

Torque control

In "Current Mode", a controlled torque can be produced on the motor shaft. The sinusoidal commutation used produces minimum torque ripple.

Homing

The "CANopen Homing Mode" is for referencing to a special mechanical position. There are more than 30 methods available for finding the reference position.

Electronic gearhead

In "Master Encoder Mode", the motor follows a reference input produced by an external encoder. A gearing factor can also be defined using software parameters. Two motors can be very easily synchronised using this method.

Step/Direction

In "Step/Direction Mode" the motor axis follows a digital signal step-by-step. This mode can replace stepper motors. It can also be used to control the EPOS by a PLC without CAN interface.

EPOS2

Analogue Commands

In the position, speed and current mode it is possible to give commands via an external analogue set value. This function offers further possibilities to operate the EPOS2 without serial on-line commanding.

Capture inputs (Position Marker)

EPOS2 digital inputs can be configured so that the actual position value is saved when a positive and/or negative edge of an input appears.

EPOS2

Trigger output (Position Compare)

EPOS2 digital outputs can be configured so that a digital signal is emitted at a set position value.

NEW EPOS2

Dual Loop Position and Speed Control

With an additional sensor the load can be controlled directly and with high precision; the motor control is subordinated. The mechanical play and the elasticity can be compensated. Wide range of sensors can be handled: digital incremental encoder, SSI absolute encoder, analog incremental encoder (sin/cos) (only in use with EPOS2 50/5 and EPOS2 70/10).

NEW EPOS2

Control of Holding Brakes

The control of the holding brake can be implemented in the device state management. There the time delay for switching on and off can be configured individually.

Additional information for technical data of page 304/305

Standardised, extendable

CANopen standard CiA DS-301, DSP-402 and EPOS2 additionally DSP-305. Can easily be integrated into existing CANopen systems. Networks with other CANopen modules. Alternatively controllable by serial interface (RS232), EPOS2 additionally controllable by USB.

Flexible, modular

The same technology for DC and EC motors. Configurable inputs and outputs for limit switches, reference switches, brakes and for other sensors and indicators near the drive.

Easy start-up procedure

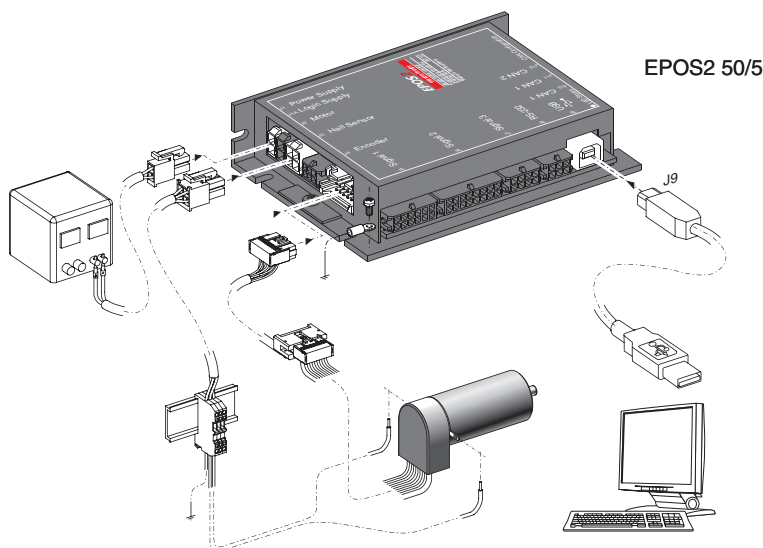
Graphic user interface with many functions and wizards for start-up procedure, automatic control settings, I/O configuration, tests.

Easy programming

Numerous IEC 61131-3 libraries free available for CAN-Master units of several PLC manufacturers providers (Beckhoff, Siemens/Helmholz, VIPA) and 32-bit Windows-DLLs for PC Master (IXXAT, Vector and National Instruments). Various programming examples free available for MS Visual C#, MS Visual C++, MS Visual Basic, Borland C++, Borland Delphi, National Instruments LabVIEW and National Instruments LabWindows/CVI.

State-of-the-art

Digital position, speed and current/torque control. Sinusoidal commutation for smooth operation of EC motors.



Operating modes

CANopen Profile Position-, Profile Velocity- and Homing Mode

Position-, Velocity- and Current Mode
Alternative set value setting via Step/Direction, Master Encoder or external analogue commanding (EPOS2 only)

Path generating with trapezoidal or sinusoidal profiles

Feed forward for velocity and acceleration

Interpolated Position Mode (PVT) only in use with EPOS2

Sinusoidal or block commutation for EC motors

Dual loop position and speed controller

Communication

Communication via CANopen and/or RS232, EPOS2 additionally with USB 2.0

Gateway function RS232-to-CAN and USB-to-CAN (EPOS2 only)

Inputs / Outputs

Free configurable digital inputs e.g. for limit switches and reference switches

Free configurable digital outputs e.g. for brakes
Free analogue inputs

Available software

EPOS Studio (EPOS2 P and EPOS2)
EPOS Graphical User Interface (EPOS)
Windows DLL
IEC 61131-3 Libraries
Firmware

Available documentation

Getting Started
Cable Starting Set
Hardware Reference
Firmware Specification
Communication Guide
Application Notes

Cable

A comprehensive range of cables is available as an option. Details can be found on page 310.