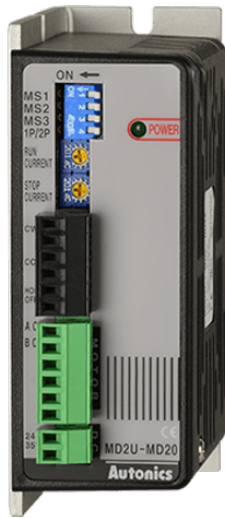


# Micro step 2-phase Stepper Motor Driver



## MD2U-MD20 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

- Unipolar constant current drive method
- STOP current setting provides holding torque (brake function)
- Low vibration operation with micro stepping drive
- Isolated photocoupler input design minimizes influence from electrical noise
- Power supply Range: 24 - 35 VDC



### Product Components

- Product
- Instruction manual

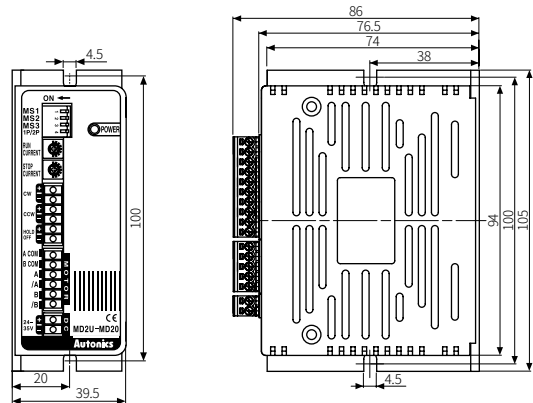
### Specifications

<b>Model</b>	<b>MD2U-MD20</b>
<b>Power supply<sup>01)</sup></b>	24 - 35 VDC $\pm$ 10%
<b>Max. current consumption</b>	3 A (based on ambient temp. 25°C, ambient humi. 55%RH)
<b>RUN current<sup>02)</sup></b>	0.5 - 2 A / Phase
<b>STOP current</b>	20 to 70% of RUN current (set by stop current setting rotary switch)
<b>RUN method</b>	Unipolar constant current drive
<b>Basic step angle</b>	1.8° / Step
<b>Resolution</b>	1, 2, 4, 5, 8, 10, 16, 20 division (1.8° to 0.09° / Step)
<b>Pulse width</b>	$\geq$ 10 $\mu$ s (CW / CCW), 1 ms (HOLD OFF)
<b>Duty rate</b>	50% (CW / CCW)
<b>Rise, Fall time</b>	$\leq$ 0.5 $\mu$ s (CW / CCW)
<b>Pulse input voltage</b>	[H]: 4 - 8 VDC $\pm$ , [L]: 0 - 0.5 VDC $\pm$
<b>Pulse input current</b>	4 mA (CW / CCW), 10 mA (HOLD OFF)
<b>Max. input pulse frequency</b>	$\leq$ 50 kHz (CW / CCW)
<b>Input resistance</b>	300 $\Omega$ (CW / CCW), 390 $\Omega$ (HOLD OFF)
<b>Insulation resistance</b>	Between all terminal and case: $\geq$ 200 M $\Omega$ (500 VDC $\pm$ megger)
<b>Dielectric strength</b>	Between all terminal and case: 1,000 VAC $\sim$ 50 / 60 Hz for 1 minute
<b>Noise immunity</b>	$\pm$ 500 VDC $\pm$ square wave noise (pulse width: 1 $\mu$ s) by the noise simulator
<b>Vibration</b>	1.5 mm double amplitude at frequency 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 2 hours
<b>Shock</b>	300 m/s <sup>2</sup> ( $\approx$ 30 G) in each X, Y, Z direction for 3 times
<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 EAC
<b>Unit weight (packaged)</b>	$\approx$ 180 g ( $\approx$ 295 g)

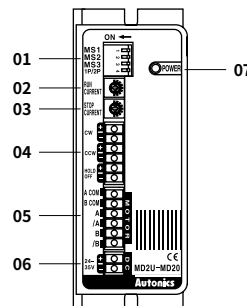
- 01) If a power supply is over 30 VDC  $\pm$ , the torque characteristics in the high speed range will improve, but the driver's temperature will increase as well. Install the unit in well-ventilated area. The torque may vary depending on power supply.  
 02) RUN current varies depending on the RUN 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. Function selection DIP switch**
- 02. RUN current setting rotary switch**
- 03. Stop current setting rotary switch**
- 04. Input terminal**
- 05. Motor terminal**
- 06. Power terminal**
- 07. Power indicator**