iGVD71BX CAN Intelligent Servo Drive 100A, 80Vdc

For Brushless, Brushed or Linear Motors

Description

The iGVD71 BX-CAN intelligent drives offer a cost-effective, compact and modular solution, suitable for the position, speed or torque control of any DC, brushless or linear motor of powers up to 8 kW, with RS232 and CAN communication.

iGVD71BX-CAN is a low voltage and high current intelligent drive suitable for the AGV, LGV and RGV applications.

The iGVD71BX-CAN intelligent drives embed the motion controller, drive and PLC functionalities into a single unit. They can be used as an intelligent drives or as a standard drives accepting TMLCAN or CANopen commands.

CANopen Networking

The iGVD71BX-CAN intelligent drives support CANopen application protocol in conformance with CiA 402 device profile. Advanced features are covered, as cyclic synchronous position, 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 Easy SetUp or EasyMotion Studio software platforms; checking and updating of setup data can also be done from the CANopen master.

Dual Loop

Equipped with 2 feedback inputs, the iGVD71 BX-CAN intelligent drive provides advanced dual-loop control schemes that minimize the transmission backlash negative effects and increases the system damping and stability.

EasyMotion Studio

The configuration, tuning and programming of the iGVD71 BX-CAN 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

Features :

- Motion controller and drive in a single compact unit
- Universal drive solution for brushless, brushed and linear motors
- Advanced motion control capabilities (PVT, S-curve, Electronic Gearing / Camming etc.)
- Motion programming via TML (Technosoft Motion Language) or motion libraries for Visual C / VB / LabVIEW / Linux and PLC
- STO inputs with safety integrity level (SIL3/Cat3/Ple)
- Standalone operation with stored motion sequences
- Micro USB (RS232) & Opto CAN-bus 2.0B interface
- TMLCAN and CANopen (CiA 301 v4.2, CiA 305 v.2.2.13 and CiA 402 v3.0) protocols selectable by DIP switch
- Digital and analogue I/Os:
  - 5x opto-isolated digital inputs, 12-36V, PNP/NPN compatible: 2 for limit switches, 3 general-purpose
  - 4x digital outputs, 0.2A PNP/ 0.3A NPN software selectable: Ready, Error, 2 general-purpose
  - 1x PNP/NPN 2A Motor brake digital output: OUT0/Brake
  - 1 analogue inputs: 12-bit, 0-5V: Reference, Feedback or general purpose

  NTC/PTC analogue Motor Temperature sensor input
- Solenoid driver for motor brake, 2A
- Feedback devices (dual-loop supported):

  1st Feedback:
  - incremental quadrature encoder or Pulse & Direction (differential)

  2nd Feedback:
  - incremental quadrature encoder or Pulse & Direction (differential)
  - SSI or BISS-C absolute encoder interface
- Digital Hall sensor interface (single-ended and open collector or differential, selectable by DIP switch)
- 16 h/w addresses selectable by h/w DIN switch
- Programmable protections to over-current, short-circuit, over-voltage, under-voltage, I2t, control error

Electrical Specifications

Motor power supply:	12 - 80 VDC
Logic /STO supply :	9 - 36 VDC/18-36 VDC
Continuous phase current	100 A
Peak current	140 A
PWM switching frequency	20 - 100 kHz
Operating ambient temperature	0 °C - 40 °C

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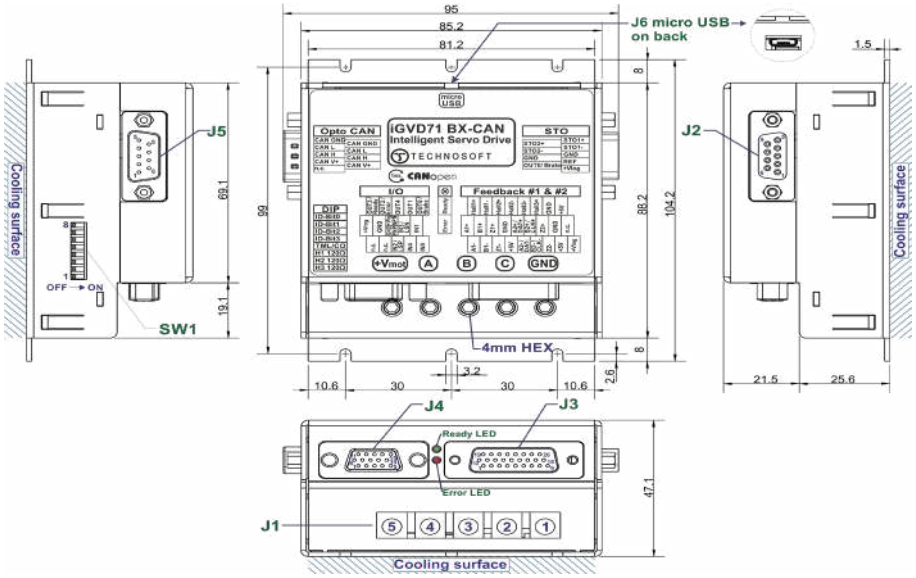
Technical And Ordering Information



J1 - Motor
1 GND
2 C
3 B
4 A
5 +VMOT

J2 – STO
1 +Vlog
2 REF
3 GND
4 STO1
5 STO1+
6 OUT0/Brake
7 GND
8 STO2-
9 STO2+

J3 - Feedback#1 & Feedback#2

1	A1-	14	A2+/DAT+
2	B1-	15	B2+ / CLK+
3	Z1-	16	Z2+
4	+5V	17	GND
5	A2-/DAT-	18	n.c.
6	B2- / CLK-	19	Hall 1+
7	Z2-	20	Hall 1-
8	+5V	21	Hall 2+
9	+Vlog	22	Hall 2-
10	A1+	23	Hall 3+
11	B1+	24	Hall 3-
12	Z1+	25	GND
13	GND	26	+5V

J4 – I/O
1 n.c.
2 n.c.
3 IN2 / LSP
4 IN4
5 IN0
6 +Vlog
7 GND
8 GND - PNP / +Vlog - NPN
9 IN3 / LSN
10 IN1
11 OUT4 / Ready
12 Out3 / Error
13 OUT2
14 OUT1
15 OUT0 / Brake

J5 – OPTO CAN
1 n.c.
2 CAN V+
3 CAN H
4 CAN L
5 CAN GND
6 CAN V+
7 CAN H
8 CAN L
9 CAN GND

J6 - USB
- USB

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-61131standard are available for Siemens, B&R and Omron PLCs.

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

Ordering Information

P025.001.E201	iGVD71BX-CAN Intelligent Drive, 80 V, 100 A, CAN, STO
P034.001.E002	EasyMotion Studio Software
P040.001.Exxx	TML_LIB Motion Library**

**ask for existing libraries types

Flexibility :

Control schemes supported by the iGVD71 BX-CAN Intelligent Drive

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

Connectors Type and Mating Connectors :

J2, J5	Generic 9-pin Sub-D male
J3	Generic 26-pin High Density D-Sub male
J4	Generic 15-pin High Density D-Sub male
J6	Standard Micro USB cable

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