

Stepper motor Driver / Kann-K17a motor driver PCB

KannMOTION series

Product description

- Stepper motor driver for bipolar motors
- Integrated magnetic position encoder
- Motor drive up to 36V/3A ¹⁾
- Capable of different motor and control voltages

Interfaces

- 4 digital inputs / with adjustable thresholds
- 2 digital output / configurable logic (PNP /NPN)
- 1 analogue input (0..10V)
- 1x RS232

Benefits / Software

- Closed or open loop operation
- Build in PLC functions
- Variety of software function
- Fully controllable over a terminal. Protocol is open and free to use
- Flexible configuration and programming via free KannMOTION StepperConfigTool
- Updates, Documents, Tutorials and Videos at www.KannMOTION.de (in progress)



Technical data (Maximum ratings)

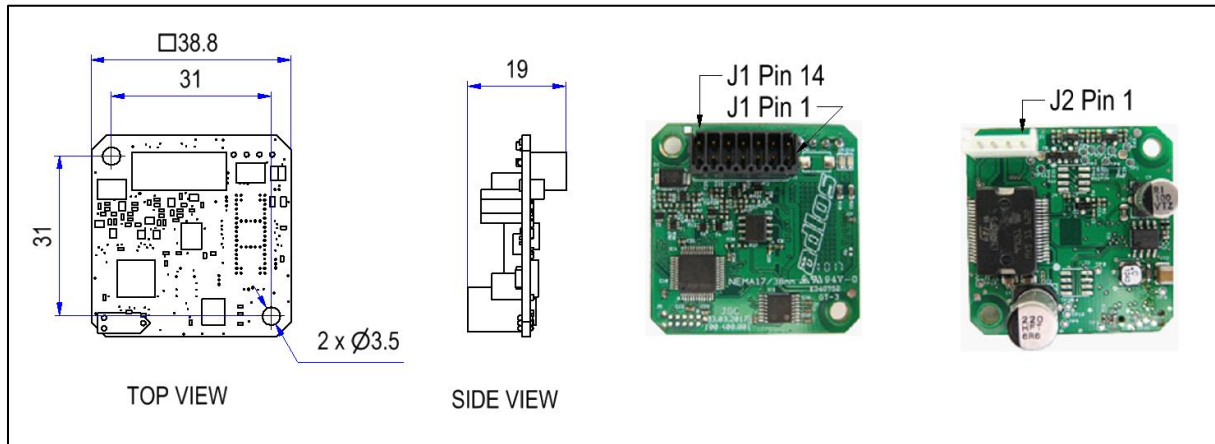
Rated supply voltage (motor drive)	12 to 36 VDC
Rated supply voltage (Logic)	6 to 30 VDC
Max. motor phase current ¹⁾	7 A _{peak} / 3 A _{RMS}
Ambient temperature range	-10 to +40°C
Connection terminals	14 pole / wire max. 0.5 mm ² / 6A per pin
Position control accuracy	+/-1°
Motor control mode	Voltage / micro stepping up to 1/256 depending on speed and mode

Ordering information

Part number	Description
100 427 . xxx	Kann-K17b motor driver PCB, 6-DIO, 1xAin
200 933 . xxx	J1 / 14 pole female 0.5mm ² max 6A

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

Dimensions (in mm)



Connection terminals J1

Pin	Description	Nominal	Absolute max	Comment
1	GND	-	-	Reference
2	Vmot	12 / 24 / 36 VDC	45V	Supply motor drive
3	Step In / Boot	0: Not connected	-15V/+30V	Update control input (Optional step signal)
4	AIN	0..10V	30V	Analog input
5	R _x	±5V	±15V	RS232
6	T _x	±5V	±15V	RS232
7	Out2 ²⁾	GND..Vin	Vin	- Short-circuit-proof - Capacitive load max. 100nF - Overload detection @ 15mA
8	Out1 ²⁾	I _{max} : 10mA		
9	DIn4 ³⁾		30V	
10	DIn3 ³⁾		30V	
11	DIn2 ³⁾	3.3V/ 5V / 12V / 24V	30V	Thresholds defined in firmware
12	DIn1 ³⁾		30V	
13	GND	-	-	Reference
14	Vin	12 / 24 VDC	30V	Supply of PCB logic, also PCB output

2): See section software configuration of outputs

3): See section software configuration of inputs

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

Software Configuration of Outputs

Setting	V _{oH} (High level output voltage)	V _{oL} (Low level output voltage)
Push (PNP)	V _{in} – 0.5V @ 10mA	HiZ ⁴⁾
Pull (NPN)	HiZ ⁴⁾	GND + 0.5V @ 10mA
Push Pull	V _{in} – 0.5V @ 10mA	GND + 0.5V @ 10mA

4): HiZ means high impedance, level is depending on load connected, level not maintained by KannMOTION

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 an 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.

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Freigabe Dokument:

Aktuelles Dokument	N:\P236 Koco Motion\Dokumentation\Datenblätter\Driver\100 507 000 Kann-K17a motor driver PCB.docx
Diese Dokument ersetzt diese Dokument	Kein vorgänger Dokument

Unterschriften

Die Unterlagen und vom Datenblatt entsprechen den Anforderungen und wird zur veröffentlichung freigegeben.

Kunde

Unterschrift / Blockschrift /Datum

Adlos Technik

Unterschrift / Blockschrift /Datum

Adlos Projektbetreuer

Unterschrift / Blockschrift /Datum

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