The Servo Cylinder is an Electromechanical Linear Actuator with a fully integrated Phase Index™ Field-Oriented (FOC) Brushless DC (BLDC) motor control and positioning system.

Features & Ratings:

- **Integrated Controller**: Input a compatible control signal for plug-and-play operation
- **Absolute Encoding**: No homing/battery required
- **Full Command Line (CLI) language**: For control, feedback, and communication
- **Easy Configuration**: Configured via editable text file in USB Mass Storage, or with serial commands

### Choose Any Series, Choose Any Controller

**A1 Series: Standard Servo Cylinder**

The A1 Series actuator is our standard Servo Cylinder model. It is best suited to cleaner indoor environments, and is available at a lower cost than our other sealed models.

- IP50 Environmental protection
- Molex Micro-fit Connector

**A2 Series: Industrial Servo Cylinder**

The A2 Series actuator is our industrialized Servo Cylinder model. It is sealed to a level suitable for wash-down, outdoor, or more debris laden industrial environments.

- IP65 Environmental protection
- IP Rated metal shell connectors

**AM Series: Ruggedized Servo Cylinder**

The AM series actuator is our most heavily ruggedized Servo Cylinder model. It features high performance mil-spec connectors and has been hardened to higher magnitude mechanical shock and vibrations. This actuator is suitable for harsh military environments.

- Type III Hard Anodize coating
- Conformal coated controller PCB
- MIL-D-38999 electrical connectors
- IP67 Static, IP65 Dynamic

**AU Series: Subsea Servo Cylinder**

The AU series actuator is our underwater Servo Cylinder model. It has been designed with an oil-filled internal pressure compensation system for operation in subsea environments of both salt and fresh water.

- Type III Hard Anodize coating
- Wet-Mate electrical connectors
- Sacrificial anodes for corrosion resistance (replaceable)
- Fully Sealed, Oil filled enclosure
- Pressure balanced, 250 ft (~75 m)

### Features & Ratings Table

<table>
<thead>
<tr>
<th>Rating</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force (Peak)</td>
<td>Up to 530 lbf (2.36 kN)</td>
</tr>
<tr>
<td>Force (Continuous)</td>
<td>Up to 270 lbf (1.20 kN)</td>
</tr>
<tr>
<td>Speed</td>
<td>Up to 14 in/s (356 mm/s)</td>
</tr>
<tr>
<td>Stroke Length</td>
<td>Up to 7.75 in (197 mm)</td>
</tr>
<tr>
<td>Resolution</td>
<td>Up to 0.000061 in (1.55 µm)</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>8 to 36 VDC</td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>IP50 to IP68 (Varies by Model)</td>
</tr>
<tr>
<td>Temp. Range</td>
<td>-40° F to 176° F [-40° C to 80° C]</td>
</tr>
</tbody>
</table>

Configure Online
ultramotion.com

888-321-9178
631-298-9179
Why is it better?

- Phase Index is the only sensor you need: eliminate limit switches, potentiometer, optical encoder, LVDT, resolver, Hall effect devices, etc.
- Robust digital contactless position feedback that reliably operates throughout extreme temperature ranges and at high levels of shock and vibration.
- No homing: full accuracy on startup.

How does it work?

Phase Index works by using the phase relationship between two cyclic signals with different periods to determine absolute position within a larger interference cycle of the combined signals.