



MOTOR-NET  
INTERNATIONAL CO.,LTD.  
<http://www.motor-net.co.kr>

3F 203 B/D 192, Yakdae-Dong, Wonmi-Gu, Puchon-Si, Kyunggi-Do 420-140 KOREA  
TEL : 82-32-621-2800,2810 FAX : 82-32-621-2805 E-MAIL : info@motor-net.co.kr

## M SERIES CONTROLLERS

MSA-V SERIES

UNIT TYPE



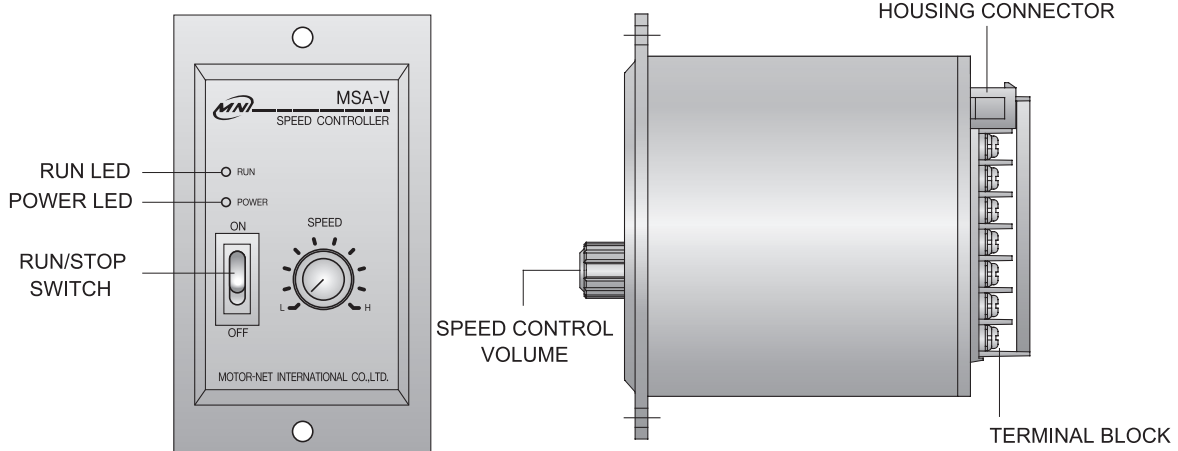
### Features

- Speed Controller with Tacho generator
- Digital Type : PI Automatic Control by MICOM
- One-touch connection by 8 pin housing connector (extension cord 1.5[m] long max, optional)
- Built-in speed setting

### Operation

1. Turn on the main circuit breaker.
2. Turn on the RUN/STOP switch.
3. Turn " Speed Control Knob" slowly, clockwise, to increase speed.
4. Turn " Speed Control Knob" slowly, counter clockwise, to decrease speed.
5. Turn off the RUN/STOP switch to stop the motor

\* No.1 and No.2 of TERMINAL BLOCK can use as remote s/w



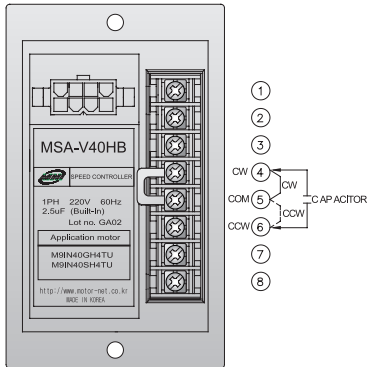
<Function Identification>





**M SERIES CONTROLLERS**  
**MSA-V SERIES** **UNIT TYPE**

**Changing the motor's rotation "CW"(set at the factory) to "CCW"**



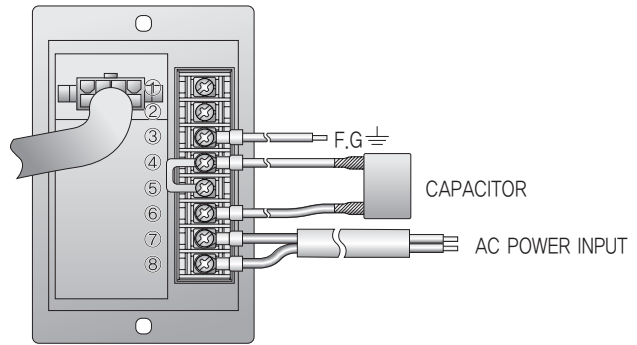
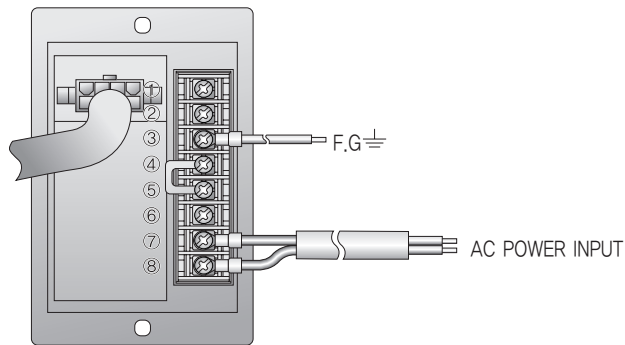
- \* CW  
④ and ⑤ connection(short)
- \* CCW  
⑤ and ⑥ connection(short)

**Connection**

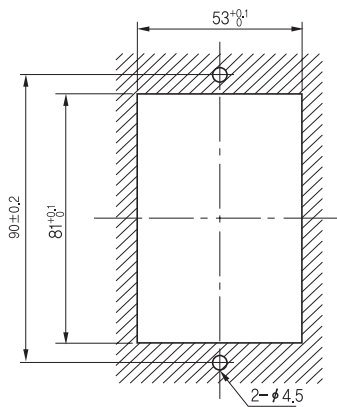
**Motor & Controller Connection**

(1) Internal Capacitor type

(2) External Capacitor type



**Installation**



- ▶ Cut a hole in the mounting plate as indicated in the diagram to the left.
- ▶ Insert the control unit from the front of the mounting plate and fasten with screws and nuts.

Mounting screw(M4*10)	2
Nuts	2
Washers	2



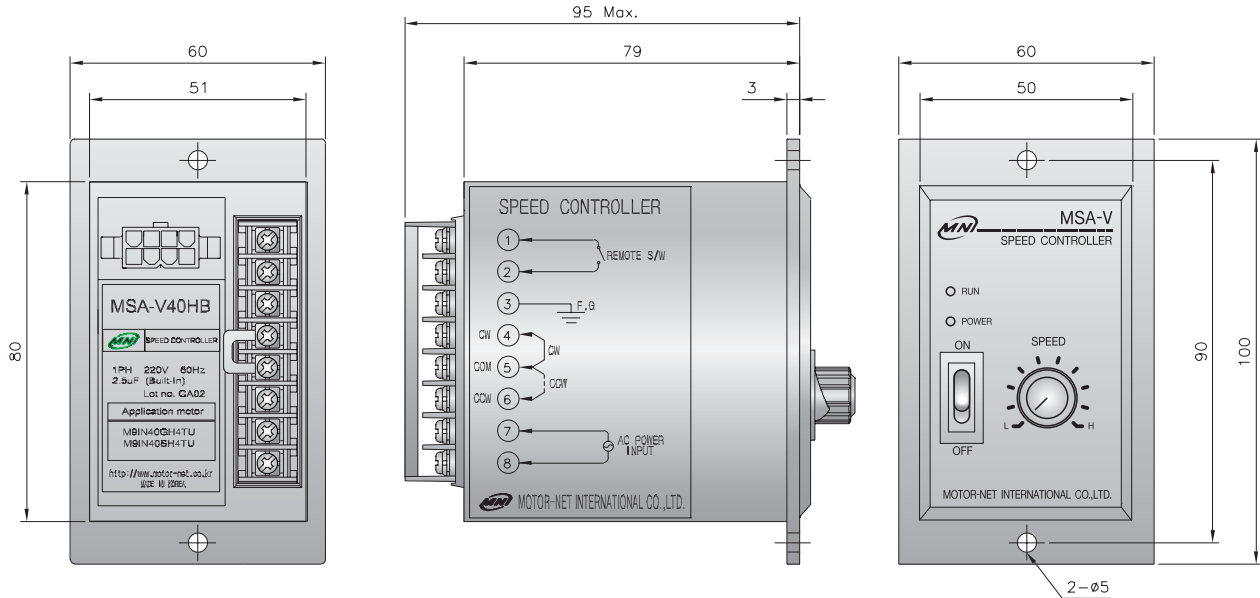
**MOTOR-NET**  
INTERNATIONAL CO.,LTD.  
http://www.motor-net.co.kr

3F 203 B/D 192, Yakdae-Dong, Wonmi-Gu, Puchon-Si, Kyunggi-Do 420-140 KOREA  
TEL : 82-32-621-2800,2810 FAX : 82-32-621-2805 E-MAIL : info@motor-net.co.kr

## M SERIES CONTROLLERS

**MSA-V SERIES**
**UNIT TYPE**

**Dimensions** Unit : mm



**Performance Data**

Item		Model	MSA-V□□□□				
			1 Ph. 100V	1 Ph. 200V	1 Ph. 115V	1 Ph. 220V	1 Ph. 220V~240V
1	Input voltage		1 Ph. 100V	1 Ph. 200V	1 Ph. 115V	1 Ph. 220V	1 Ph. 220V~240V
2	Input voltage Threshold		Rated voltage ± 10%				
3	Input Frequency		50 / 60 Hz				
4	Speed Range		50Hz : 90~1400 rpm, 60Hz : 90~1700rpm				
5	Permissible Current		MAX. 5A				
6	Motor output		6W ~ 180 W				
7	Control method		TRIAC AC PHASE CONTROL				
8	Speed Control method		PI Automatic Control by MICOM				
9	Sensor Type		AC Tacho Generator(T.G)				
10	Speed set method		Volume type				
11	Power switch		Tumbler switch				
12	Display	Green LED	Run : light, Stop : off				
		Red LED	Input Power ON : light, Input Power OFF : off				
13	Weight		About 170g(Except for Internal Capacitor)				
14	Operating Temp.		-5°C ~ +40°C				
15	Operating Humidity		Max 85% (No condensation)				
16	FUSE		Inside control unit				
17	Insulation Resistance		100MΩ or more when 500VDC is applied between the windings and the frame				
18	Dielectric Strength		Sufficient to withstand 1.5kV at 50/60Hz applied between the windings and the frame for 1 minute				
19	EMC		Please contact us				





M SERIES CONTROLLERS  
MSD-V SERIES UNIT TYPE



Features

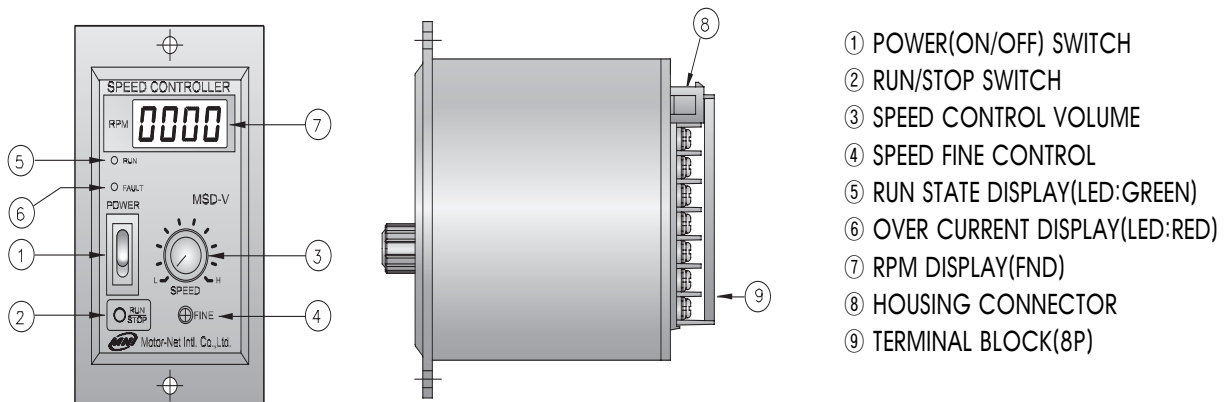
- Speed Controller with Tacho generator
- Digital Type
- PI Automatic Control by MICOM
- Rpm display
- Protect against over current
- One-touch connection by 8 pin housing connector (extension cord 1.5[m] long max, optional)

Operation

1. Turn on the main circuit breaker.
  2. Turn on the power switch.
  3. Turn " Speed Control Knob" slowly, clockwise, to increase speed.
  4. Turn " Speed Control Knob" slowly, counter clockwise, to decrease speed.
  5. Turn off the power switch to stop the motor
- \* No.1 and No.2 of TERMINAL BLOCK can use as remote s/w

⚠ Caution

- \* Short No.1 and No.2 of TERMINAL BLOCK ----- Run/stop switch not use
- \* Open No.1 and No.2 of TERMINAL BLOCK ----- Run/stop switch use



<Function Identification>

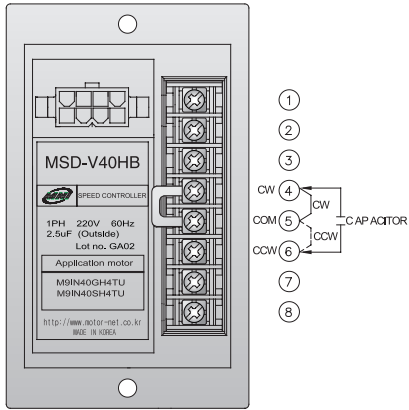


**MOTOR-NET**  
INTERNATIONAL CO.,LTD.  
http://www.motor-net.co.kr

3F 203 B/D 192, Yakdae-Dong, Wonmi-Gu, Puchon-Si, Kyunggi-Do 420-140 KOREA  
TEL : 82-32-621-2800,2810 FAX : 82-32-621-2805 E-MAIL : info@motor-net.co.kr

**M SERIES CONTROLLERS**  
**MSD-V SERIES** **UNIT TYPE**

Changing the motor's rotation "CW"(set at the factory) to "CCW"

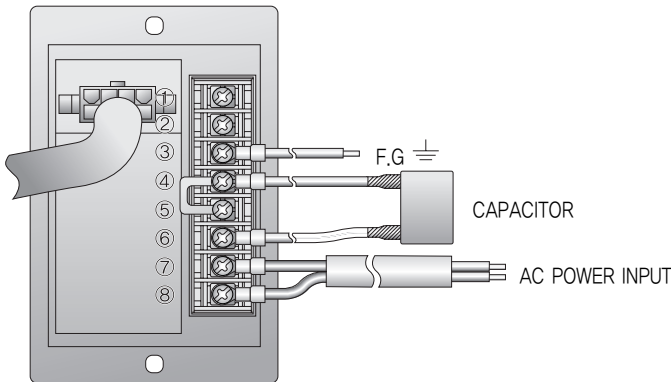


\* CW  
④ and ⑤ connection(short)

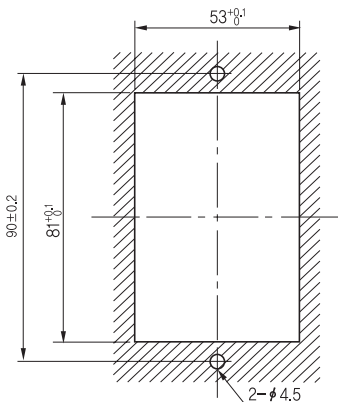
\* CCW  
⑤ and ⑥ connection(short)

**Connection**

**Motor & Controller Connection**



**Installation**



- ▶ Cut a hole in the mounting plate as indicated in the diagram to the left.
- ▶ Insert the control unit from the front of the mounting plate and fasten with screws and nuts.

Mounting screw(M4*10)	.....2
Nuts	.....2
Washers	..... 2



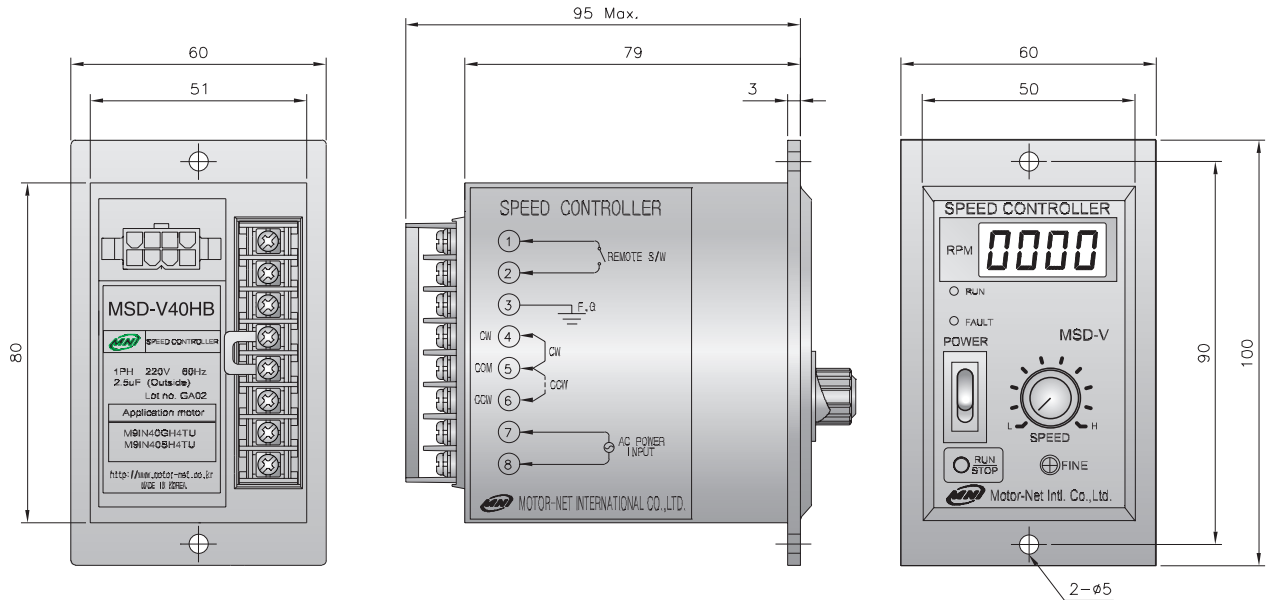


MOTOR-NET  
INTERNATIONAL CO.,LTD.  
http://www.motor-net.co.kr

3F 203 B/D 192, Yakdae-Dong, Wonmi-Gu, Puchon-Si, Kyunggi-Do 420-140 KOREA  
TEL : 82-32-621-2800,2810 FAX : 82-32-621-2805 E-MAIL : info@motor-net.co.kr

**M SERIES CONTROLLERS**  
**MSD-V-SERIES** **UNIT TYPE**

Dimensions Unit : mm



Performance Data

Item	Model	MSD-V□□□				
		1 Ph. 100V	1 Ph. 200V	1 Ph. 115V	1 Ph. 220V	1 Ph. 220V~240V
1	Input voltage	1 Ph. 100V	1 Ph. 200V	1 Ph. 115V	1 Ph. 220V	1 Ph. 220V~240V
2	Input voltage Threshold	Rated voltage ± 10%				
3	Input Frequency	50 / 60Hz				
4	Speed Range	50Hz : 90~1,400 rpm, 60Hz : 90~1,700rpm				
5	Permissible Current	MAX. 5A				
6	Motor output	6W ~ 180 W				
7	Control method	TRIAC AC PHASE CONTROL				
8	Speed Control method	PI Automatic Control by MICOM				
9	Sensor Type	AC Tacho Generator(T.G)				
10	Speed set method	Volume type				
11	Power switch	Tumbler switch				
12	Run switch	Tack switch(RUN/STOP)				
13	Display	7 SEGMENT	Stand by status : setting rpm display			
		7 SEGMENT	Run status : measurement rpm display			
		Green LED	Run : light, Stop : off			
		RED LED	Over current : light , staedy status : off			
14	Weight	About 274g				
15	Operating Temp.	-5°C ~ +40°C				
16	Operating Humidity	Max 85% (No condensation)				
17	Over Current protection	Protect against over current				
18	FUSE	Inside control unit				
19	Insulation Resistance	100MΩ or more when 500VDC is applied between the windings and the frame				
20	Dielectric Strength	Sufficient to withstand 1.5kV at 50/60Hz applied between the windings and the frame for 1 minute				
21	EMC	Please contact us				





MOTOR-NET  
INTERNATIONAL CO.,LTD.  
<http://www.motor-net.co.kr>

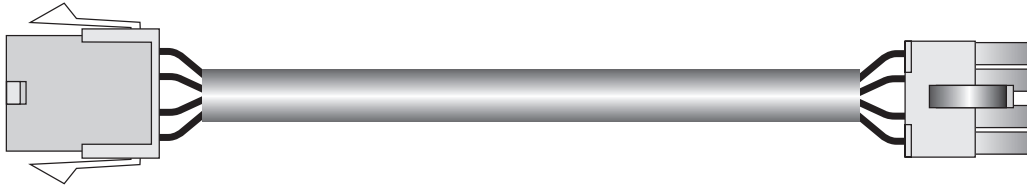
3F 203 B/D 192, Yakdae-Dong, Wonmi-Gu, Puchon-Si, Kyunggi-Do 420-140 KOREA  
TEL : 82-32-621-2800,2810 FAX : 82-32-621-2805 E-MAIL : info@motor-net.co.kr

## M SERIES CONTROLLERS

Controller Accessory

UNIT TYPE

### Extension Cord



- \* Extension cord(optional) is conveniently used when motor is located more than 300[mm] apart from control unit
- \* Standard length is 0.5[m]  
(option : max 1[m])





M SERIES CONTROLLERS

MSA-P SERIES

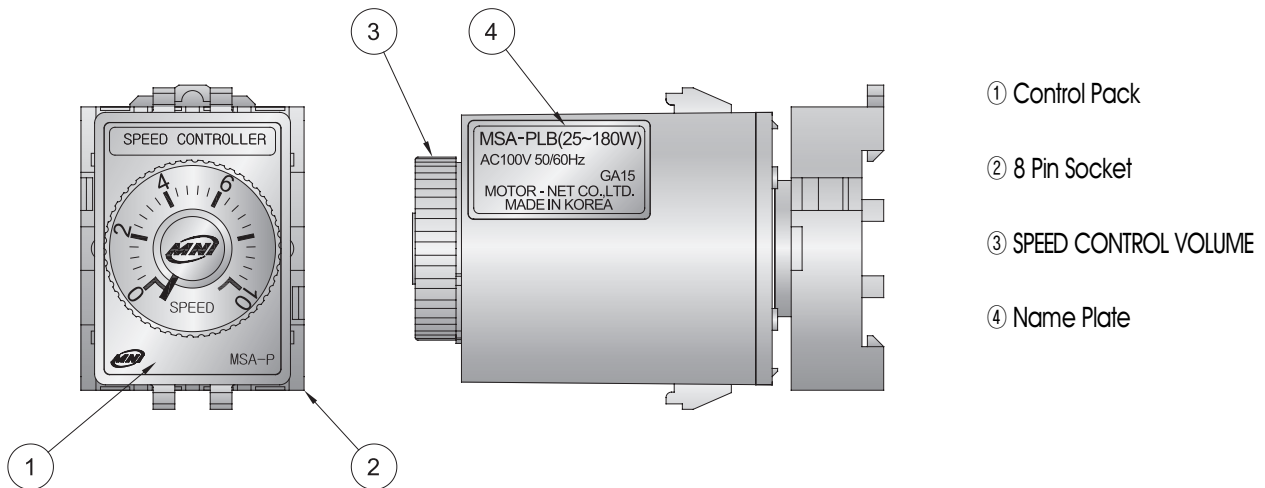
PLUG-IN TYPE



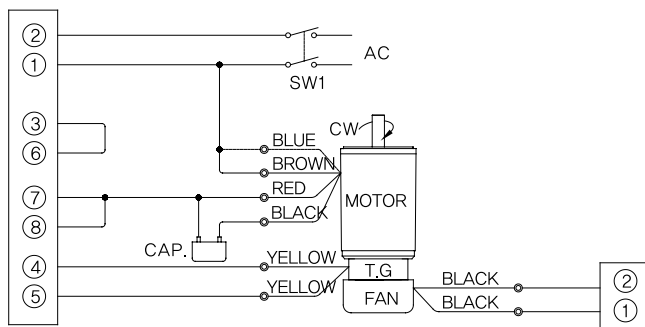
Features

- Speed Controller with Tacho generator
- Plug-in type for standard 8 pin socket
- Built-in speed setting(external speed setting applicable)
- Instantaneous stop by electric brake circuit
- Various application
- Digital Type : PI Automatic Control by MICOM

Function Identification



Basic Wiring diagram



- \* The rotation speed of motor can be changed by controller
- \* In case that the T.G's wire is long, please connect double twist sealed wire (Please, Don't connect double twist shield wire to earth)
- \* In case of induction motor please connect to method of dotted line
- \* Wiring of the fan is for motors 60 watts and over.





MOTOR-NET  
INTERNATIONAL CO.,LTD.  
<http://www.motor-net.co.kr>

3F 203 B/D 192, Yakdae-Dong, Wonmi-Gu, Puchon-Si, Kyunggi-Do 420-140 KOREA  
TEL : 82-32-621-2800,2810 FAX : 82-32-621-2805 E-MAIL : info@motor-net.co.kr

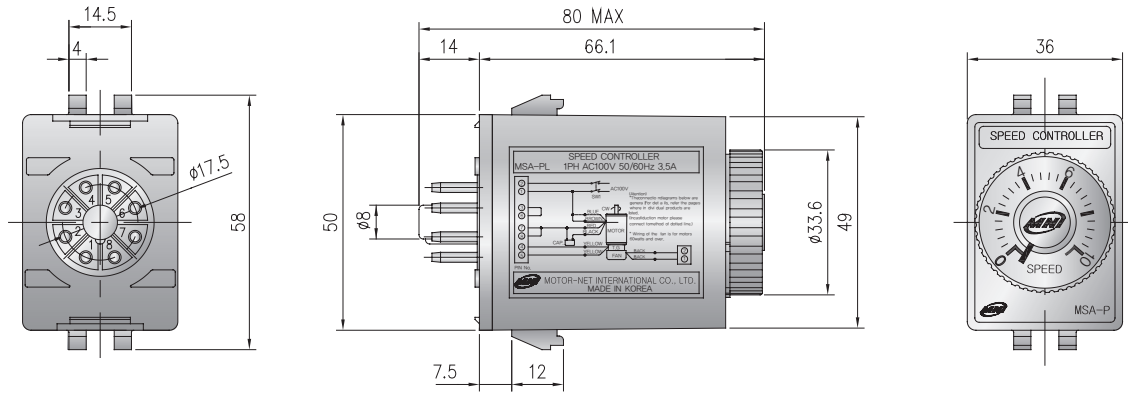
## M SERIES CONTROLLERS

### MSA-P SERIES

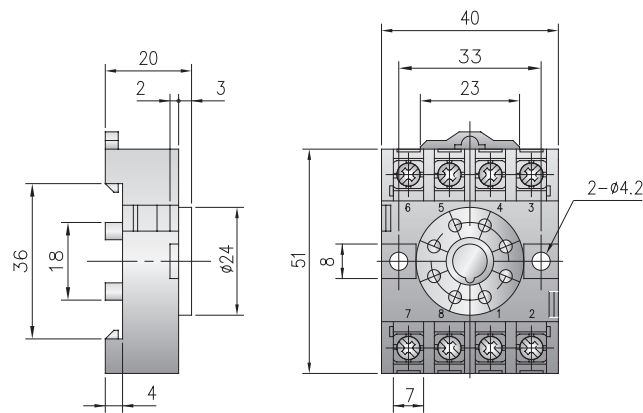
### PLUG-IN TYPE

#### Dimensions

Unit : mm



Control Pack



Socket

#### Performance Data

Item	Model	MSA-P□□				
		1 Ph. 100V	1 Ph. 200V	1 Ph. 115V	1 Ph. 220V	1 Ph. 220V~240V
1	Input voltage	1 Ph. 100V	1 Ph. 200V	1 Ph. 115V	1 Ph. 220V	1 Ph. 220V~240V
2	Input voltage Threshold	Rated voltage $\pm 10\%$				
3	Input Frequency	50 / 60 Hz				
4	Speed Range	50Hz : 90~1,400rpm, 60Hz : 90~1,700rpm				
5	Motor output	6W ~ 180 W				
6	Control method	TRIAC AC PHASE CONTROL				
7	Speed Control method	PI Automatic Control by MICOM				
8	Sensor Type	AC Tacho Generator(T.G)				
9	Speed set method	Volume type(With external speed setting device optional)				
10	Brake	Run electric brake for certain period to motor				
11	Electric Brake Time	0.5sec. (Average)				
12	Slow Run, Slow Stop	None				
13	Operating Temp.	$-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$				
14	Operating Humidity	Max 85% (No condensation)				



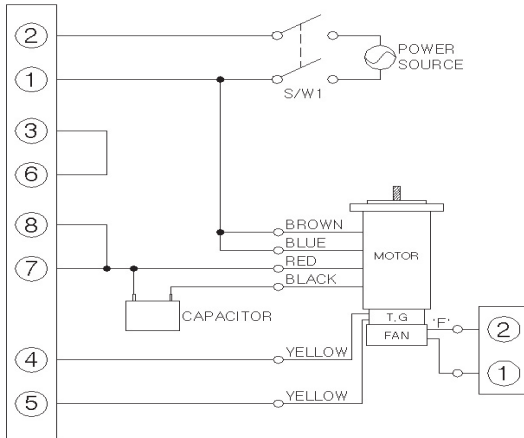


**M SERIES CONTROLLERS**  
**MSA-P SERIES** **PLUG-IN TYPE**

**BASIC CONNECTION DIAGRAM**

Induction Motor(Continuous Duty)

◆ Single Direction+Variable Speed(6W~120W)

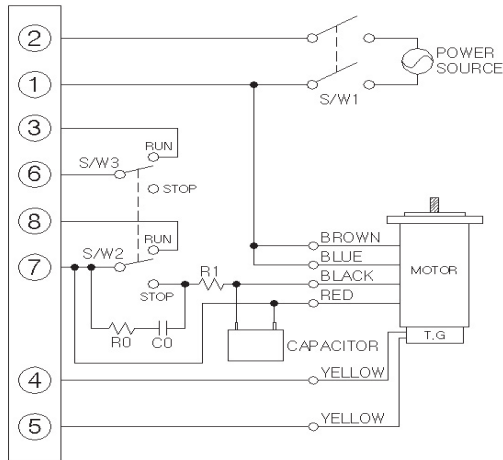


SOCKET PIN NO.

S/W 1	AC 125[V] or AC 250[V] Min. 5A
-------	--------------------------------

- The motor rotating direction is CW when viewed from shaft side if connected like the solid line of above diagram.
- When adjusting to CCW direction, change and connect blue and red wire of motor.
- The wiring of fan motor is applicable for motors 60W and over.

◆ Single Direction + Variable Speed + Electric Brake(6W~25W)

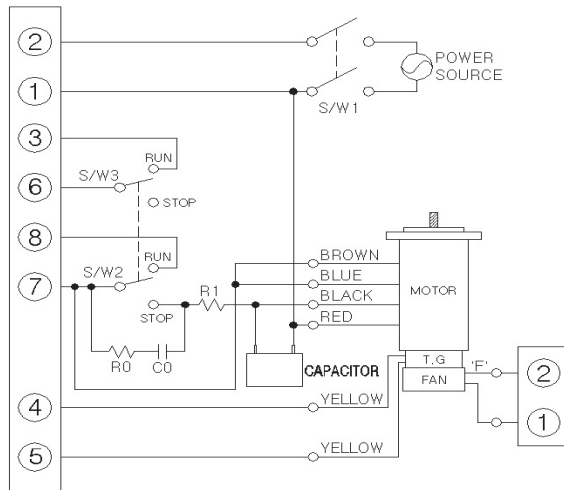


SOCKET PIN NO.

S/W 1, S/W 2	AC 125[V] or AC 250[V] Min. 5A
S/W 3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V]or AC 250[V])
R1	5.6 [Ω] Min. 10[W]

- The motor rotating direction is CW when viewed from shaft side if connected like the solid line of above diagram.
- When adjusting to CCW direction, change and connect blue and red wire of motor.
- When changing from RUN to STOP, the control brake will function for 0.5sec and the motor stops immediately.

◆ Single Direction + Variable Speed + Electric Brake(40W~120W)



SOCKET PIN NO.

S/W 1, S/W 2	AC 125[V] or AC 250[V] Min. 5A
S/W 3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V]or AC 250[V])
R1	5.6 [Ω] Min.10[W]

- The motor rotating direction is CW when viewed from shaft side if connected like the solid line of above diagram.
- When adjusting to CCW direction, change and connect blue and red wire of motor.
- When changing from RUN to STOP, the control brake will function for 0.5sec and the motor stops immediately.
- The wiring of fan motor is applicable for motors 60W and over.



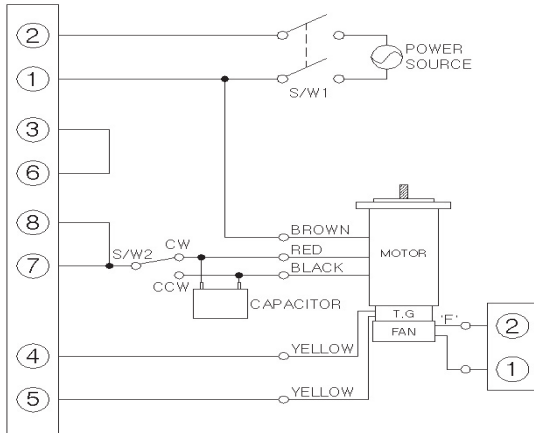


**M SERIES CONTROLLERS**  
**MSA-P SERIES** **PLUG-IN TYPE**

**BASIC CONNECTION DIAGRAM**

**Reversible Motor(30min. Duty)**

**Reverse + Variable Speed (6W~120W)**

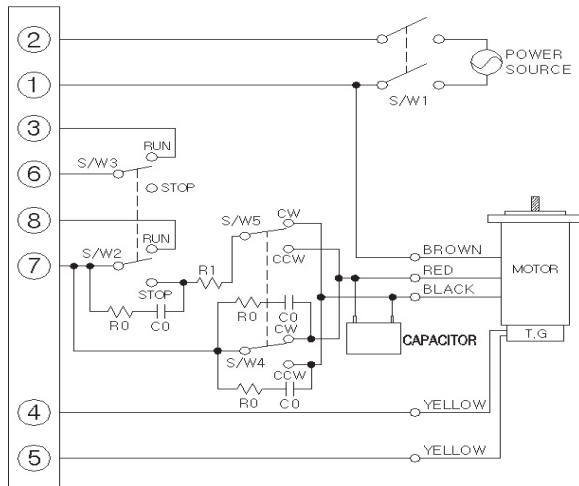


SOCKET PIN NO.

S/W 1, S/W 2	AC 125[V] or AC 250[V] Min. 5A
--------------	--------------------------------

- Change to S/W2 after a certain period of stop for motor
- The wiring of fan motor is applicable for motors 60W and over.

**Reverse + Variable Speed + Electric Brake(6W~25W)**

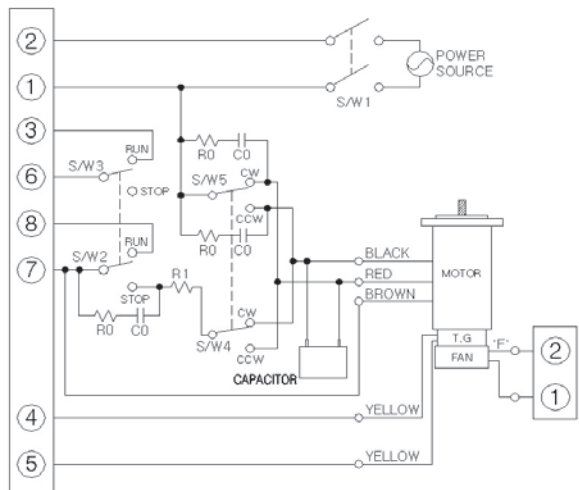


SOCKET PIN NO.

S/W 1, S/W 2 S/W 4, S/W5	AC 125[V] or AC 250[V] Min. 5A
S/W3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V]or AC 250[V])
R1	5.6 [Ω] Min.10[W]

- When stopped from running the electric brake will function for 0.5sec and the motor stops immediately.
- During this 0.5sec, do not operate S/W4 or S/W5.
- Before S/W2 and S/W3 is switched to run, stop S/W2 and S/W3 and than convert S/W4 and S/W5.

**Reverse + Variable Speed + Electric Brake(40W~120W)**



SOCKET PIN NO.

S/W 1, S/W 2 S/W 4, S/W5	AC 125[V] or AC 250[V] Min. 5A
S/W3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V]or AC 250[V])
R1	5.6 [Ω] Min.10[W]

- When stopped from running the electric brake will function for 0.5sec and the motor stops immediately.
- During this 0.5sec, do not operate S/W4 or S/W5.
- Before S/W2 and S/W3 is switched to run, stop S/W2 and S/W3 and than convert S/W4 and S/W5.
- The wiring of fan motor is applicable for motors 60W and over.



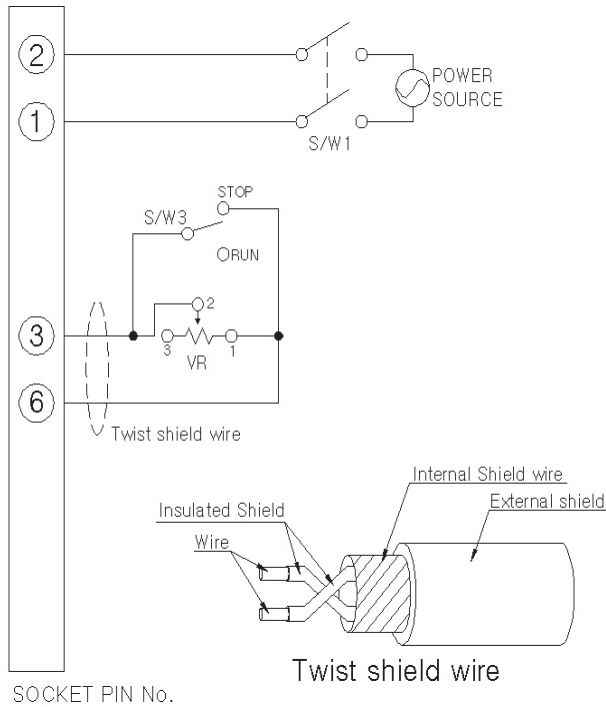


**M SERIES CONTROLLERS**  
**MSA-P SERIES** **PLUG-IN TYPE**

**APPLICATION CONNECTION DIAGRAM**

The following is the explanations of external speed setting device

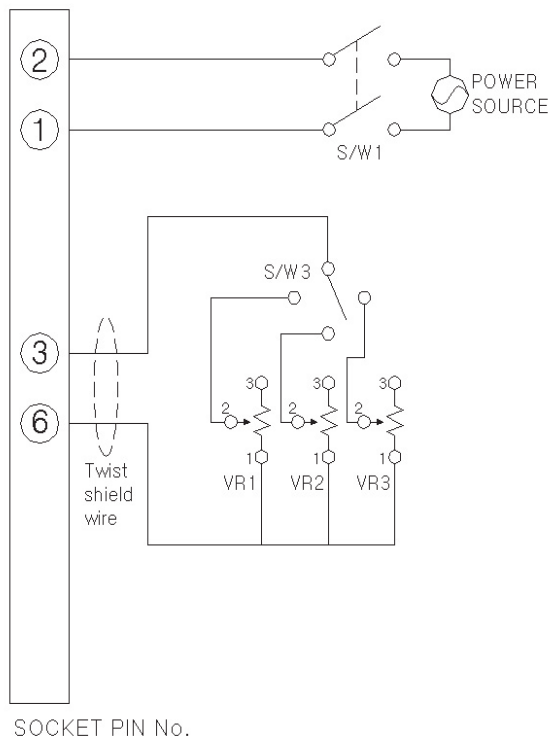
◆ **When long distance control is needed**



VR	External speed setting device 20[kΩ] 1/4W B Type
----	---

- No.3 terminal of VR is not used.
- Set the controller scale to '0'.
- Wire connection should be in short distance.  
Otherwise may cause malfunction.
- Use twisted sealed wire.

◆ **When multi-stage speed setting is needed**



VR1, VR2, VR3	External speed setting device 20[kΩ] 1/4W B Type
S/W 3	DC 10[V] 10[mA]

- Set the controller scale to '0'.
- Change the speed with external speed setting device  
VR1, VR2 and VR3 by using S/W3.
- Wire connection should be in short distance.  
Otherwise may cause malfunction.
- Use twisted sealed wire.

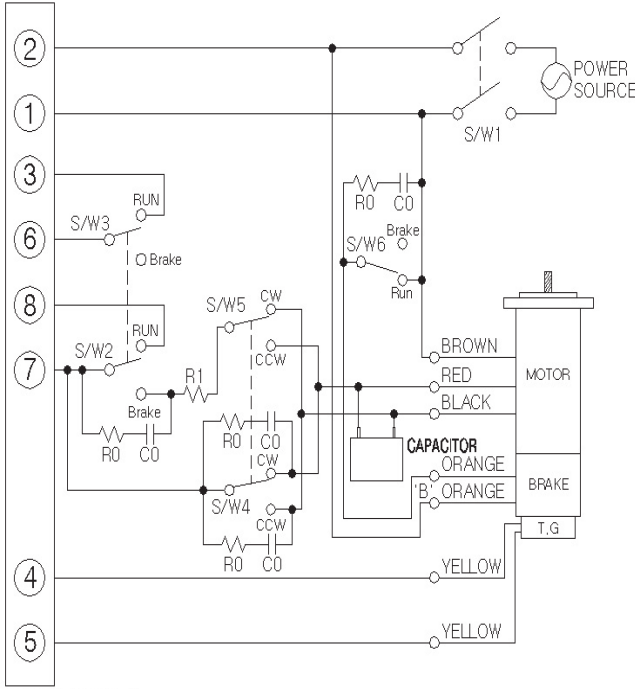


**M SERIES CONTROLLERS**  
**MSA-P SERIES** **PLUG-IN TYPE**

**SPEED CONTROL & BRAKE REVERSIBLE MOTOR CONNECTION DIAGRAM**

When electric brake of controller is used simultaneously

◆ Reverse + Variable Speed + Electric Brake + Electro magnetic brake motor (6W ~25W)

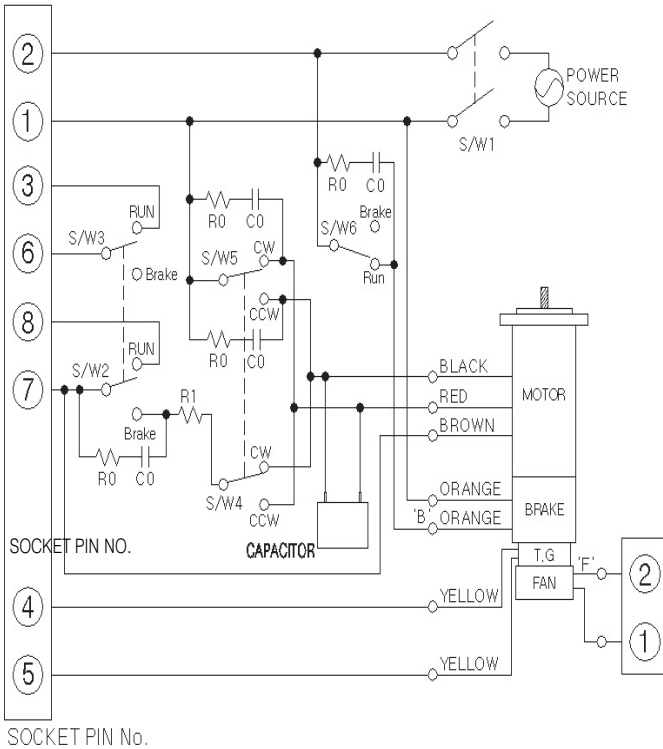


S/W 1, S/W 2 S/W 4, S/W5, S/W6	AC 125[V] or AC 250[V] Min. 5A
S/W3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V]or AC 250[V])
R1	5.6 [Ω] Min.10[W]

- When changing from RUN to BRAKE the electric brake operates and the motor stops immediately.
- Operate S/W4 and S/W5 after motor stops.
- Before switching S/W2, S/W3 and S/W6 from BRAKE to RUN. Please convert S/W4 and S/W5 first.
- The power source S/W1 should be switched 0.5sec faster than the operation starting signal of S/W2, S/W3 and S/W6.
- When operating RUN-BRAKE, leave the S/W1 on, and operate with S/W2, S/W3 and S/W6.

SOCKET PIN No.

◆ Reverse+Variable Speed+Electric Brake+Electro magnetic brake motor(40W+120W)



S/W 1, S/W 2 S/W 4, S/W5, S/W6	AC 125[V] or AC 250[V] Min. 5A
S/W3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V]or AC 250[V])
R1	5.6 [Ω] Min.10[W]

- When changing from RUN to BRAKE the electric brake operates and the motor stops immediately.
- Operate S/W4 and S/W5 after motor stops.
- Before switching S/W2, S/W3 and S/W6 from BRAKE to RUN. Please convert S/W4 and S/W5 first.
- The power source S/W1 should be switched 0.5sec faster than the operation starting signal of S/W2, S/W3 and S/W6.
- When operating RUN-BRAKE, leave the S/W1 on, and operate with S/W2, S/W3 and S/W6.
- The wiring of fan motor is applicable for motors 60W and over.

SOCKET PIN No.



M SERIES CONTROLLERS

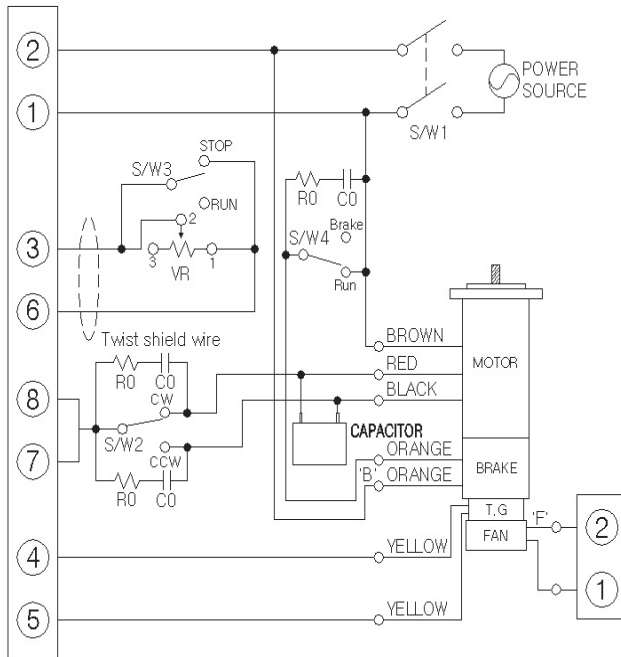
MSA-P SERIES

PLUG-IN TYPE

SPEED CONTROL & BRAKE REVERSIBLE MOTOR CONNECTION DIAGRAM

When electric brake of controller is used simultaneously

◆ Reverse + Variable Speed + Electro magnetic brake motor (6W ~120W)



SOCKET PIN No.

S/W 1, S/W 2	AC 125[V] or AC 250[V] Min. 5A
S/W 3	DC 10[V] 10[mA]
R0	10 ~ 200[Ω] Min. 1/4 [W]
C0	0.1 ~ 0.33[μF] (AC 125 [V] or AC 250[V])

- Leave a certain period until the motor stops, than switch S/W2.
- The power source S/W1 should be switched 0.5sec faster than the operation starting signal of S/W3 and S/W4.
- When operating RUN-STOP, leave the S/W1 'ON', and control with S/W3 and S/W4.
- Set the controller scale to '0'.
- The wiring of fan motor is applicable for motors 60W and over.



# Patent and Authentication

- September 2005  
A Certificate in conformity to Certificate for china compulsory product certification.
- June 2004  
A certificate of EC-Attestation of conformity as a company holding Electrical equipment acc to the Low Voltage Directive.
- June 2003  
A certificate in conformity with Motor protective Devices inherent Overheating Type-component
- July 2000  
A certificate of authentication as a company selected for technical development of components materials.
- February 2000  
A certificate of confirmation as a venture company
- November 1999  
A certificate of authentication as a venture foundation of KETI

