# 5 Phase Stepping Motor Driver
# MC-5M

UL standard recognition
CE marking

RoHS

FEATURE

● Maximum drive current 1.4A/phase.
● Single power supply DC24-36V.
● Optical-isolator input.
● Automatic current reduction.
● Compact size driver.
● I am preparing two kinds of base boards so that an attachment variation can also be chosen.

※Optional Parts ; Wire assembled conector ▶Page 54

SPECIFICATION

Name	5 phase stepping motor driver
Model	MC−5M
Drive method	Full / Half Step
Input power	DC20〜40V　3A Max.
Drive current	0.5A〜1.4A/phase
Maximum frequency	70 kpps
Input signal	Optical−isolator input　[1]:4〜8V , [O]:−8〜0.5V 　　Input resistance　CW, CCW, H.O:390Ω
Function	Pulse input mode selector , Full/half step select , Automatic current reduction at motor standstill
Operating temperature range	0〜40℃
Operating humidity range	0〜85%
Weight	90g

SAMPLE WIRING DIAGRAM

Controller

MC−5M

+5V

CW/pulse
CCW/direction
Holding off

6　CW+
5　CW−
4　CCW+
3　CCW−
2　H.O+
1　H.O−

5 phase stepping motor

1
2
3
4
5
6
7
8
9
10

0V
DC24V

＊ Please do not connect.
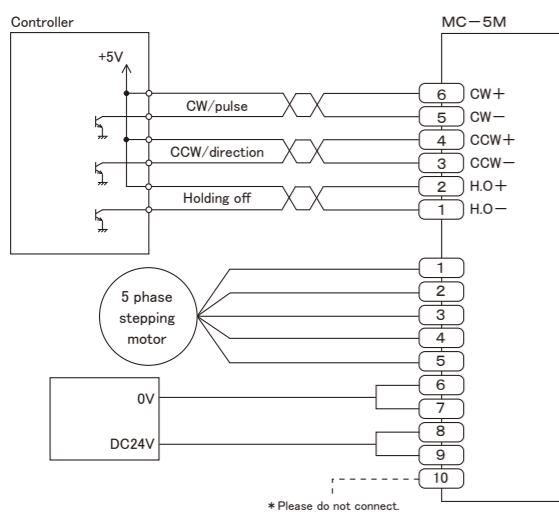
DIMENSIONS (unit:mm)

Type 1

77
60
32
45
22.5
2−M3

Type 2

7　74　7
88
12
4.5
32
74
45
24
4.5

NAME AND FUNCTION

RUN volume
Check point

CP−
CP+
FH
ON
CK

	5 lead	10 lead
①	Black	White/Gray
	Green	Green/Yellow
	Orange	Orange/Purple
	Red	Red/Blown
	Blue	Blue/Black

Motor connection

Input power

Please do not connect.

Step angle selector
Pulse input mode selector

Holding off　(HO)
CCW signal（CCW）
CW signal　(CW)
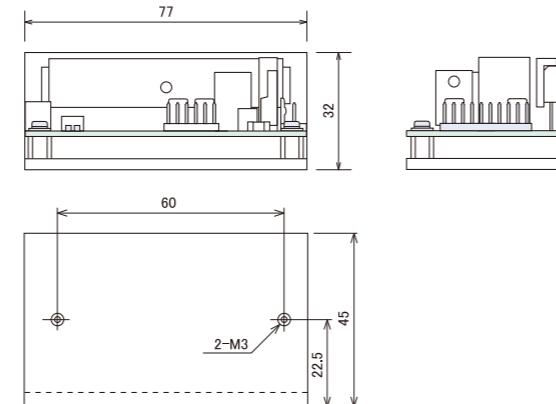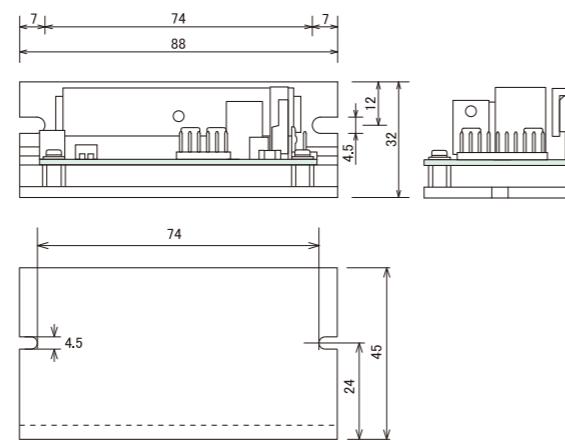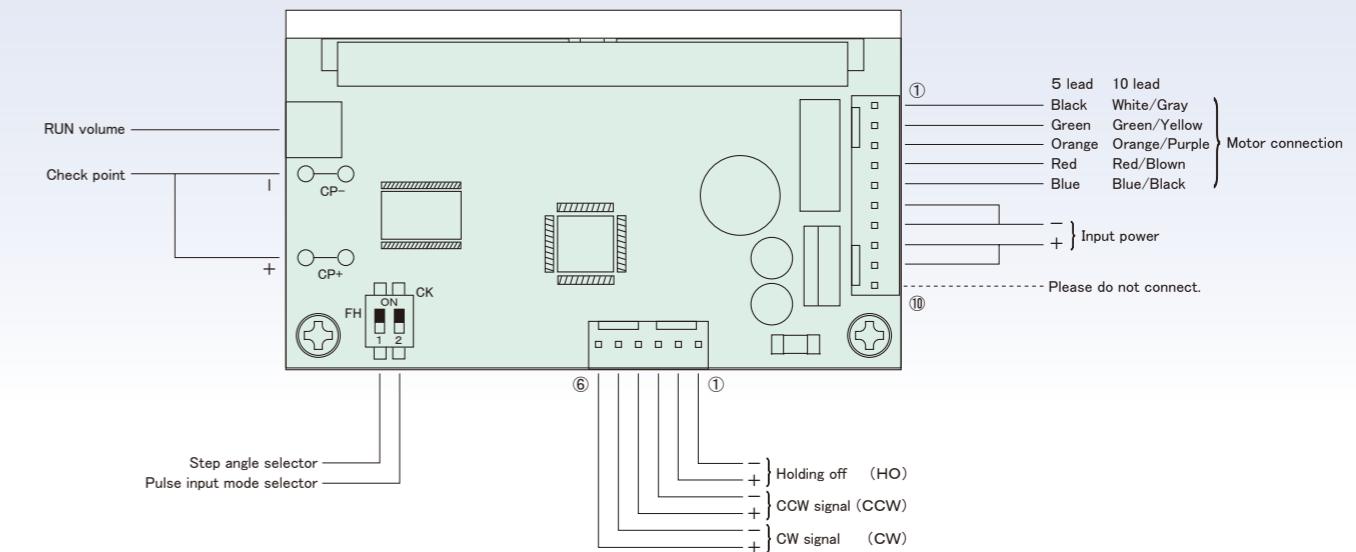
SETTING DRIVE CURRENT

To obtain the desired drive current,connect a potentiometer to CP(+,−)and use the following formula:

Potentiometer voltage(V) = Desired drive current × 2

Factory setting is 1.4A/phase.

① Turn RUN Volume Control all the way to the left before the system is powered.
② Insert the cw signal (or the ccw signal)with a frequency of 10 pps or more, slowly turn the run volume and adjust it to the calculated voltage value. (Caution: Motor starts torotate once the signal is input)
③ At the Motor Standstill, the output current will be automatically reduced to 65% of the set current.

DIP SW FUNCTIONS

ON
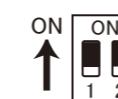
| No.	Mode	ON	OFF
1	Step angle	0.72°/pulse	0.36°/pulse
2	Pulse mode	One pulse	Two pulse

INPUT CIRCUIT

390Ω

MOTOR

● 5/10 lead 5−Phase stepping motors such as Tamagawa−seiki or Oriental−motor.

See table below for the pin no. of the connector and color of motor leads.

5 phase stepping motor

1
2
3
4
5
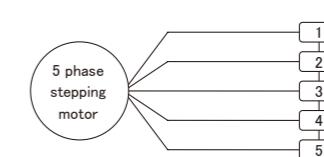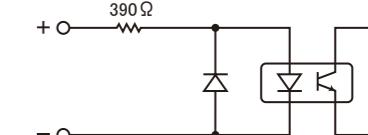
Connector No.	5 lead	10 lead
1	Black	White/Gray
2	Green	Green/Yellow
3	Orange	Orange/Purple
4	Red	Red/Blown
5	Blue	Blue/Black