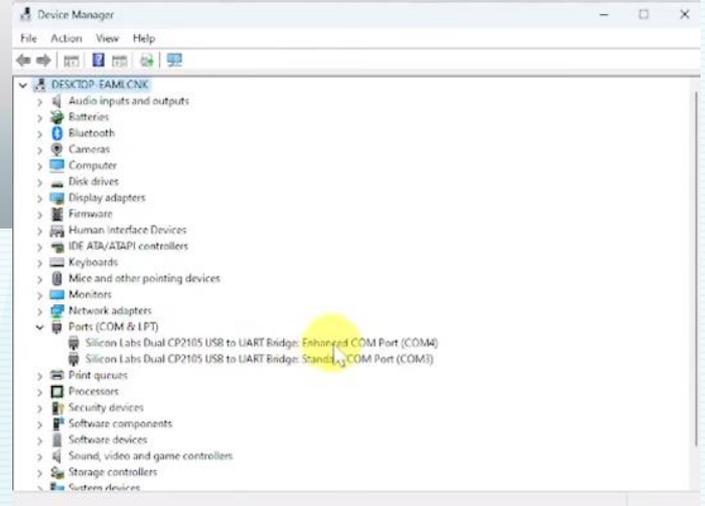
3.



1.

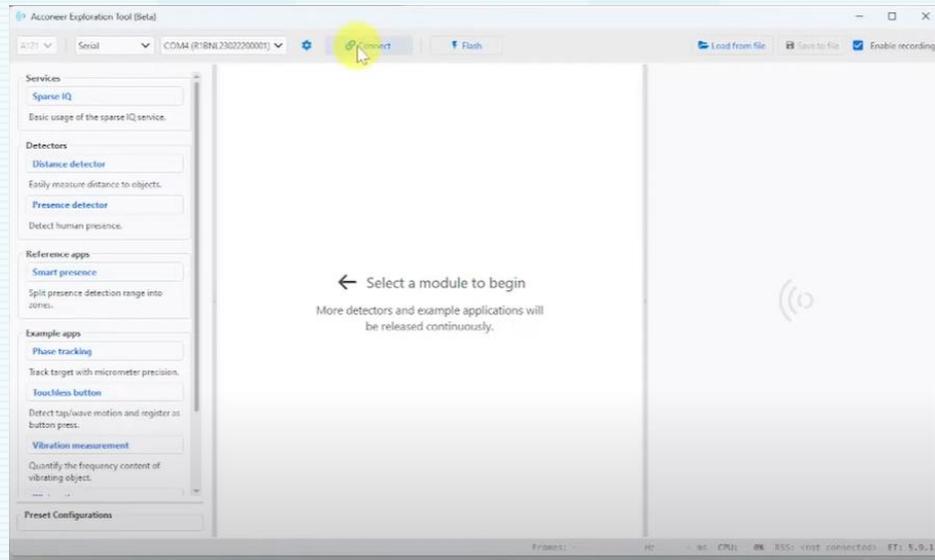


2.



Run the Exploration Tool

- Double check so that the Enhanced COM port is selected
- Click Connect button (see image)
- You can now select any of the Detectors or Applications from the menu to the left. If you simply want to familiarize yourself with our sensor you can start by selecting the SparseIQ service which provides a raw data stream.



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