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ROBOTICS NEWS

by the staff of *Robot* magazine

## CRUSTCRAWLER

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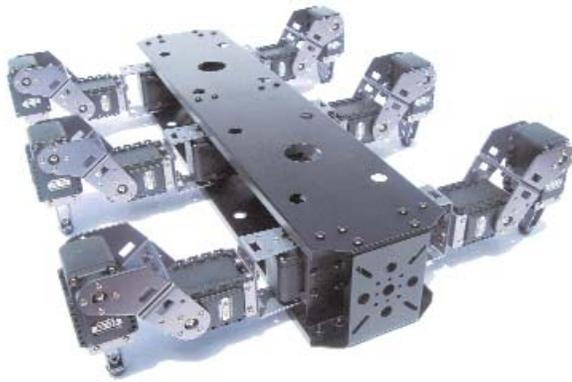
## New Dynamixel AX12-18 Powered Smart Hexapod Robot!

The AX12-18 Smart Hexapod is CrustCrawlers next generation of walkers to implement "Smart Servo" Technology. Featuring the AX12A and/or the AX18A actuators, the Smart Hexapod offers better torque/cost ratios, and the feedback shortcomings of standard R/C servo based hexapods are no more. Due to the rich feedback nature of the AX series of actuators, true kinematic walking routines can be implemented seamlessly.

The AX12-18 Smart Hexapod implements "Smart Servo" Technology which features: Power optimized 3DOF (3-degrees of Freedom) leg design with over 220 oz-in. (15kgf-cm) of torque per axis. This technology provides full feedback data that includes position, speed, load, voltage and temperature, and it has an automatic shutdown capability based on voltage or temperature. Position spans 300 degrees of rotation with 1024 increments, a very high level of resolution.

These smart Dynamixel servos offer a fast 1M bps communication speed. Both the AX12A and/or the AX18A actuators are offered, and the system is compatible with all of the commonly used microcontrollers for robots.

The chassis plates are rugged, with all aluminum construction for maximum payload capacity and walking kinematic accuracy.



## SEE THE VIDEO!

Scan this code on your smartphone with a bar reader app or type in [find.botmag.com/111101](http://find.botmag.com/111101). [www.youtube.com/watch?v=xBEk7QWqHY&feature=player\\_embedded](http://www.youtube.com/watch?v=xBEk7QWqHY&feature=player_embedded)



Spacious upper and lower decks (16in. X 3.5in.) (40.64cm X 8.89cm) allow plenty of room for mounting gear for controlling electronics, power and accessories. Its hard Anodized finish is designed for maximum scratch and corrosion resistance. Weight with (18) AX12A or AX18A actuators is 3.12 pounds (1.41kg). Ground Clearance is 3.5 in. (8.89cm), and it has integrated Pem nuts on all brackets for quick and seamless assembly.

## Free Code and SDK Programming Packages

The package includes the AX12-18 Smart Hexapod Technical Reference V 1.0. Robotis offers free SDK libraries online (<http://support.robotis.com>) that include but are not limited to Embedded C (For CM-510/700 controllers), the Dynamixel SDK for Windows and one for Linux, and Zigbee SDK for Windows and Linux. Source code includes examples for LabView, MATLAB, JAVA, C/C++, Python and more. Learn all the details on Robotis servos and controllers at their support web pages and in the Reference guide.

We strongly suggest these sources for direction on the latest drivers, software, firmware, CAD drawings and technical guides.

The USB2

Dynamixel option offered by CrustCrawler connects directly to a USB port on your computer. Download the free Dynamixel Manager to set AX12A / AX18A ID's, current, voltage, temperature and speed settings.

USB to RS-232, RS-485, and AX-12 (TTL) interfaces are all in one unit! And don't forget the Arduino, Parallax Propeller and other controllers—any will work. If you use the CM-700 controller, you will also have a CD-ROM with powerful *RoboplusTask*, *Roboplus Manager* and *Motion Editor* software, mounting kit and interface cable.