

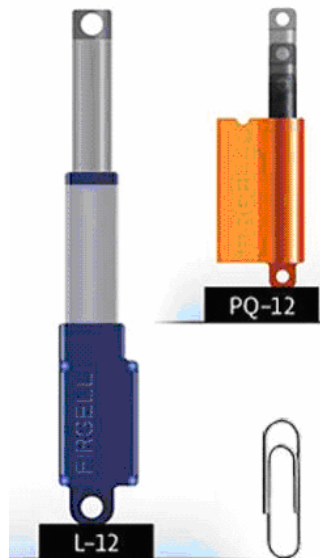
# Extending Actuator Life

## Products:

L12-SS-GG-VV-C

PQ12-GG-VV-C

This note is supplied to provide further information about extending the life of Firgelli Actuators. While Firgelli strives to provide the longest lasting actuators available at their price point, life can vary by application. There are several techniques that are recommended to ensure full actuator life is realized. Under light loads these techniques can often result in life times well in excess of the specification, which are de-rated to cover normal operation.



### L12-I/L12-R:

- Limit your control signal to ensure that the actuator never impacts the end stops. For example, limit your control signal to between 0.1V and 4.9V. Stall detection is built into this controller, however further service life may be possible using the above method.
- Ensure static safety procedures are implemented when handling the actuators, to prevent ESD failures.
- Provide the actuator with a clean and well regulated power supply, this will help reduce noise in the system and also reduce the chances of over voltage damage.

### L12-S/PQ12-S:



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- Internal limit switches ensure the actuator never hits the end stops, however excess loads can still cause stalls along the stroke.

### L12-P and PQ12-P:

- These actuators provide a linear position output but do not have limit switches. It is up to the external controller to shut off the motor based on the feedback value. Do not allow these actuators to stall, and the life will be increased significantly.

### General:

- Ensure the actuator is never required to generate more force than is specified in the datasheet. At stall, these motors can exceed the allowed maximum.
- Another technique to prevent overloading is to clamp the current to a safe level. Since these actuators utilize PMDC motors, current is directly proportional to the force generated. Limiting the current will reduce the impact of a stall or overload condition.
- 3<sup>rd</sup> Party external limit switches can be added to the –B, or -P control options.
- These actuators are not sealed to be waterproof. They will be damaged over time if water is forced inside the actuator.

*Technical assistance and design support services — Disclaimer of Warranties; Release of Claims*

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