

# Micro Step 5-Phase Stepper Motor Drivers


## MD5-HF14 Series



### 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

### Specifications

Model	MD5-HF14
Power supply	100 - 220 VAC~ 50 / 60 Hz ± 10%
Max. current consumption	3 A (based on ambient temp. 25°C, ambient humi. 55%RH)
RUN current <sup>01)</sup>	0.4 - 1.4 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	≥ 1 μs (CW / CCW), ≥ 1 ms (HOLD OFF)
Duty rate	50% (CW / CCW)
Rise, Fall time	≤ 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.	≤ 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: ≥ 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  ENEC
Unit weight (packaged)	≈ 690 g (= 840 g)

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



View product detail