

## Stepper motor Kann17H2nnn-ccc-K17a000

KannMOTION series

### Product description

- Stepper motor with built in controller
- Absolut position encoder <sup>1)</sup>
- Motor driver 12..36VDC/3A 2)
- Controller logic 12-24VDC
- Energy recovery with external resistor
- Different motor and control voltage capable



### 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
- Flexible configuration and programming via free configuration tool
- Build in PLC function
- Free programming tool
- Variety of software function
- Fully controllable over a terminal. Protocol is open and free to use
- Updates, Documents, Tutorials and Videos easy accessed at [www.KannMOTION.de](http://www.KannMOTION.de) (in progress)

<sup>1)</sup> Absolut position on one turn

<sup>2)</sup> Might be limited in time, restricted by losses! <Chip temperature>, take care about PCB cooling depending on application

Model	Holding torque [Nm]	Current [A/phase]	Resistance [Ohm]	Inductance [mH]	Rotor inertia [kgcm <sup>2</sup> ]	Length A [mm] +/-1mm
Kann17H2041-150-K17a	0.36	1.5	1.65	3.2	54	41
Kann17H2061-150-K17a	0.72	1.5	3.2	6.4	110	61

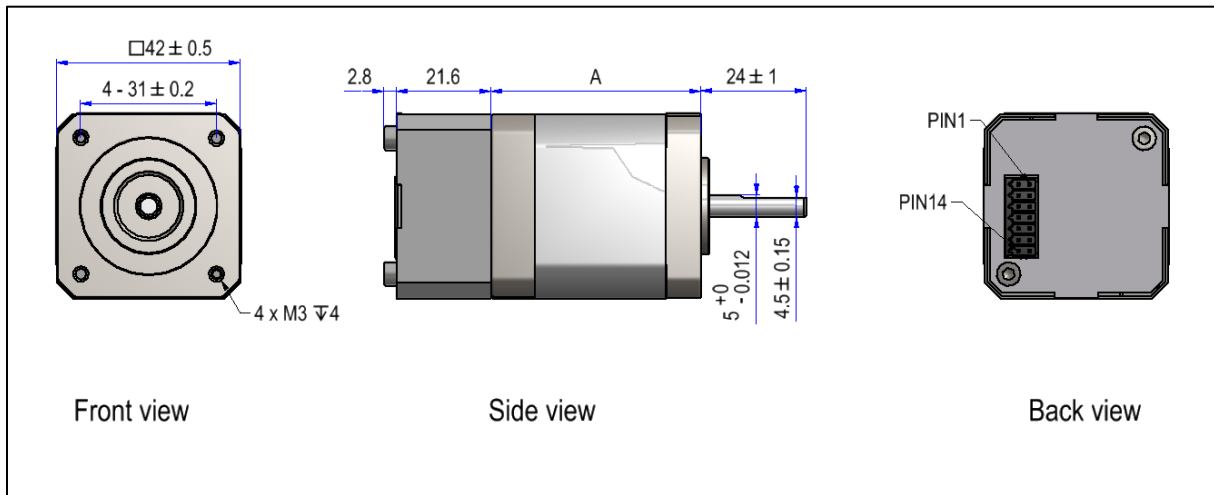
Length B is depending on the heat sink.

## Technical data (Maximum ratings)

Rated supply voltage (motor drive)	12 to 36 VDC
Rated supply voltage (Logic)	12 to 24 VDC
Ambient temperature range	-10 to +40°C
Connection terminals	14 pole / wire max. 0.5 mm <sup>2</sup> / 6A per pin
Position control accuracy	+/-1°
Motor control mode	Micro stepping

<sup>3)</sup> Might be limited in time, restricted by losses! <Chip temperature>, take care about PCB cooling depending on application

## Dimensions (in mm)



## Torque curves

Please refer to the motor data sheets.

## Ordering information

Part number	Description
100 385.000	Kann17H2041-150-K17a
100 386.000	Kann17H2061-150-K17a
200 933.000	J1 / 14 pole female 0.5mm <sup>2</sup> max 6A

## Connection terminals J1 (Control interface)

Pin	Description	Nominal	Absolute max	Comment
1	GND	-	-	Reference
2	V <sub>Mot</sub>	12 / 24 VDC	36V	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 <sub>x</sub>	±5V	±15V	RS232
6	T <sub>x</sub>	±5V	±15V	RS232
7	Out2 <sup>4)</sup>	GND..Vin	Vin	- Short-circuit-proof - Capacitive load max. 100nF - Overload detection @ 15mA
8	Out1 <sup>4)</sup>	I <sub>max</sub> : 10mA		
9	DIn4 <sup>5)</sup>		30V	
10	DIn3 <sup>5)</sup>		30V	
11	DIn2 <sup>5)</sup>	5V / 12V / 24V	30V	Thresholds defined in firmware
12	DIn1 <sup>5)</sup>		30V	
13	GND	-	-	Reference
14	Vin	12 / 24 VDC	30V	Supply of PCB logic, also PCB output

4): See section software configuration of outputs

5): See section software configuration of inputs

## Software Configuration of Input Thresholds

Setting	V <sub>IH</sub> (High level input voltage)	V <sub>IL</sub> (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 <sub>OH</sub> (High level output voltage)	V <sub>OL</sub> (Low level output voltage)
Push (PNP)	Vin – 0.5V @ 10mA	HiZ <sup>1</sup>
Pull (NPN)	HiZ <sup>6)</sup>	GND + 0.5V @ 10mA
Push Pull	Vin – 0.5V @ 10mA	GND + 0.5V @ 10mA

6): 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.

## Contact information

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