

Product and selection

AXR R9180 16.8V

Robotic joints / high-load positioning



Stall torque

222 kg·cm

No-load speed

0.104 s/60°

Comparison voltage

16.8 V

For high-load positioning, prioritise rated torque, peak current and structural stiffness. Stall torque is not a continuous-duty rating. Robotic joints also require system validation of inertia, acceleration, duty cycle and mechanical protection.

Performance by voltage

Comparison voltage (V)	Stall torque (kg·cm)	No-load speed (s/60°)	Running current (A)	Stall current (A)
8.4	139	0.205	0.4	5.2
12	200	0.113	0.58	9.5
16.8	222	0.104	0.66	15

Stall torque is not a continuous load rating. Consider rated torque and duty cycle when sizing the mechanism. The operating range specifies allowable supply voltage; it does not imply that test data exist at every voltage.

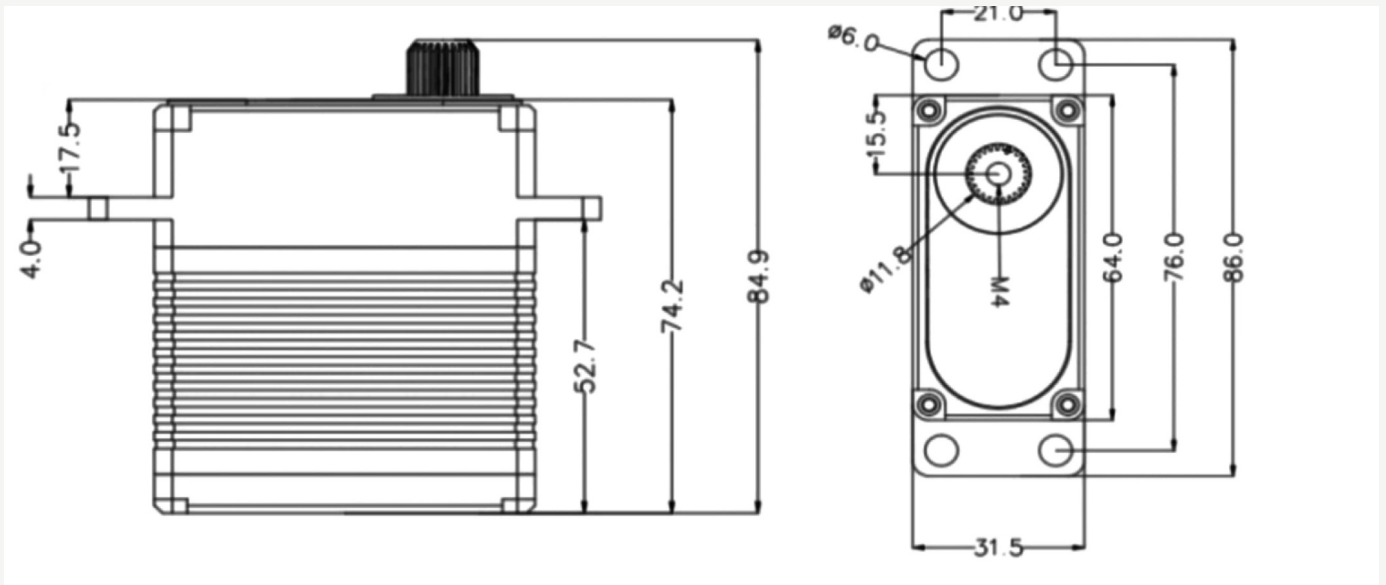
Mechanical and control specifications

Operating voltage	8.4 - 16.8 V
Rated torque	90 kg·cm @ 16.8 V
Dimensions	64 × 31.5 × 73 mm
Weight	380 g
Motor type	Brushless motor
Gear material	416 stainless steel gears
Bearing count	5
Lead length	800 mm
Control signal	PWM
Operating frequency	333 Hz
Reference pulse width	1520 µs
Pulse width and angle	500 / 1500 / 2500 µs → -90 / 0 / 90°

The source lists a 1520 µs reference pulse and a 1500 µs position centre. Confirm the neutral setting and usable travel for the controller and delivered version.

This model uses separate power and signal wiring. Some colour labels in the source conflict; obtain a confirmed pinout before connecting and do not identify connections by colour alone.

Mounting dimensions



Drawing and tabulated dimensions may use different datums. Confirm the final mounting drawing and interface version before machining mating parts.

Installation and integration

Check the supply, pulse width, mounting pattern and arm connection first. Commission with the load removed or limited, verify centre position, direction and mechanical travel, then validate the working load gradually. Allow for transient current and prevent voltage drop, reversed connections and sustained contact with mechanical stops.

Specifications: AXR 2026 product documentation, organised by test voltage. · AXR 2026 · Source catalog page 59

<https://axrsystems.com/en/products/axr-r9180-16-8v/>

Business enquiries

Product selection · Project enquiries · Technical support

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