

1. How do I wire my VCA to the controller?

Please visit the Getting Started page where we have resources and a video to walk you through unboxing and wiring your VCA.

2. How big of a power supply do I need?

The unfortunate answer is that it depends. Each developer kit is paired with a controller of the right size, so a quick rule of thumb is that the peak voltage and peak current of the actuator are your limits for the supply.

3. What is the maximum frequency I can achieve?

Each actuator has a maximum theoretical frequency for both sinusoidal and trapezoidal oscillation (listed on the actuator drawing). Remember this is a no-load value, so applying load will only decrease the maximum frequency achievable.

4. What is the resolution of your position sensor? What does this mean in terms of position step size?

The Ingenia controller sensor input is 12-bit, so there are 4096 unique steps along the stroke of the actuator. This means that if you have an actuator with a larger stroke, it will have larger steps. Ex) 10mm stroke means $10/4096 = 2.44$ micron per step.

5. Can the controller be programmed to work standalone?

The short answer is yes. To get started we suggest you browse Ingenia's how-to guide on programming (<https://doc.ingeniamc.com/wiki/how-to-articles>). Individual program help is available through our support email.

6. Can I swap out the two controllers for one another?

You can, as long as the controller can take the input power required by the new actuator. The performance is not guaranteed to be the same, however. Just like the position resolution, each controller will apply its resolution across its maximum allowed current. Meaning if your controller can handle larger current, say 20 amps instead of 10, it will have double the size in steps.

7. Do I need to tune my controller for my application?

Our controllers come tuned for a no-load scenario, meaning that the PID loop is weak under load. Ingenia has a wonderful how-to guide on tuning (<https://doc.ingeniamc.com/wiki/how-to-articles>). For those who would like a live walkthrough, please send a request through our support email.

8. I lost my configuration file, where do I get a new one?

Send an email to support with the model of the actuator (ex: LAS43-88-000A) as well as the serial number (ex: 1751-004). You can find this information on the housing of the actuator itself.