

# iPOS3604 BX-CAN INTELLIGENT SERVO DRIVE 4A, 36V<sub>DC</sub>

## FOR BRUSHLESS, BRUSHED, LINEAR OR STEP MOTORS

### DESCRIPTION

The iPOS3604 BX-CAN is a new member of the iPOS family of Technosoft intelligent drives. It is based on a new design concept for closed-frame drives, offering a very compact and cost effective solution for the control of rotary or linear brushless, DC brush, and step motors of powers up to 144 W.

Designed to cover low to medium volume applications, the iPOS3604 BX-CAN embeds motion controller, drive, and PLC functionalities into a single unit.

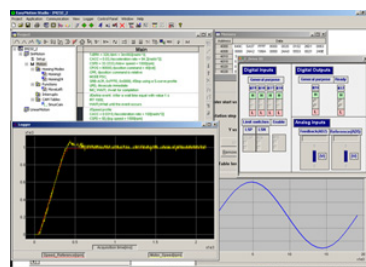
When used as an intelligent drive - like all other members of the iPOS family - the iPOS3604 BX-CAN is empowered by the extreme flexibility offered by the TML (Technosoft Motion Language) instruction set. Acting as a programmable motion controller and drive in a compact form, the unit can replace the host in various single or multi-axis stand-alone applications.

Complex motion sequences can be programmed and executed automatically at power-up from the non-volatile memory of the drive. Advanced positioning profiles like the PVT or electronic camming, I/O and program flow control, data transfer between axes, subroutines, ISRs and multiple homing modes ease the motion application implementation task.

In systems that require a host, the iPOS operates as an intelligent slave executing motion sequences triggered via commands received on RS-232 or TMLCAN while fully supporting as well the CiA402 CANopen drive profile.

### EASYMOTION STUDIO

The configuration, tuning and programming of the iPOS3604 BX-CAN drive is easy with Technosoft's powerful graphical platform, EasyMotion Studio.



P091.028.iPOS3604 BX-CAN.LFT.0914



### FEATURES :

- Motion controller and drive in a single compact unit
- Universal drive solution for brushless, brushed, linear or step (true closed loop) motors
- Advanced motion control capabilities (PVT, S-curve, electronic cam)
- Motion programming via TML (Technosoft Motion Language) or motion libraries for Visual C / VB / LabVIEW / Linux and PLC
- Standalone operation with stored motion sequences
- Communication :
  - RS-232 serial
  - CAN-Bus with TMLCAN or CANopen (CiA301, 305, 402) protocols
- Digital and analogue I/Os:
  - 5 digital programmable inputs, 5 - 36 V
  - 4 digital outputs, 5 - 36 V, 0.5 A
  - 1 analogue inputs: 12 bit resolution, 0 - 5 V
- Feedback devices :
  - Incremental quad encoder (differential )
  - Analogue sine/cosine encoder (differential 1Vpp)
  - Digital Hall sensors
- Programmable protections :
  - Over-current, over-temperature, short circuit
  - Over and undervoltage, i2t, control error

### ELECTRICAL SPECIFICATIONS :

Motor power supply:	12 - 36 V <sub>DC</sub>
Logic supply :	12 - 36 V <sub>DC</sub>
Continuous phase current	4 A
Peak current (2.4 sec. max.)	10 A
PWM switching frequency	20 - 100 kHz
Operating ambient temperature	0 °C - 40 °C

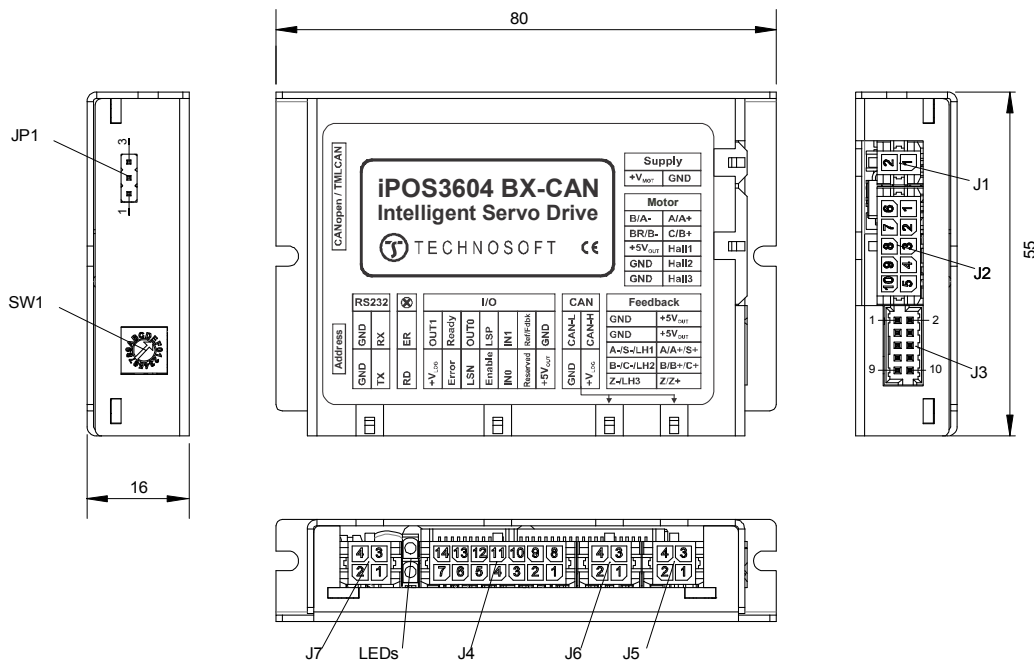
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Next  
Intelligent  
Move



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MOTION TECHNOLOGY

## TECHNICAL AND ORDERING INFORMATION



Weight : 85 g  
All dimensions are in mm.

### J1 Motor Supply

- 1 GND
- 2 +V<sub>MOT</sub>

### JP1 Jumper

- 1-2 CANopen mode
- 2-3 TMLCAN mode

### SW1 Switch

- Axis ID

### J2 Motor + Halls

- 1 Motor phase A/A+
- 2 Motor phase C/B+
- 3 Hall 1
- 4 Hall 2
- 5 Hall 3
- 6 Motor phase B/A-
- 7 Brake/phase B-
- 8 +5V<sub>OUT</sub>
- 9 GND
- 10 GND

### J3 Feedback

- 1 GND
- 2 +5V<sub>OUT</sub>
- 3 GND
- 4 +5V<sub>OUT</sub>
- 5 A-/Sin-/LH1
- 6 A+/Sin+
- 7 B-/Cos-/LH2
- 8 B+/Cos+
- 9 Z-/LH3
- 10 Z+

### J4 I/O & Logic Supply

- 1 +5 V<sub>OUT</sub>
- 2 Reserved
- 3 In0
- 4 Enable
- 5 LSN
- 6 Error
- 7 +V<sub>LOG</sub> In
- 8 GND
- 9 Ref/Fdbk
- 10 In1

### 11 LSP

- 12 Out0
- 13 Ready
- 14 Out1

### J7 RS232

- 1 232TX
- 2 GND
- 3 232RX
- 4 GND

### J5&J6 CAN

- 1 +V<sub>LOG</sub> In/Out
- 2 GND
- 3 CAN-Hi
- 4 CAN-Lo

### LEDs

- Green - Ready
- Red - Error

## ORDERING INFORMATION :

<b>P028.002.E201</b>	iPOS3604 BX-CAN Intelligent Drive, 36V, 4A, closed frame, encoder, CAN
<b>P034.001.E002</b>	EasyMotion Studio Software
<b>P040.001.Exxx</b>	TML_LIB Motion Library*
<b>P028.040.C099</b>	Complete cable set 100 cm for iPOS3604 BX-CAN, enc.diff
<b>P028.040.C079</b>	Housing & crimp pins set for iPOS3604 BX-CAN

\*ask for existing libraries types

## FLEXIBILITY :

Control schemes supported by the iPOS3604 BX-CAN Drive

Motor types	Torque Control	Speed Control	Position Control
Brushless	✗	✗	✗
Brushed	✗	✗	✗
Step	✗	✗	✗
Linear	✗	✗	✗

## CONNECTORS TYPE AND MATING CONNECTORS :

Connector	On the drive	Mating
J1	Molex 43045-0200	Molex 43025-0200
J2	Molex 43045-1000	Molex 43025-1000
J3	Molex 87833-1031	Molex 511110-1056
J4	Molex 43045-1400	Molex 43025-1400
J5,J6,J7	Molex 43045-0400	Molex 43025-0400

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.

**Application notes** with TML program examples at :  
[www.technosoftmotion.com](http://www.technosoftmotion.com)

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