iPOS360x SX-CAN Multi-axis Motion System 4 x 144 W

4-Axis Compact Solution for Rotary or Linear Brushless, DC Brush and Step Motors

The iPOS360x SX-CAN provides a compact, ready to run solution for multi-axis applications up to 4 axes. Using iPOS3602 or iPOS3604 intelligent drives, the iPOS360x SX-CAN multi-axis motion system offers a solution for control of up to 4 rotary or linear brushless, DC brushed, or step motors with powers up to 144W and CAN-bus communication.

Designed to cover low to medium volume applications, each iPOS intelligent drive embeds motion controller, drive, and PLC functionalities into a single unit.
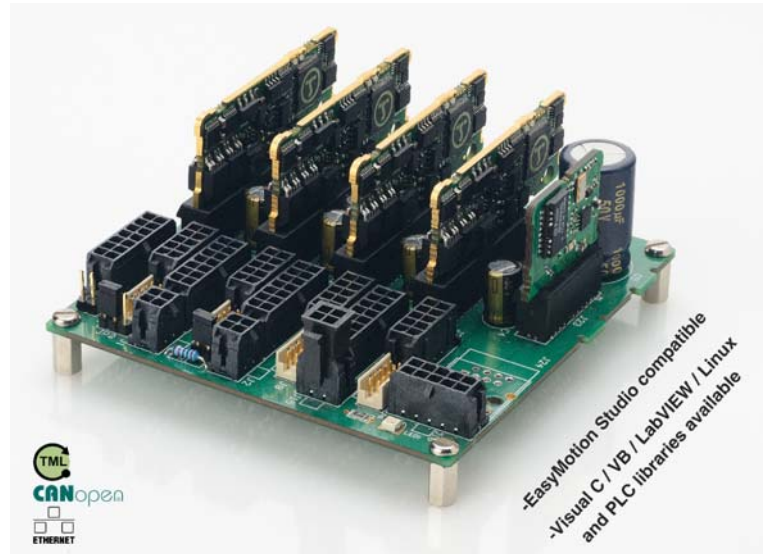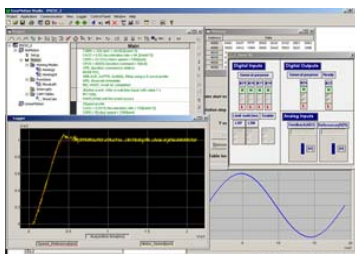
The iPOS drives can operate as standard CiA402 CANopen drives or can execute complex motion programs directly at drive level, using the built-in motion controller and the high level Technosoft motion language (TML).

When used as an intelligent drive the unit can replace a host in various single or multi-axis stand-alone applications. The powerful TML language allows one drive to control the others and therefore to become the application master. The drive may call other axis to execute complex TML functions. The slave drives may also be programmed to send information messages to the master drive.

Advanced positioning profiles like the PVT or electronic caming, I/O and program flow control, data transfer between axes, subroutines, ISRs and multiple homing modes ease the motion application implementation task.

The iPOS360x SX-CAN can be programmed to operate completely stand-alone with drives executing their TML program stored in the local memory.

Communication between the drives is done via CAN-bus. An RS-232 and optionally an Ethernet port are available for easy interfacing with a PC.
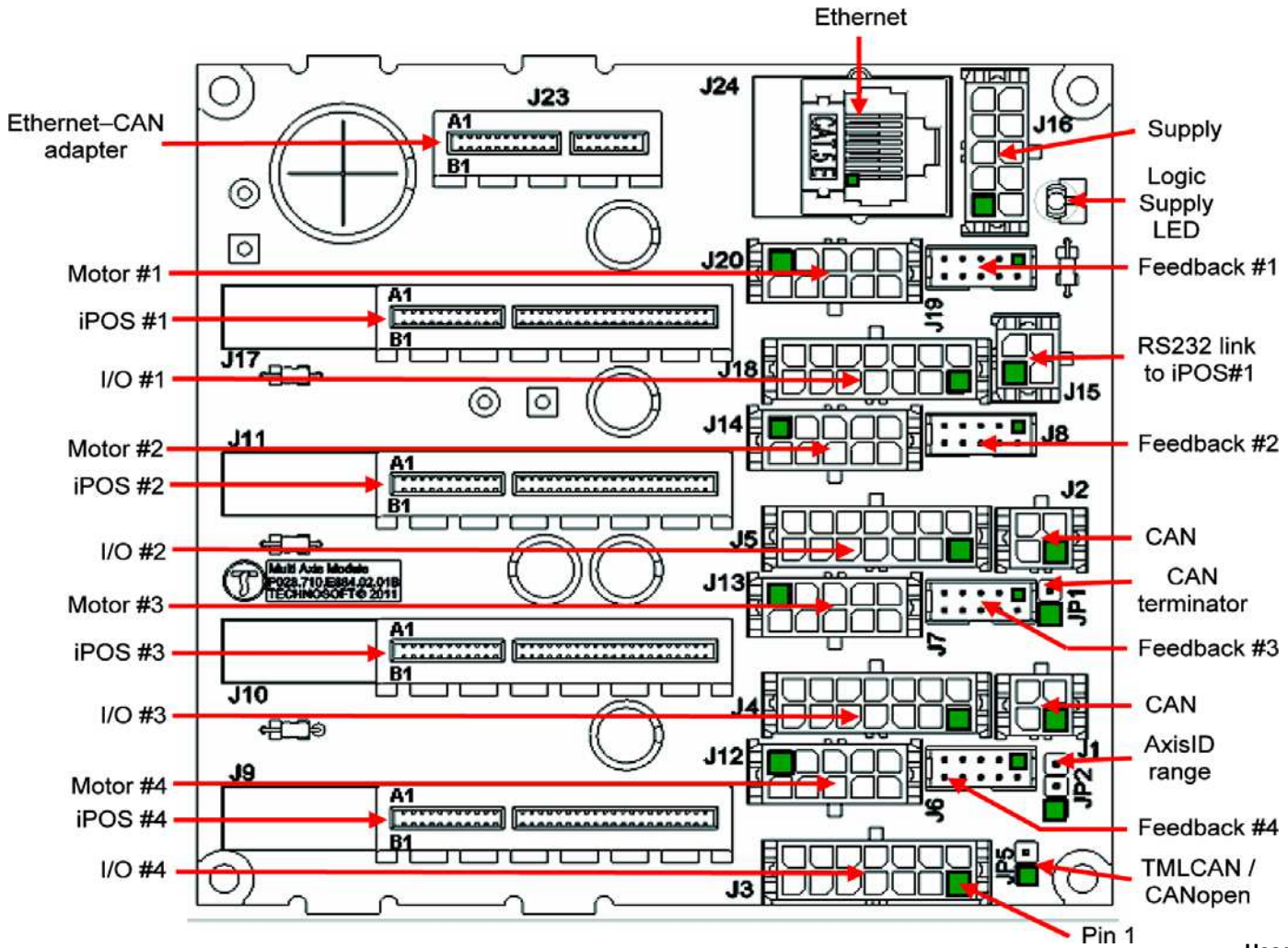

iPOS360x SX-CAN Features

- **mainboard for mounting the multi-axis motion system**
- **up to 4-axis motion system with iPOS3602 or iPOS3604 drives**
- **Compact solution: 100 x 98 x 37 mm**
- **Standalone operation using drives embedded motion controller**
- **Power supply: 12-36 V_{DC}; logic supply: 12-36 V_{DC}**
- **Output current / axis:**
  - **iPOS3604: 4 A continuous, 10 A_{PEAK}**
  - **iPOS3602: 2 A continuous, 3.2 A_{PEAK}**
- **Communication between axes: CAN-bus up to 1Mb with CANopen (CiA301, 305, 402) or Technosoft TMLCAN protocol, jumper selectable**
- **RS-232 (up to 115 k) and Ethernet 100 Mb/s (optional) for system setup**
- **Delivery options: from one to four iPOS3602 VX or iPOS3604 VX Intelligent Servo Drives, each offering:**
  - **High performance control of rotary or linear brushless, DC brush and step motors**
  - **Sinusoidal (FOC) or trapezoidal (Hall-based) control of brushless motors**
  - **Open-loop (up to 256 µsteps) and closed-loop control of 2 and 3-phase steppers**
  - **Torque, speed or position control**
  - **Feedback options: incremental encoders, single-ended, differential RS-422 and 1 Vpp sine/cosine, digital or linear Hall sensors**
  - **Powerful Technosoft Motion Language (TML) instruction set for the definition and execution of motion sequences (TMLCAN protocol), including:**
    - **Operation mode and parameters selection**
    - **Program flow control via conditional jumps and function calls, interrupts and events monitoring**
    - **I/O handling, arithmetic and logic operations**
    - **Data transfers between drives**
    - **Use of one axis as application master which controls the other axes**
    - **Synchronization of all axes from the network**
- **5 digital inputs: 5-36 V (compatible with NPN outputs): Enable, 2 limits switches and 2 general-purpose ones**
- **3 digital outputs: 5-36 V, 0.5 A (NPN open-collector): Ready, Error, and 1 general-purpose**
- **2 analogue inputs: 12-bit, 0-5 V: Reference, Feedback or general-purpose**
- **Protections to over-current, short-circuit, earth fault, over- and under-voltage, I2t, control error**

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Your
Next
Intelligent
Move

TECHNOSOFT
MOTION TECHNOLOGY

DIMENSIONS, SPECIFICATIONS, ORDERING INFORMATION
iPOS360X SY-CAN MULTI-AXIS MOTION SYSTEM

Dimensions in mm. Drawings not to scale.

EASYMOTION STUDIO

The high level graphical development environment EasyMotion Studio, supports the configuration, parameterization and programming of the drive, through:

- Motion system set-up wizard
- Tuning assistance with capture functions
- Definition, programming and testing of motion sequences

MOTION CONTROL LIBRARIES

The TML_LIB Motion Control Libraries can be used to implement a motion control application on a PC from Visual C / C++, C#, Visual Basic, Delphi or LabVIEW under Windows or Linux operating systems. If a PLC is used as host, implementations of the TML_LIB according with IEC-61131 standard are available for Siemens, B&R and Omron PLCs.

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iPOS360X SX-CAN MULTI-AXIS MOTION SYSTEM

Electrical Specifications	with iPOS3602	with iPOS3604
Maximum DC supply voltage	36 V	36 V
Maximum continuous current	2 A	4 A
Peak current (2.4 sec. max.)	3.2 A	10 A
Nominal switching frequency	20 - 100 kHz	20 - 100 kHz
Operating ambient temperature	0 °C - 40 °C [*]	0 °C - 40 °C [*]

[*]up to 65 °C with derating

Ordering Information

P028.002.E884	iPOS360x MBX-CAN motherboard, 4 axes VX, CAN
P028.002.E001	iPOS3604 iPOS3604 VX-CAN, 36V 4A, plug-in, Enc, CAN
P028.001.E001	iPOS3602 iPOS3602VX-CAN, 36V 2A, plug-in, Enc, CAN
P038.010.E001	ENET-VX Ethernet-to-CAN adapter, plug-in interface (optional)
P028.040.C198	CS MFIO iPOS360x MBX (Cable set 100 cm for 1 axis: motor, feedback, I/O)
P028.040.C197	CS PWCOM iPOS360x MBX (Cable set 100 cm for 1 power, RS232, CAN)
P034.001.E002	EasyMotion Studio Software

FLEXIBILITY

Control schemes supported by the iPOS360x SX-CAN Multi-axis Motion System

Motor Types	Torque Control	Speed Control	Position Control
Brushless	√	√	√
DC Brushed	√	√	√
Step	√	√	√

This information is subject to change without notice.