

Arcadia GIMG2660Txx Rover Motor Controller

The Motor controllers on Arcadia Rovers are designed to move 48v motors. Learn how the RoboteQ GIMG2660Txx - 4th Generation High Power 2 x 180A or 1 x 360A Variable Frequency Drive for AC Induction Motors work using raspberry pi and Arcadia Rovers. Below is a beginner tutorial to help you get started!

- ☐ [How to Create a High-Quality Project Tutorial](#)
- ☐ [Content Guidelines](#)
- ☐ [instructables](#)
- ☒ ~~**Know your audience** — Who is audience; write it down. *Are they beginners seeking a basic understanding or experts looking for advanced insights?*~~
- ☐ **Design the Tutorial as if it was a conversation.**
- ☐ **Involve learners actively** - Include tasks for students to carry out that lets them try out your learning process.
- ☐ **Work with what learners already know**
- ☐ **Manage the flow of the learning conversation** - "[Show Them](#)" how to do something by doing a deep dive into an explanation.
- ☐ **Go from the particular to the general (at least sometimes)** - Tell them how to do the specific task, step, or concept, but also provide some links to more background information about the specific task, step, or concept.
- ☒ ~~**"Are We Going To Have A Test?"** — Imagine your testing them — "what do I want the person who watches the tutorial to learn"~~
- ☒ ~~**ELI5 — Explain Like I'm 5** — Ask yourself what if someone non-technical had to read/watch the tutorial. Simplify some explanation (esp. "why" they should bother)~~
- ☒ ~~**Is There A Gap?** — The gap between your knowledge and your readers' understanding can be disheartening.~~
- ☒ ~~**Are Your Sources Valid, and Well Researched?** — By presenting a well-researched tutorial, you establish yourself as an authority in your field.~~
- ☒ Have 1-3 project pictures, videos or other images that will capture the imagination of the reader.

Prerequisite & Baseline Knowledge:

What is an Arcadia motor controller?

Arcadia motor controllers are devices that manage the operation of electric motors, typically within motor control centers (MCCs). They control aspects such as speed, direction, and the starting and stopping of the motors. They are used in various applications, including industrial automation, robotics, and even consumer electronics.

Parts & Software used in this project:

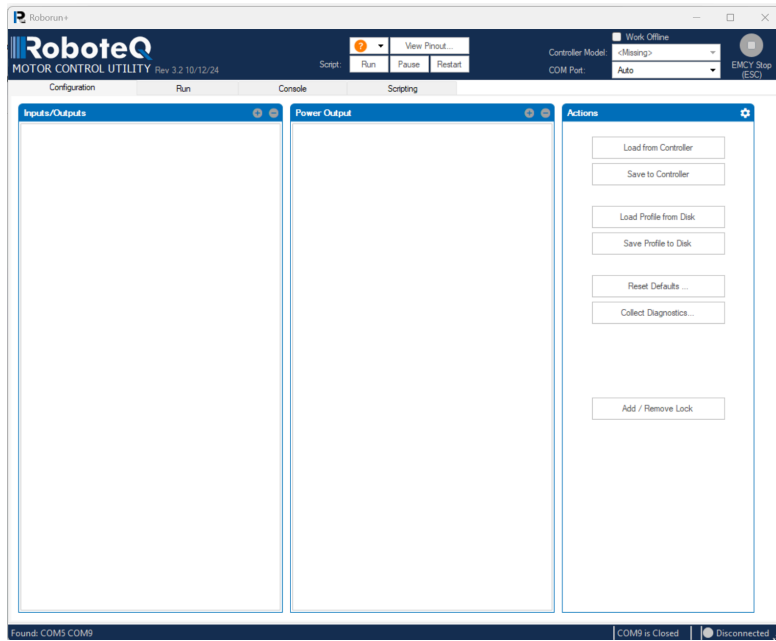
List of parts and software, where to get them or how to access them..

Hardware components

	Item	#	Description / Link
1	Motor Controller		
2			

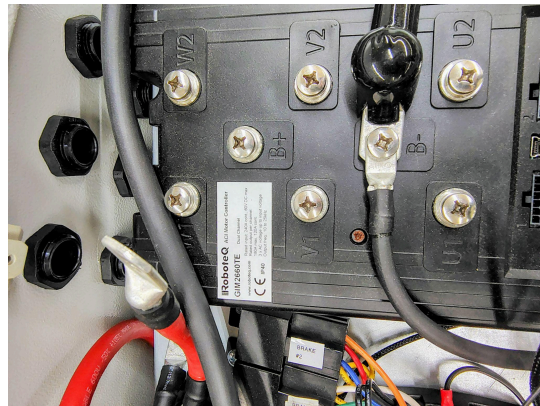
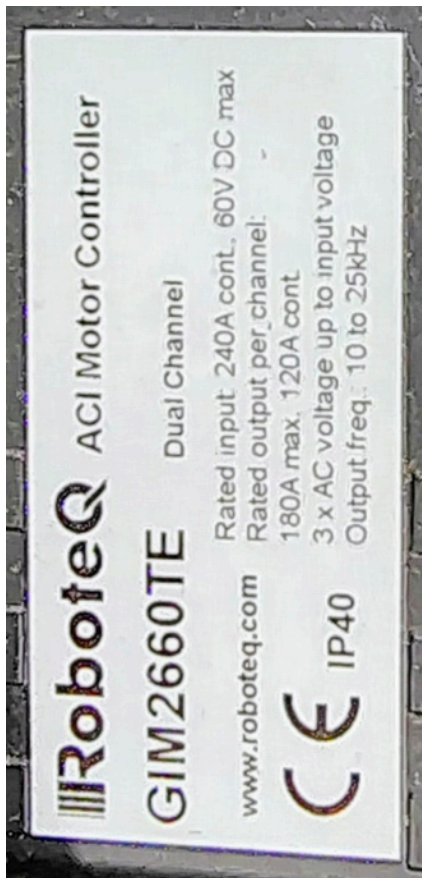
Software components

- The GIMG2660Txx uses the RoboteQ software Robotec+ [RoborunPlus v3.2 20241012 \(archived here\)](#)



Additional Electronic Files and Links

- [GIMG2660Txx - Data sheet](#)



- [RoboteQ User Manual](#)
- [RoboteQ - Roborun+ Manual](#)

Project Overview:

The goal for this project tutorial, is to connect a Raspberry Pi to the GIMG2660Txx and spin 2 motors

Do the following in this introduction and/or in the steps:

- ☐ Think of any questions the reader will have, and try to answer them here in the introduction or in each of the steps. Remember, this is your 2-3 time thinking about and trying this lab/tutorial, but your audience may never have seen or learned about this topic. Try to proactively answer any questions they will have.
- ☐ On all of your images, make sure to provide a detailed caption that really tells the user what they're seeing and WHY.

- ☐ If you are posting code, make sure it is selectable if it is a small snippet, but if not make sure there is a link to a github site so your readers can cut and paste it.
- ☐ If a step seems too complicated or has multiple topics, then it probably should be split into multiple steps. It's OK to have lots of steps.
- ☐ Make sure you provide a time frame for each step. How long should it take your reader to do?

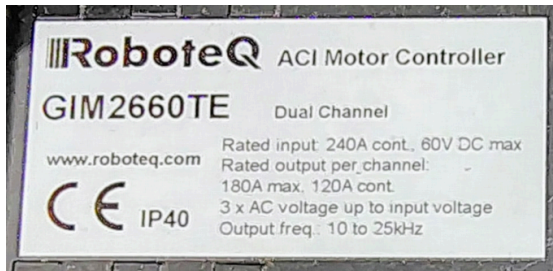
Step 1: Read & Understand the Motor Controller

Overview:

You are going to read the GIMG2660Txx motor controller Data Sheet and User Guide to get an introduction to the features you will need.

Tools, Components & Software Used:

- [GIMG2660Txx - Data sheet](#)



- [RoboteQ User Manual](#)
- [RoboteQ - Roborun+ Manual](#)

Let's Get Started - Data Sheet Highlights:

Roboteq's GIMG2660Txx is a feature-packed, high-current, dual or single channel drive for AC Induction Asynchronous motors.

Open the [GIMG2660Txx - Data sheet](#). You are going to look at the following sections

- Page 1 - Key Features:
 - I/O Control features - USB, Serial, 0-5V Analog, or Pulse (RC radio) command. We are going to explore how to control the motor controller with the:
 - USB port
 - Serial port
 - 0-5 Analog

■ Pulse (RC Radio)

- Warnings - Page 2 - Warnings should be reviewed, but in the follow-on steps, each warning will be addressed as you connect to the controller:
 - First feature when connecting power to test the motor controller, will be to have an emergency stop / power cut off
- Caution - Page 4 - Caution - Review the mandatory power connections. All Caution recommendations should be reviewed, but in the follow-on steps, each Caution recommendation will be addressed as you connect to the controller:
 -
- DB25 Port - Page 7-8 - This is how you will be connecting. Review these pins. There will be a follow-on step to describe the specific connections:

Commands and I/O Connections

Connection to RC Radio, Microcomputer, Joystick and other low current sensors and actuators is done via the 25 connector. The functions of many pins vary depending on controller model and user configuration. Pin assignments are found in Table 2, below.

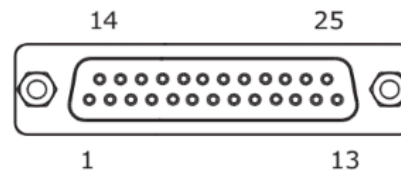


FIGURE 5. Main Connector Pin Locations

- ;Status LEDs - Page 10-11 - Review the Status LED settings and what they mean.
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What Should be Working/Done:

This is just a last paragraph to tell the reader what they should have accomplished, what should be complete, what should be working... AND how they will know. Is there some test to run, is there some mechanical capability the item should have? Just make sure they are done with this step before they move on.

Step 2: <Step Title >

< Replace This Text/Paragraph/Section - Give an Overview for the Step - This paragraph is an intro to getting started on the specific project. The reader has gotten this far, they are ready to start... get them going with some explanations and then jump into the steps.

Overview:

Give an overview for this step. Include a "Why are we doing this step in this order"

Tools, Components & Software Used:

List any tools, components or software used in this step. Describe how to prepare these items

Let's Get Started:

Now tell them what they are doing, and how to do it... This is the details of the step.

This is probably a few paragraphs or sub-steps. It can be a mix of paragraphs and bullet points

What Should be Working/Done:

This is just a last paragraph to tell the reader what they should have accomplished, what should be complete, what should be working... AND how they will know. Is there some test to run, is there some mechanical capability the item should have? Just make sure they are done with this step before they move on.

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Software:

Related and "What's Next?"

< **Replace This Text/Paragraph/Section With Your "Dig Deeper" Plan** - This where you provide a paragraph on what you think your or reader should do next, "Dig Deeper"

- List links
- list another...
-
-
-
-

TEMP, continue for next time

https://www.optica.org/about/newsroom/corporate_member_news/2024/arcadia_optronix_introduces_swept_tunable_laser_module_and_fbg_interrogator/

<https://lidarradar.com/info/the-different-types-of-lidar-systems>

<https://www.atmospheredrones.com/lidar-arcadia-ia/>

<https://www.youtube.com/watch?v=pJfXrotkxhl>

<https://www.sphengineering.com/news/the-ultimate-guide-to-lidar-drone-mapping-for-professional-pilots>
<https://learn.rockrobotic.com/resources-for-lidar>

Daily Blog Of Work and Project Progress:

Reference and Appendix:

- <https://www.sciencedirect.com/topics/engineering/motor-controller>
- <https://www.neonscience.org/resources/learning-hub/tutorials/lidar-basics>
- <https://www.neonscience.org/resources/learning-hub/tutorials/lidar-basics>
- <https://www.swarco.com/mobility-future/intelligent-transportation-systems/lidar-cars>
- <https://www.hesaitech.com/things-you-need-to-know-about-lidar-solid-state-and-hybrid-solid-state-whats-the-difference/>
- <https://www.neonscience.org/resources/learning-hub/tutorials/lidar-basics>
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