

iPOS360x SY-CAT MULTI-AXIS MOTION SYSTEM 6 x 144 W

6-AXIS COMPACT SOLUTION FOR ROTARY OR LINEAR BRUSHLESS, DC BRUSH AND STEP MOTORS

The iPOS360x SY-CAT provides a compact, ready to run solution for multi-axis applications up to 6 axes. Using iPOS3602 or iPOS3604 intelligent drives, the iPOS360x SY-CAT multi-axis motion system offers a cost effective solution for control of up to 6 rotary or linear brushless, DC brushed, or step motors with powers up to 144W and EtherCAT communication.

Designed to cover low to medium volume applications, the iPOS intelligent drives embed motion controller, drive, and PLC functionalities into a single unit. They can be used as intelligent drives, or as a standard drives accepting CAN application protocol over EtherCAT (CoE).

When used as an intelligent drive, the iPOS360x are empowered by the extreme flexibility offered by the TML (Technosoft Motion Language).

ETHERCAT NETWORKING

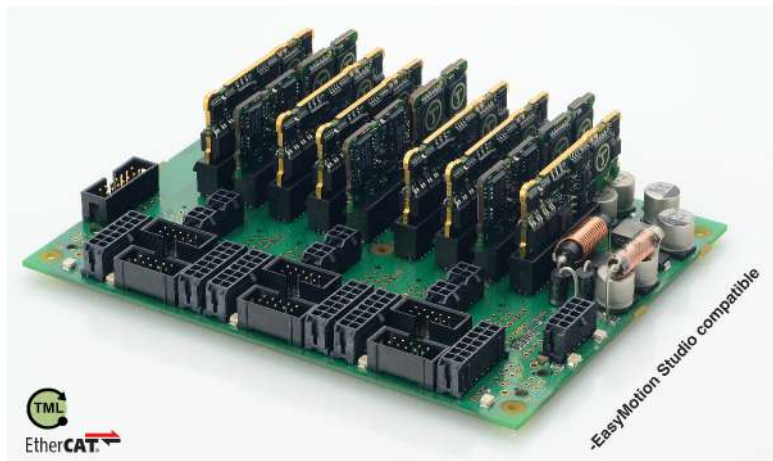
The iPOS360x SY-CAT multi-axis motion system supports CAN application protocol over EtherCAT® (CoE) in conformance with CiA 402 device profile. Advanced features are covered, as cyclic synchronous position, up to 35 customizable homing modes, PVT third order interpolation polynomial motion profiles, etc.

Initial drive commissioning is performed via the Technosoft EasySetup or EasyMotion Studio software platforms; checking and updating of setup data can also be done from the EtherCAT master.

Motion programming can be done via an EtherCAT® master, or using the drive built-in motion controller executing a TML program. A distributed control approach, like for example a master calling motion functions programmed on the drives in TML is also possible.

The EtherCAT communication is done via additional EtherCAT plug-in interfaces, one for each axis used. For the unused axes, instead of the EtherCAT interfaces, EtherCAT/CAN bridges have to be used to assure the network continuity. For setup and testing, access to each drive is also possible via an RS-232 link.

P091.028.iPOS360xSY-CAT.LFT.0216



iPOS360x SY-CAT FEATURES

- mainboard for mounting the multi-axis motion system
- up to 6-axis motion system with iPOS3602 or iPOS3604 drives
- up to six ECAT-VX EtherCAT plug-in interfaces
- up to six EtherCAT/CAN bridges for axes not used
- Compact solution: 160 x 122 x 22 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: EtherCAT with CoE protocol
- RS-232 (up to 115 k) for system setup
- Delivery options: from one to six 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 μ steps) 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 limit 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

This information is subject to change without notice.

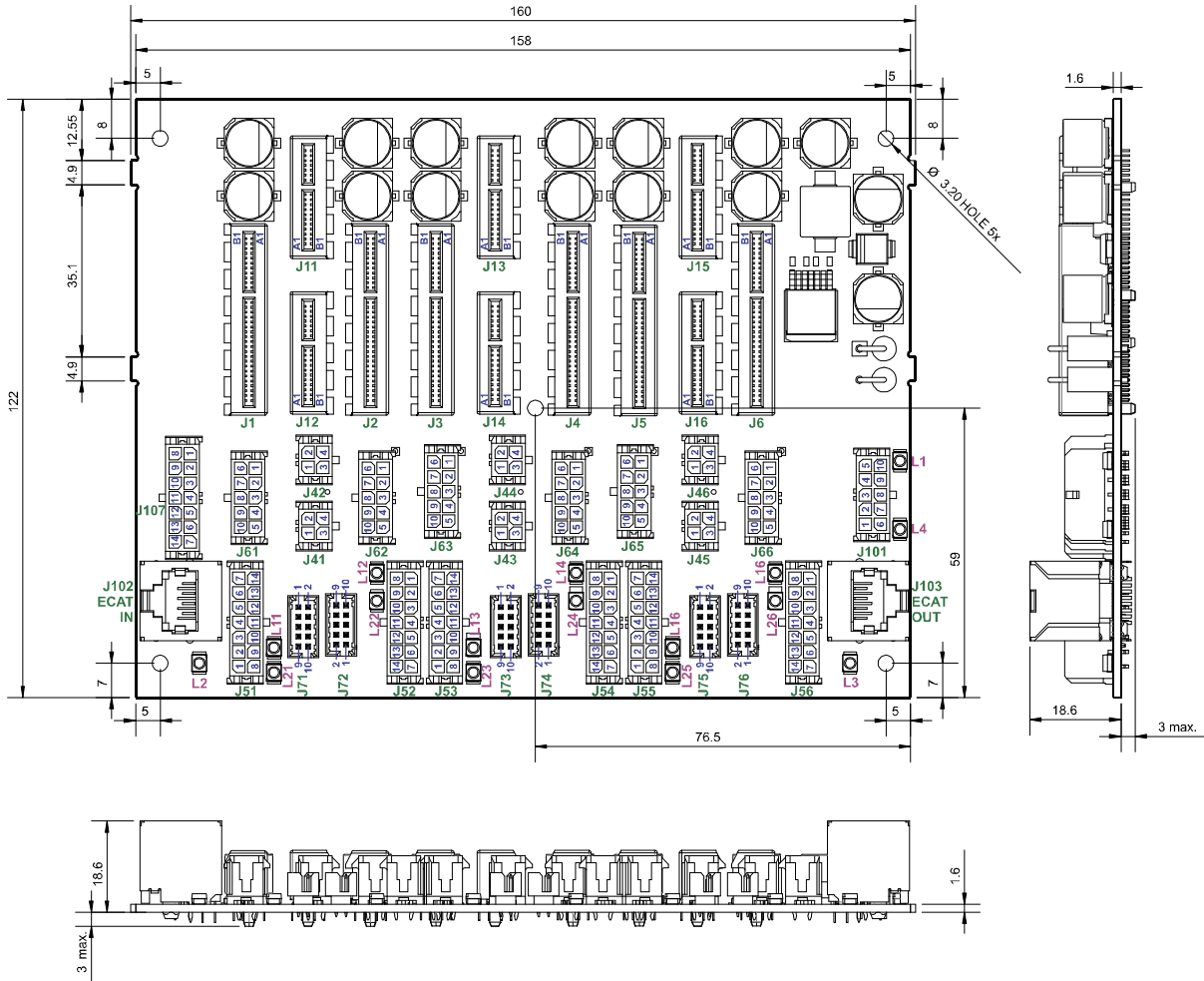
Your
Next
Intelligent
Move



TECHNOSOFT
MOTION TECHNOLOGY

DIMENSIONS, SPECIFICATIONS, ORDERING INFORMATION

iPOS360x SY-CAT MULTI-AXIS MOTION SYSTEM



Dimensions in mm. Drawings not to scale.

EASYSOFT MOTION 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

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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

P028.023.E000	iPOS360x MBX6-CAT motherboard for 6 axes VX, EtherCAT compatible, G3
P028.002.E021	iPOS3604 iPOS3604 VX-CAT, 36V 4A, plug-in, Enc, EtherCAT
P028.001.E021	iPOS3602 iPOS3602VX-CAT, 36V 2A, plug-in, Enc, EtherCAT
P038.020.E001	ECAT-VX EtherCAT plug-in module
P038.021.E000	ECAT/CAN-VX bridge PCB plug-in
P028.040.C399	CCS 6xiPOS360x SXD G3 (CCS 100 cm MBX 6 axis with dif. enc.)
P028.040.C398	CCS 6xiPOS360x SXE G3 (CCS 100 cm MBX 6 axis with single-ended enc.)
P034.001.E002	EasyMotion Studio Software

FLEXIBILITY

Control schemes supported by the iPOS360x SY-CAT Multi-axis Motion System

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

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