

Bifrost Calculator - Arduino Setup Guide

Introduction

Alright, so you're ready to get the **Bifrost Calculator** running on your microcontroller? This guide will walk you through **installing the required library (TinyExpr)** and **uploading the sketch to your board**. Let's get started!

Installing the TinyExpr Library

Before uploading the sketch, we need to install **TinyExpr**, a lightweight math expression parser used in this project.

1. Downloading TinyExpr

- Head over to the **TinyExpr GitHub Repository**:

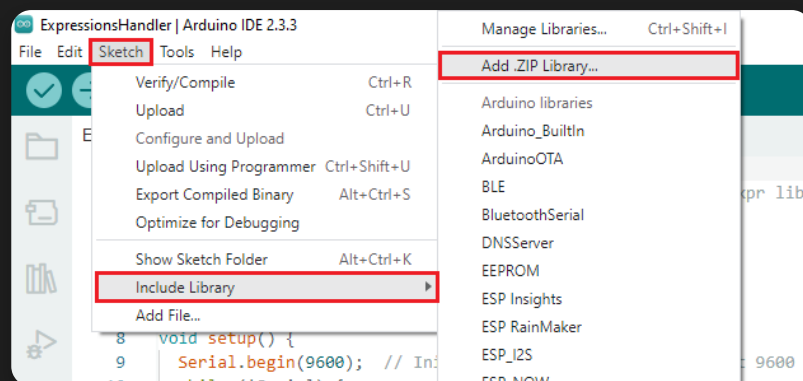
[TinyExpr GitHub Repo](#)

- Click **"Download ZIP"** to get the latest version of the library.

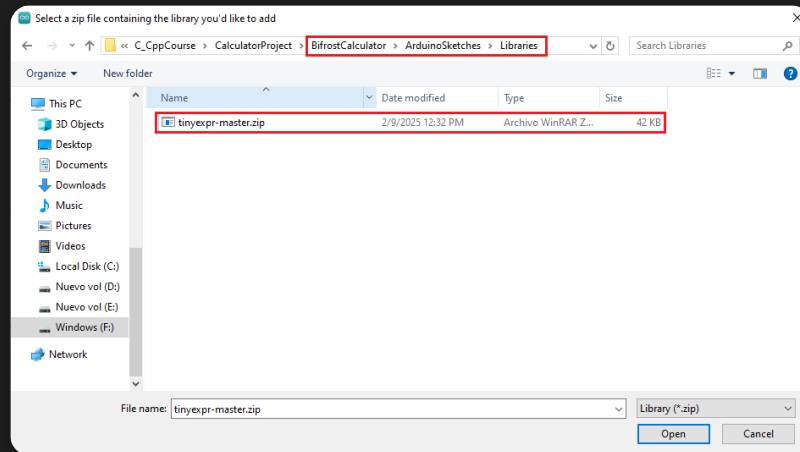
Or you can use the **TinyExpr** library that is already downloaded in `'BifrostCalculator\ArduinoSketches\Libraries'`.

2. Adding TinyExpr to Arduino IDE

- Open **Arduino IDE**.
- Navigate to **Sketch → Include Library → Add .ZIP Library...**.



- Select the **TinyExpr** zip and click **Open**.

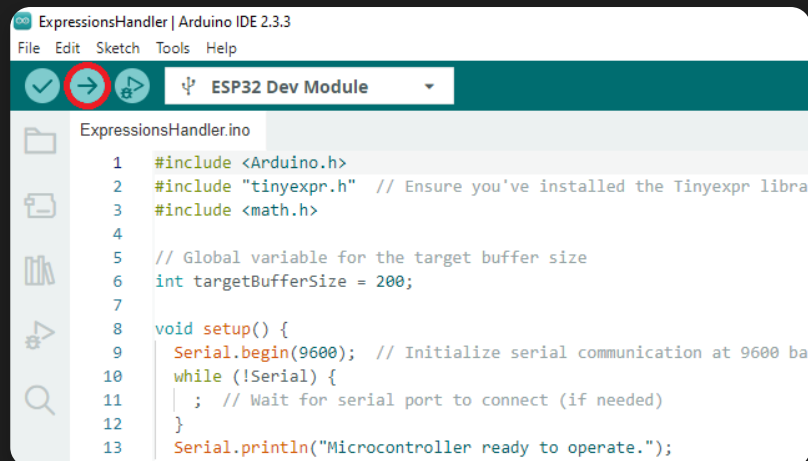


- The library should now be installed.

To verify, go to **Sketch** → **Include Library** and check if **TinyExpr** is listed.

Uploading the Sketch to the Microcontroller

Now that the TinyExpr library is installed, let's upload the calculator sketch.



The microcontroller is now running the Bifrost Calculator firmware.

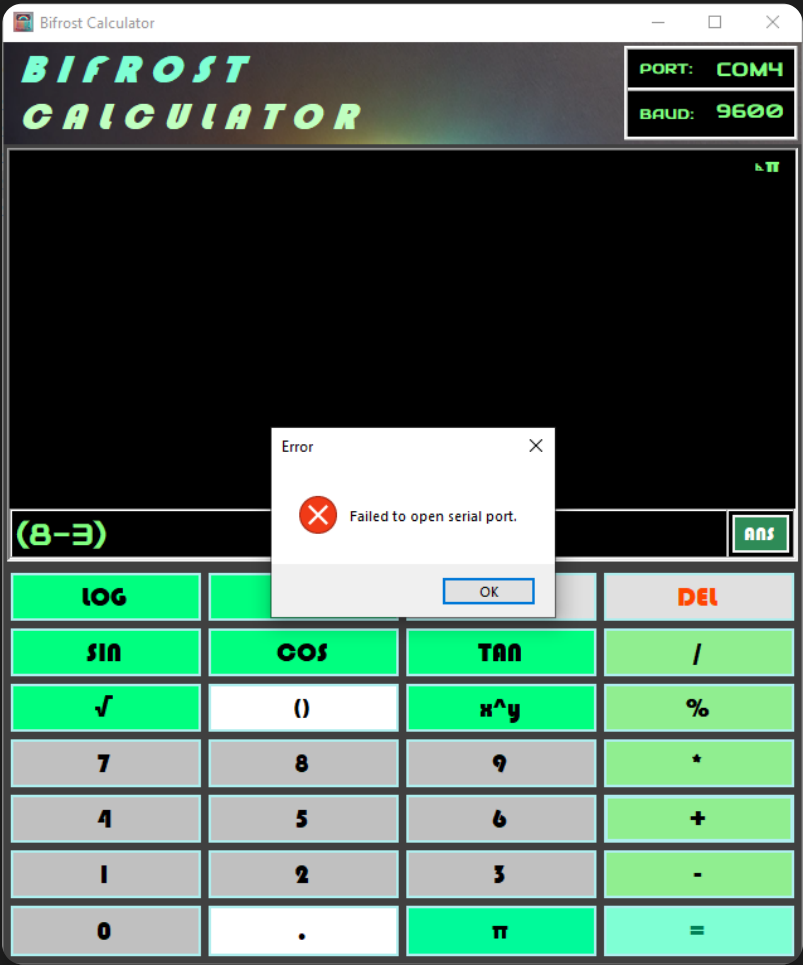
Testing the Setup

To ensure everything works as expected:

1. Open the **Serial Monitor** in Arduino IDE (**Tools** → **Serial Monitor**).
2. Set the **baud rate** to **9600** (or the rate you configured).
3. Type a **math expression** (e.g., `5+3*2`) and press **Enter**.
4. If everything is working, the microcontroller will **evaluate the expression** and return the result.

Important Note

If the **Serial Monitor** is open in Arduino IDE, the **Bifrost Calculator** will not be able to connect to the **microcontroller**. The serial port can only be used by one application at a time, so close the **Serial Monitor** before trying to use the calculator.



You’ve successfully **installed TinyExpr**, **uploaded the sketch**, and **tested the setup**. Now you’re ready to use the **Bifrost Calculator** with your Windows application.

If you encounter issues, check your board’s COM port settings, make sure TinyExpr is installed correctly, and try restarting Arduino IDE.