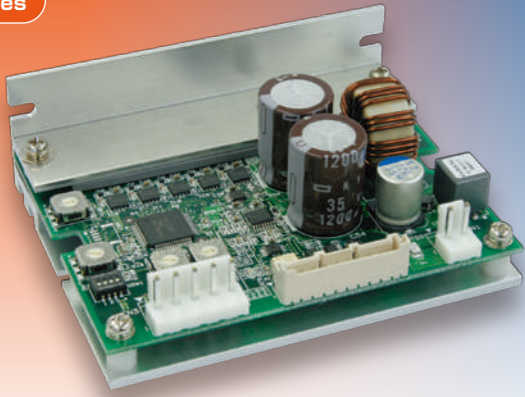


5 Phase Stepping Motor Driver

MC-S0528



RoHS

FEATURE

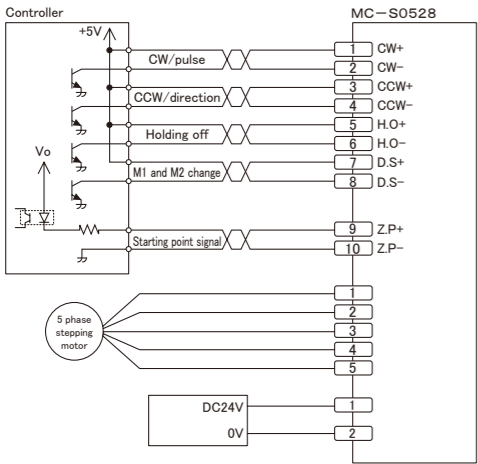
- Driving current is 2.8A/phase and compact size micro step driver.
- Maximum resolution is 1/250 (125,000 pulse per rotation).
- Low vibration drive(Full or Half step).
- Optical-isolator input.
- Automatic current reduction.
- Easy setting(resolution & current).
- Small size.

※Optional Parts ; Wire assembled conector ▶Page 54

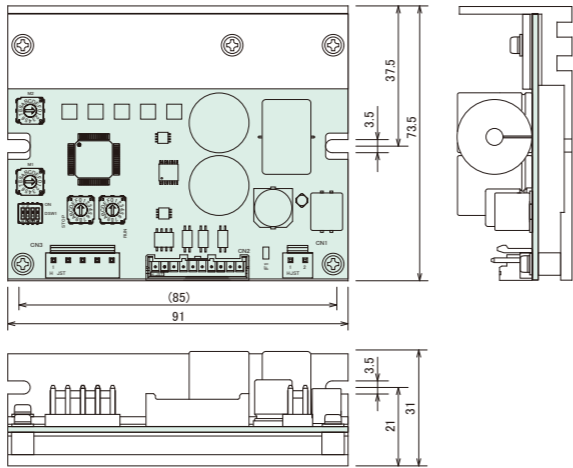
SPECIFICATION

Name	5 phase stepping motor driver
Model	MC-S0528
Driving method	Micro step
Input power	DC24V ±5% 7A Max.
Drive current	0.75~2.8A/phase
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	148g

SAMPLE WIRING DIAGRAM



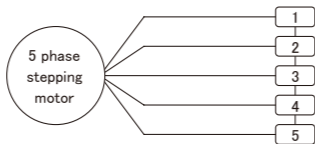
DIMENSIONS (unit:mm)



MOTOR

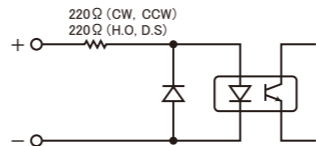
- 5/10 lead 5-Phase stepping motors such as Tamagawa-seiki or Oriental-motor.

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

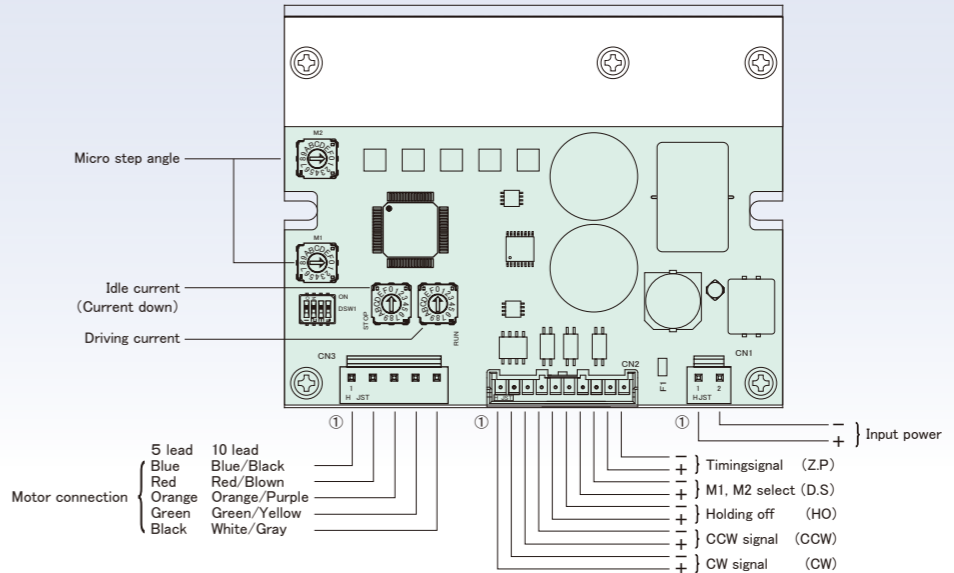


Connector No.	5 lead	10 lead
1	Blue	Blue/Black
2	Red	Red/Blown
3	Orange	Orange/Purple
4	Green	Green/Yellow
5	Black	White/Gray

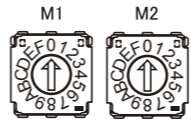
INPUT CIRCUIT



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 ON.

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					

- ① 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.
- ② 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)	0.75	0.9	1.07	1.27	1.45	1.61	1.79	1.97	2.11	2.26
A	B	C	D	E	F					
2.41	2.56	2.8	2.93	3.1	3.2					

Example : Drive current = 2.8A/phase. RUN SW = C

SETTING IDLE CURRENT (CURRENT DOWN)

Idle current is established by setting STOP SW as follows.



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	66	67
A	B	C	D	E	F					
71	76	79	83	87	90					

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