

New DC motor position controller – MAXPOS 50/5

Faster than ever.

maxon motor releases a new evolution in DC motor position control. It is a powerful and compact DC motor control unit designed to run as an EtherCAT slave, revealing unrivalled performance and creating new motion control possibilities.

Coreless DC motors (sometimes referred to as ironless motors) and also brushless DC motors (BLDC motors) have many features over traditional motor designs that make them more suitable for applications requiring highly dynamic motion control. They typically have lower inertia, higher efficiencies and extremely long lifespans. Applications include cutting edge robotics and life critical medical devices. Previously, applications that needed to utilise the peak performance capabilities of motors and in particular for multi axis control, the system bottleneck was often the speed capabilities of the motion controller. The new DC motor position controller incorporates the latest FPGA componentry allowing full utilisation of the most dynamic DC motors available.

Speed

The controller features the fastest control cycles for path calculations in sophisticated multi axis coordinated movement applications. It has an internal current controller clock operation of 100kHz and a communication rotation of 100µs with the EtherCAT master. High resolution distributed clocks can be supported for a powerful solution whereby coordinated servo axes can carry out motion with absolute synchronicity. CAN over EtherCAT is supported as well as Cyclic Synchronous path planning with a closed loop PID over the network. The controllers processing capability even allows sinusoidal commutation of brushless DC motors up to speeds of 200,000rpm.

Flexibility

Almost any customer preferred feedback topography is accepted. This further opens the range of DC motors that can be controlled, whether brushed or brushless. Absolute, Incremental, sinusoidal (sine-cos) analogue incremental encoders. Even multiple encoders for dual loop motor control can be used. Allowing for example, a digital incremental encoder to be mounted to the DC motor for accurate velocity control and an Absolute SSI encoder mounted to the load for position control. Closing dual loops in this fashion allows for extremely accurate control of the position around gearhead backlash or load and coupling elasticity.

Safety

With over twenty years of experience of motion control maxon motor controllers have become synonymous with reputation of safety by incorporating almost every protection possible. Isolation inputs and outputs, overcurrent protection, temperature monitoring, under and over voltage protection, shorting of the motor phases or terminals, and a loss of feedback. Another key feature of high end motor controllers that is often overlooked is the ability to protect users, loads, sensitive equipment and the drive system itself with accurate current limiting circuitry.

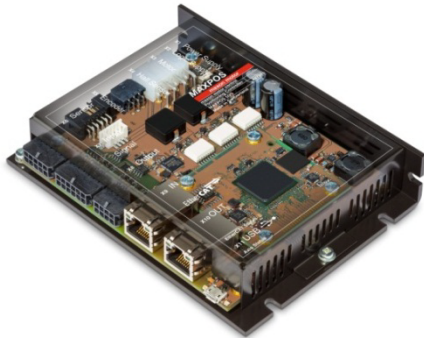
Intuition

A newly designed graphical user interface for the controller has made setup and installation easier than ever. Step by step wizards take you through the start-up and auto tuning processes. The freely available software also includes in depth diagnostics wizards for system fault finding and a data acquisition interface for recording valuable system characteristics.

For further information or technical assistance with the new MAXPOS controllers please do not hesitate to contact our engineers at maxon motor Australia.

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The media release is available on the internet at: www.maxonmotor.com.au



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position controller
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