

Getting Started Guide Acconeer XM126 IoT Module Evaluation Kit

Nov 2023

Installation guide

The XM126 is delivered non-flashed. This installation quick guide will show you how to get the Acconeer XM126 Exploration Tool up and running. For a hands-on instruction video, please visit Acconeer's YouTube channel.

<https://youtu.be/MxdJxe9-ipw>

Preparing the HW Installation

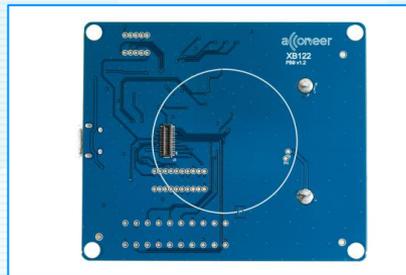
To complete a successful installation of Acconeer EVK, the following HW components will be required:

XM126 Module



+

XB122 Breakout Board



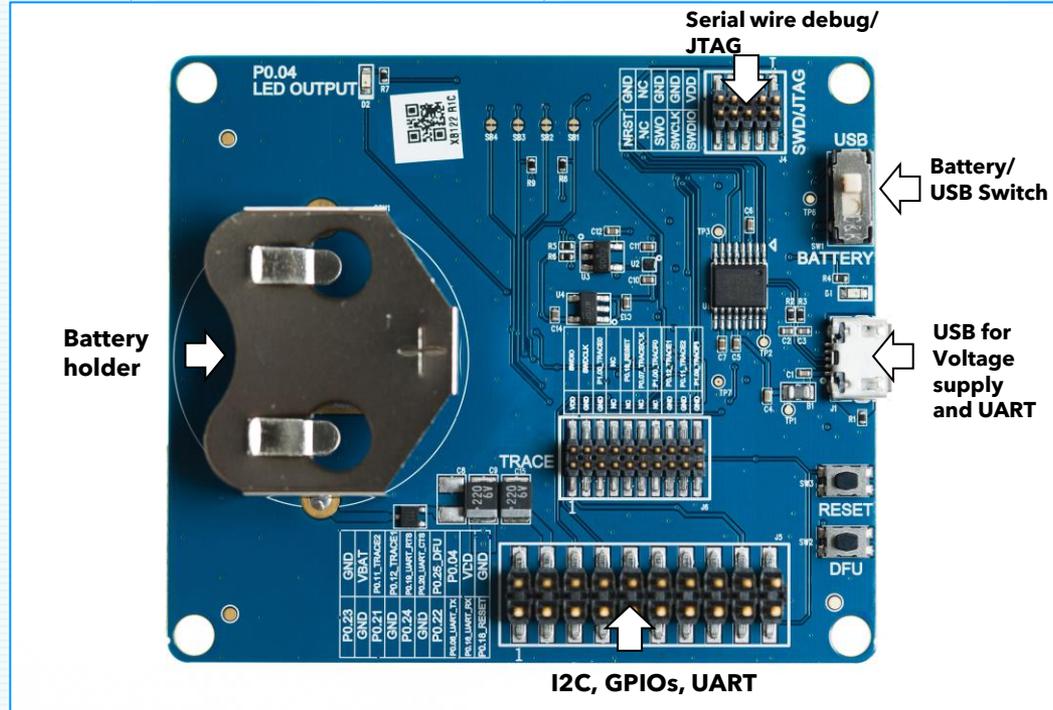
Additionally*:

- USB Micro Cable for connection to PC

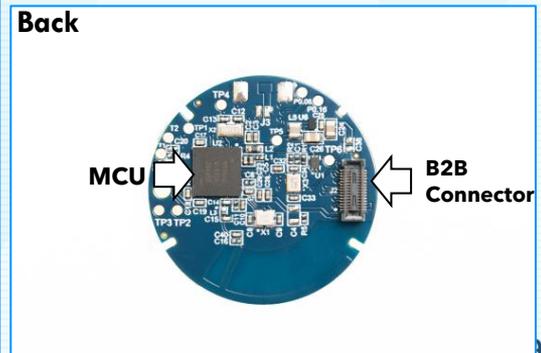
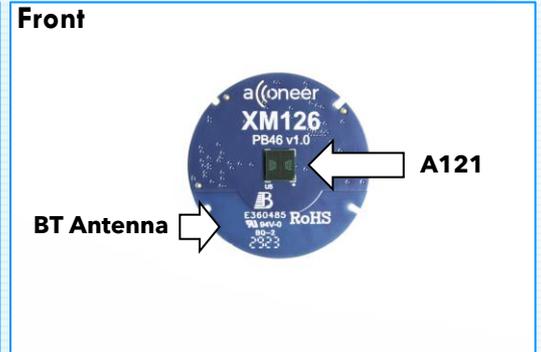
* Not provided by Acconeer.

HW Overview

XB122 (Breakout board, back side)



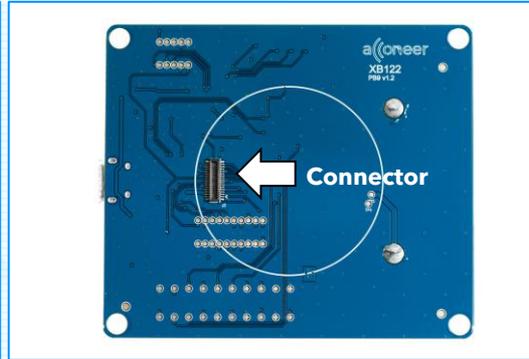
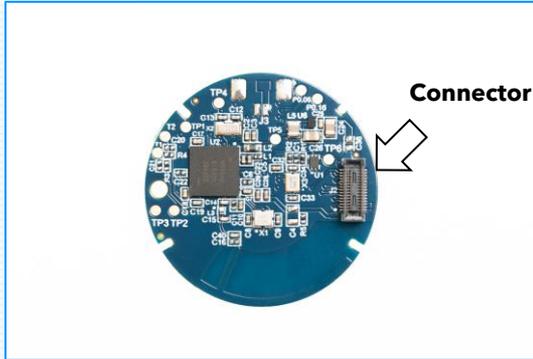
XM126



Assemble the HW XM126/XB122

- Connect the XM126 Module to the XB122 Breakout Board
- Connect the USB cable to USB slot
- End result in the rightmost picture

XR111 Sensor Board



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.

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- Acconeer `acconeer_xm126_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.
- COM port drivers: [VCP Drivers - FTDI \(ftdichip.com\)](http://www.ftdichip.com)

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)

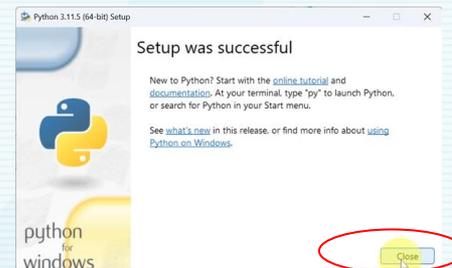
1.



2.



3.



Installing COM-Port Drivers

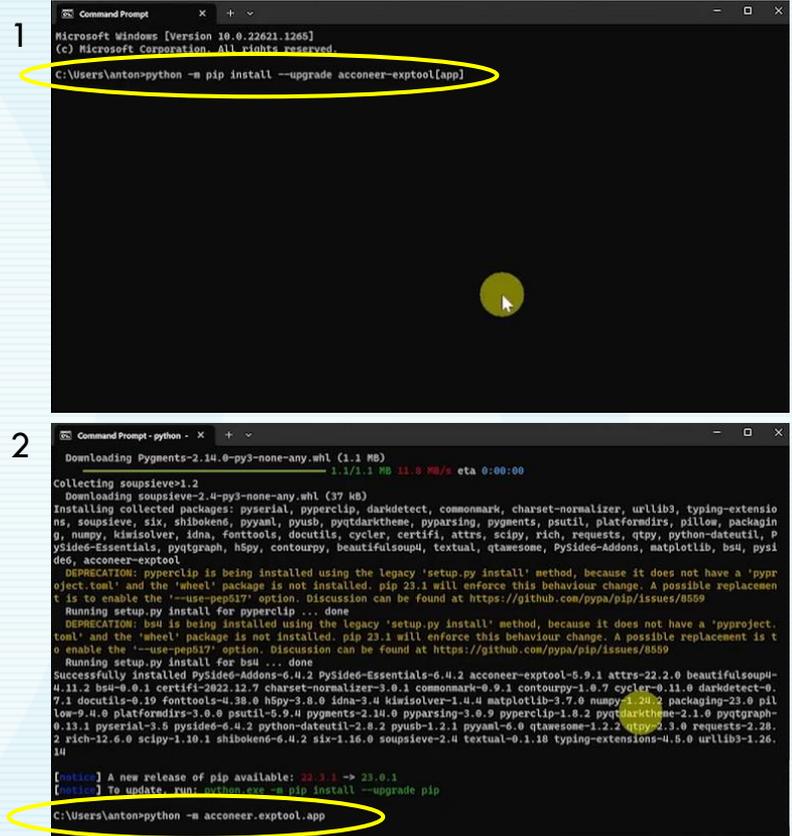
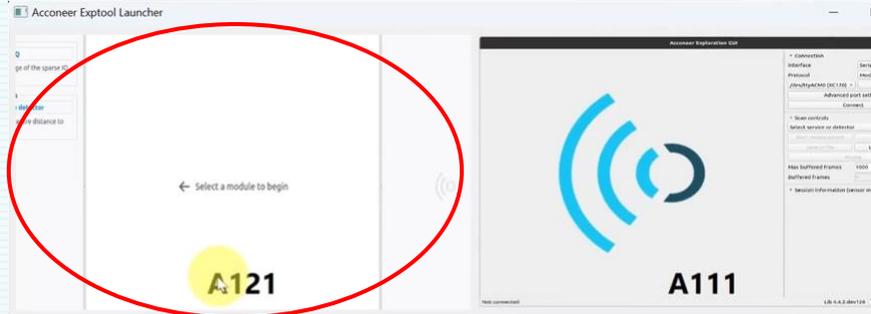
- Go to [VCP Drivers - FTDI](https://ftdichip.com) (ftdichip.com)
- Select Windows Desktop (1) and Click Setup Executable (2)
- Extract the file and follow the installation instructions.

The screenshot shows the FTDI website's VCP Drivers page. The URL is <https://ftdichip.com/Drivers/vcp-drivers/>. The page features a table of supported VCP Drivers with columns for Operating System, Release Date, and Processor Architecture (X86, X64, PPC, ARM, MIPSII, MIPSIV, SH4). The first row, 'Windows (Desktop)*', is circled in red with a '1'. The 'Comments' column for this row contains a link to 'Setup Executable', which is also circled in red with a '2'. A download window is open in the top right corner, showing the file 'CDM212364_Setup.zip' (2.1 MB) and 'python-3.11.5-amd64.exe'.

Operating System	Release Date	Processor Architecture							Comments
		X86 (32-Bit)	X64 (64-Bit)	PPC	ARM	MIPSII	MIPSIV	SH4	
Windows (Desktop)*	2021-07-15	2.12.36.4	2.12.36.4	-	2.12.36.4A****	-	-	-	WHQL Certified Includes VCP and D2XX Available as a self-extractable PKG read the Release Notes and Installation Guides .
Windows (Universal)***	2021-11-12	2.12.36.4U	2.12.36.4U	-	-	-	-	-	WHQL Certified Includes VCP and D2XX
Linux	-	-	-	-	-	-	-	-	All FTDI devices now supported in Ubuntu 11.10. kernel 3.0.0-19 Refer to Tn-101 if you need a custom VCP VID/PID in Linux VCP drivers are integrated into the kernel.
Mac OS X 10.3 to 10.8	2012-08-10	2.2.18	2.2.18	2.2.18	-	-	-	-	Refer to Tn-105 if you need a custom VCP VID/PID in MAC OS
Mac OS X 10.9 to 10.13	2019-12-24	-	2.4.2	-	-	-	-	-	This driver is signed by Apple
Mac OS X 10.14	2019-12-24	-	2.4.4	-	-	-	-	-	This driver is signed by Apple
Mac OS X10.15 and macOS 11/12	2022-06-13	-	1.5.0 (.exe) 1.5.0 (.dmg)	-	1.5.0 (.exe) 1.5.0 (.dmg)	-	-	-	This is a Beta driver release and the installer should be run from the Applications folder on your machine
Windows CE 4.2-5.2**	2012-01-06	-	-	-	-	-	-	-	-

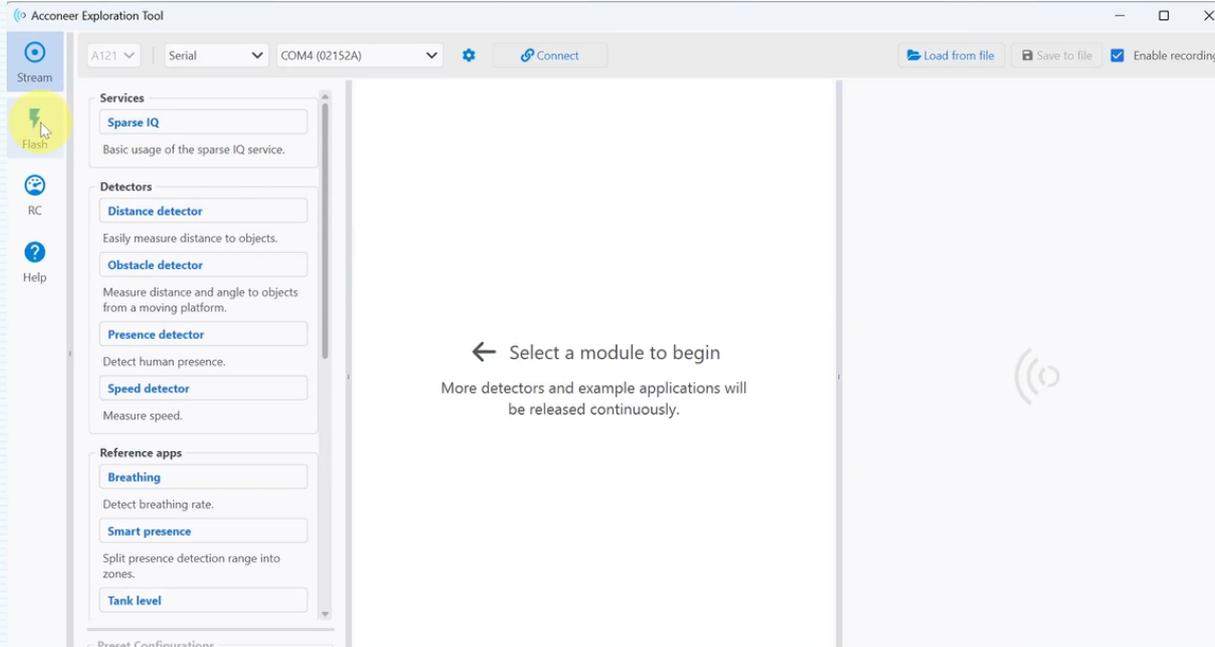
Installing Exploration Tool

- 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.



Installing Exploration Tool

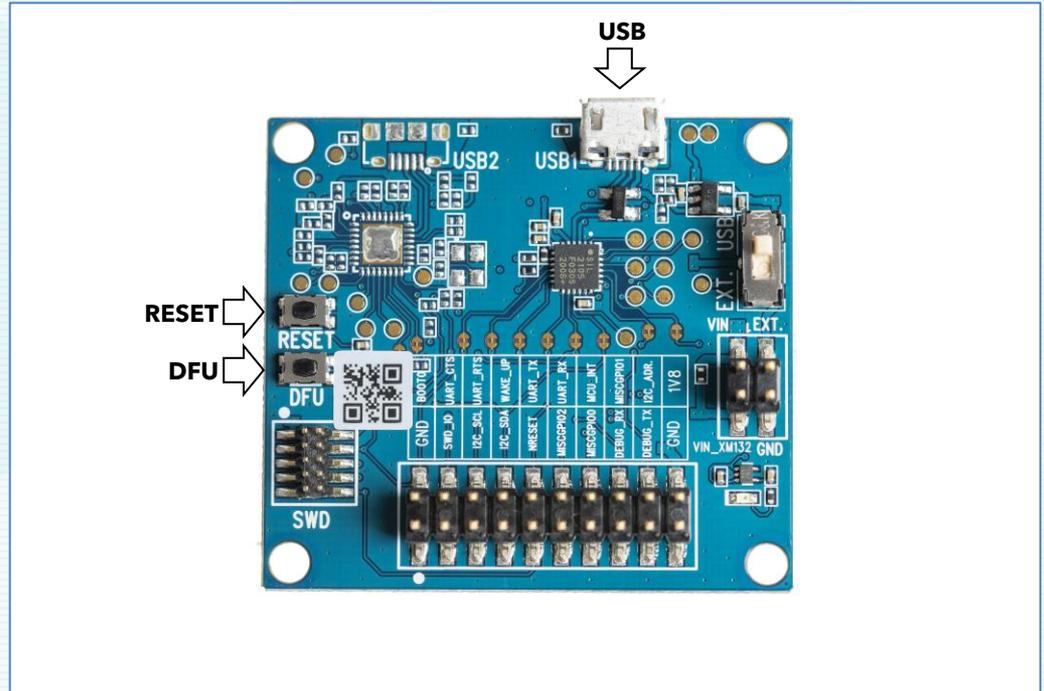
- The Exploration Tool will open like the image below



Start Boot Mode (DFU Mode) for flashing

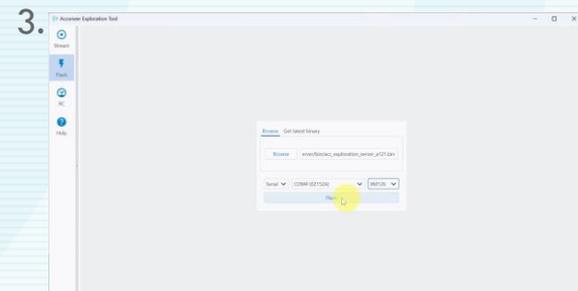
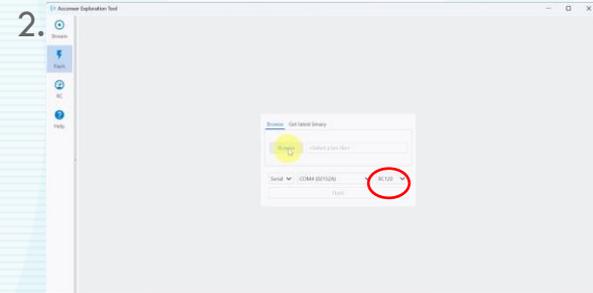
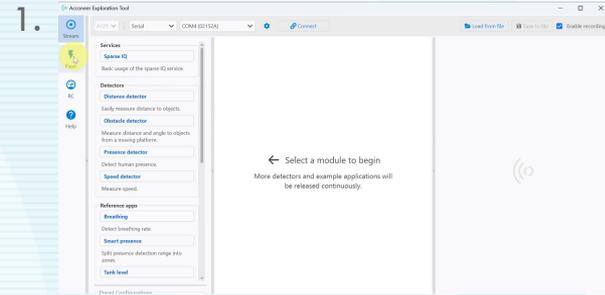
1. Make sure your EVK is connected to the PC with a USB cable
2. Press the DFU-button and hold it
3. Press the RESET-button and hold it
4. Release the RESET-button
5. Release the DFU-button

Now the module is in DFU mode and ready to be flashed. You will be prompted about this step if forgotten or failed.



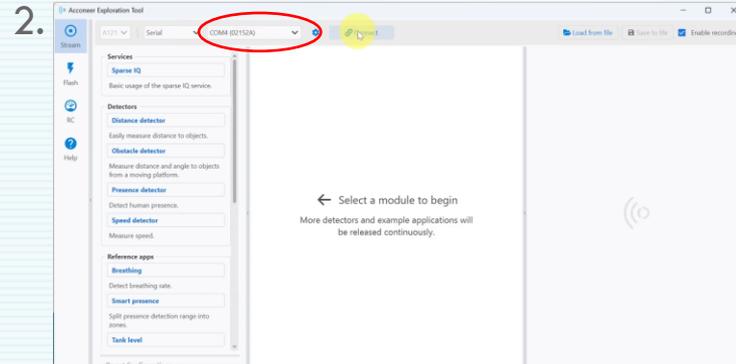
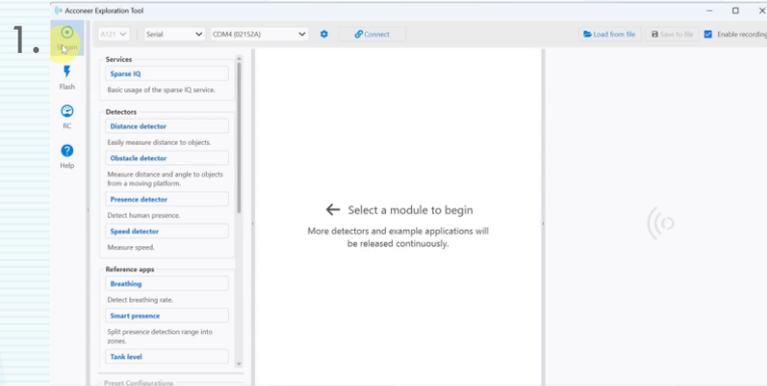
Flashing

1. Unzip the XM126 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 HW in the dropdown menu circled in red (See Image 2)
5. Click the flash button (#3). Done!



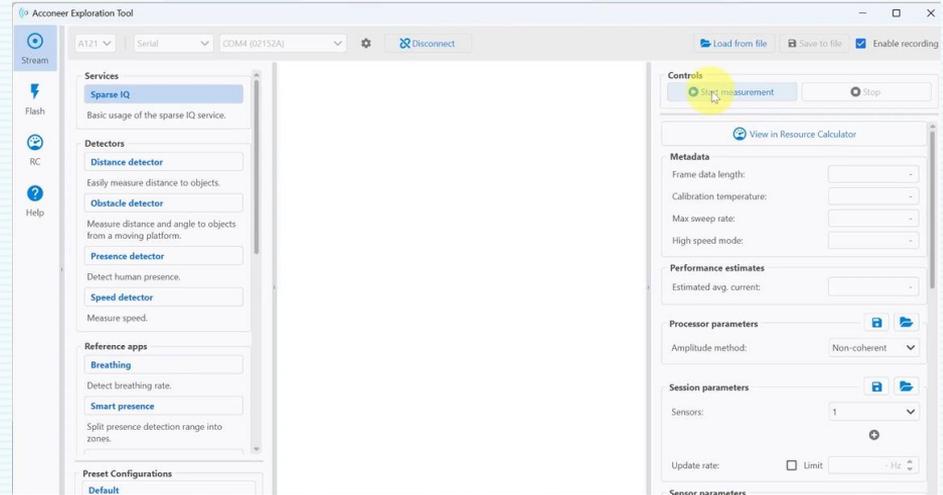
Flashing

6. Once flashing is complete. Click Stream (#1)
7. Select the correct COM port (#2) circled in red
8. Click Connect (#2)



Run the Exploration Tool

- 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 Sparse IQ service which provides a raw data stream.
- You start the measurement by clicking "Start measurement"



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