

Motion controller for bipolar stepper motors with additional encoder input



KEY ADVANTAGES

Plug and play

Ethernet interface available.

Compact Industrial Design

Rigid and compact design for industrial use.

Wide product range

Available from 1 channel to 4 channels.

Designed for both open loop / close loop

Suitable for wide range of applications.

User-friendly web interface

No software installation is necessary with high configurability.



MTDV series are a compact robust designed motion controllers for bipolar stepper motors with winding currents up to 1.2A working at 24V DC.

SPECIFICATIONS

Electrical specifications

User interface ¹	Ethernet (TCP/IP)	
Connectors	1x RJ45	
	1x USB Type A	
	2x Terminal blocks	
	1x DB15HD female	
Status LEDS	Ethernet activity LED, RGB LED for each motor status	
DC power supply	(V)	24
Max power consumption	(W)	38
Protections	ESD, polarity inversion, overvoltage, undervoltage, output overcurrent, shorted output, open output, overtemperature	

Motor parameter

Number of motors	1	
Type	Bipolar stepper	
RMS winding current	(mA)	20 to 1350 (adj)
Peak winding voltage	(V)	24 (PWM)

Encoder Parameter

Number of encoders	1	
DC power supply	(V)	5
Type	Linear/rotary, incremental	
Output signal	A, B, Z (index)	
Encoder interface	RS422	

Functions

Control type	Closed-loop, open-loop	
Motion mode	Positioning mode (relative and absolute) with 2 stage velocity ramp	
Special Features ²	Advanced motor drive with StealthChop™ and 256x SpreadCycle™, extremely silent operation, adjustable RUN and HOLD currents for optimized power consumption, advanced positioning control in closed-loop operation, motor homing based on encoder reference or limit switch, reduced EMI noise	
Configuration software	Integrated web interface (Ethernet), Ethernet DLL library (USB and RS485 to be developed upon request)	
Automatic position saving	Yes	
Non volatile memory	Yes	

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only. Data are reported by design, actual lens performance may vary due to manufacturing tolerances.

Mechanical specifications

Width	(mm)	46.6
Length ³	(mm)	80.0
Height ³	(mm)	84.0
Mass	(g)	285
Mounting		DIN rail

¹ USB and RS485 interface could be implemented upon request.
² StealthChop™ and SpreadCycle™ are property of their respective owners.
³ Excluding DIN rail mount

RECOMMENDED CABLES

Opto Engineering suggesting using the following cables:

- **CBMT002**, 15 wires cable, DB15HD Male to DB15HD Female connector, 2 m
- **CBETH003**, Ethernet cable, CAT6, industrial level, high flexible cable with screw, 5 m

Environment Specification

Operating temperature	(°C)	10-40
Storage temperature	(°C)	0-50
Operating relative humidity	(%)	20-85, non condensing
IP rating		IP20
Installation		Indoor use only

COMPATIBLE PRODUCTS

Full list of compatible products available [here](#).



A wide selection of innovative machine vision components.

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