

Epos2 P motion controller



Maxon motor AG specializes in the development, manufacturing and sales of high quality drive components and systems under the trade mark maxon motor. All key components are manufactured in-house with custom design machinery. Our most important key technologies are three winding processes, motor manufacture and gearhead production as well as electronics, magnetic encoder components and the application of high-tech ceramics.

The maxon motor control EPOS P is a free programmable positioning control unit with an integrated power stage for brushless and conventional brush type DC motors. The performance range of this compact positioning controller goes up to 120 W.

The EPOS2 P is programmable from PC via EIA-232 (RS-232) or USB 2.0 with a very efficient software tool. The programming languages are according to IEC 61131-3 standard (ST, IL, FBD, LD, SFC). The built-in CANopen interface allows the design of an easy-to-use standalone multiple axis system, particularly with standard maxon EPOS2 controllers. Supervisory control and data acquisition for monitoring and controlling a process via EIA-232 (RS-232), USB 2.0 or CANopen.

A variety of operating modes means that all kinds of drive and automation systems can be flexibly assembled using positioning, speed and current regulation. In combination with a motor from maxon motor, these

controllers are perfectly suited for highest dynamic motion.

Software-features

- Windows based integrated development environment tool
- IEC 61131-3 programming languages (ST, FBD, IL, LD, SFC)
- IEC 61131-3 standard library
- Motion control function block library
- Maxon utility function block library
- CANopen function block library
- User function block library capability
- Network variables and data exchange
- Online-debugging with break points and watch variables
- Axes configuration and parameterisation
- Online-help

Characteristics

- 32-bit host processor, 60 MHz
- 1 MiB memory with 768 KiB free user program memory
- Typical 2,5 ms / 5 000 instructions (IL)
- 4 KiB non-volatile memory
- Digital signal processor for motion control

Controller features

- CANopen profile position-, profile velocity- and homing mode
- Position-, velocity-, current mode
- Alternative set value setting via step/direction, master encoder or analog commanding
- Interpolated position mode (PVT)
- Sinusoidal and trapezoidal motion profiles
- Suitable for brushed DC motors and brushless DC motors (maxon EC motor)
- Sinusoidal and block commutation for brushless DC motors
- Smart multi-purpose digital I/Os configurable as: positive and negative limit switch, home switch, position marker, enable and ready output
- General purpose digital I/Os and analog inputs
- Communication via CAN and/or USB 2.0 and/or EIA-232 (RS-232)
- Gateway USB to CAN or EIA-232 (RS-232) to CAN for service
- Built-in data recorder, auto tuning of controller parameters
- Windows-based Graphical User Interface for configuration and auto-tuning, free of charge
- IEC 1131 libraries for different PLCs free of charge
- Windows DLL free of charge

Product family

- EPOS2 P 24/5 11 V to 24 V, 5 A cont., 10 A max. current

Applications

- Automation and robotics
- Medical equipment
- Electronic production
- Packing equipment
- Materials handling
- Machine tools

Contact

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Features

NMT	NMT slave NMT master
Error control	Node guarding Life guarding Heartbeat producer
Boot-up	Yes
Node ID range	From 1 to 127
Node ID	Hardware switch Software switch LSS-services Proprietary
CANopen bit-rates	20 kbit/s 50 kbit/s 125 kbit/s 250 kbit/s 500 kbit/s 800 kbit/s 1 000 kbit/s
Type of bit-rate adjustment	Software switch LSS-service (defined in CiA 305) Proprietary
RPDOs	32
TPDOs	32
PDO modes	Event-triggered Synchronous (cyclic)
PDO linking	Yes
PDO mapping	Variable
SDO server	1
SDO client	32
Emergency producer	Yes
Emergency consumer	127 message(s)
Sync producer	Yes
Sync counter	No
Time stamp	Time stamp object producer

Additional functions	LSS slave Self-starting device Network variables
CANopen version	CiA 301 V 4.1
Frameworks	CiA 302 CiA 305
Device profiles	CiA 402: CANopen drives and motion control device profile CiA 405: CANopen interface and device profile for IEC 61131-3 programmable devices
Certified	No
Availability	In stock