

GRIT Gate Control

Gate Control is GRIT's automated solution to managing airflow across your dust collection network. Rather than manually opening and closing duct gates each time you switch tools, GRIT Gate Control does it for you – the correct gate opens when a tool starts, and the previously used gate stays open until another tool is turned on, ensuring your dust collector always has airflow. Each gate unit contains a servo actuator that communicates wirelessly with the GRIT Hub over the mesh network.

This guide covers everything you need to get your gates up and running: physically installing the gate to your existing metal blast gate, wiring and powering the device, correctly placing the gate arm, and calibrating the gate's travel limits through the GRIT app.

Anatomy of the GRIT Gate Control

*blast gate pictured for demonstrating purposes. GRIT Automation does not sell or provide metal blast gates.



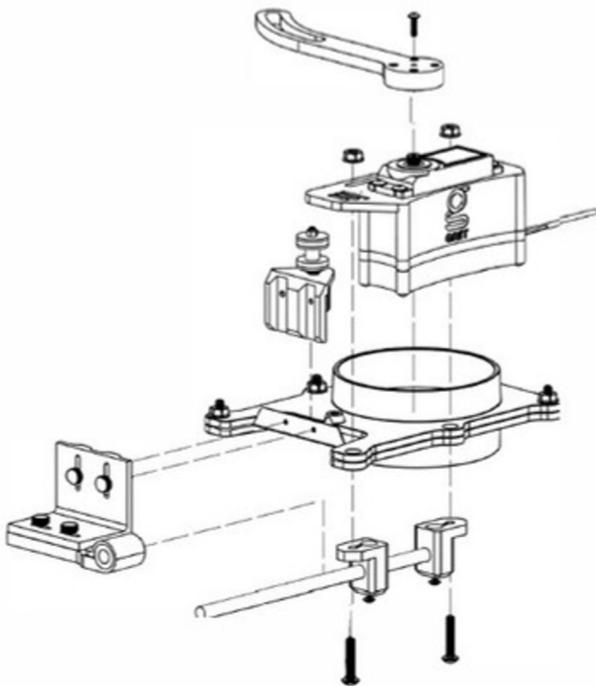
1. 12VDC-powered Gate Actuator in PLA/PETG housing (includes mounting hardware)
2. Gate Arm (includes mounting screw)
3. Tab Bracket (mounts to blast gate's tab and connects to Slide Bearing Arm and Gate Arm)
4. Slide Bearing Arm with Connection Bracket (includes mounting thumb screws)
5. Metal Rod
6. Rod Brackets to hold Metal Rod in place (includes tightening screws)
7. Drill Guide (used to properly drill mounting holes for Tab Bracket)

Installation and Calibration

The instructions to install your Gate Control are listed below. You will need the following tools to complete installation:

- 18/2 Solid copper wire (10ft. provided)
- Power driver (H2 bit provided with first order)
- Power drill (5/32" Titanium Nitride bit provided with first order)
- Slotted 2.5mm screwdriver (provided with first order)
- 7mm socket driver (provided with first order)
- P2 screwdriver
- Wire stripper
- Sandpaper (120-220 grit)

The following instructions are meant to supplement the installation video found on our website (or by scanning this QR Code).



**For Step-by-Step
Instructions and ALL
the helpful tips,
watch our
Installation Video**



SCAN ME



Step 1:

Remove any metal burs or sharp corners that could impede the slide's ability to work smoothly.



Step 2:

Remove any locking screws completely.



Step 3:

Place the Drill Guide over the gates tab. Using the provided 5/32" drill bit, drill the two holes. To ensure that the guide hasn't moved, it can be helpful to place a bit through the first hole before drilling the second. These holes will need to line up with the holes of the Tab Bracket in a later step.

Please note that a Drill Guide is only to be used once. Each Gate Control is packaged with one.



Step 4:

Remove these two screws on the metal blast gate housing.



Step 5:

Flip the blast gate over to install the rod brackets to the under-side.

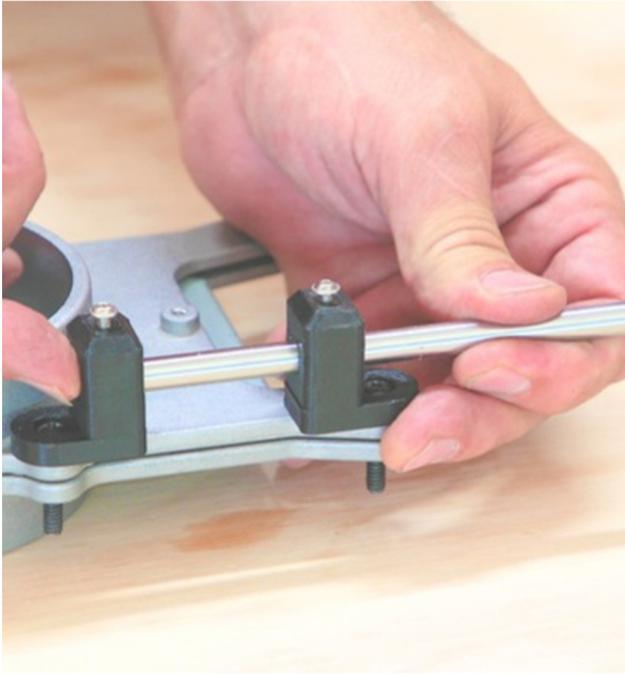
Using the provided 10-24 mounting screws, attach the rod brackets to the blast gate through the openings left by removing the existing screws in step 4.

Do not tighten all the way.



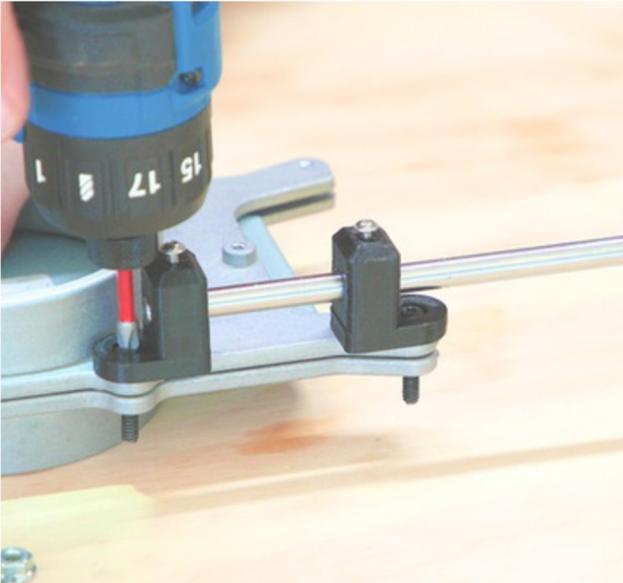
Step 6:

Insert the metal rod through the holes in the rod brackets, as shown.



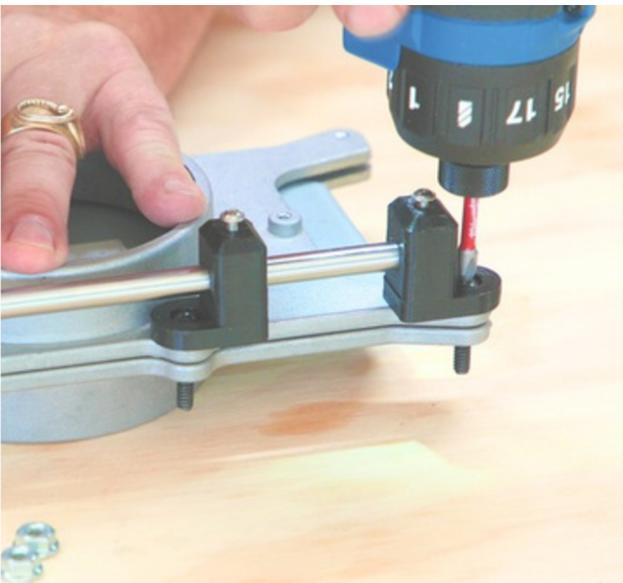
Step 7:

Push the rod through so that the end is flush with the opening in the rear rod bracket.



Step 8:

Tighten the mounting screw completely.



Step 9:

Repeat Steps 7 + 8 in order to tighten the front rod bracket.



Step 10:

Flip the blast gate back over to expose the other side of the mounting screws.



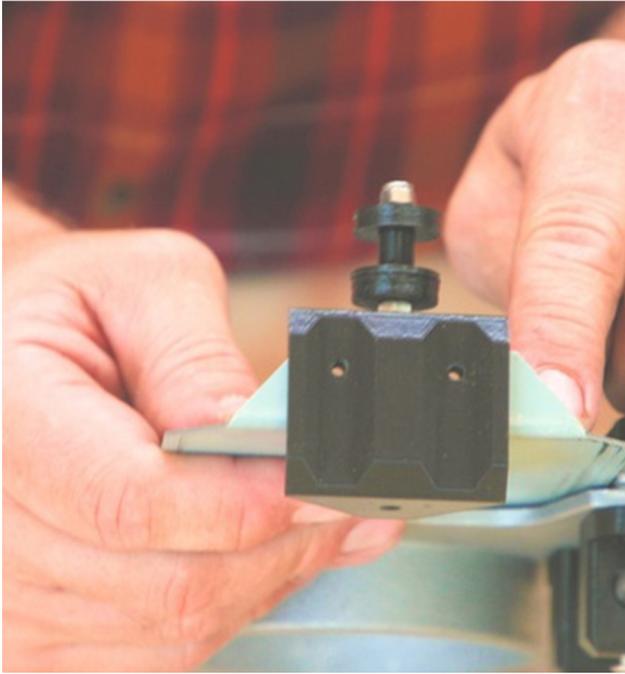
Step 11:

Place the gate actuator over the mounting screws.

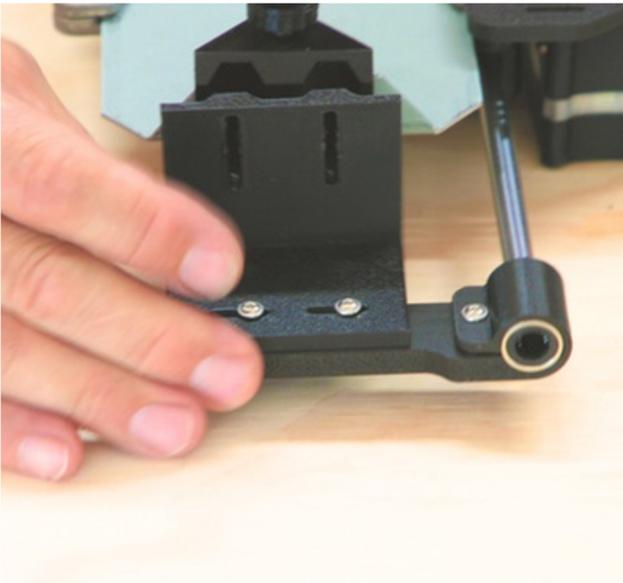


Step 12:

Use the provided 10-24 flanged nuts to tighten the actuator to the blast gate.



Step 13:
Place the Tab Bracket over the gate's tab and align the holes.

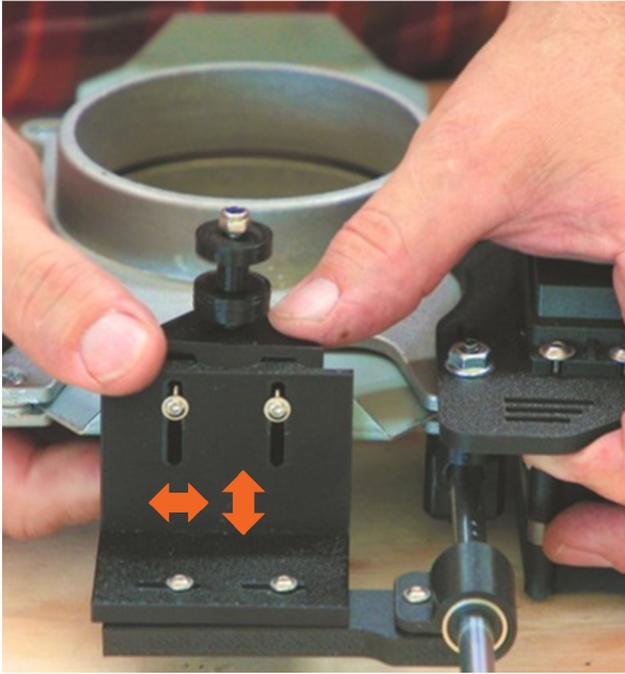


Step 14:
Slide the bearing slide arm over the metal rod and align the connection bracket grooves with the tab bracket.

Be careful not to repeatedly dig the end of the rod against the inside edges of the bearing as this can dislodge the bearing balls.



Step 15:
Connect the bearing slide arm's connection bracket to the tab bracket with provided M3 x 20mm Thumb screws.

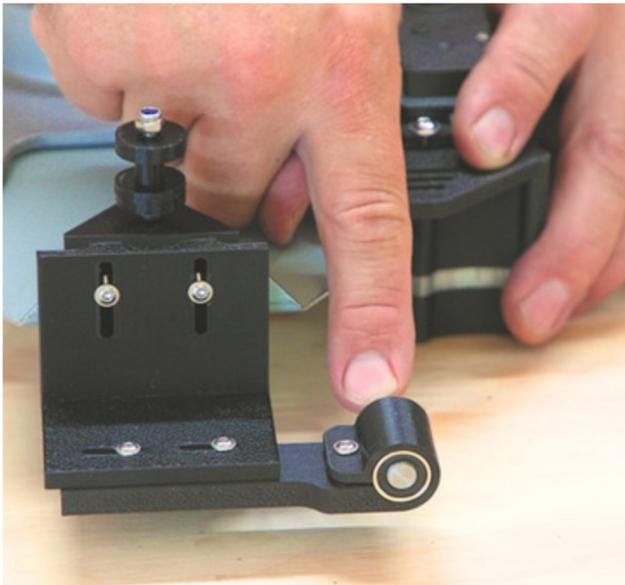


Step 16:

The goal is to lock these parts together so that the bearing arm slides smoothly along the rod without any binding of the gate.

Adjust the connection bracket up and down and/or side to side to find the best position for a linear path.

Fully tighten the thumb screws when the slide glides in and out well.



Step 17:

Pull the slide to its open position to ensure that the bearing slide arm does not extend past the rod.



Step 18:

Once the rod's position is set, flip the gate over and **gently** tighten the set screws so that the rod won't move.

This can be done by hand with a H2 screwdriver if the power driver is too much.



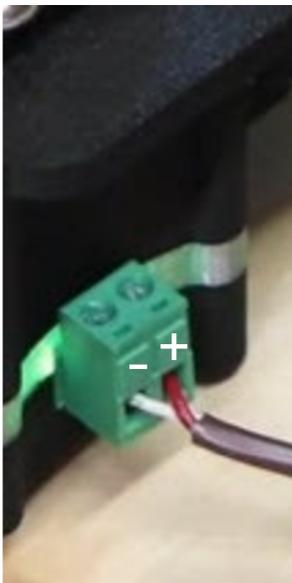
The remaining steps for installation and calibration require that the Gate Control device be powered and bound to the Hub.

The gate arm CAN ONLY BE PLACED using the GRIT App. Placing the arm without powering the gate actuator and binding it to the HUB will break the device.



Step 19:

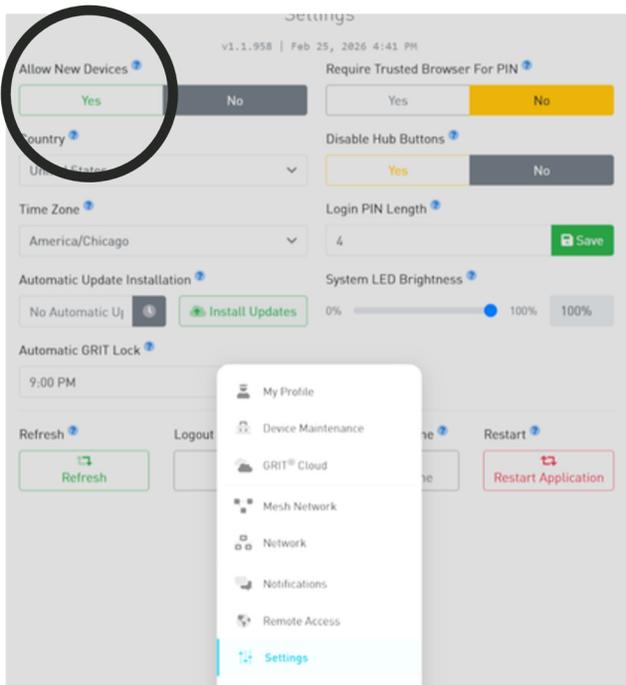
Plug in Power Bank and Bind it to the Hub. Power is able to flow when its light is green.



Step 20:

Create a small wire whip to power the Gate Control.

Keep in mind that polarity continuity is important and the positive (+) and negative (-) inputs for the green terminal and the power bank jack are on opposite sides.



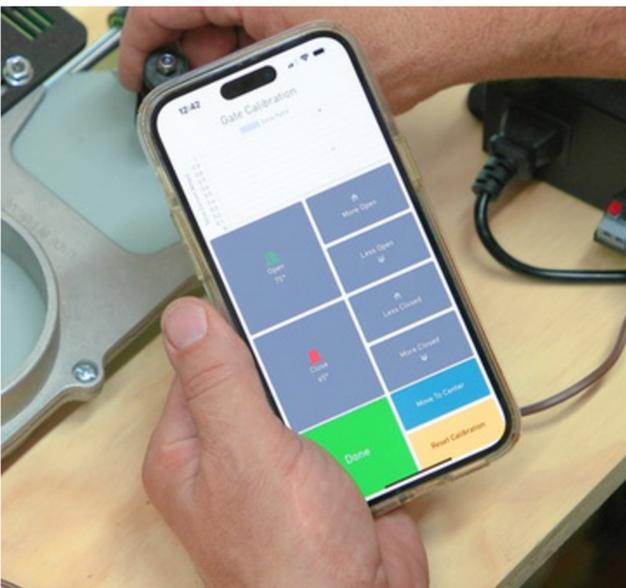
Step 21:

Once the Gate Control is receiving power, Bind it to the Hub.

Admin-->Settings-->Allow New Devices set to 'Yes'

or

Press the center, blue Bind button on the front of the Hub

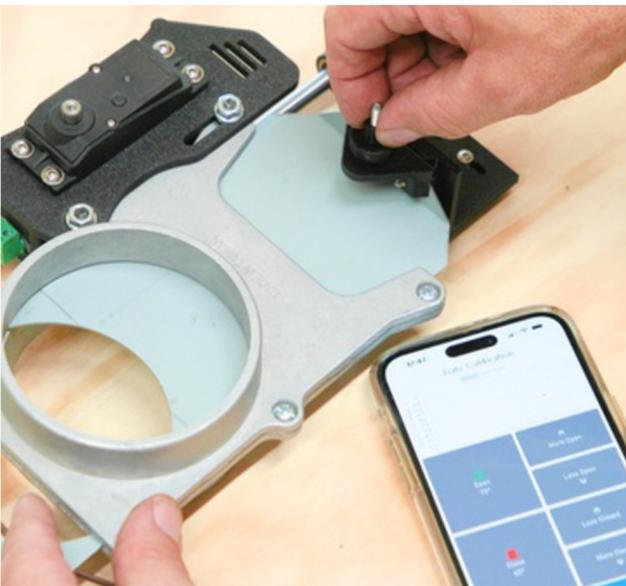


Step 22:

Enter the Calibration screen for the selected Gate Control (in GRIT App) to properly place the gate arm.

Press "Move To Center".

Devices--> Gate--> *select specific gate*-> Calibrate--> Move To Center



Step 23:

Remove the M4 lock nut, first two flat washers and "hat washer" from the bolt of the tab bracket so the post is exposed.



Step 24:

Move the gate slide to its middle open/closed position.



Step 25:

Place the gate arm over the tab bracket post. Line up the metal tines in the gate arm with the mount on the actuator. It may be necessary to open/close the slide a bit in order to line them up.

Press down firmly and attach with M3 x 12mm flanged screw.



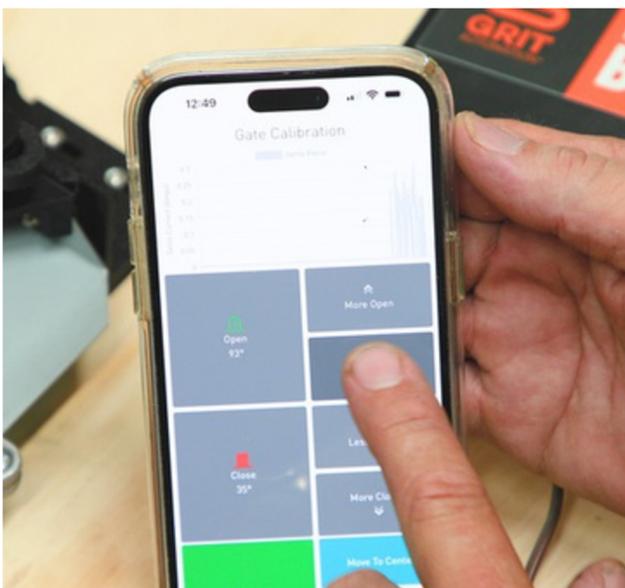
Step 26:

Replace the “hat washer” and flat washers.

**Step 27:**

Verify that the gate arm is sitting parallel to the slide level. If not, adjust the distribution of flat washers to enable it to sit at a level angle.

Add the M4 lock nut and tighten slightly, so that the washers can still rotate.

**Step 28:**

To complete the Open/Closed calibration of the gate:

Press Open. The gate arm will now pull the slide to its current open set point. Adjust this by pressing “More Open” and “Less Open”.

Once the correct “open” placement is found, repeat the process to find the correct “closed” setting.

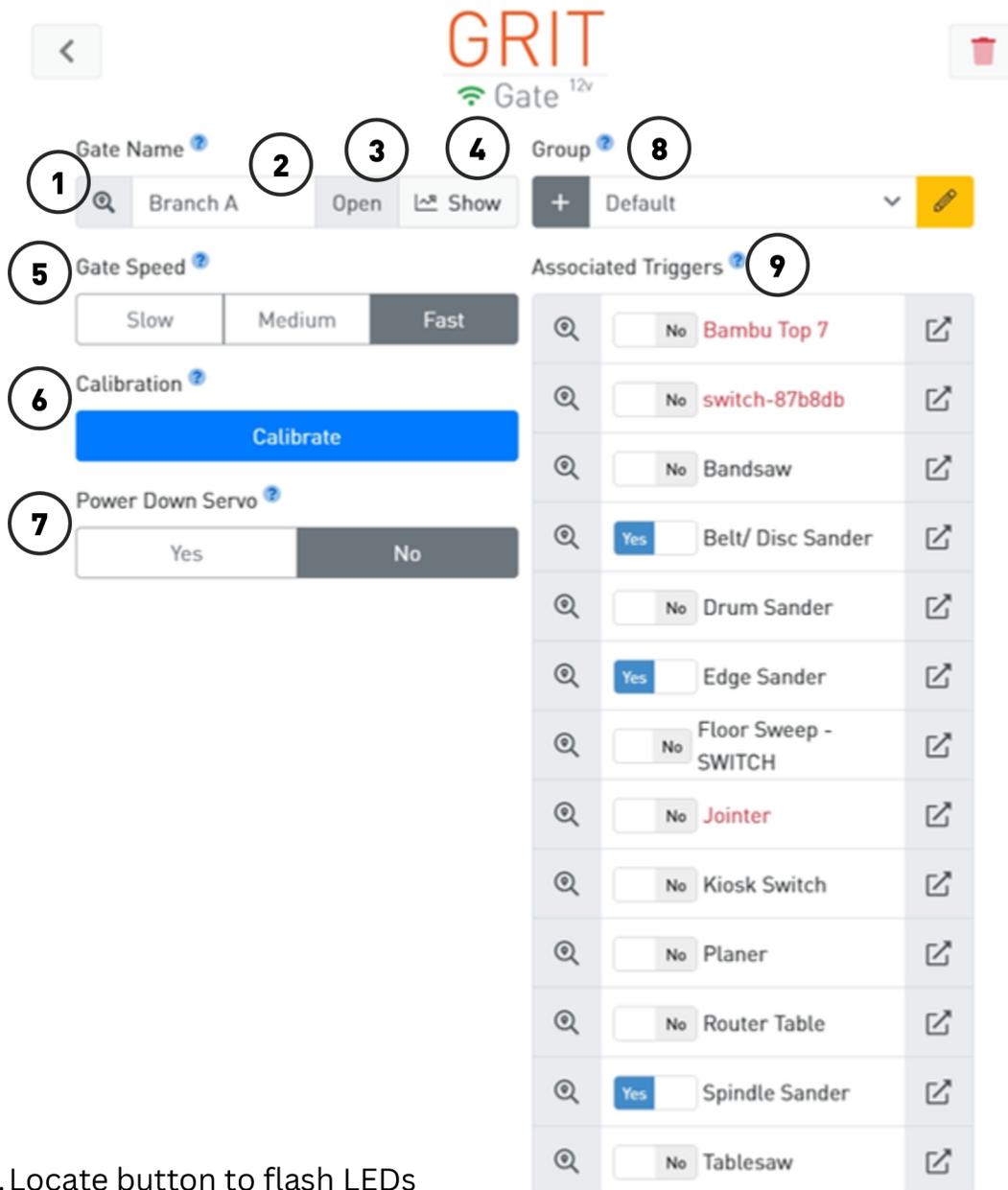
Closed--> “More Closed”/”Less Closed”.

Be sure to not set the Open/Closed positions too far as that can stress the motor. The aforementioned video gives a very nice detailed explanation of this process.

Press ‘Done’ when complete.

Configuration

Devices-->Gate--> *select specific gate to configure*



1. Locate button to flash LEDs
2. Editable name field
3. Open/Close button
4. Graph button to expand servo power graph
5. Gate speed selection (how fast the servo opens/closes)
6. Calibrate button to enter the screen for setting gate control's open and closed settings
7. Power Down Servo allows the system cut power to servo when not actively open/closing
8. Option to group devices by location
9. Associate this gate with any number of triggers