iPOS8010 BR-CAT INTELLIGENT SERVO DRIVE 10 A, 80 VDC

FOR BRUSHLESS, BRUSHED LINEAR OR STEP MOTORS

DESCRIPTION

The iPOS8010 BR-CAT is a new member of the iPOS family of Technosoft intelligent drives. It is based on a new design concept for panel-mounted 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 with EtherCAT communication.

Designed to cover low to medium volume applications, the iPOS8010 BR-CAT embeds motion controller, drive, and PLC functionalities into a single unit. It can be used as an intelligent drive, or as a standard drive accepting CAN application protocol over EtherCAT (CoE).

When used as an intelligent drive - like all other members of the iPOS family - the iPOS8010 BR-CAT is empowered by the extreme flexibility offered by the TML (Technosoft Motion Language).

ETHERCAT NETWORKING

The iPOS8010 BR-CAT drive 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 (including all CiA 402 standard 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 which combines the above options, like for example a master calling motion functions programmed on the drives in TML is also possible.

DUAL LOOP

Equipped with 2 feedback connectors, the iPOS8010 BR-CAT provides advanced dual-loop control schemes that minimize the transmission backlash negative effects, and increases system damping and stability.

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)**
- **Standalone operation with stored motion sequences**
- **Drive enable circuit**
- **Communication**
  - **RS-232 serial**
  - **EtherCAT : CoE protocol**
- **Digital and analogue I/Os:**
  - **4 digital programmable inputs, 5-36 V**
  - **4 digital outputs, 5-36 V, 0.5 A**
  - **2 analogue inputs: 12 bit resolution, 0-5 V**
- **Feedback devices (dual-loop supported)**
  - **1st Feedback :**
  - **Resolver (differential)**
  - **2nd Feedback :**
  - **Incremental quad encoder (differential)**
- **Programmable protections:**
  - **Over-current, over-temperature, short-circuit**
  - **Over and undervoltage, i2t, control error**

ELECTRICAL SPECIFICATIONS :

Motor power supply:	12 - 80VDC
Logic supply :	12 - 36VDC
Maximum continuous phase current	10 A
Peak current (2.4 sec. max.)	20 A
PWM switching frequency	20 - 100 kHz
Ambient operating temperature	0 °C - 40 °C

Your Next Intelligent Move

TECHNICAL AND ORDERING INFORMATION

Diagram labels: J1, J9, J8, SW1, LED1, J7, LED2, J6, J5, J4, J2, J3, Label p/n

iPOS8010 BR-CAT
Intelligent Servo Drive
TECHNOSOFT

139, 94, 24.5

Weight : 240 g
All dimensions are in mm.

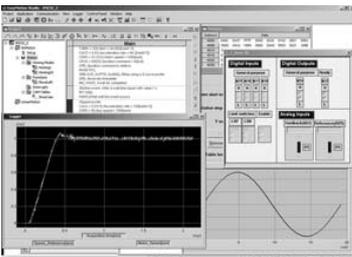| J1 Motor Supply	J3 Primary Feedback #1	J4 Secondary Feedback #2	J5 Digital, analog, I/O and logic supply	J6&J7 EtherCAT®	LED1

J1 Motor Supply
1 GND
2 +VMOT
3 +VLOG
4 Earth

J2 Motor Output
1 A/A+
2 B/A-
3 C/B+
4 BR/B-
5 Earth

J3 Primary Feedback #1
1 +5VOUT
2 n.c.
3 n.c.
4 CosR+
5 SinR+
6 n.c.
7 n.c.
8 n.c.
9 n.c.
10 n.c.
11 GND
12 TMot
13 n.c.
14 CosR-
15 SinR-

J4 Secondary Feedback #2
1 +5VOUT
2 n.c.
3 n.c.
4 B2+/Dir+
5 A2+/Pulse+
6 n.c.
7 n.c.
8 n.c.
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 REF5
15 REFSEL

J6&J7 EtherCAT®
J6 ECAT IN
J7 ECAT OUT

J8 Enable
1 ENA1
2 GND
3 ENA2
4 GND

J9 RS232
1 GND
2 232TX
3 232RX
4 GND

LED1
Green = Ready
Red = Error

LED2
EtherCAT® Status

SW1
1: reserved
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

EASYMOTION STUDIO

The configuration, tuning and programming of the iPOS4808 BR-CAT drive is easy with Technosoft's powerful graphical platform, 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

Application notes with TML program examples at :
www.technosoftmotion.com

ORDERING INFORMATION :

FLEXIBILITY :

Control schemes supported by the iPOS8010 BR-CAT 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-Boss
J2	CTBA9208/5FL CAMDEN-Boss
J3, J4	High Density D-Sub male, 15 pins
J5	D-Sub male, 15 pins
J6, J7	RJ-45 plug
J8	Molex 43045-0400
J9	RJ-10 plug

SALES OFFICES

HEADQUARTERS

SWITZERLAND
Tel.: +41 32 732 55 00
Fax: +41 32 732 55 04
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

BENELUX
Tel.: +32 (0)14 21 13 21
Fax: +32 (0)14 21 13 23
sales.be@technosoftmotion.com

EASTERN EUROPE
Tel.: +40 (0)21 425 90 95
Fax: +40 (0)21 425 90 97
sales.ro@technosoftmotion.com

UNITED STATES
Tel.: +1 734 667 52 75
Fax: +1 734 667 52 76
sales.us@technosoftmotion.com
www.technosoftmotion.com