



Intelligent CAN Stepper Motor Controller RSTEP2

■ Brief description

The RSTEP2 module is the Motion Control product group's intelligent stepper motor controller, for controlling two drive axes at a maximum continuous current of up to 5 A

- For controlling 2x two-phase stepper motor axes
- Integrated power outputs
- Optional impulse / directional interface
- Encoder input step error monitoring
- CANopen slave interface (derived from DS402)

each and voltages up to 75 V. An additional encoder can be used to detect step errors in positioning.

The module's small footprint makes it ideal for decentralised systems. It can be mounted end-to-end and snaps on to a standard mounting rail. Other motion controllers can be connected either in series direct or via a CANbus cable to the CANbus itself.

The module comes with a CANopen slave facility derived from CIA device profile DS402.

■ Functionality

Two two-phase stepper motors can be controlled via the integrated output, designed for voltages up to 75 V, peak current of 10 A and a continuous current of 5 A.

There are 16 microsteps in every full step, to reduce noise and resonance. Each module comes with two encoder inputs (A, /A, B, /B), for monitoring step errors and controlling them via the application

■ Features

- Standby current reduction
- Overheat protection
- Fits on standard carrier rails or cold-plate system

Using 4 digital inputs and 2 digital outputs per stepper motor control can be used to control speed, position, homing and event movements (floating control). The RSTEP2 transmits current RSTEP process data (position, speed, status) independently via event PDO.

■ Selective power supply

The module is supplied with power over the cable connector for the signal level, which is 24 VDC. The module power supply can be separated from the motors', and each motor output stage can be powered separately.

■ Field connections

The signal connection level is ready-made for permanent wiring with plug connectors, which connect from the front. There is a choice of three types of connection:

- screw connection
- spring-latch terminal or
- crimp connection.

Two LEDs per shaft indicate output and CANopen status (PreOperational, Operational).



■ Configuration und engineering tool

Configuration is handled via the CANtrol Node Wizard (CNW), including baud rate and node number (node ID). Our powerful engineering tool, CPRSTEP, is available for commissioning stepper motors. The settings can be saved on the RSTEP2.

At a glance – a brief overview

Module data	
Type	RSTEP2
Product code	2037000
Number of drive shafts	2 axes, bipolar control of two phase stepper motors
Stage	MOSFET full bridge, discrete output
Output current	± 5 A per phase , ± 10 A peak (cold-plate technology for max. values)
Minimum controller current	0.5 A, resolution 0.1 A
Motor power supply	+ 24 V ... + 75 V DC
Motor supply control	no
Short-circuit proof	yes
Overheat protection	yes, output transistors with temperature sensor overload protection
Optional installation kit (case assembly retrofit available)	yes, for higher output currents in continuous operation
Weights, dimensions, etc.	
Dimensions WxHxD [mm]	124 x 170 x 85.5 (modular size W = 113/118.5)
Weight	approx. 1000 g
Operating temperature range	5°C to 40°C; no moisture condensation
Degree of protection	IP 20
Mounting	mounting rail NS 35/7.5 EN 50022
Module supply	
Module power supply	24 V DC
Power consumption	max. 1 A, depending on dig. I/Os
Data interface	
CAN	1 MBit, physical interface to ISO 11898
RS232	19200 baud (configuration)
Encoder	2 encoder inputs, for step error watchdog only (RS422)
Step data	
Max. step frequency	20 kHz half-step, resolution 1 Hz
Full/half steps	yes, configurable via CANopen
Microstep operation	16 microsteps per full step
Dynamic full step / microstep mode switching	yes, always positioned in half-steps
Boost function	yes, current higher under acceleration
Standby current reduction	yes
Digital I/O	
Inputs (total)	8
Outputs (total)	4 (up to 0.5 A per output)
Inputs per axis	
Limit switches	2
Ref. switch	1
Enable	1
Outputs per axis	
Brake	1
Connection method	vertical three-wire front wiring with push-on terminal strips of screw, spring or crimp connection Connector plug: 3 x 10 pole, 2 x 5 pole, 1 x 3 pole