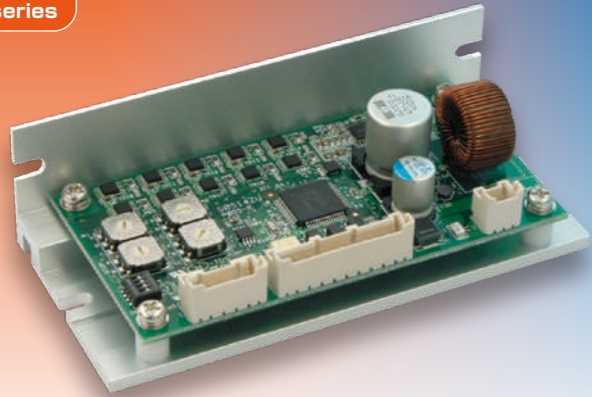


# 5 Phase Stepping Motor Driver

## MC-S0514ZU



### FEATURE

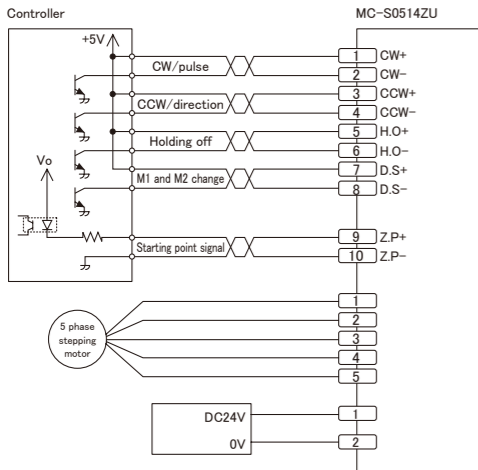
- More low-priced and compact size micro step driver.
- Drive current 0.35 to 1.4A/phase.
- Drive and Holding current selectable from 16 values.
- 2 microstep resolution can be selected from 16 choices. 2 selected resolution is switchable.
- Low vibration drive(Full or Half step).
- Small size.

※Optional Parts ; Wire assembled conector ▶Page 54

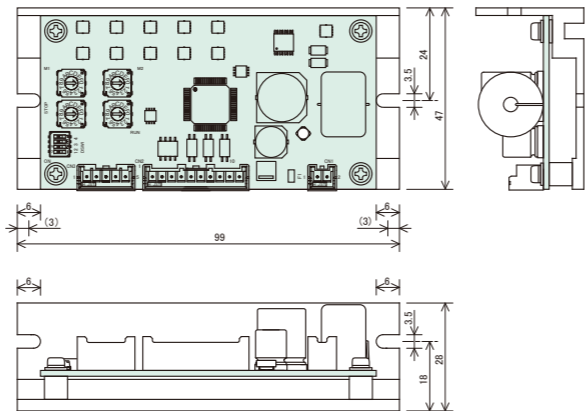
### SPECIFICATION

Name	5 phase stepping motor driver
Model	MC-S0514ZU
Driving method	Micro step
Input power	DC24V ±5% 3A Max.
Drive current	0.35~1.4A/phase Switching
Division	2 series : 1, 2, 4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250 3 series : 1, 2, 3, 6, 12, 18, 24, 32, 36, 48, 60, 72, 120, 160, 180, 240
Maximum frequency	500 kpps
Input signal	Optical-isolator input [1]:3~5V, [0]:-3~0.5V Input resistance CW, CCW:220Ω H.O:220Ω
Output signal (Z.P)	Optical-isolator open corrector output Condition : DC30V or less, 50mA or less
Function	Pulse input mode selector , Micro step angle select , Automatic current reduction
Operating temperature range	0~40°C
Operating humidity range	0~85%
Weight	93g

### SAMPLE WIRING DIAGRAM



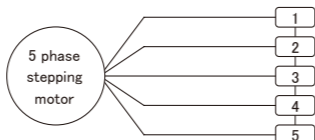
### DIMENSIONS (unit:mm)



### MOTOR

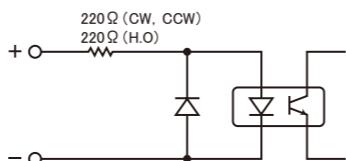
- 5/10 lead 5-Phase stepping motors such as Tamagawa-seiki or Oriental-motor.

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

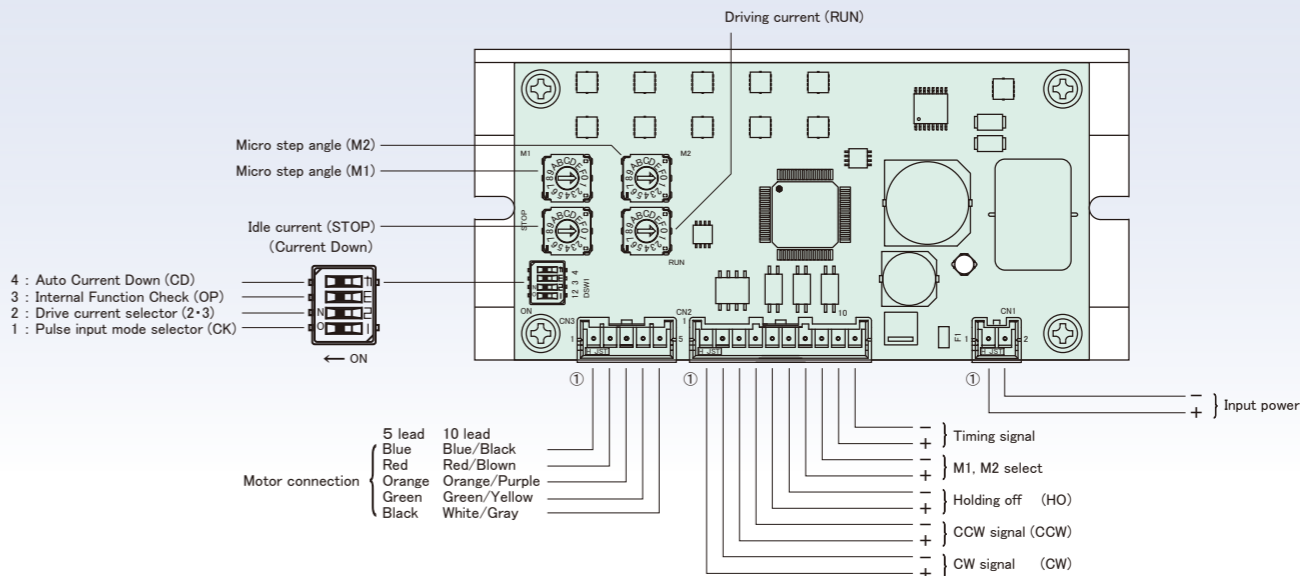


Connector No.	5 lead	10 lead
1	Blue	Blue/Black
2	Red	Red/Blown
3	Orange	Orange/Purple
4	Green	Green/Yellow
5	Black	White/Gray

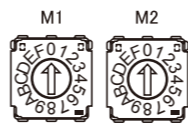
### INPUT CIRCUIT



### NAME AND FUNCTION



### SETTING MICROSTEP RESOLUTION



$$\text{Micro Step Angle} = \frac{\text{Base Step Angle}}{\text{Division}}$$

Resolution for 2 series : When DIP Switch SW2 is OFF.

SW No.	0	1	2	3	4	5	6	7	8	9
Division	1	2	4	5	8	10	20	40	80	16
	A	B	C	D	E	F				
	25	50	100	125	200	250				

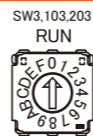
Resolution for 3 series : When DIP Switch SW2 is OFF.

SW No.	0	1	2	3	4	5	6	7	8	9
Division	1	2	3	6	12	18	24	32	36	48
	A	B	C	D	E	F				
	60	72	120	160	180	240				

- When only one microstep angle is used, use M1 rotary switch to set the division. input terminal D.S shall not be connected or signal must be ZERO(0) state if it is connected.
- Input signal at D.S Terminal. Zero(0) = M1 division, One(1) = M2 division. Speed of Forward & Backward speed can be changed by this function.

### SETTING DRIVE CURRENT

The desired drive current is obtained by setting RUN SW as follows.



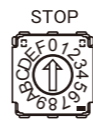
Drive Current (RUN : Rotary Switch)

SW No.	0	1	2	3	4	5	6	7	8	9
Current (A)	0.35	0.44	0.52	0.59	0.67	0.75	0.83	0.9	0.98	1.05
	A	B	C	D	E	F				
	1.12	1.19	1.27	1.34	1.4	1.48				

Example : Drive current = 1.4A/phase. RUN SW = E

### SETTING IDLE CURRENT (CURRENT DOWN)

Idle current is established by setting STOP SW as follows. Current (%) = Percentage against Drive Current.



Idle Current (STOP : Rotary Switch)

SW No.	0	1	2	3	4	5	6	7	8	9
Current (%)	25	30	35	41	45	50	55	59	63	67
	A	B	C	D	E	F				
	71	75	79	83	87	91				

Example : When the drive current is set at 1.4A/Phase, idol current will be 0.7A/Phase at the switch position no. 5 (50%).

### DIP SW FUNCTION



No.	Mode	ON	OFF
1	Pulse mode (CK)	One pulse	Two pulse
2	Drive current selector (2-3)	3 series	2 series
3	Internal function confirmation (OP)	Turning off when using	
4	Idle current reduction (CD)	Not active	Activated