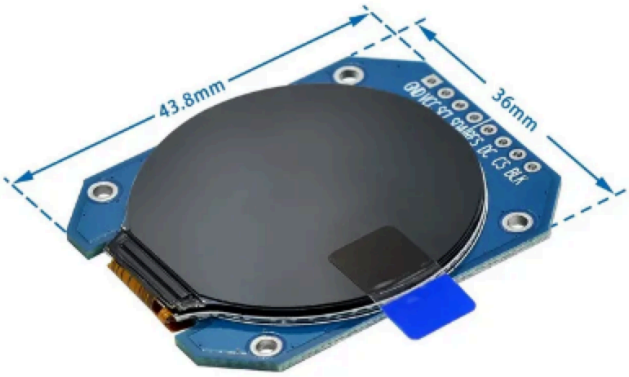
DA62 Oxygen Pressure Gauge with Raspberry Pi Pico and 1.28-inch LCD Screen

(based on the XPLPro library for X-Plane)

Hardware:

- Raspberry Pi Pico
  - https://tinyurl.com/2h8rs7u3
  - https://tinyurl.com/4s2kzhkw
- 1.28 in round LCD (GC9A01)
  - https://tinyurl.com/cvtb823y
  - https://tinyurl.com/3nby3jny
  - Note: If you want to use the simple case I designed, get the one with the specific form factor below.



- USB connectors, wires, etc.

- Raspberry PI Pico and LCD Screen PIN connections

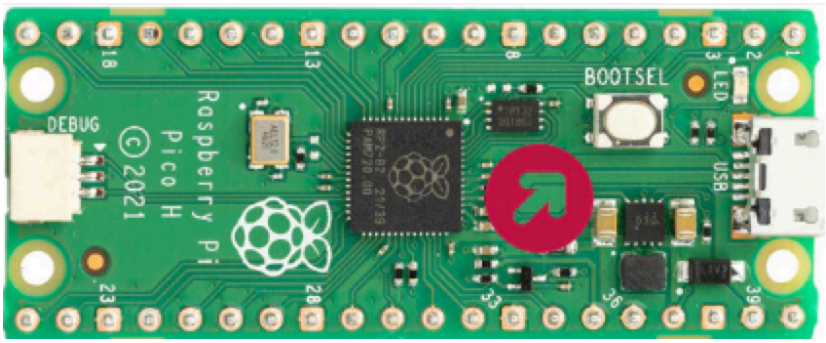
LCD Screen PIN	Raspberry Pi Pico PIN
GND	GND
VCC	3V3
SCL	18
SDA	19
RES	21
DC	20
CS	17
BLK	16

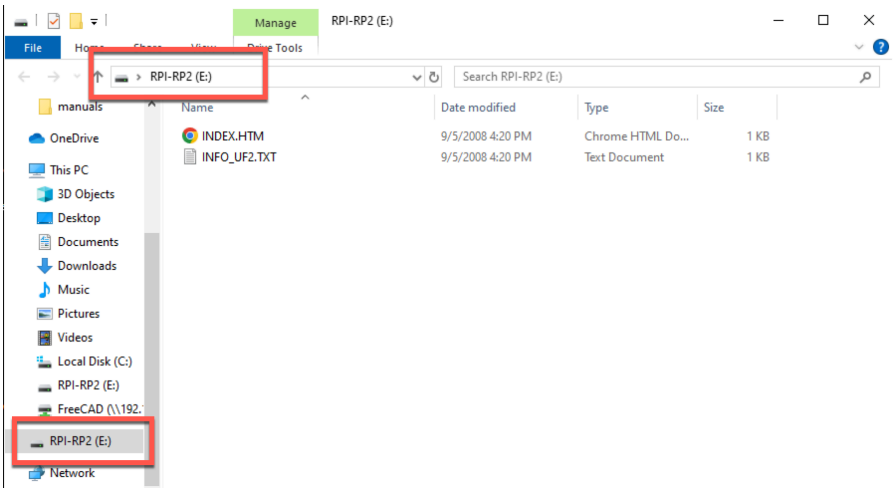
Software:

- XPLPro Plugin
    - Join the Curiosity Workshop Discord Server: https://discord.com/invite/RacvaRFsMW
    - Download the XPLPro Plugin and examples from the XPL/Pro channel under Downloads
    - Install the XPLPro plugin to X-Plane according to the instructions (I tested with X-Plane 11 and the May 10, 2024 release of the XPLPro Plugin)
- XPLPro references (FYI): https://www.youtube.com/watch?v=SMJiGwNc7rY&list=PLyhdwj5KOwbRhrUx4h9TRbHhn0aXaRivt
    - https://www.youtube.com/watch?v=SMJiGwNc7rY&list=PLyhdwj5KOwbRhrUx4h9TRbHhn0aXaRivt
- Visual Studio Code and PlatformIO

Instructions (Short Version for precompiled firmware):

1. Download the DA62 Project from from Github as zip file and unzip it in your local folder:
    - https://github.com/savesabanal01/DA62-Oxygen-Pressure-Gauge/
2. Read this manual from the “Instruction Manual” folder, LOL
3. While pressing the “BOOT” or “BOOTSEL” button on the Raspberry Pi Pico, plug it into the USB Port of your PC (see below), until it is recognized as a shared drive by Windows





4. From the DA62 Project's “Firmware” folder, copy the “firmware.elf.uf2” to the Raspberry Pi Pico shared folder and wait for Windows Explorer to close. This will upload the firmware to your Raspberry Pi Pico.
5. Now plug in the Raspberry Pi Pico to your PC that runs X-Plane (if it is not the same PC) and wait for the magic to happen. ☺

Optional:

If you want to 3D print the casing, the STLs are located in the “Casing Design” folder.

Casing Assembly: