

# Micro step 5-phase Stepper Motor Driver



## MD5-HF14-AO 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

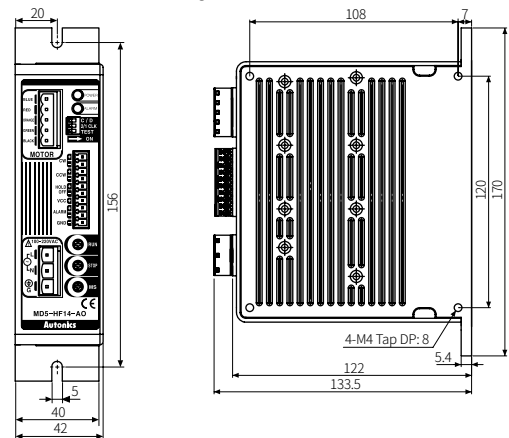
### Specifications

<b>Model</b>	<b>MD5-HF14-AO</b>
<b>Power supply</b>	100 - 220 VAC ~ 50 / 60 Hz ± 10%
<b>Max. current consumption</b>	3 A (based on ambient temp. 25°C, ambient humi. 55%RH)
<b>RUN current<sup>01)</sup></b>	0.4 - 1.4 A / Phase
<b>Stop current</b>	27 to 90% of RUN current (set by STOP current setting rotary switch)
<b>RUN method</b>	Bipolar constant current pentagon drive
<b>Basic step angle</b>	0.72° / Step
<b>Resolution</b>	1, 2, 4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250 division (0.72° to 0.00288° / Step)
<b>Pulse width</b>	≥ 1 μs (CW / CCW), ≥ 1 ms (HOLD OFF)
<b>Duty rate</b>	50% (CW / CCW)
<b>Rise, Fall time</b>	≤ 130 ns (CW / CCW)
<b>Pulse input voltage</b>	[H]: 4 - 8 VDC≡, [L]: 0 - 0.5 VDC≡
<b>Pulse input current</b>	7.5 - 14 mA (CW / CCW), 10 - 16 mA (HOLD OFF)
<b>Max. input pulse freq.</b>	≤ 500 kHz (CW / CCW)
<b>Input resistance</b>	270 Ω (CW / CCW), 390 Ω (HOLD OFF), 10 Ω (ALARM)
<b>Insulation resistance</b>	Between all terminal and case: ≥ 100 MΩ (500 VDC≡ megger)
<b>Dielectric strength</b>	Between all terminal and case: 1,000 VAC ~ 50 / 60 Hz for 1 minute
<b>Noise immunity</b>	± 2000 VDC≡ square wave noise (pulse width: 1 μs) by the noise simulator
<b>Vibration</b>	1.5 mm double amplitude at frequency 5 to 60 Hz (for 1 minute) in each X, Y, Z direction for 2 hours
<b>Vibration (malfunction)</b>	1.5 mm double amplitude at frequency 5 to 60 Hz (for 1 minute) in each X, Y, Z direction for 10 minutes
<b>Ambient temp.</b>	0 to 50°C, storage: -10 to 60°C (no freezing or condensation)
<b>Ambient humi.</b>	35 to 85% RH, storage: 35 to 85% RH (no freezing or condensation)
<b>Approval</b>	CE, RoHS, ENEC
<b>Unit weight (packaged)</b>	≈ 660 g (≈ 820 g)

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

