

MAXPOS 50/5 Positioning Controller

The next generation of high-performance positioning controllers

maxon motor launches the MAXPOS 50/5. This compact EtherCAT Slave unveils unprecedented possibilities as far as precision, dynamics, and synchronization are concerned. It also ensures reliability and durability even under harsh conditions. More than 20 years of experience in motion control have been incorporated into this latest technology in positioning controller.

By their design, the ironless maxon DC brushed motors and brushless (maxon EC) motors are ideal for applications demanding high dynamics and longevity. Typical areas are robotics and applications in the medical industry or in specialized machine manufacturing. In the past when particularly high requirements were called for, the controller used or its limited integration capabilities to the master occasionally imposed limitations due to its inability to keep pace with the high dynamics of the motors. With the new MAXPOS 50/5 motion controller, these core motor properties can now be ideally utilized. Thanks to the latest FPGA (Field Programmable Gate Array) technology, highest control cycle rates can be achieved with minimally short cycle times at the same time. For trajectory planning, sophisticated motion control tasks with a current controller clock speed of 100 kHz and an effective communication cycle time of 100 μ s can be achieved with a suitable EtherCAT master. Distributed Clocks Support as well as the endorsement of CoE (CAN Application Layer over EtherCAT) with «Cyclic Synchronous Modes» perfectly suit these purposes. As an alternative, profile-based operating modes for position and velocity are also available. In addition, the outstanding processing power provides field-oriented sinus commutation of brushless motors (maxon EC) up to a speed of 200,000 rpm.

Full connectivity

A multitude of feedback possibilities permit the use of a wide range of permanent magnet-activated DC motors with encoder and brushless motors (maxon EC) with digital Hall sensors and encoders up to 250 Watts. The wide supply voltage range from 10 to 50 VDC and the output power capability of 5 A continuous and 15 A peak current opens a broad application field. Two different encoders can be used simultaneously allowing for dual loop control of the master to compensate for mechanical backlash and elasticity of the drive system. This is ideal for applications with high demand on precision. The spectrum ranges from digital incremental encoders to analog sinus-cosinus incremental encoders up to absolute encoders with SSI, EnDat2.2, or BiSS-C interface. Of course, also galvanically isolated I/Os are on board to enable integration of diverse peripheral components, such as limit or reference switches.

All-around protection and easy operation

The MAXPOS 50/5 positioning controller also comes with extensive protective circuitry against overcurrent, excess temperature, undervoltage and overvoltage, voltage transients, short-circuits in the motor cable as well as loss of feedback signal. Motor and load can be optimally protected with adjustable current limiting.

The newly designed operating concept for the graphical user interface «MAXPOS Studio» together with well-established tools, such as Startup Wizard or automated Regulation Tuning ensures easy and intuitive commissioning. Additional aids include the Diagnostic Wizard for troubleshooting or a freely-configurable data recorder to plot various process data. Plus, to assist the customer in attaining the ideal matched drive system in the shortest possible time, a comprehensive document is provided. The entire configuration can be carried out via USB or Ethernet.

Find more details on MAXPOS 50/5, the new high-performance positioning controller on the Internet at <http://maxpos.maxonmotor.com>.

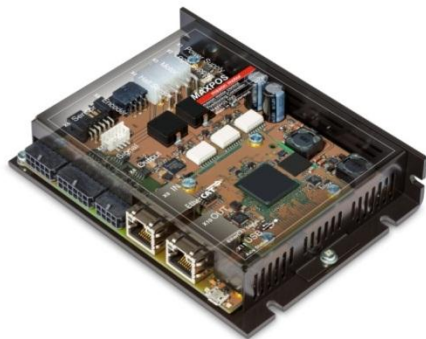


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*MAXPOS 50/5 – EtherCAT Slave
Digital positioning controller for DC brushed and
brushless (maxon EC) motors with Hall sensors and
encoder up to 250 Watt
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*MAXPOS 50/5 and maxon EC-max 30, Ø30 mm,
brushless, 60 Watt, with Hall sensors and encoder
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