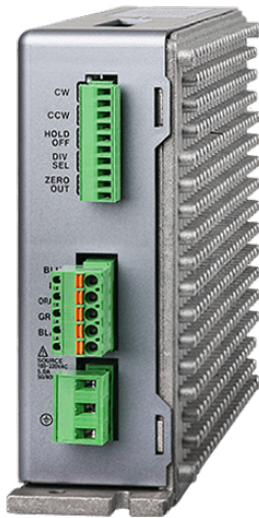**Autonics**

Micro step
5-phase Stepper Motor Driver

MD5-HF28 Series
CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Bipolar constant current pentagon drive method
- Various built-in functions including auto current down and self-diagnosis
- Low speed rotation and extreme precision control with micro stepping drive
  (Max. resolution is 250 divisions. In case of 5 phase stepper motor with 0.72° basic step angle, it can be controlled down to 0.00288° per pulse, 125000 pulses are required for a single revolution.)
- Isolated photocoupler input design minimizes influence from electrical noise

Product Components

- Product
- Instruction manual

Specifications

| Model	MD5-HF28
Power supply	100 - 220 VAC∼ 50 / 60 Hz ± 10%
Max. current consumption	5 A (based on ambient temp. 25°C, ambient humi. 55%RH)
RUN current [01]	1.0 - 2.8 A / Phase
Stop current	27 to 90% of RUN current (set by STOP current setting rotary switch)
RUN method	Bipolar constant current pentagon drive
Basic step angle	0.72° / Step
Resolution	1, 2, 4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250 division (0.72° to 0.00288° / Step)
Pulse width	$\geq$ 1 μs (CW / CCW), $\geq$ 1 ms (HOLD OFF)
Duty rate	50% (CW / CCW)
Rise, Fall time	$\leq$ 130 ns (CW / CCW)
Pulse input voltage	[H]: 4 - 8 VDC⎓, [L]: 0 - 0.5 VDC⎓
Pulse input current	7.5 - 14 mA (CW / CCW), 10 - 16 mA (HOLD OFF, DIVISION SELECTION, ZERO OUT)
Max. input pulse freq.	$\leq$ 500 kHz (CW / CCW)
Input resistance	270 Ω (CW / CCW), 390 Ω (HOLD OFF, DIVISION SELECTION), 10 Ω (ZERO OUT)
Insulation resistance	Between all terminal and case: $\geq$ 100 MΩ (500 VDC⎓ megger)
Dielectric strength	Between all terminal and case: 1,000 VAC∼ 50 / 60 Hz for 1 minute
Noise immunity	± 2000 VDC⎓ square wave noise (pulse width: 1 μs) by the noise simulator
Vibration	1.5 mm double amplitude at frequency 5 to 60 Hz (for 1 minute) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm double amplitude at frequency 5 to 60 Hz (for 1 minute) in each X, Y, Z direction for 10 minutes
Ambient temp.	0 to 50°C, storage: -10 to 60°C (no freezing or condensation)
Ambient humi.	35 to 85% RH, storage: 35 to 85% RH (no freezing or condensation)
Approval	CE c䍐Lus EⱭC
Unit weight (packaged)	$\approx$ 1.2 kg ($\approx$ 1.35 kg)

01) RUN current varies depending on the RUN frequency, and the max. instantaneous RUN current varies depending on load.

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
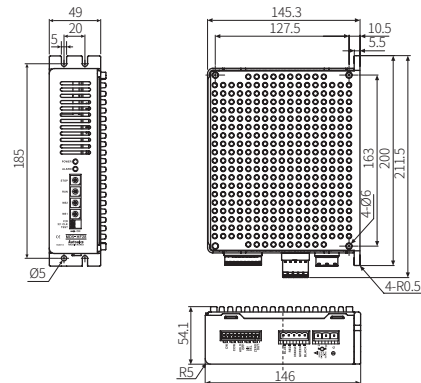
Unit Descriptions
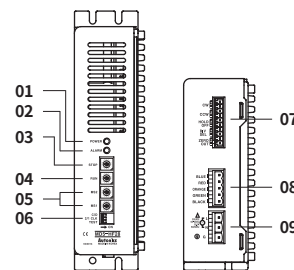
01. **Power indicator**

02. **Alarm indicator**

03. **Stop current setting rotary switch**

04. **RUN current setting rotary switch**

05. **Resolution setting rotary switch**

06. **Function selection DIP switch**

07. **Input terminal**

08. **Motor terminal**

09. **Power terminal**

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