

# iPOS8010 BX-CAN INTELLIGENT SERVO DRIVE 10A, 80V<sub>DC</sub>

FOR BRUSHLESS, BRUSHED, LINEAR OR STEP MOTORS

## DESCRIPTION

The iPOS8010 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 800 W.

Designed to cover low to medium volume applications, the iPOS8010 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 iPOS8010 BX-CAN is empowered by the extreme flexibility offered by the TML (Technosoft Motion Language) instruction set. The unit can replace a host in various single or multi-axis stand-alone applications.

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.

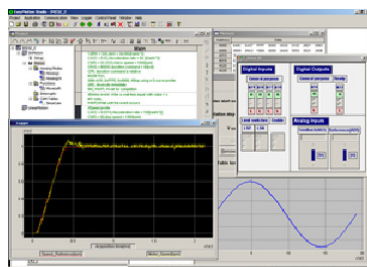
In systems that require a host, the iPOS operates as an intelligent slave executing motion sequences triggered via commands received on RS-232 or CAN while fully supporting as well the CiA402 CANopen drive profile.

## DUAL LOOP

Equipped with 2 feedback connectors, the iPOS8010 BX-CAN provides advanced dual-loop control schemes that minimize the transmission backlash negative effects.

## EASYMOTION STUDIO

The configuration, tuning and programming of the iPOS8010 BX-CAN drive is easy with Technosoft's powerful graphical platform, EasyMotion Studio.



## FEATURES :

- Motion controller and drive in a single compact unit
- Universal solution for control of rotary and linear brushless, brushed and 2 or 3-phase step motors
- Advanced motion control capabilities (PVT, S-curve, electronic cam)

Motor supply: 11-80V; Logic SELV/ PELV supply: 9-36V; STO SELV/PELV supply: 18-36V

- Motion programming via TML (Technosoft Motion Language) or motion libraries for Visual C / VB/LabVIEW / Linux and PLC

- Communication :

- RS-232 serial
- CAN-Bus with TMLCAN or CANopen (CiA301, 305, 402) protocols

- Digital and analogue I/Os:

- 4 PNP/NPN digital programmable inputs, 24 V
- 4 NPN digital outputs, 5 - 36 V, 0.5 A
- 2 analogue inputs: 12 bit resolution, 0 - 5 V

- Safety:

- 2 Safe Torque Off inputs (STO)

- Feedback devices (dual-loop supported) :

1<sup>st</sup> Feedback :

- Incremental quad encoder ( differential )
- Analogue sine/cosine encoder (differential 1Vpp)
- Digital Hall sensors

2<sup>nd</sup> Feedback :

- Incremental quad encoder ( differential )

- Protections :

- Over-current, over-temperature, short circuit
- Over and undervoltage, i2t, control error

## ELECTRICAL SPECIFICATIONS

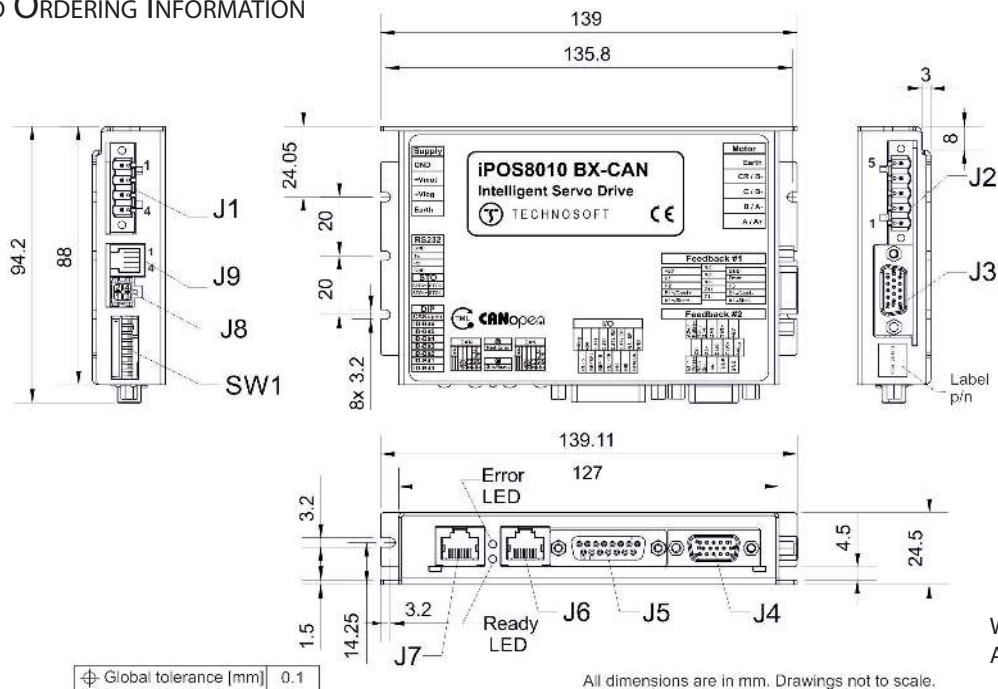
Motor power supply:	12 - 80 V <sub>DC</sub>
Logic supply :	12 - 36 V <sub>DC</sub>
STO supply :	12 - 36 V <sub>DC</sub>
Continuous phase current	10A
Peak current (10 sec. max.)	20 A
PWM switching frequency	20 - 60 kHz
Ambient operating temperature	0 °C - 40 °C

Your  
Next  
Intelligent  
Move



TECHNOSOFT  
MOTION TECHNOLOGY

## TECHNICAL AND ORDERING INFORMATION



Weight : 240 g  
All dimensions are in mm.

## J1 Motor Supply

- 1 GND  
2 +VMOT  
3 +VLOG  
4 Earth

## J2 Motor Output

- 1 A/A+
- 2 B/A-
- 3 C/B+
- 4 CR/B-
- 5 Earth

### J3 Primary

- Feedback #1
- 1 +5VOUT
  - 2 Hall 1
  - 3 Hall 2
  - 4 B1+/Cos+
  - 5 A1+/Sin1+
  - 6 n.c.
  - 7 n.c.
  - 8 n.c.
  - 9 Z1+
  - 10 Z1-
  - 11 GND
  - 12 Temp Mot
  - 13 Hall 3
  - 14 B1-/Cos-
  - 15 A1-/Sin-

J4 Secondary

- Feedback #2  
1 +5VOUT  
2 Data+/SL+  
3 Data-/SL-  
4 B2+/Dir+  
5 A2+/Pulse+  
6 +VLOG  
7 CLK+/MA+  
8 CLK-/MA-  
9 Z2+  
10 Z2-  
11 GND  
12 FDBK  
13 n.c.  
14 B2-/Dir-  
15 A2-/Pulse-

J5 Digital, analog,

- I/O and logic supply
- 1 GND
  - 2 IN2/LSP
  - 3 OUT2/Error
  - 4 OUT3/Ready
  - 5 OUT0
  - 6 OUT1
  - 7 +5VOUT
  - 8 +VLOG
  - 9 IN3/LSN
  - 10 IN0
  - 11 IN1
  - 12 REF10+
  - 13 REF10-
  - 14 REFSEL
  - 15 REF5

## J6&J7 CANopen

- 1 Can-Hi  
2 Can-Lo  
3 GND  
4,5 -  
6...8 n.c
- J8 Safe Torque Off
- 1 STO1+  
2 STO2+  
3 STO1-  
4 STO2-
- J9 RS232
- 1 GND  
2 232TX  
3 232RX  
4 GND

LED1

- Green = Ready  
Red = Error

## SW1

- 1: ON = CANopen  
OFF = TMLCAN
- 2: Axis ID - Bit 6
- 3: Axis ID - Bit 5
- 4: Axis ID - Bit 4
- 5: Axis ID - Bit 3
- 6: Axis ID - Bit 2
- 7: Axis ID - Bit 1
- 8: Axis ID - Bit 0

## ORDERING INFORMATION

P029.025.E201	iPOS8010 BX-CAN, 80V,10A, cl. frame, Enc, CAN
P034.001.E002	EasyMotion Studio Software
P040.001.Exxx	TML_LIB Motion Library*

\*ask for existing libraries types

## FLEXIBILITY :

Control schemes supported by the iPOS8010 BX-CAN Drive

Motor types	Torque Control	Speed Control	Position Control**
Brushless	√	√	√
Brushed	√	√	√
Step	√	√	√
Linear	√	√	√

\*\* Dual-loop control supported

### CONNECTORS TYPE AND MATING CONNECTORS :

Connector	Mating connectors
J1	CTBA9208/4FL CAMDEN
J2	CTBA9208/5FL CAMDEN
J3, J4	Generic 15-pin HighDensity D-Sub male
J5	Generic 15-pin D-Submale, DB15
J6,J7	-
J8	Molex 43045-0400/ 43030-0007
J9	Generic RJ10-4/4 phone plug

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 stand-ard are available for Siemens, B&R and Omron PLCs.

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

P091.029.iPOS8010 BX-CAN.LFT.0820

## SALES OFFICES

HEADQUARTERS :

SWITZERLAND  
Tel.: +41 32 732 55 00  
Fax: +41 32 732 55 04  
[sales@technosoftmotion.com](mailto:sales@technosoftmotion.com)

**GERMANY** (Postcode: 2, 3, 4, 5, 6, 7)  
**Cell: +49 (0)173 77 200 03**  
**Tel.: +49 (0)7156 3088018**  
**Fax: +41 (0)32 732 55 04**  
**sales.de@technosoftmotion.com**

GERMANY (Postcode: 0, 1, 8, 9) / AUSTRIA  
Cell: +49 (0)170 521 0007  
Tel.: +49 (0)83319247293  
Fax: +41 (0)32 732 55 04  
[sales.de@technosoftmotion.com](mailto:sales.de@technosoftmotion.com)

UNITED STATES  
Tel.: +1 603 831 5040  
Fax: +1 734 667 52 76  
[sales.us@technosoftmotion.com](mailto:sales.us@technosoftmotion.com)  
[www.technosoftmotion.com](http://www.technosoftmotion.com)