

AX-12A / AX18A Smart Robotic Arm Specifications / Advantages

There are two major advantages of the AX-12A / AX18 Smart Robotic Arm over other RC type robotic arms.

1. User configurable auto shutdown.
2. Real-time position, load, speed, voltage, and temperature status feedback.

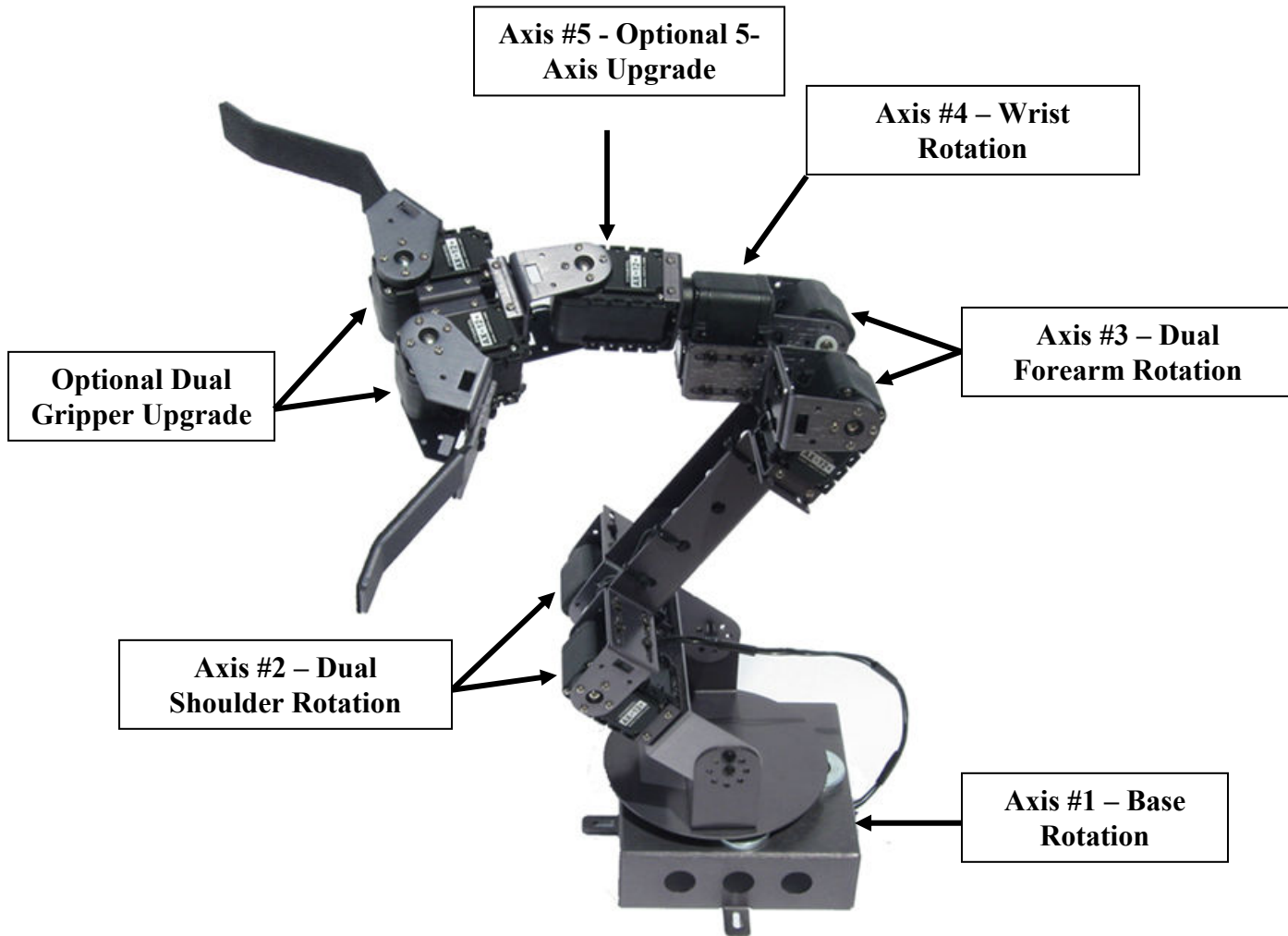
The AX-12A / AX18A Advantage	AX Servo	R/C Servo
Temperature feedback	✓	✗
Position feedback	✓	✗
Speed feedback	✓	✗
Voltage feedback	✓	✗
Load feedback	✓	✗
Addressable	✓	✗
Single cable network connection	✓	✗
Auto shutdown	✓	✗
Error reporting	✓	✗
User configurable torque and compliance margins	✓	✗

- AX-12A Torque / Speed – AX-12A - 15kgf/cm and 59 rpm)
- AX-18A Torque / Speed - AX-18A - 18kgf/cm and 97 rpm

AX-12A / AX-18A Smart Robotic Arm Specifications

- Overall length (from base) - 22.25" (56.51cm)
- Base height - 1" (2.54cm)
- Turntable Axis to Axis 2 - 4.875" (12.38cm)
- Axis 2 to Axis 3 - 6.875" (17.46cm)
- Axis 3 to axis 4 – 2.625" (6.67cm)
- Axis 4 to end of gripper (open) – 5.25" (13.33cm)
- Axis 4 to end of gripper (closed) – 6.875" (17.46cm)
- Overall arm length with gripper closed - 22.25" (56.51cm)
- Max width is 5.5" (13.97cm) at the outside of the gripper when open
- Max width of the arm - 4.4" (11.18cm)
- The base rotation servo is centered in a 4" X 4" square (10.16cm X 10.16cm)
- Repeatability 2.5mm
- Each axis has a 300° range with 1024 steps (0.29°/step)
- Initial base angle can be set in 45° increments.

- Precision carbon steel ball bearing turntable
- Integrated pem nuts for quick and easy construction
- Super strong anodized 0.063 ga. 5052 brushed finished aluminum components
- Scratch resistant type II anodized in gun barrel gray
- (7) Dynamixel AX-12 / AX18 servos (4 axis + 1 gripper with standard Smart Robotic Arm configuration, 5- axis with 5-axis upgrade package)



Gripper

- Sensor engineered gripper design
- Built in, adjustable camera / sensor mount
- Slotted gripper paddles for easy sensor attachment
- High resolution, 60 tooth, heavy duty, resin gear train
- 2.375" (6cm) Standard Gripper opening / 9" (22.86cm) gripper opening with dual gripper upgrade option
- Cross cut, high adhesion rubber for maximum gripper adhesion

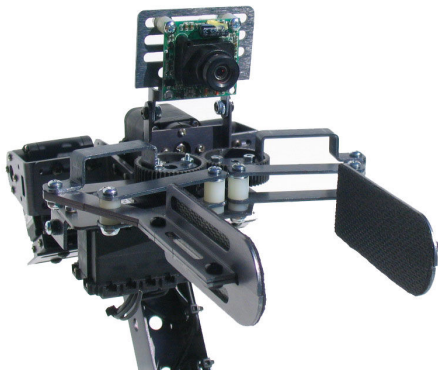


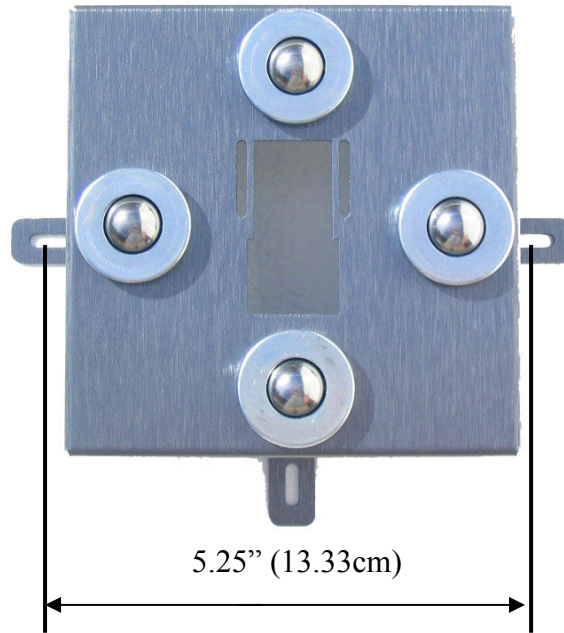
Figure 1 - CCD Camera



Figure 2 - PING Ultrasonic Sensor

Turntable

- Stainless steel, sealed ball bearing turntable
- 3- integrated mounting tabs for easy mounting to any base
- Base Size – 4.5" X 4.5" (11.43cm X 11.43cm)



Adjustable Initial Angles

- Adjustable initial angle in 45 degree increments

