DC motor Driver / Kann-D17a motor driver PCB
Second Generation

KannMOTION series

Product description

- DC motor driver
- Integrated magnetic position encoder[2)] or hall state
- Motor driver up to 45V / 1.5A [1)]
- Capable for different motor and control voltages
- Integrated PLC

Interfaces

- CANOPEN

Benefits / Software

- Closed loop operation
- Fully controllable over CANopen
- Updates, documents, tutorials and videos easy accessed at www.kannmotion.com

Technical data (Maximum ratings)

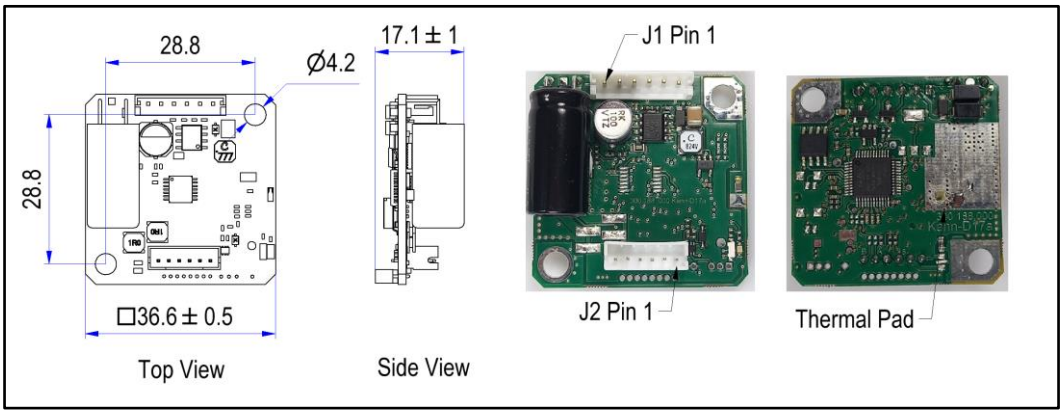
Rated supply voltage (Motor)	12 to 45 VDC
Rated supply voltage (Logic)	6 to 30 VDC
Max. motor phase current [1)]	1.5A [1)]
Ambient temperature range	-10 to +40°C
Connection interface	JST 6 pole / B6B-EH / 2.5mm
Connection motor	JST 6 pole / B6B-PH-KS / 2mm

Ordering information

Part number	Description	Accessories
300 110 . xxx	Kann-D17a motor driver PCB <CANopen> 1AI, AB-QENC, 24VDC/3A , IP00	
100 732 xxx	USB - CAN Konverter isoliert	x
300 065 xxx	Verbindungskabel Konvertermodule K17c-JST	x

1) Is limited in time, restricted by losses! <Chip temperature>, take care about PCB cooling depending on application
2) Optional

Dimensions (in mm)



Connection terminals J1

Pin	Description	Nominal	Absolute max	Comment
1	V_{motor}	24 VDC	45 VDC	Supply of motor drive (Power)
2	V_{in}	24 VDC	30 VDC	Supply of PCB logic, also for logic outputs
3	CAN-H	3.5 V	±24V	CAN bus signal (not terminated)
4	CAN-L	1.5 V	±24V	CAN bus signal (not terminated)
5	D-IN	3.3V/ 5V / 12V / 24V	30V	Thresholds defined in firmware
6	GND	-	-	Reference

Software Configuration of Input Thresholds

Setting	V_{iH} (High level input voltage)	V_{iL} (Low level input voltage)
SPS_24V	>15.0	<5.0
SPS_12V	>7.5	<2.5
TTL_5V	>2.7	<1.5
TTL_3V3	>2.0	<1.0

Connection terminals J2

Pin	Description	Comment
1	Hall B	Open drain Input / Pull up to 3.3V
2	Hall A	Open drain Input / Pull up to 3.3V
3	GND	GND for hall sensor
4	+5VDC	Supply for hall sensor
5	Motor -	
6	Motor +	

Tools, further documents

Adlos offers for its customers some helping and design-in tools. These tools, application notes and manuals you can find on our website www.kannmotion.com in the download section.

KannMotion Manager tool: Manage your drives

KannMOTION Manager is the general tool for our generation 2 (GEN2) drives. This tool comes with an integrated C-coder and a visual drag and drop user interface for customizing your drive.

ComWatch Communication Tool, for Life values

ComWatch is a tool for engineers and technicians to explore device specific parameters, read out tracking data and settings and doing firmware updates.
The software is as it is, and in principle for free for adlos customers. The software is not made for a broad range of standard users, it's made in principle for technical engineers which are used in working with windows-based software. A minimum technical know-how is needed.

KannMOTION API

Adlos offers a windows API (Library) to communicate with our drives. The API enables much shorter implementation of KannMOTION communication with your own Windows based toolset and application.

Part number	Short / level	Description	
190073	LEVEL1 API-LLL	Low Level Abstraction offers RD/WR functions to Com, organizes Checksum and protocol Itself	
190074	LEVEL2 API-HAL	Hardware abstraction offers data object modeling, means it will take care bout device specific XML-files	
190080	LEVEL3 API-BAL	Bus abstraction Offers bus data support like CAN	

Additional Documentation and important information

The document **General_Information_KannMotion** (http://www.kannmotion.de/man_doc.php) specifies the intended use of the KannMOTION. It also has useful information related to all KannMOTION products and defines the laws and standard the KannMOTION is designed for and with. Please read this document carefully and comply with the information given in this document.

Proper use

Do not connect or disconnect motor during operation!

Motor cable and motor inductivity might lead to voltage spikes when the motor is disconnected / connected while energized. These voltage spikes might exceed voltage limits of the driver MOSFETs and might permanently damage them. Therefore, always disconnect power supply before connecting / disconnecting the motor

Keep the power supply voltage below the upper limit!

Otherwise, the driver electronics will seriously be damaged! Especially, when the selected operating voltage is near the upper limit a regulated power supply is highly recommended.

Check your mechanical system, is it able to drive the motor, avoid motor being used as generator

Every motor could be operated as a voltage generator, so take care about generated voltage, this might damage your electronics by overvoltage. Add some voltage limiter units to keep supply voltage in range.

Back-EMF

When a motor rotates in the reverse direction, stops or slows down abruptly, a current flow back to the motor's power supply due to the effect of back-EMF. If the current sink capability of the power supply is small, the device's motor power supply and output pins might be exposed to conditions beyond absolute maximum ratings. To avoid this problem, take the effect of back-EMF into consideration in system design

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