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For Immediate Release

ESCON Module 50/4 EC-S

Servo Motor Controller for sensorless Operation of Brushless Motors

maxon motor introduces a miniaturized OEM plug-in module for sensorless brushless applications. The compact, powerful 4-quadrant PWM servo motor controller offers efficient control of permanent-magnet activated sensorless brushless DC motors without Hall sensors up to approximately 200 Watts. Some of its features include: high usability, exceptional performance, and unprecedented power density in servo motor controller technology. Sensorless operation offers the best conditions for a high reliability at low system costs.

This innovative OEM plug-in module features excellent control properties. The drift-free yet extremely dynamic speed behavior enables speeds up to 120,000 rpm and provides extensive functionality with free configurable digital and analog inputs/outputs. It perfectly matches maxon's motor range to suit even highest-demand applications and dynamic drive solutions. It may also be operated in speed controller (closed loop) and speed controller (open loop). All these features create ideal conditions for the use in cost sensitive applications as well as elevated reliability requirements. The key element is the low system complexity due to sensorless operation. Thereby, it fully integrates into complex applications with little effort. With maxon motor's vast drive expertise already built into the ESCON Module, the customer's motor control needs are handled and this allows them to focus completely on their main task - the development of their own device. A detailed Motherboard Design Guide is available for integration to OEM PCBs and a suitable motherboard makes initial commissioning an easy task.

The compact servo controller is controlled by an analog set value. It can be specified by means of analog voltage, by external or internal potentiometer, by defined value, or by means of a PWM signal with variable duty cycle. Other interesting features include the ability to enable or disable the power stage depending on the direction of rotation as well as sensorless acceleration and deceleration by employment of defined speed ramps.

Commissioning in no time

Top performance should not be a matter of practice makes perfect. Therefore, the servo controller has been designed specifically with easy startup and user-friendliness in mind without requiring in-depth knowledge of drive technology.

When connected to a PC via a USB port, it can easily and efficiently be parameterized with the graphical user interface «ESCON Studio». A variety of functions and user-friendly wizards as well as a well-designed automated fine-tuning controller procedure assist during commissioning, for configuration of inputs and outputs, and diagnostics.

Protection at highest level

The ESCON Module 50/4 EC-S features protective circuitry against overcurrent, excess temperature, undervoltage and overvoltage, voltage transients and short-circuits in the motor cable. It also is equipped with protected digital inputs and outputs and adjustable current limitation to protect motor and load. Motor current and actual motor shaft speed can be monitored by means of analog output voltage.

Pure flexibility and efficiency

The large input voltage and operating temperature ranges allow flexible use in almost all drive solutions. Low system complexity of sensorless operation opens fields of application demanding high reliability, such as medical devices for ventilation and respiration therapy, surgery power tools, or in the dental industry. Additionally, the Hall sensor-free design reduces wiring and system costs. Perfect operational areas would be fans and blowers, scanners, pumps, drills and milling cutters, or grinding and cutting drives. With its exceptional efficiency of 97%, the ESCON Module 50/4 EC-S is a number one choice for mobile, highly efficient yet consumption-optimized applications.

For more information on ESCON, maxon's new servo controller, visit <http://escon.maxonmotor.com>

<http://www.maxonmotorusa.com> - 101 Waldron Road, Fall River, Massachusetts 02720

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