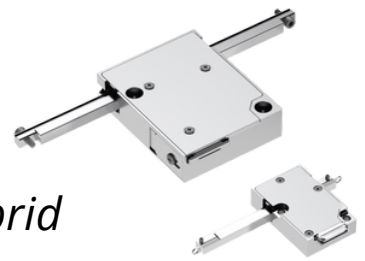


Quick start guide

XLA micro actuator - open loop & hybrid



Before you start:

Do **not** lubricate! Please see FAQ.

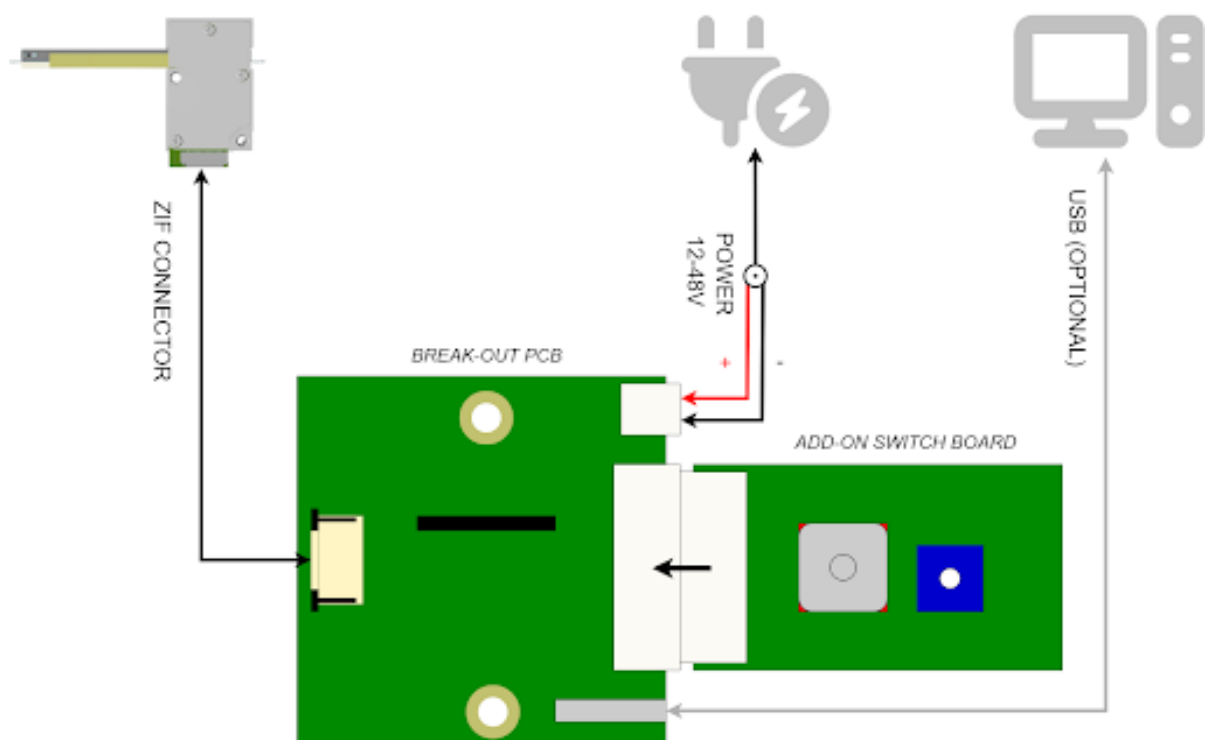
Do **not** insert ZIF cable while powered! Damage may ensue.

Do **not** touch white ceramic strip with your fingers! If touched, clean with IPA alcohol.

Follow the steps below to get started:

Instructions (see schematic overview)

1. Connect ZIF cable (see photos on page 2 for orientation) to the actuator and break-out PCB.
2. Plug the add-on switch board into the break-out PCB.
3. Plug the power cable into the break-out PCB.
4. Plug the DC adapter into a power source.
5. The actuator is now ready to move.
6. Use the red switch to control direction and the blue potentiometer to control speed.



Schematic overview of connections

Frequently asked questions

XLA micro actuator - open loop & hybrid

Q: What am I looking at?

A: *You're looking at a Xeryon micro actuator driven by an ultrasonic resonant piezo motor.*

Q: How does it work?

A: *The motor uses vibration to move a ceramic tip in an elliptical pattern at a very high frequency (80 kHz - 180 kHz). Spring-loaded against a ceramic strip on the actuator rail, it generates very small but rapid movements, resulting in high-speed motion and silent operation with a long lifetime.*

Q: How does it differ from electromagnetic linear actuators?

A: *Xeryon's micro actuators offer a unique combination of high speed, precision, long stroke, and durability in an ultra-compact design, overcoming the limitations of traditional linear actuators where trade-offs have to be made (e.g. stroke length in voice coils and size factor in linear motors). Xeryon's actuators are gearless, self-locking, energy-efficient and operate at low voltages. They don't produce a magnetic field, are back-driveable, and free from drift or play.*

Q: How does it differ from other piezo linear actuators like stick-slip or walking piezo?

A: *Xeryon's ultrasonic piezo actuators are much faster, have a much larger stroke, a much (much!) longer lifetime, operate noiselessly, consume less power, and operate at a much lower voltage at the piezo element.*

Q: What voltage should we use?

A: 12 - 48 VDC.

Q: Why does the rail / rod not move freely?

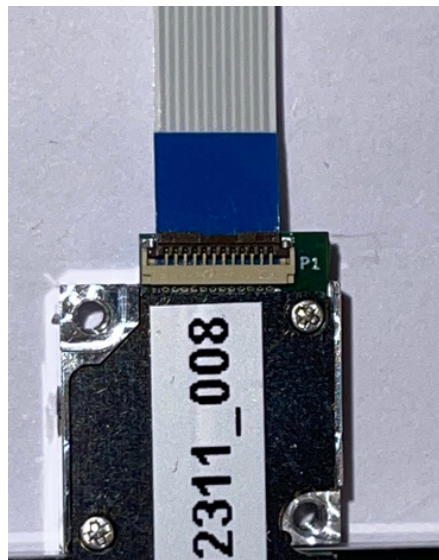
A: *When you manually move the rod, you might sense a 'grinding' feeling. This is normal. The motor is spring-loaded against the actuator rod and is friction-based. The actuator's holding force is equal to the driving force.*

Q: How do I orient the ZIF cable?

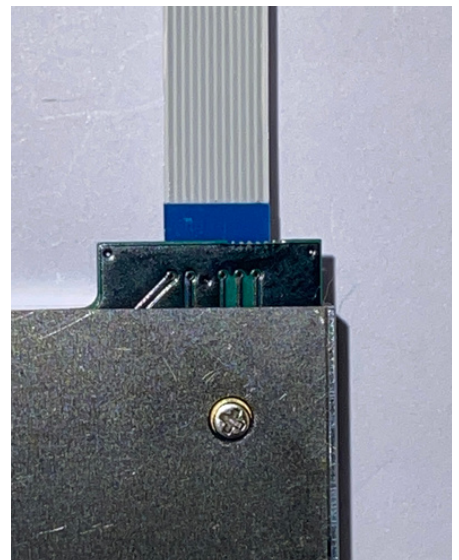
A: *Please see these pictures below.*



Break-out PCB



XLA-1



XLA-3, XLA-5 and XLA-10