INDUSTRIAL & REDUNDANT
SERVO ACTUATORS

Northwest UAV
A GLOBAL COMPANY

Where Precision and Reliability Soar!

EXCLUSIVE US DISTRIBUTOR FOR

Pegasus
Actuators GmbH

- Dependable Oil Bath
  Lubrication Improves Geartrain
  Service Lifetime
- Actuators are Shielded to
  Minimize EMI/RFI Susceptibility
  and Magnetic Interference
- Enhanced Vibration Tolerance
- Incorporated Aerospace
  Specified Connectors
- IPC-A-600 Class 3 Compliant
  Internal PC-board Design and
  Manufacturing

TOUGH TECH FOR
TOUGH ENVIRONMENTS
PEGASUS Servo Actuators are electromechanical drive units of extraordinary power density, precision and reliability. Pegasus offers a wide range of affordable Servo Actuators for multiple rotary and fixed wing UAV applications from 30 lbs up to 1000 lbs Maximum Takeoff Weight (MTOW).

**INDUSTRIAL SERVO CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Continuous Torque</th>
<th>Maximum Torque</th>
<th>Operating Voltage</th>
<th>Travel Angle</th>
<th>No Load Speed</th>
<th>PC-Board Signal</th>
<th>Motor</th>
<th>Geartrain</th>
<th>Case</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA-R-440-7</td>
<td>20Nm (14.8 Lb-ft)</td>
<td>&gt;35Nm (&gt;26 Lb-ft)</td>
<td>18-32 VDC</td>
<td>±90° (Standard PA-ME/Contactless Angle Sensor), Alternative Angles On Request</td>
<td>100°/sec @ 24 VDC</td>
<td>PWM Signal, TTL Level (Standard Configuration); PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol (optional)</td>
<td>BLDC Motor</td>
<td>10 Roller Bearings</td>
<td>Aluminum, Water &amp; Dust Protected (IP67) with Solid Horizontal and Vertical</td>
<td>1500 g (3.3 lb)</td>
</tr>
<tr>
<td>PA-R-340-9</td>
<td>1200Ncm (1700 oz-in)</td>
<td>&gt;2100Ncm (&gt;2970 oz-in)</td>
<td>18-32 VDC</td>
<td>200°/sec @ 24 VDC</td>
<td>200°/sec @ 24 VDC</td>
<td>PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol (optional)</td>
<td>BLDC Motor</td>
<td>8 Ball Races or Roller Bearings and PA-SC Overload Protection Output Shaft</td>
<td>930 g (33 oz)</td>
<td></td>
</tr>
<tr>
<td>PA-R-340-7</td>
<td>850Ncm (1200 oz-in)</td>
<td>&gt;1800Ncm (&gt;2500 oz-in)</td>
<td>12 VDC &amp; 18-32 VDC</td>
<td>200°/sec @ 24 VDC</td>
<td>240°/sec @ 28 VDC</td>
<td>PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol (optional)</td>
<td>BLDC Motor</td>
<td>8 Ball Races or Roller Bearings</td>
<td>780 g (27.5 oz)</td>
<td></td>
</tr>
<tr>
<td>PA-R-250-9</td>
<td>400Ncm (560 oz-in)</td>
<td>&gt;700Ncm (&gt;992 oz-in)</td>
<td>24 VDC</td>
<td>180°/sec</td>
<td>205°/sec</td>
<td>PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol (optional)</td>
<td>Hi-Output BLDC Motor</td>
<td>6 Ball Races and Rigid Output Shaft (Optional with Slip Clutch Output Shaft PA-SC)</td>
<td>335 g (11.82 oz)</td>
<td></td>
</tr>
<tr>
<td>PA-R-250-8</td>
<td>300Ncm (425 oz-in)</td>
<td>&gt;500Ncm (&gt;710 oz-in)</td>
<td>12 or 24 VDC</td>
<td>210°/sec</td>
<td>210°/sec</td>
<td>PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol (optional)</td>
<td>BLDC Motor</td>
<td>6 Ball Races</td>
<td>285 g (10.05 oz)</td>
<td></td>
</tr>
<tr>
<td>PA-R-205-6</td>
<td>180Ncm (255 oz-in)</td>
<td>&gt;350Ncm (&gt;495 oz-in)</td>
<td>6, 12 or 24 VDC</td>
<td>120°/sec</td>
<td>180°/sec</td>
<td>PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol (optional)</td>
<td>DC Motor</td>
<td>Hardened Steel, Spur Gear Type with 4-Point Fixation</td>
<td>150 g (5.3 oz)</td>
<td></td>
</tr>
</tbody>
</table>

**INDUSTRIAL & REDUNDANT SERVO ACTUATORS**

**Model Number**

- **PA-R-440-7**: The PA-R-440-7 servo actuator with 35Nm maximum torque is the Powerhouse of our product range.
- **PA-R-340-9**: By modifying our PA-R-340-9 servo’s hardware and software, we significantly increased the power output of this well proven servo actuator.
- **PA-R-340-7**: We implemented the high-output brushless DC motor technology, refined the geartrain and servo case design. Its power-to-weight relation speaks for itself.
- **PA-R-250-9**: For applications with high demands on powerful torque and high speed positioning. It combines extraordinary reliability and precision.
- **PA-R-250-8**: The PA-R-205-6, it’s the power version of our PA-R-205-4 type with modified software and a much more powerful motor.

**Continuous Torque**

- PA-R-440-7: 20Nm (14.8 Lb-ft)
- PA-R-340-9: 1200Ncm (1700 oz-in)
- PA-R-340-7: 850Ncm (1200 oz-in)
- PA-R-250-9: 400Ncm (560 oz-in)
- PA-R-250-8: 300Ncm (425 oz-in)
- PA-R-205-6: 180Ncm (255 oz-in)

**Maximum Torque**

- PA-R-440-7: >35Nm (>26 Lb-ft)
- PA-R-340-9: >2100Ncm (>2970 oz-in)
- PA-R-340-7: >1800Ncm (>2500 oz-in)
- PA-R-250-9: >700Ncm (>992 oz-in)
- PA-R-250-8: >500Ncm (>710 oz-in)
- PA-R-205-6: >350Ncm (>495 oz-in)

**Operating Voltage**

- PA-R-440-7: 18-32 VDC
- PA-R-340-9: 18-32 VDC
- PA-R-340-7: 12 VDC & 18-32 VDC
- PA-R-250-9: 24 VDC
- PA-R-250-8: 12 or 24 VDC
- PA-R-205-6: 6, 12 or 24 VDC

**Travel Angle**

- ±90° (Standard PA-ME/Contactless Angle Sensor), Alternative Angles On Request

**No Load Speed**

- PA-R-440-7: 100°/sec @ 24 VDC
- PA-R-340-9: 200°/sec @ 24 VDC
- PA-R-340-7: 200°/sec @ 24 VDC
- PA-R-250-9: 180°/sec
- PA-R-250-8: 205°/sec
- PA-R-205-6: 210°/sec

**PC-Board Signal**

- Digital – Programmable – with Differential and Analog Sensor Feedback

**Motor**

- PA-R-440-7: BLDC Motor
- PA-R-340-9: BLDC Motor
- PA-R-340-7: BLDC Motor
- PA-R-250-9: Hi-Output BLDC Motor
- PA-R-250-8: BLDC Motor
- PA-R-205-6: DC Motor

**Geartrain**

- PA-R-440-7: 10 Roller Bearings
- PA-R-340-9: 8 Ball Races or Roller Bearings
- PA-R-340-7: 6 Ball Races
- PA-R-250-9: 6 Ball Races and PA-SC Overload Protection Output Shaft
- PA-R-250-8: 6 Ball Races
- PA-R-205-6: 6 Ball Races and Rigid Output Shaft (Optional with Slip Clutch Output Shaft PA-SC)

**Case**

- PA-R-440-7: Aluminum, Water & Dust Protected (IP67) with Solid Horizontal and Vertical Fixation
- PA-R-340-9: 4-Point Fixation
- PA-R-340-7: 4-Point Fixation
- PA-R-250-9: 4-Point Fixation
- PA-R-250-8: 4-Point Fixation
- PA-R-205-6: 4-Point Fixation

**Weight**

- PA-R-440-7: 1500 g (3.3 lb)
- PA-R-340-9: 930 g (33 oz)
- PA-R-340-7: 780 g (27.5 oz)
- PA-R-250-9: 335 g (11.82 oz)
- PA-R-250-8: 285 g (10.05 oz)
- PA-R-205-6: 150 g (5.3 oz)
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<tr>
<td>80 Ncm (113 oz-in)</td>
<td>&gt;200 Ncm (&gt;283 oz-in)</td>
<td>6, 12 or 24 VDC</td>
<td>±90° (Standard PA-ME/Contactless Angle Sensor, Alternative Angles On Request)</td>
<td>3350/sec</td>
<td>Digital – Programmable – with Differential and Analog Sensor Feedback</td>
<td>PWM Signal, TTL Level (Standard Configuration); PWM Signal, Differential (RS485 Transceiver) (optional) or RS485 Data Protocol</td>
<td>DC Motor</td>
<td>6 Ball Races and Rigid Output Shaft (Optional with Slip Clutch Output Shaft PA-SC)</td>
<td>4-Point Fixation</td>
<td>130 g (4.6 oz)</td>
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<tr>
<td>30 Ncm (42 oz-in)</td>
<td>&gt;60 Ncm (&gt;84 oz-in)</td>
<td>6, 12 or 24 VDC</td>
<td>315° (PA-ME/Redundant Contactless Angle Sensor)</td>
<td>4250/sec</td>
<td></td>
<td></td>
<td>DC Motor</td>
<td>2 Ball Races with PA-SC Geartrain Protection Output Shaft</td>
<td>3-Point Fixation</td>
<td>65 g (2.3 oz)</td>
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<td>1200 Ncm (1700 oz-in)</td>
<td>&gt;2100 Ncm (&gt;2970 oz-in)</td>
<td>18-32 VDC, Typical 24-28 VDC</td>
<td>200°/sec @ 24 VDC</td>
<td>200°/sec</td>
<td>Dual Servo Controller with Digital Position Feedback</td>
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<td>DC Motor</td>
<td>Hardened Steel, Spur Gear Type with 10 Ball Races and Roller Bearings</td>
<td>4-Point Fixation</td>
<td>1450 g (51 oz)</td>
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<td>850 Ncm (1200 oz-in)</td>
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<td>18-32 VDC, Typical 24-28 VDC</td>
<td>240°/sec @ 24 VDC</td>
<td>240°/sec</td>
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<td></td>
<td>8 Ball Races and PA-SC Overload Protection Output Shaft</td>
<td>4-Point Fixation</td>
<td>1230 g (43 oz)</td>
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<td>400 Ncm (560 oz-in)</td>
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<td>18-32 VDC</td>
<td>210°/sec @ 28 VDC</td>
<td>210°/sec</td>
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<td></td>
<td>8 Ball Races and PA-SC Overload Protection Output Shaft</td>
<td>4-Point Fixation</td>
<td>575 g (20.6 oz)</td>
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<td>18-32 VDC</td>
<td>230°/sec @ 28 VDC</td>
<td>230°/sec</td>
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<td>4-Point Fixation</td>
<td>490 g (17.3 oz)</td>
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SERVO PRODUCTS/PARTS LIST

Call for more information on these Industrial and Redundant Servo models.

Industrial Servo Actuators

- PA-R-135-4-C-06-A-180-30²
- PA-R-135-6-C-06-A-180-00²
- PA-R-205-4-R-24-A-180-30*¹
- PA-R-205-6-R-24-A-180-30*¹
- PA-R-250-8-R-24-A-180-60

Redundant Servo Actuators

- PA-RR-260-8-C-24-C-315-00
- PA-RR-260-9-C-24-C-315-00
- PA-RR-340-7-C-24-C-315-00
- PA-RR-340-9-C-24-C-315-00
- PA-RR-720-7-C-24-C-315-00

Call for Prices
Quantity Discounts on 50/100/250/500/1000 pieces

Options/Upsgrades

- PA-SC Surchage for Additional Slip Clutch (ordering code example: PA-R-205-4-C-24-A-180-30)
- Surcharge for Alternative Voltage (ordering code example (6-Volt version): PA-R-205-4-R-06-A-180-30)
- Surcharge for Glenair Mighty Mouse Connector (ordering code example: PA-R-230-8-C-24-A-180-63)
- Surcharge for IP67 Water and Dust Protected Cable Pigtail (No Connector, 1m Cable Length) (ordering code example: PA-R-205-4-R-24-A-180-32) (Available for all actuator types. Standard feature on PA-R-135-4 type actuators.)

Accessories

- PA-Control Programming Tool
- PA-Control 3 Programming Tool for Redundant Actuators
- Glenair 801 size 6-7, Mighty Mouse Connector Adapter Cable
- PA-RA-3 Magnetic OPV Clutch/Assembly
- PA-RA-4 Magnetic OPV Clutch/Assembly

Mounting Frames

- PA-135-4
- PA-135-6
- PA-205-4
- PA-205-6
- PA-250-8
- PA-250-9
- PA-340-7
- PA-340-9

Cables

- PA-RR-720-7-C-24-C-315-00
- PA-RR-340-9-C-24-C-315-00
- PA-RR-250-9-C-24-C-315-00
- PA-RR-205-6-R-24-C-315-00
- PA-RR-135-4-C-24-C-315-00

Surcharge for RS485 Data Protocol (ordering code example: PA-R-205-4-C-24-C-180-30)

Surcharge for Differential PWM/RS485 Signal (ordering code example: PA-R-205-4-C-24-C-180-30)

Overhaul/Status Report.

- PA-R-205 type Acutators
- PA-R-250 type Acutators
- PA-R-340 type Acutators
- PA-R-440 type Acutators
- PA-RR type Redundant Actuators

Repair & Overhaul

Complete inspection and overhaul. Includes all required spare parts and Overhaul/Status Report.

- PA-R-205 type Acutators
- PA-R-250 type Acutators
- PA-R-340 type Acutators
- PA-R-440 type Acutators
- PA-RR type Redundant Actuators

Item Number | Description
--- | ---
PA-UL-001 | Universal lever for 5mm square shafts with threads / PA-R-205 type Actuators / PA-R-250 type Actuators with specification index below -60
PA-UL-002 | Universal lever for 5mm square shafts, blank quarter / PA-R-205 type Actuators and PA-R-250 type Actuators with specification index below -60
PA-UL-003 | Universal lever for 5mm square shafts, blank quarter / PA-R-250 type Actuators and with specification index below -60
PA-UL-004 | Universal lever for 6,5mm square shafts, blank quarter / PA-R-340 type Actuators with specification index below -60
PA-UL-005 | Universal lever for 5mm square shafts with threads / PA-R-135 type Actuators
PA-UL-006 | Universal lever for 5mm square shafts, blank quarter / PA-R-135 type Actuators
PA-UL-007 | Universal lever for 6,5mm square shafts, blank quarter / PA-R-250 type Actuators
PA-UL-008 | Universal lever for 6mm square shafts, blank quarter / PA-R-340 type Actuators with specification index 60 or above
PA-UL-009 | Universal lever for 10mm square shafts, blank quarter / PA-R-340 type Actuators with specification index 60 and PA-R-440 type Actuators
PA-UL-101 | Universal lever for 5mm square shaft single sided / PA-R-205 type Actuators / PA-R-250 type Actuators with specification index below -60
PA-UL-103 | Universal lever for 6,5mm square shafts single sided / PA-R-250 type Actuators with specification index 60 or above
PA-UL-105 | Universal lever for 5mm square shafts single sided / PA-R-135 type Actuators
PA-UL-108 | Universal lever for 8mm square shafts single sided / PA-R-340 type Actuators with specification index 60 or above
PA-UL-109 | Universal lever for 10mm square shafts single sided / PA-R-340 type Actuators with specification index 50 / PA-R-440 type Actuators
801-007-16ZNU6-7SA | Glenair mating connector to fit PA-R-250 and PA-R-205 type actuators
12508101 | Above connector with 3m Alphawire 2824/6 standard cable
801-007-16ZNU10-2025A | Glenair mating connector to fit PA-R-340 and 440 type actuators
13407101 | Above connector with 3m Alphawire 3306 customised cable

For more information, please visit www.nwuav.com