

SPEED CONTROLLER

: SR TYPE

Characteristics

- This is a speed controller for small geared motors which was developed to meet the motor's variable speed demands.
- It uses the IC circuit that SPG Motor independently developed and is small, lightweight and reliable.
- Speed control is possible by controlling the number of revolutions with the variable resistor on the front of the case.
- Remote control is possible by installing a speed controller(speed setter).
- Instantaneous braking is possible with an electric brake.
- The small 8 pin plug in method was used.



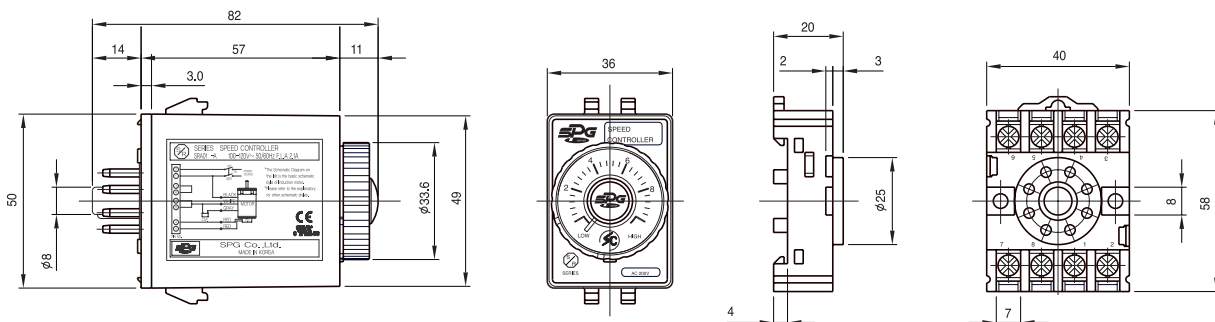
SPECIFICATIONS

SPEC		MODEL	SR TYPE			
		SRA01-A	SRA02-A	SRB01-B	SRB02-B	
Rated Voltage		1Ph, 100 - 120V		1Ph, 200 - 240V		
Operation Voltage Range		±10%				
※1 APPLICABLE MOTOR OUTPUT	INDUCTION	6W	15W~90W	6W	15W~90W	
	REVERSIBLE	6W	15W~40W	6W	15W~40W	
	E · S	6W	15W~90W	6W	15W~90W	
Speed control range		50Hz : 90~1400r/min		60Hz : 90~1700r/min		
Speed variation		5%(standard)				
Speed setting device		Built in external speed setting device attachable				
Braking		Possible to stop brake for certain period by electric brake				
※2	Braking period	0.5sec(standard)				
Parallel operation		Not suitable for parallel operation				
Slow Run, Slow Stop		none				
Operation Temperature		-10~50°C				
Storage Temperature		-20~60°C				
Ambient humidity		85%Maximum(non condensing)				

※ 1: Suitable motors are Socket Type Speed Control Motor. (Use for 12V motor T.G)

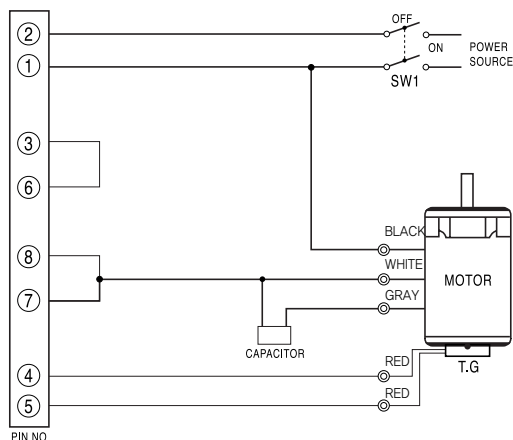
※ 2: The electric brake does not have holding torque.

+ DIMENSIONS SR TYPE SPEED CONTROLLER



+ SCHEMATIC DIAGRAM (INDUCTION MOTOR)

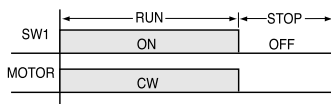
1-1 Uni Direction+Variable Speed INDUCTION MOTOR (6W~90W) REVERSIBLE MOTOR (6W~40W)



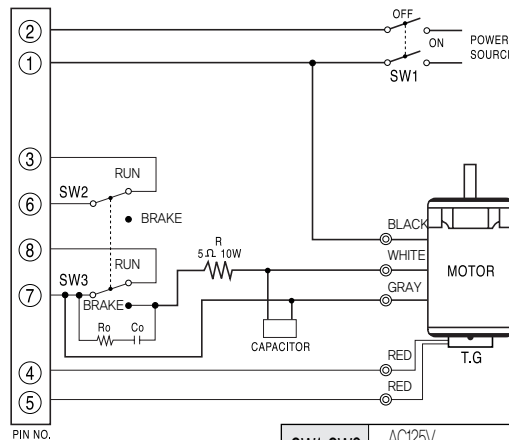
SW1	AC 125V or AC 250V	MIN. 5A
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- Note) 1. The motor rotating direction is CW when viewed from output shaft. When adjusting to CCW, change and connect white and gray wire of motor.
2. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 178 for the connection method.

◆ Example of operation



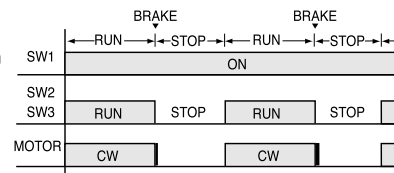
1-2 Uni Direction + Variable Speed + Brake INDUCTION MOTOR (6W~25W) REVERSIBLE MOTOR (6W~25W)



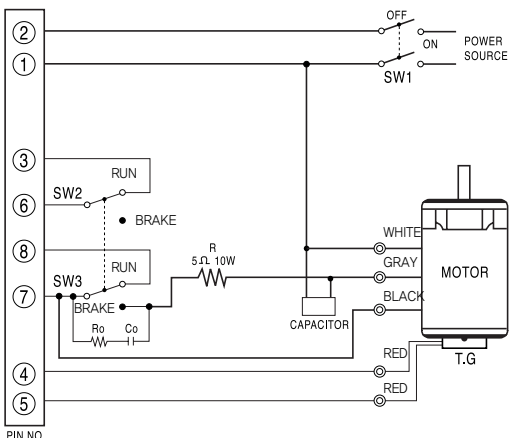
SW1,SW3	AC125V or AC250V	MIN. 5A
SW2	DC 20V	10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)	
R	4.7Ω~6.8Ω	MIN. 10W

- Note) 1. The motor rotating direction is CW when viewed from output shaft. When adjusting to CCW, change and connect white and gray wire of motor.
2. When switched from Run to Stop, electric brake will function about 0.5 sec and motor will stop instantaneously.

◆ Example of operation



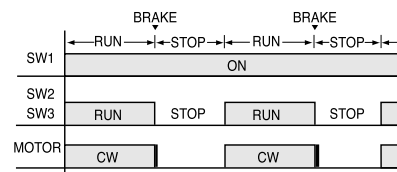
1-3 Uni Direction + Variable Speed + Brake INDUCTION MOTOR (40W~90W) REVERSIBLE MOTOR (40W)



SW1,3	AC125V or AC250V	MIN. 5A
SW2	DC 20V	10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)	
R	4.7Ω~6.8Ω	MIN. 10W

- Note) 1. The motor rotating direction is CW when viewed from output shaft. When adjusting to CCW, change and connect white and gray wire of motor.
2. When switched from Run to Stop, electric brake will function about 0.5 sec and motor will stop instantaneously.
3. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 178 for the connection method.

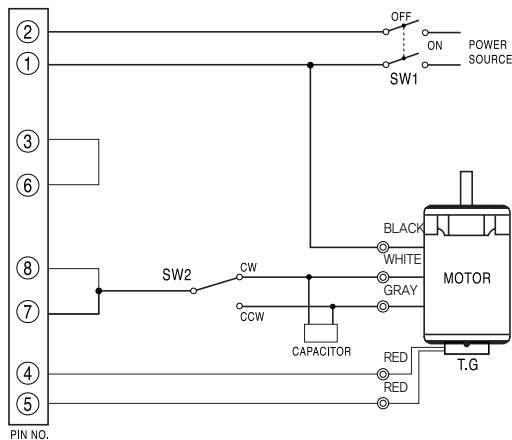
◆ Example of operation



Note) The power switch should be off and check the PIN number when inserting a control pack into socket groove. (There is a possibility to be burned.)

+ SCHEMATIC DIAGRAM (REVERSIBLE MOTOR)

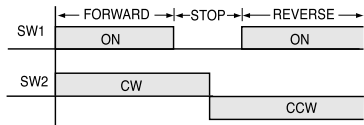
2-1 Reverse+Variable Speed INDUCTION MOTOR (6W~90W) REVERSIBLE MOTOR (6W~40W)



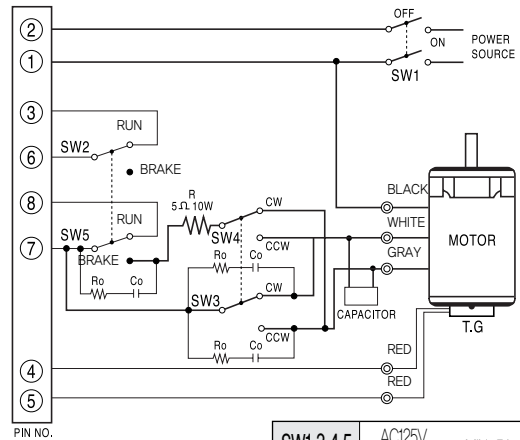
SW1,2	AC125V or AC 250V	MIN. 5A
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- Note) 1. Set "Stop" period for induction motor and switch SW2 after rotation has stopped.
 2. Rversible Motor does not need "Stop" period. It has no relation operating SW2 when SW1 is on.
 3. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 178 for the connection method.

◆ Example of operation



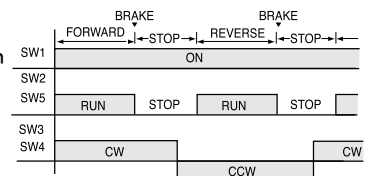
2-2 Reverse + Variable Speed + Brake INDUCTION MOTOR (6W~25W) REVERSIBLE MOTOR (6W~25W)



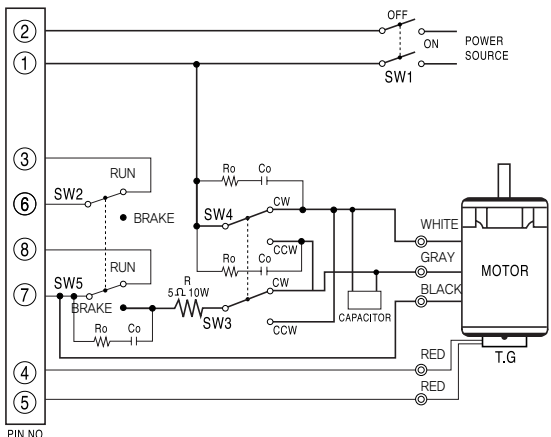
SW1,3,4,5	AC125V or AC250V	MIN. 5A
SW2	DC 20V 10mA	
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)	
R	4.7Ω~6.8Ω	MIN. 10W

- Note) 1. When switched from Run to Stop, electric brake will function for 0.5sec. and motor will stop instantaneously.
 2. Do not operate SW4, SW5 for this 0.5 sec.
 3. Changing period of SW4, SW5 should be done quicker than Stop to Run of SW2, SW3.

◆ Example of operation



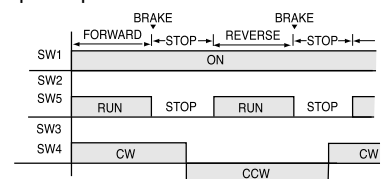
2-3 Reverse + Variable Speed + Brake INDUCTION MOTOR (40W~90W) REVERSIBLE MOTOR (40W)



SW1,3,4,5	AC125V or AC250V	MIN. 5A
SW2	DC 20V 10mA	
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)	
R	4.7Ω~6.8Ω	MIN. 10W

- Note) 1. When switched from Run to Stop, electric brake will function for 0.5sec. and motor will stop instantaneously.
 2. Do not operate SW4, SW5 for this 0.5 sec.
 3. Changing period of SW4, SW5 should be done quicker than Stop to Run of SW2, SW3.
 4. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to 178 page for the connection method.

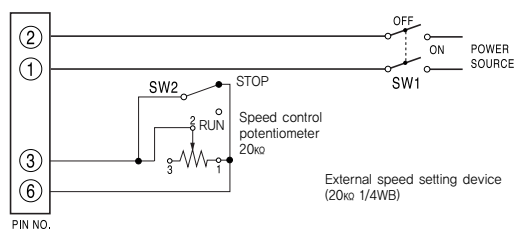
◆ Example of operation



Note) The power switch should be off and check the PIN number when inserting a control pack into socket groove.
 (There is a possibility to be burned.)

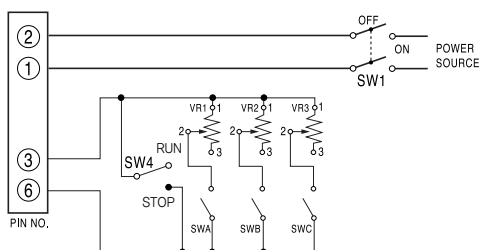
3-1 External speed setting device

When Distance Control is Necessary



- Note) 1. Set the volume to 'LOW'.
2. Shorten the connection cable as much as possible.

When Multi-Stage Speed Setting is Necessary

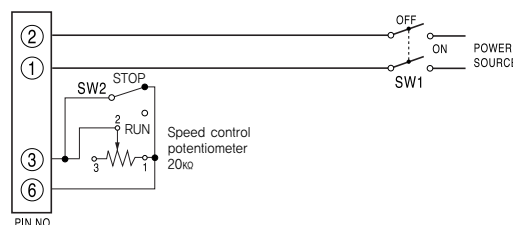


- Note) 1. Set the volume to 'LOW'.
2. If multi-stage speed control is needed, install VR1, VR2, and VR3 respectively and the speed can be changed by SWA, SWB, and SWC. The open/close time of the switch is advised to follow the open/close time of the relay contact point.

3-2 For prompt start(1)

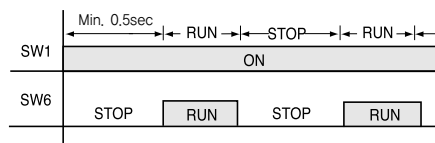
Without braking

※ When the motor starts slowly while starting signal is input at Run switch(SW1), use external volume VR at SW2 for Run/Stop.



SW2	DC 20V 10mA	External speed setting device (20kΩ 1/4WB)
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Example of operation

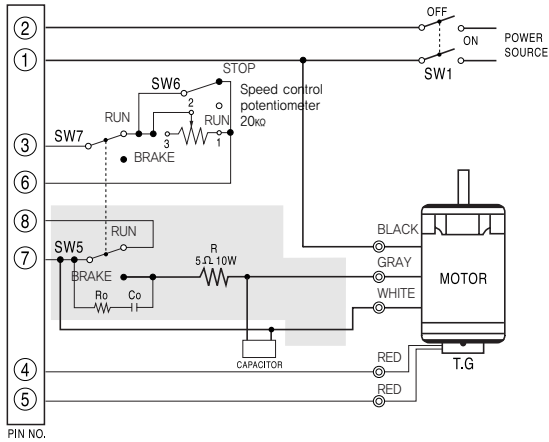


- Note) 1. Input time of SW1 should be about 0.5sec earlier than starting signal of SW2.
2. Set the volume to "LOW" and use external volume VR to control speed.
3. During Run/Stop operation, control SW2 while SW1 is on. Even with small signal motor can be controlled.
4. When not in use for long period turn SW1 off.

Note) The power switch should be off and check the PIN number when inserting a control pack into socket groove. (There is a possibility to be burned.)

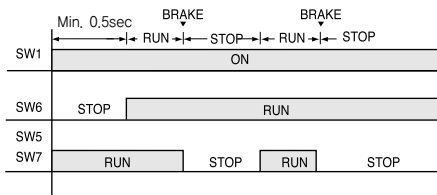
3-3 For prompt start(2)

▼ While braking INDUCTION MOTOR(6W~25W)
REVERSIBLE MOTOR (6W~25W)



SW1,5	AC125V or AC250V MIN. 5A
SW6,7	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125VV, AC250VV)
R	4.7Ω~6.8Ω MIN. 10W

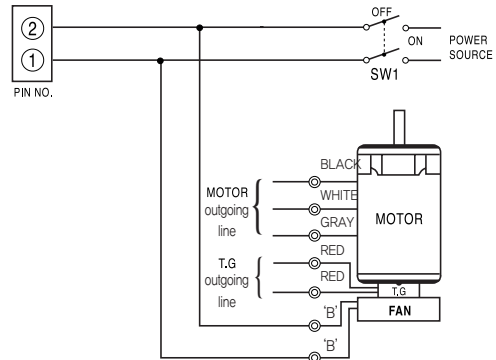
◆ Example of operation



- Note) 1. This wiring is for unidirection+variable speed+braking of motors 25W or less. For motors 40W over part of wiring is different. Refer to the electrical wiring diagram for the corresponding connection.
 2. Input time of SW1 should be about 0.5sec earlier than SW6.
 3. Set the volume to "LOW" and use external volume VR to control speed.
 4. When not in use for long period turn SW1 off.

Note) The power switch should be off and check the PIN number when inserting a control pack into socket groove. (There is a possibility to be burned.)

3-4 Box fan motor connection method

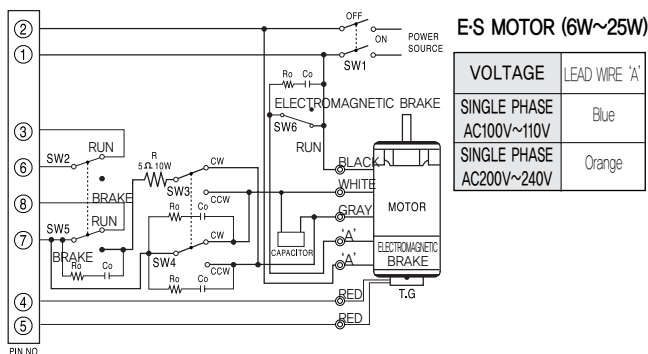


VOLTAGE	LEAD WIRE COLOR 'B'
SINGLE PHASE AC100V~110V	BROWN
SINGLE PHASE AC200V~240V	YELLOW

※ For the connection of something other than the box fan, refer to the electrical wiring diagram for the corresponding connection.

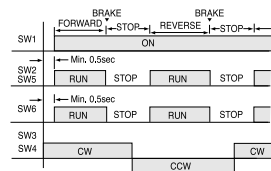
4-1 Wire connection for electromagnetic brake motor

When electric brake of controller is used at the same time



SW1,3,4,5,6	AC125V or AC250V MIN. 5A
SW2	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)
R	4.7Ω~6.8Ω MIN. 10W

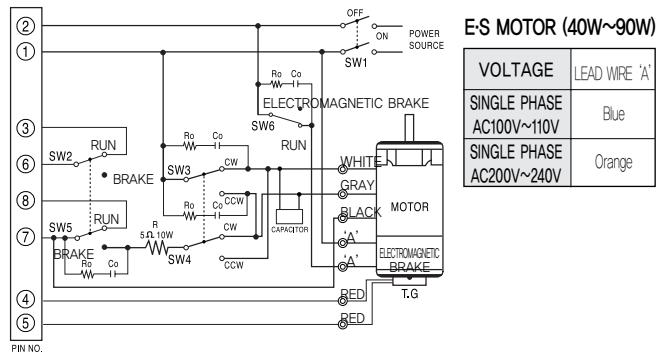
Example of operation



1. When switched from Run to Stop, electromagnetic brake will function for about 0.5sec. and motor will stop instantaneously.
2. Operate SW3, SW4 after the motor has stopped.
3. Changing period of SW3, SW4 should be done quicker than stop to run of SW2, SW5, SW6.
4. Power input for SW1 should be at least 0.5sec. earlier than starting signals of SW2, SW5, SW6.
5. When Run/Stop, operate with SW2, SW5, SW6 while SW1 is On condition. Even with small signal it can control the motor. Turn SW1 off when not used for long period.

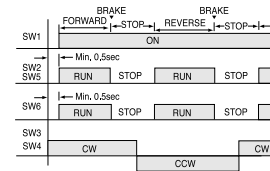
4-2 Wire connection for electromagnetic brake motor

When electric brake of controller is used at the same time



SW1,3,4,5,6	AC125V or AC250V MIN. 5A
SW2	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)
R	4.7Ω~6.8Ω MIN. 10W

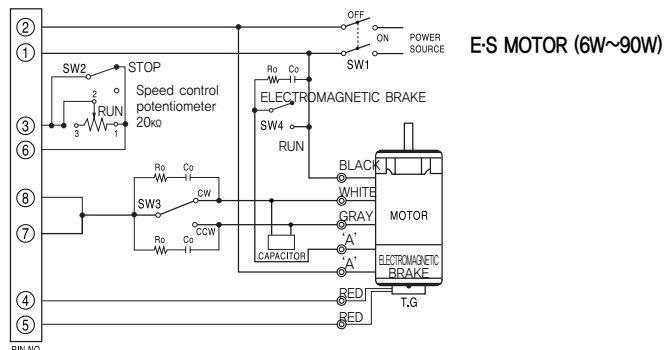
Example of operation



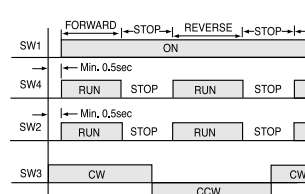
1. When switched from Run to Stop, electromagnetic brake will function for about 0.5sec. and motor will stop instantaneously.
2. Operate SW3, SW4 after the motor has stopped.
3. Changing period of SW3, SW4 should be done quicker than stop to run of SW2, SW5, SW6.
4. Power input for SW1 should be at least 0.5sec. earlier than starting signals of SW2, SW5, SW6.
5. When Run/Stop, operate with SW2, SW5, SW6 while SW1 is 'On' condition. Even with small signal it can control the motor. Turn SW1 off when not used for long period.
6. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 178 for the connection method.

4-3 Wire connection for electromagnetic brake motor

When electric brake of controller is used at the same time



Example of operation



SW 1,3,4	AC125V or AC250V MIN. 5A
SW 2	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)

1. Set the stop period to stop and convert to SW2 after rotation has stopped
2. Input period for power switch SW1 should be about 0.5sec. earlier than the signal of start operating of SW6, SW9

3. When Run/Stop, operate with SW2, SW4 while SW1 is on. Even with small signal it can control the motor Turn SW1 off when not used for long period.
4. Set the volume low and control the speed with external speed setting device VR
5. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 178 for the connection method.

Note) The power switch should be off and check the PIN number when inserting a control pack into socket groove. (There is a possibility to be burned.)



SS TYPE SPEED CONTROLLER



1. Characteristics of the socket SS standard type

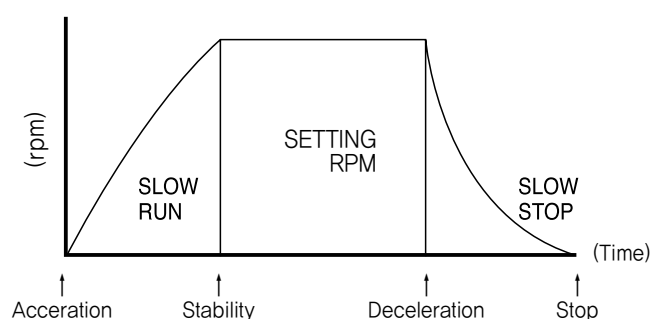
- (1) This is used with the 6W~40W induction speed control motor and the 6W~40W reversible speed control motor.
- (2) Number of revolutions may be controlled and designated with the speed setter on the front of the case.
- (3) Instantaneous braking is possible with an electric brake.
- (4) The small 11 pin plug-in method was used.
- (5) It has slow run and slow stop functions, so operating and braking are not working rapidly, instead, slowly.
- (6) It is simple to control because the slow run and slow stop functions have time setting functions.
- (7) SPG has socket (SS) type standard speed controller may not be used for parallel operations. When parallel operation is necessary, the socket (SS) type high-output speed controller should be used.

2. Characteristics of the socket SS high-output type speed control

- (1) It is used in the 6W~90W induction speed control motor, the 6W~40W reversible speed control motor and the 6W~40W electro-magnetic brake speed control motor.
- (2) An external controller can control the number of rotation of the motor.
- (3) Instantaneous braking is possible with an electric brake.
- (4) Installation and operation is simple because of a compact plug-in 11pin type.
- (5) It has slow run and slow stop functions, so operating and braking are not working rapidly instead, slowly.
- (6) It is simple to control because the slow run and slow stop functions have time setting functions.
- (7) Parallel operation is possible. Parallel operation allows multiple motor control packs to be operated at the same speed with one speed setter.

3. Use of socket SS type speed control

(1) Use of slow run and slow stop



- The SRSS function of the socket SS type speed controller allows slow acceleration with slow run and gradual deceleration with slow stop function.
- This function relieves impact when accelerating and decelerating and should be used when smooth acceleration and deceleration are desired.
- Slow run and slow stop functions have time setting functions. The variable resistor in the control pack allows time to be set within 0.5 seconds~15 seconds/1200[rpm].
- Slow stop braking in a shorter time than the natural braking of the motor is impossible.
- When slow operation is not necessary, turn the volume switch inside all the way to the left (counter-clockwise).

(2) Characteristics of instantaneous braking

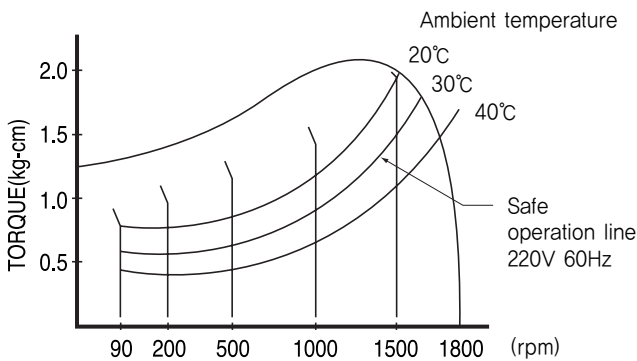
- The control pack has an electric brake which allows instantaneous braking of the motor within 0.1 seconds.
- Brake current operates for about 0.5 seconds and then automatically discharges.
- Because there is no holding torque to hold the motor, after it stops, it is possible to control the location.
- When holding torque is necessary to stop an object that is moving up and down, use SPG has electro-magnetic brake control motor.

※ Note

- In the control pack, after instantaneous braking, it takes about 0.5 seconds before the motor starts rotating after the brake switch is turned to operate.
- In the control pack, if instantaneous braking is applied with the variable resistor at 0Ω or with the run/stop switch at stop and then turned to run again, the motor might rotate once, so do not operate it in this manner.
- If the run/stop switch is repeatedly switched from the AC power source within 0.5 seconds, the motor might momentarily rotate, so do not run/stop with the AC power source.

(3) Temperature rise of the motor

- The AC speed control motor gets higher input power as the load increases so the rise in temperature is greater with a larger load.
- The curve with the temperature rise of the motor, the threshold torque and the number of rotations are called the safe operation line. Use the motor at the torque and number of revolutions below the curve.
- Safe operation line may be used at above the curve in the following cases.
 - > When radiation is high.
 - > When a cooling fan is used.
 - > When the ambient temperature is low.



★ Use at surface temperature of the motor case below 90°C

4. Cause of malfunctions and management methods

1) Check

- To raise efficiency and use the control pack longer, check the followings.
 - ① Is operation being carried out smoothly?
 - ② Is there a strange noise when operating?
 - ③ Is abnormal heat being generated?

2) Cause of malfunctions and management methods

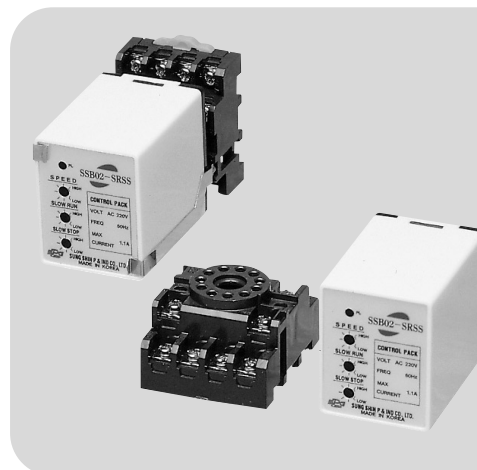
Malfunction	Checklist	Malfunctioning part	How to fix
The motor does not rotate.	Separate the pack from the socket and connect socket ④ and ⑩ terminals.	• The speed controller or the controller parts if the motor rotates.	• Check the connection of the speed control variable resistor.
		• The motor parts if the motor does not rotate.	• Check the connection of the motor. • Check the connection of the condenser.
	Separate the pack with the socket and open socket ⑧ and ⑨ terminals.	• The speed controller parts if the motor rotates at maximum.	• Check the connection of the speed control variable resistor. • Check the connection of the run/stop switch.
		• The motor parts if the motor does not rotate.	• Check the connection parts of the motor.
The motor is rotating at maximum speed.	Separate the control pack from the socket and allow AC power.	• The speed controller or the controller if the motor rotates.	• Check the connection of the speed control variable resistor.
		• The motor parts if the motor does not rotate.	• Check the connection of the motor.
	Separate the pack from the socket and connect socket ⑧ and ⑨ terminals.	• The speed controller if the motor stop.	• Check the connection of the speed control variable resistor. • Check the connection of the run/stop switch • Check the connection of ① and ⑪ terminals.
		• The speed controller or the controller if the motor rotates.	
The motor's speed is not controlled.	Select the variable resistor at maximum and check the voltage of ① and ⑪ terminals of the socket.	• The speed controller or the control parts if it is more than AC20V	• Check the connection of the speed control variable resistor.
		• The tachometer if it is less than AC20V	• Check the connection of ① and ⑪ terminals. • Check that the resistance of the tachometer part is 1.5k Ω .
	When changing the speed of the variable resistor, check the voltage of ⑧ and ⑨ terminals.	• The speed controller parts (speed setting section) if it changes between DC 0~6V	• Check the connection of the speed control variable resistor • Check the connection of the run/stop switch • Check if the speed control variable resistor changes between 0~20k Ω .
		• The controller if it does not change between DC 0~6V	
The motor does not stop instantaneously.			• Check the connection of external resistance 10 Ω , 10W. • Check the connection of the run/stop switch.

SPEED CONTROLLER

: SS STANDARD TYPE

Characteristics

- Used for induction & reversible speed control motor of 6W~40W.
- Built in speed setting device on the case enables to control and set the speed of motors.
- Instantaneous stop function is possible by electromagnetic brake.
- Compact plug-in type with 11pins.
- It has slow run and slow stop functions, so operating and braking are not working rapidly, instead slowly.
- There is time (period) setting device installed to control slow run and slow stop functions easily.
- Can not be used for parallel operation. For parallel operation, please use high-output type of SPG.



SPECIFICATIONS

MODEL	SS TYPE			
	SSA01-SRSSA	SSA02-SRSSA	SSB01-SRSSB	SSB02-SRSSB
Rated Voltage	1Ph, 100 – 120V		1Ph, 200 – 240V	
Operation Voltage Range	±10%			
Power source frequency	50/60Hz			
Rated current	1.0A	1.0A	0.5A	0.5A
※1 Applicable motor output	6W	15W~40W	6W	15W~40W
Speed control range	90~1400r/min		90~1700r/min	
Speed variation	5%(standard)			
Speed setting device	Built in external speed setting device attachable(20KΩ)			
Braking	Possible to stop for certain period by electric brake			
※2 Braking period	0.5sec(standard)			
Parallel operation	Not suitable for parallel operation			
SLOW RUN, SLOW STOP	Possible(0.5sec~15sec/1200rpm)			
Ambient temperature	-10°C~50°C			
Ambient humidity	85%Maximum(non condensing)			
Storage temperature	-20°C~+60°C			
Insulation resistance	100MΩ or more when 500V megger is applied between the pin and the housing at ambient temperature and humidity			
Dielectric strength	sufficient 1500V at 50/60Hz applied between the pin and the housing at ambient temperature and humidity for 1min			

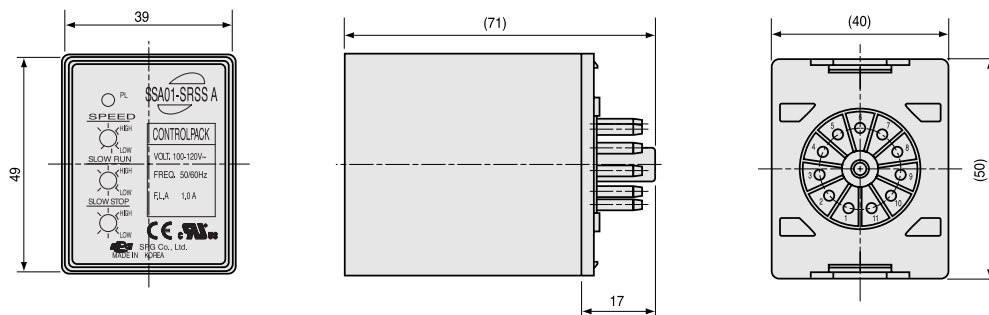
※ 1 : Applicable motors are socket type control motors of SPG. (Use for 24V motor T.G)

※ 2 : There are no holding torque on electromagnetic brake.

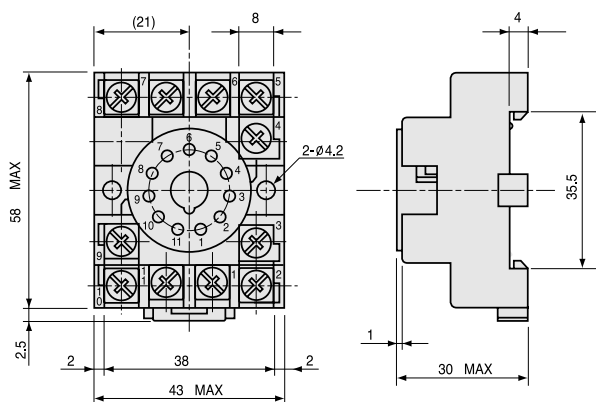
DIMENSIONS

■ SS TYPE (STANDARD) SPEED CONTROLLER

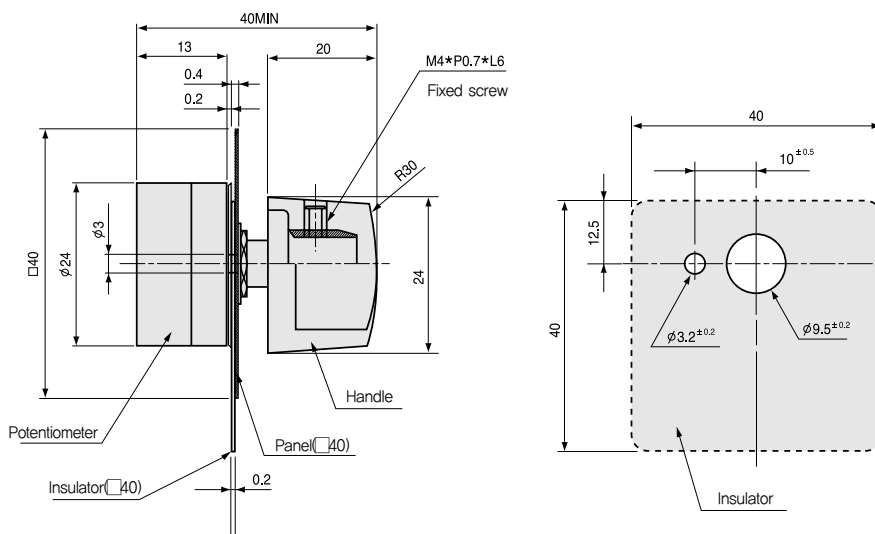
+ CONTROLLER



+ 11PIN SOCKET

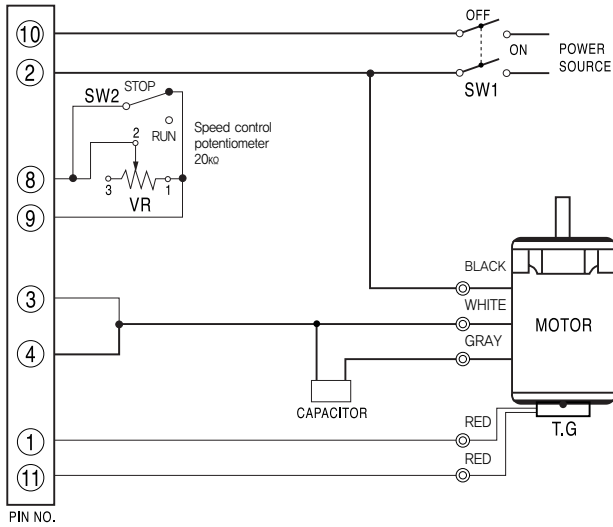


+ SPECIFICATION OF VARIABLE RESISTOR FOR SPEED SETTING : 20kΩ(10kΩ) 1/4W B CHARACTERISTIC



+ SCHEMATIC DIAGRAM (INDUCTION MOTOR)

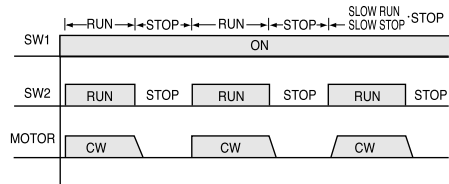
1-1 Uni Direction + Variable Speed (6W~40W)



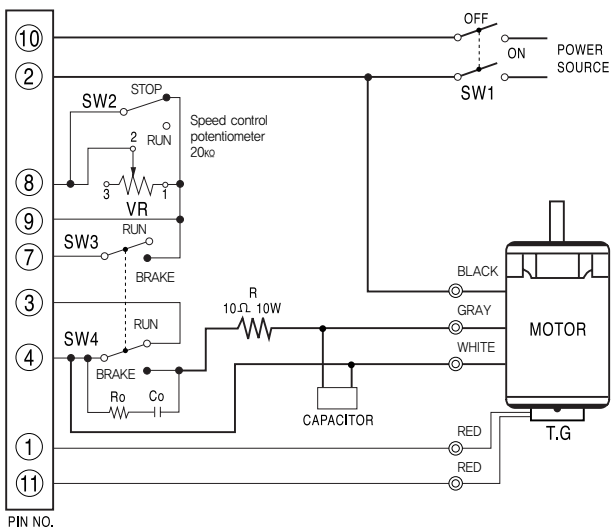
SW1	AC125V or AC250V MIN. 5A
SW2	DC 20V 10mA

Note)
The motor rotating direction is CW when viewed from output shaft.
When adjusting to CCW direction, exchange white wire to gray.

◆ Example of operation



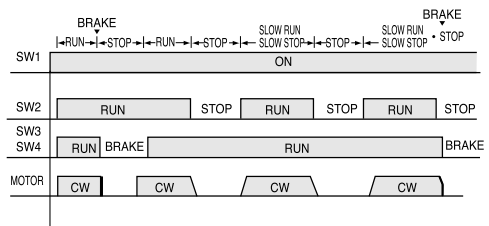
1-2 Uni Direction + Variable Speed + Brake (6W~25W)



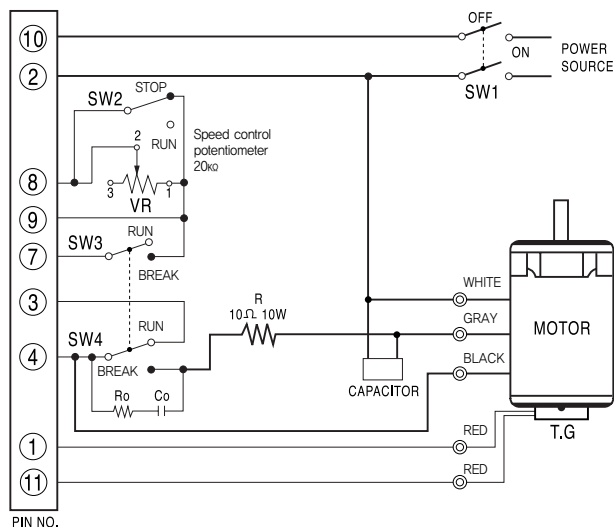
SW1,4	AC125V or AC250V MIN. 5A
SW2,3	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125V, AC250V)
R : Braking external resistor	10Ω, MIN. 10W

Note)
The motor rotating direction is CW when viewed from output shaft.
When adjusting to CCW direction, exchange white wire to gray.

◆ Example of operation



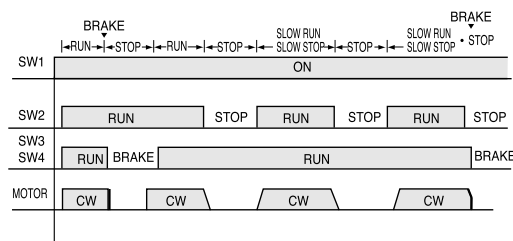
1-3 Single Direction + Variable Speed + Brake (40W)



SW1,4	AC125V or AC250V MIN, 5A
SW2,3	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN, 1/4W) Co=0.1~0.2μF (AC125W, AC250W)
R : Braking external resistor	10Ω, MIN, 10W

Note)
The motor rotating direction is CW when viewed from output shaft. When adjusting to CCW direction, exchange white wire to gray.

◆ Example of operation



1-4 Instruction (INDUCTION MOTOR)

● Run/Stop function

If SW2 is switched to "RUN" as section 1-1,2,3, the motor will rotate per fixed speed set by external speed controller. When switched to "STOP" rotation will spontaneously stop by inertia force.

● Run/Brake function

If SW3 and SW4 is turned to stop while SW2 is on RUN condition, the brake will function for about 0.5 seconds and stop the motor instantaneously.

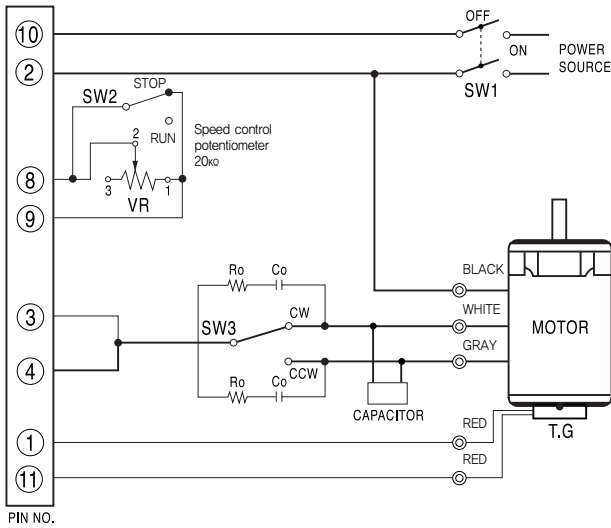
● Slow Run/Slow Stop function

- When SW2 is switched to Run/Stop after slow run, slow stop is set by the volume of controller, the motor will slowly start and slowly stop per set time.
- The speed of slow run and slow stop changes in rectilinearly against set time and the slope can be controlled within 0.5sec~15sec/1200rpm.
- Slow stop cannot be set for shorter period than natural stopping period of motor.

※ Turn SW1 off to prevent control pack from generating heat when not used for a long period.

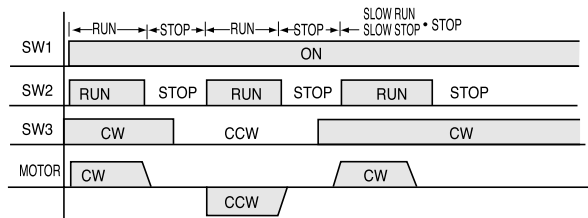
+ SCHEMATIC DIAGRAM (REVERSIBLE MOTOR)

2-1 Reverse + Variable Speed (6W~40W)

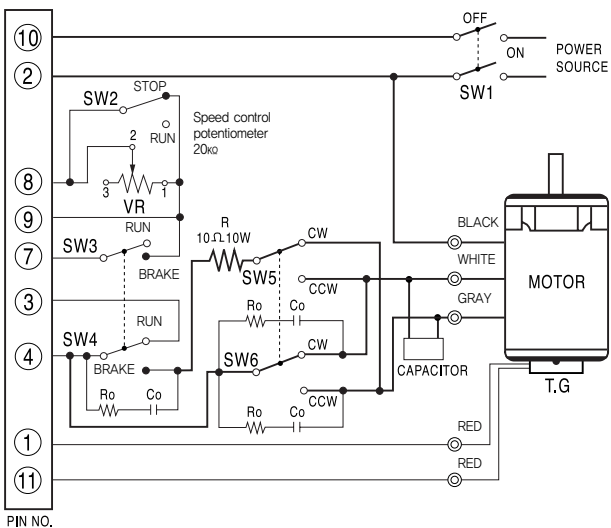


SW1.3	AC125V or AC 250V MIN, 5A
SW2	DC 20V 10mA
Ro,Co	Ro=10~200Ω (MIN, 1/4W) Co=0.1~0.2μF (AC125V, AC250V)

◆ Example of operation

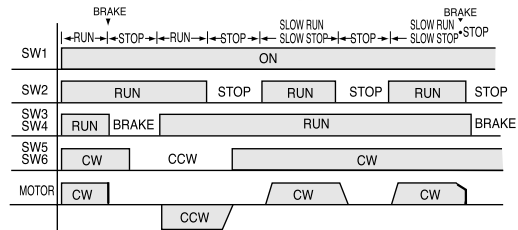


2-2 Reverse + Variable Speed + Brake (6W~25W)



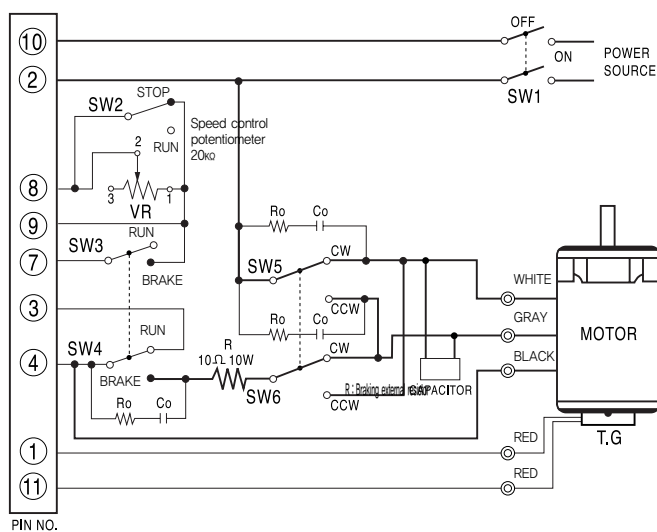
SW1,4,5,6	AC125V or AC 250V MIN, 5A
SW2,3	DC20V 10mA
Ro,Co	Ro=10~200Ω (MIN, 1/4W) Co=0.1~0.2μF (AC125V, AC250V)
R: Braking external resistor	10Ω, MIN, 10W

◆ Example of operation



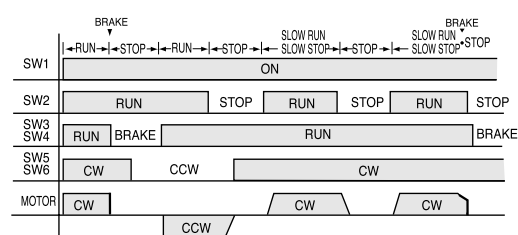
3-4 Instruction (E.S MOTOR)

2-3 Reverse + Variable Speed + Brake (40W)



SW1,4,5,6	AC125V or AC 250V MIN. 5A
SW2,3	DC20V 10mA
Ro,Co	Ro = 10~200Ω (MIN. 1/4W) Co = 0.1~0.2μF (AC 125WV, AC 250WV)
R: Braking external resistor	10Ω, MIN. 10W

◆ Example of operation



2-4 Instruction (REVERSIBLE MOTOR)

● Run/Stop function

If SW2 is switched to "RUN" as section 1-1,2,3, the motor will rotate per fixed speed set by external speed controller. When switched to "STOP" rotation will spontaneously stop by inertia force.

● Run/Brake function

If SW3 and SW4 is turned to stop while SW2 is on RUN condition, the brake will function for about 0.5 seconds and stop the motor instantaneously.

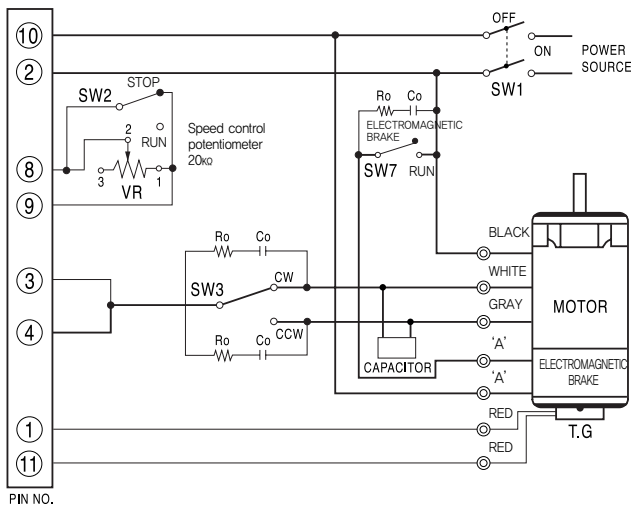
● Slow Run/Slow Stop function

- When SW2 is switched to Run/Stop after slow run, slow stop is set by the volume of controller, the motor will slowly start and slowly stop per set time.
- The speed of slow run and slow stop changes in rectilinearly against set time and the slope can be controlled within 0.5sec~15sec/1200rpm.
- Slow stop cannot be set for shorter period than natural stopping period of motor.

※ Turn SW1 off to prevent control pack from generating heat when not used for a long period.

+ SCHEMATIC DIAGRAM (E · S MOTOR)

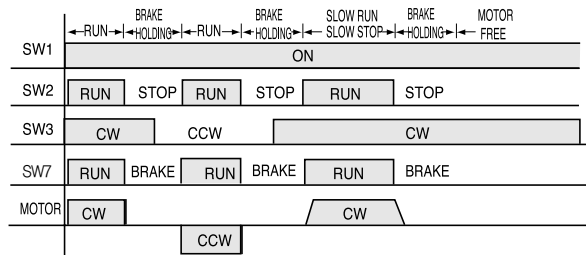
3-1 Reverse + Variable Speed (6W~40W)



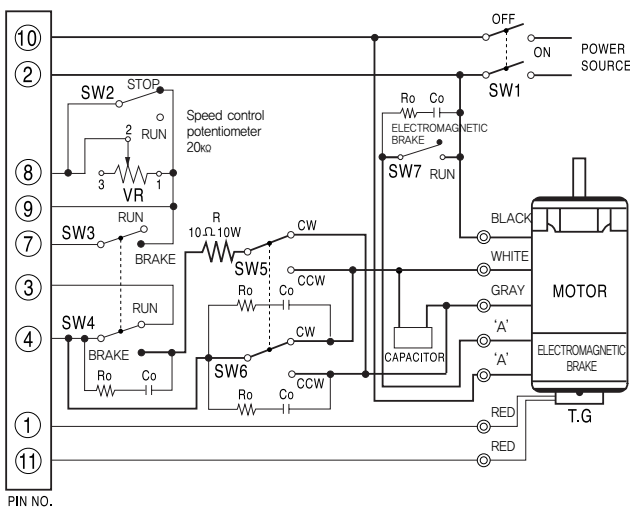
VOLTAGE	LEAD WIRE 'A'
SINGLE PHASE AC100V~110V	Blue
SINGLE PHASE AC200V~240V	Orange

SW1,3,7	AC125V or AC 250V	MIN. 5A
SW2	DC 20V	10mA
Ro,Co	Ro = 10~200Ω (MIN. 1/4W) Co = 0.1~0.2μF (AC 125WV, AC 250WV)	

◆ Example of operation



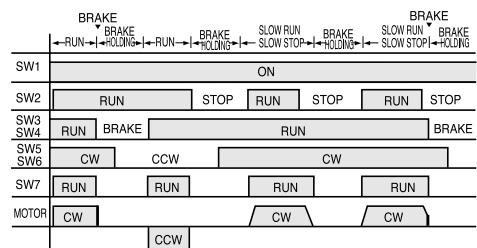
3-2 Reverse + Variable Speed + Brake (6W~25W)



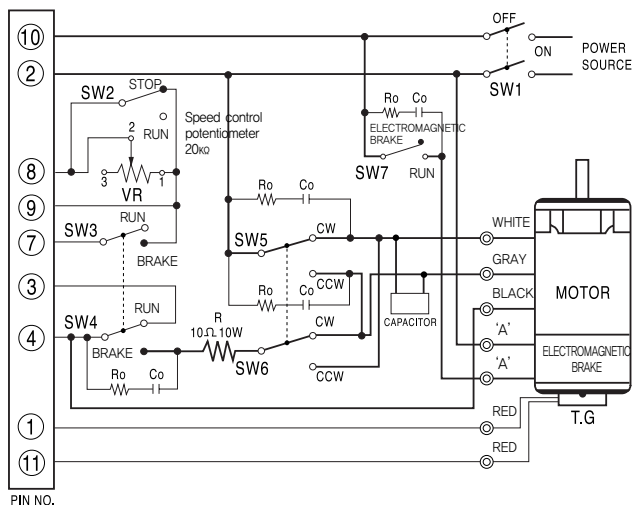
SW1,4,5,6,7	AC125V or AC250V	MIN. 5A
SW2,3	DC 20V	10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125WV, AC250WV)	
R: Braking external resistor	10Ω, MIN. 10W	

VOLTAGE	LEAD WIRE 'A'
SINGLE PHASE AC100V~110V	Blue
SINGLE PHASE AC200V~240V	Orange

◆ Example of operation



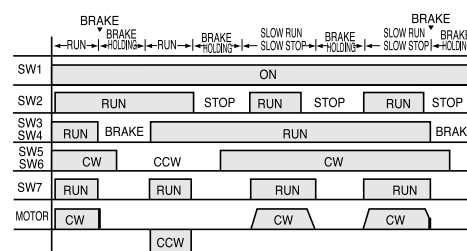
3-3 Reverse + Variable Speed + Brake (40W)



SW1,4,5,6,7	AC125V or AC250V MIN. 5A
SW2,3	DC 20V 10mA
R ₀ ,C ₀	R ₀ = 10~200Ω (MIN. 1/4W) C ₀ = 0.1~0.2μF (AC 125W, AC 250W)
R: Braking external resistor	10Ω, MIN. 10W

VOLTAGE	LEAD WIRE 'A'
SINGLE PHASE AC100V~110V	Blue
SINGLE PHASE AC200V~240V	Orange

◆ Example of operation



3-4 Instruction (E.S MOTOR)

● Run/Stop function

If SW7 is switched to "RUN" and then switch SW2 to run from section 3-1,2 and 3, the motor will rotate per fixed speed set by external speed controller. When switched to "STOP" rotation will spontaneously stop by inertia force. (When SW2 and SW7 is to be linked and used braking and keeping position will be done by electromagnetic brake.)

● Run/Brake function

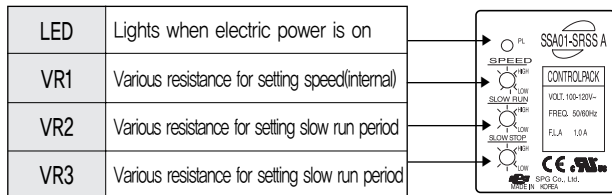
If SW3, SW4 and SW7 is linked and set to brake while SW2 is on RUN position from the basic diagram of section 3-2,3 electric brake will function for 0.5 seconds to stop motor instantaneously and will keep position by electromagnetic brake. Please do not tamper with SW5 or SW6 for 0.5 seconds while brake is functioning.

● Slow Run/Slow Stop function

- When SW2 is switched to Run/Stop after slow run, slow stop is set by the volume of controller, the motor will slowly start and slowly stop per set time.
 - The speed of slow run and slow stop changes in rectilinearly against set time and the slope can be controlled within 0.5sec~15sec/1200rpm.
 - Slow stop cannot be set for shorter period than natural stopping period of motor.
- ※ Turn SW1 off to prevent control pack from generating heat when not used for a long period.

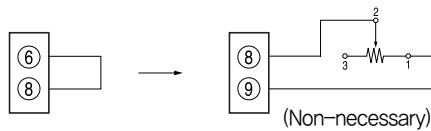
+ WIDE APPLICATION OF ELECTRIC WIRING

Panel Layout



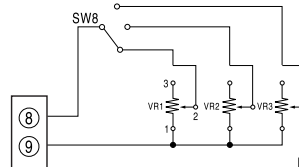
Using Internal Volume

SS TYPE has various internal resistance for speed setting device installed. Therefore, it is possible to use without external variable resistor for speed setting. When pin no.⑥ and ⑧ of 11pin plug is connected, it is possible to use internal volume. Wiring diagram is the same except wiring for variable resistor for speed setting is not required.



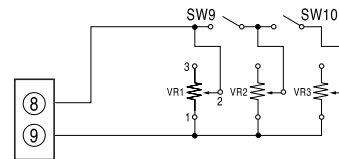
Multistage Speed Control

1. When multistage speed control is required, set each VR1, VR2 and VR3 and then use SW8 to convert.



VR1,2,3	20kΩ 1/4W B Characteristic
SW8	DC 20V 10mA

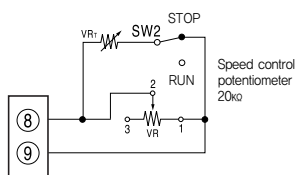
2. When converting time is slow as rotating switch SW8, converting speed is possible by connecting SW9, SW10 as following diagram since motor rotates with full speed momentarily.



VR1,2,3	20kΩ 1/4W B Characteristic
SW9, SW10	DC 20V 10mA

How to Speed Up Operation

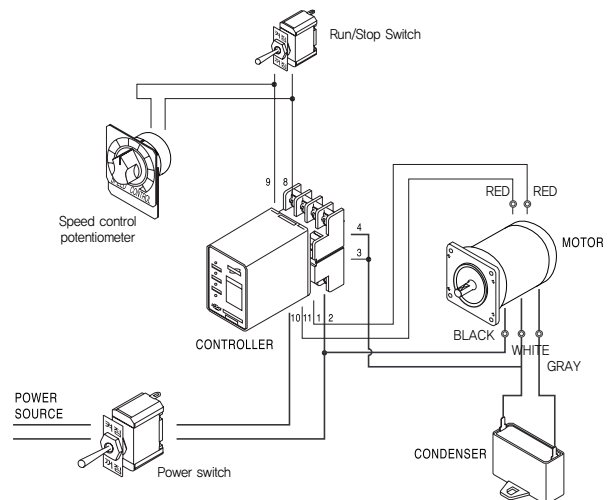
To quicken operating speed, as the set speed is decelerated, there are more delays to start rotation when switch is turned ON. If this causes problems, refer to following diagram and connect VRT.(Variable resistor for operating time control.)



VRr	2kΩ 1/4W B Characteristic
SW2	DC 20V 10mA

- ※ For instantaneous stop, operate both RUN/BRAKE switch and RUN/STOP switch above.
- ※ Place RUN/STOP switch to stop and control VRT until motor starts.

Total system

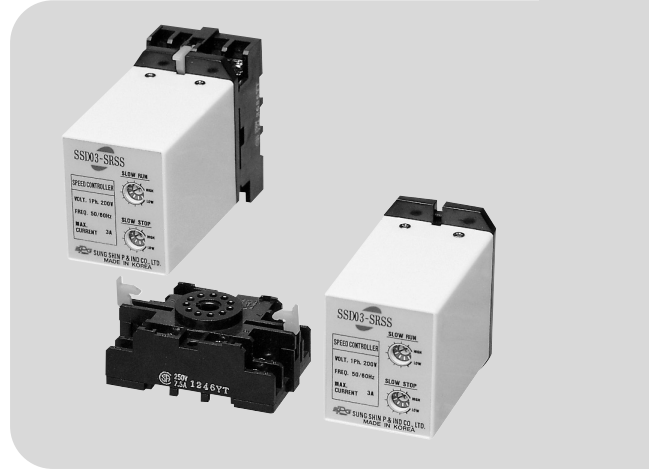


1. If the power switch (SW1) is turned on, the power lamp of the control pack will be lighted.
2. Speed of motor can be controlled without steps by using variable speed resistor for external speed setting. Turn to (HIGH) for high speed, and (LOW) for low speed.
3. There are operating current flowing on thick line. Use cable with 0.75mm² for thick line and 0.5mm² for thin line.



SPEED CONTROLLER

: SH TYPE



Characteristics

- Used for induction speed control motors of 6W~90W, reversible speed control motors of 6W~40W and electromagnetic brake speed control motors of 6W~40W.
- Built-in speed setting device on the case enables to control and set the speed of motors.
- Instantaneous stop function is possible by electric brake.
- It is a compact plug-in type with 11pins so it is easy to set and use.
- It has slow run and slow stop functions, so operating and braking are not working rapidly, instead slowly.
- There is time (period) setting device installed to control easily slow run and slow stop function.
- Parallel operation is possible.
- ※ Parallel operation means that with one speed control volume, It can control plural speed controller at same time at same speed.

SPECIFICATIONS

MODEL		SH TYPE	
		SHA03-SRSSA	SHB03-SRSSB
Rated Voltage		1Ph, 100 - 120V	1Ph, 200 - 240V
Operation Voltage Range		±10%	
Power Source Frequency		50/60Hz	
Rated Current		2.1A	1.3A
※ 1 APPLICABLE MOTOR OUTPUT	Induction	6W~90W	6W~90W
	Reversible	6W~40W	6W~40W
	E · S	6W~40W	6W~40W
Speed control range		90~1400r/min	90~1700r/min
Speed variation		5%(standard)	
Speed setting device		Built in external speed setting device attachable	
Braking		possible to stop for certain period by electric brake	
※ 2	Braking period	0.5초(standard)	
	Parallel operation	Possible	
	Slow Run, Slow Stop	Possible(0.5sec~15sec/1200rpm)	
	Operation Temperature	-10°C~50°C	
	Operation humidity	85% Max(non condensing)	
Storage Temperature		-20°C~60°C	
Insulation resistance		100MΩ or more when 500V megger is applied between the pin and the housing at ambient temperature and humidity	
Dielectric strength		No abnormality after input of 1500V 50/60Hz between the pin and the housing at ambient temperature and humidity for 1min	

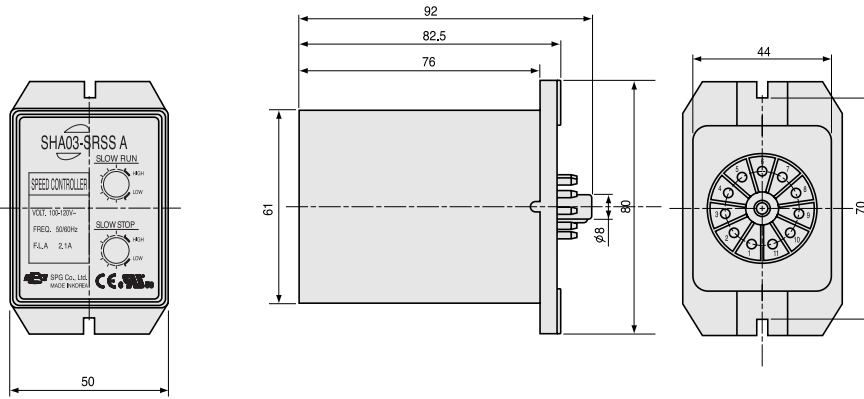
※ 1. : Applicable motors are socket type control motors of SPG. (Use for 24V motor T.G)

※ 2. : There are no holding torque on electric brake.

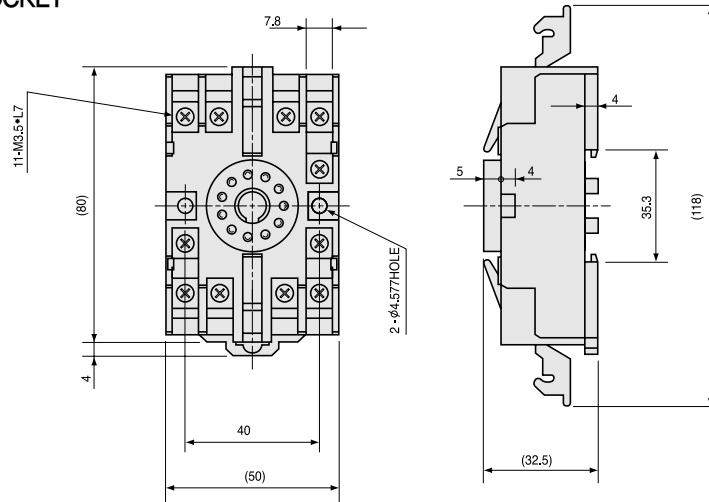
DIMENSIONS

SH TYPE SPEED CONTROLLER

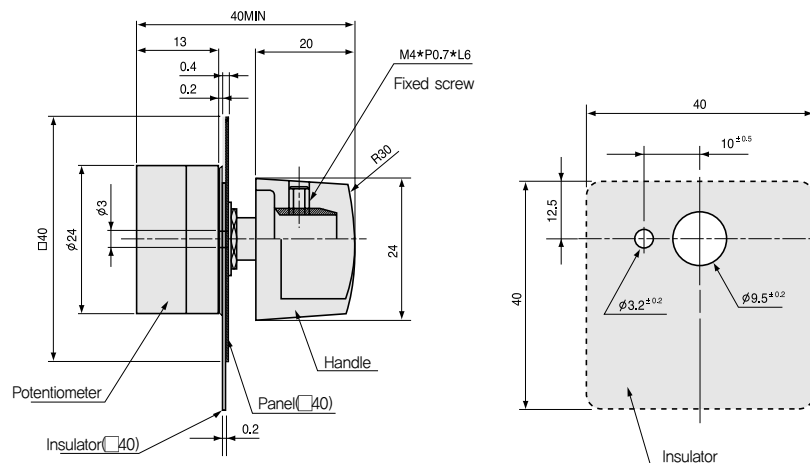
+ CONTROLLER



+ 11PIN SOCKET

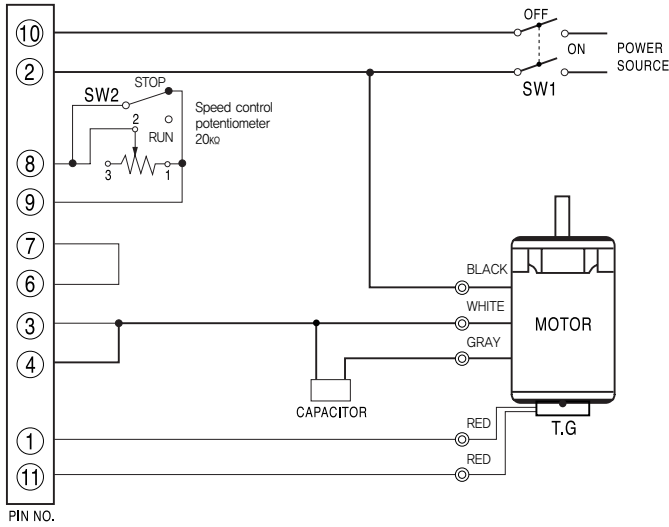


+ VARIABLE RESISTOR 20kΩ 1/4W



+ SCHEMATIC DIAGRAM (INDUCTION MOTOR)

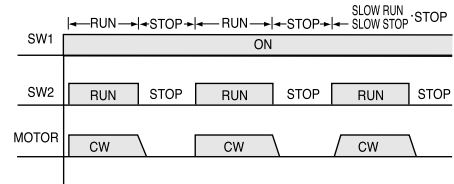
1-1 Uni Direction + Variable Speed (6W~90W)



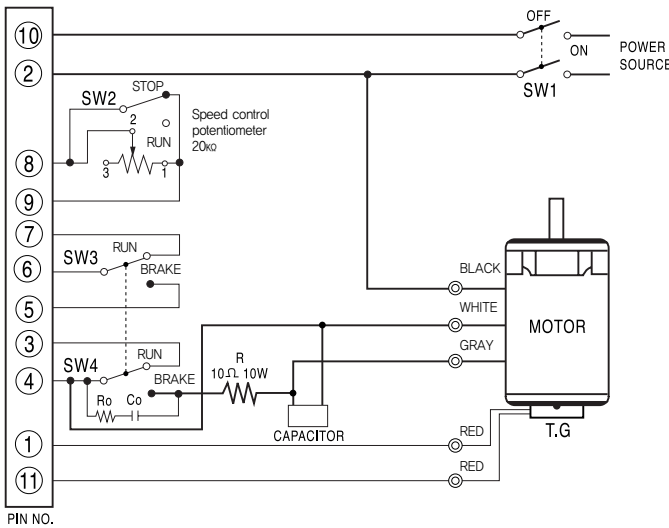
SW1	AC125V or AC 250V MIN, 5A
SW2	DC 20V 10mA

Note) 1. The motors, rotating direction is CW when viewed from output shaft.
When adjusting to CCW direction, exchange white wire to gray.
2. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 208 for the connection method.

◆ Example of operation



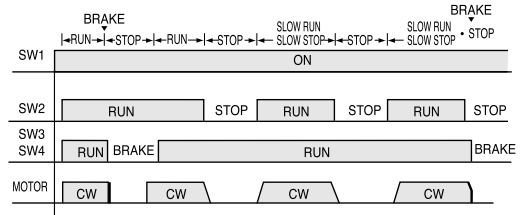
1-2 Uni Direction + Variable Speed + Brake (6W~25W)



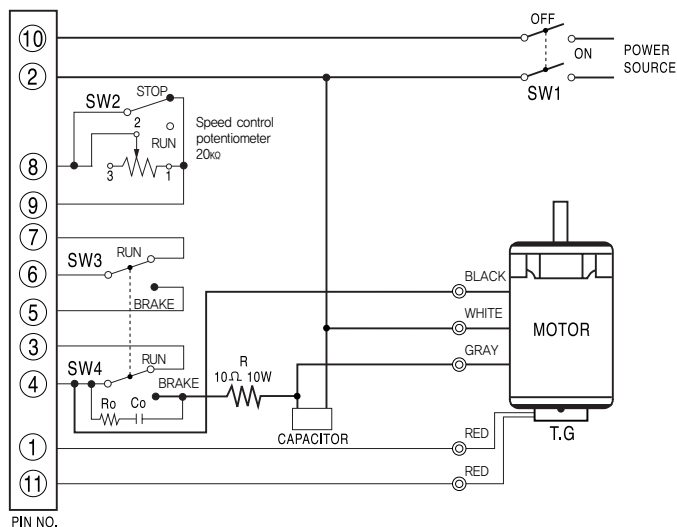
SW1,4	AC125V or AC 250V MIN, 5A
SW2,3	DC 20V 10mA
R _o , Co	R _o = 10~200Ω (MIN, 1/4W) Co = 0.1~0.2μF (AC 125VV, AC 250VV)
R : Braking external resistor	10Ω, MIN, 10W

Note) 1. The motor rotating direction is CW when viewed from output shaft
When adjusting to CCW direction, exchange white wire to gray.

◆ Example of operation

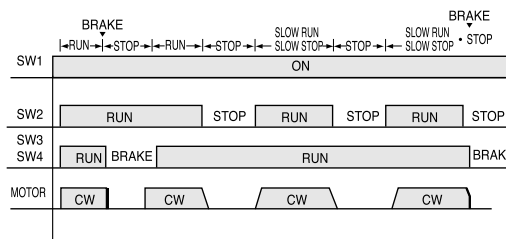


1-3 Uni Direction + Variable Speed + Brake (40W~90W)



SW1,4	AC125V or AC 250V	MIN. 5A
SW2,3	DC 20V	10mA
R ₀ , Co	R ₀ = 10~200Ω (MIN. 1/4W) Co = 0.1~0.2μF (AC 125WV, AC 250WV)	
R : Braking external resistor	10Ω, MIN. 10W	

◆ Example of operation



- Note) 1. The motor's rotating direction is CW when viewed from output shaft.
When adjusting to CCW direction, exchange white wire to gray.
2. The connection of a fan motor is applicable only if the output of the motor is greater than 60W and refer to page 208 for the connection method.

1-4 Instruction (INDUCTION MOTOR)

● Run/Stop function

If SW2 is switched to "RUN" as section 1-1,2,3, the motor will rotate per fixed speed set by external speed controller. When switched to "STOP" rotation will spontaneously stop by inertia force.

● Run/Brake function

If SW3 and SW4 is turned to stop while SW2 is on RUN condition, the brake will function for about 0.5 seconds and stop the motor instantaneously.

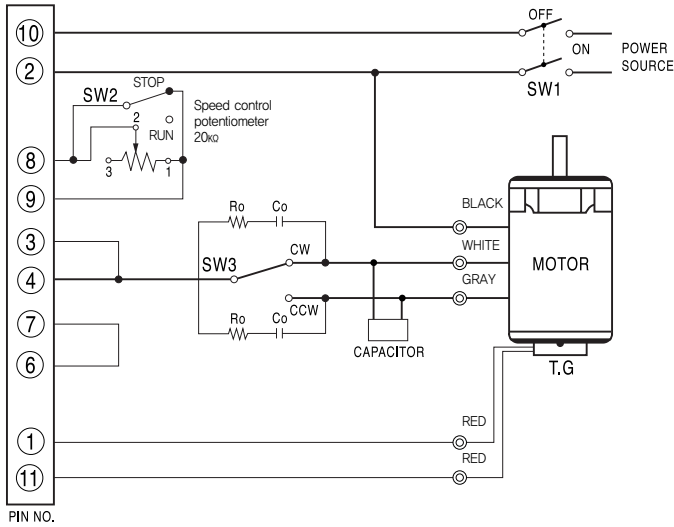
● Slow Run/Slow Stop function

- When SW2 is switched to Run/Stop after slow run, slow stop is set by the volume of controller, the motor will slowly start and slowly stop per set time.
- The speed of slow run and slow stop changes in rectilinearly against set time and the slope can be controlled within 0.5sec ~15sec/1200rpm.
- Slow stop cannot be set for shorter period than natural stopping period of motor.

※ Turn SW1 off to prevent control pack from generating heat when not used for a long period.

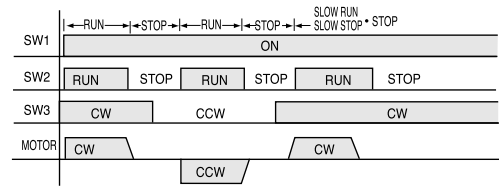
+ SCHEMATIC DIAGRAM (INDUCTION MOTOR)

2-1 Reverse + Variable Speed (6W~40W)

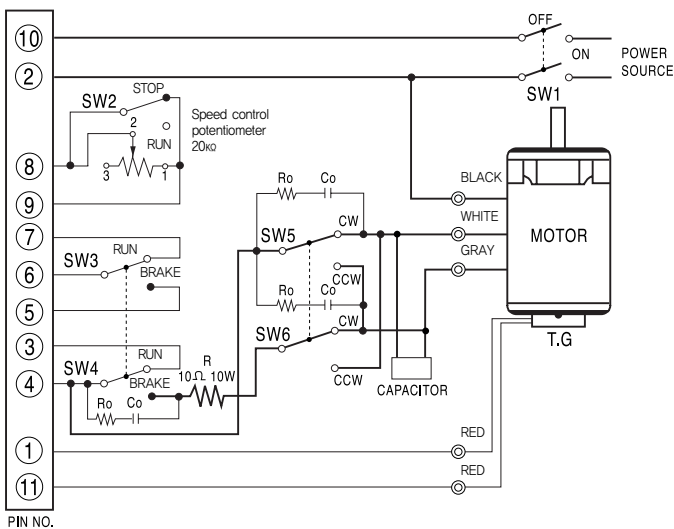


SW1,3	AC125V or AC 250V	MIN. 5A
SW2	DC 20V 10mA	
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC 125WV, AC 250WV)	

◆ Example of operation

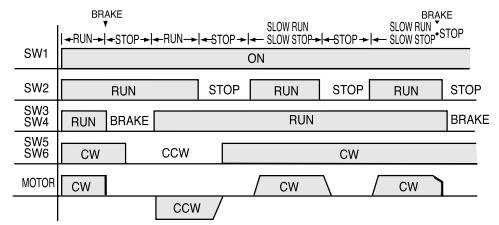


2-2 Reverse + Variable Speed + Brake (6W~25W)

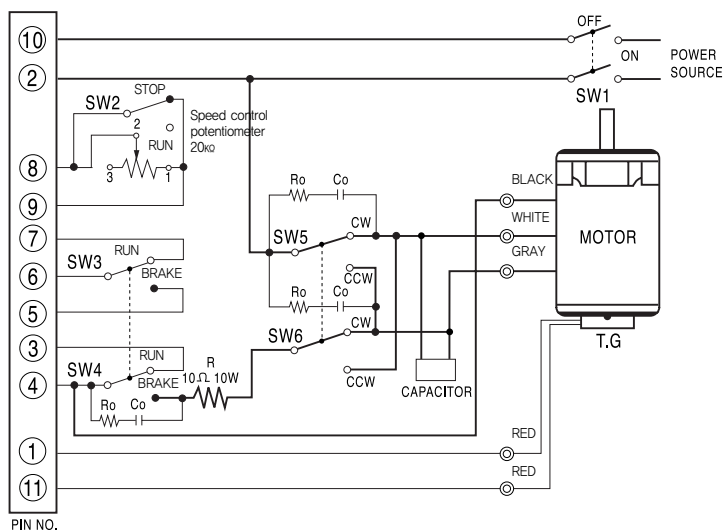


SW1,4,5,6	AC125V or AC 250V	MIN. 5A
SW2,3	DC 20V 10mA	
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC 125WV, AC 250WV)	
R : Braking external resistor	10Ω, MIN. 10W	

◆ Example of operation

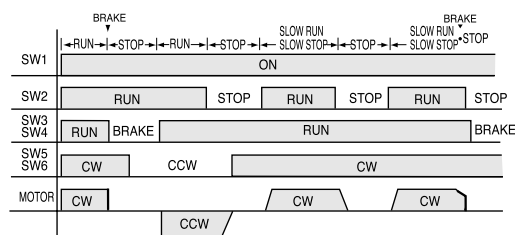


2-3 Reverse + Variable Speed + Brake (40W)



SW1,4,5,6	AC125V or AC 250V	MIN. 5A
SW2,3	DC 20V 10mA	
R ₀ ,C ₀	R ₀ = 10~200Ω (MIN. 1/4W) C ₀ = 0.1~0.2μF (AC 125WV, AC 250WV)	
R : Braking external resistor	10Ω, MIN. 10W	

◆ Example of operation



2-4 Instruction (INDUCTION MOTOR)

● Run/Stop function

If SW2 is switched to "RUN" as section 2-1,2,3, the motor will rotate per fixed speed set by external speed controller. When switched to "STOP" rotation will spontaneously stop by inertia force.

● Run/Brake function

If SW3 and SW4 is turned to stop while SW2 is on RUN condition, the brake will function for about 0.5 seconds and stop the motor instantaneously.

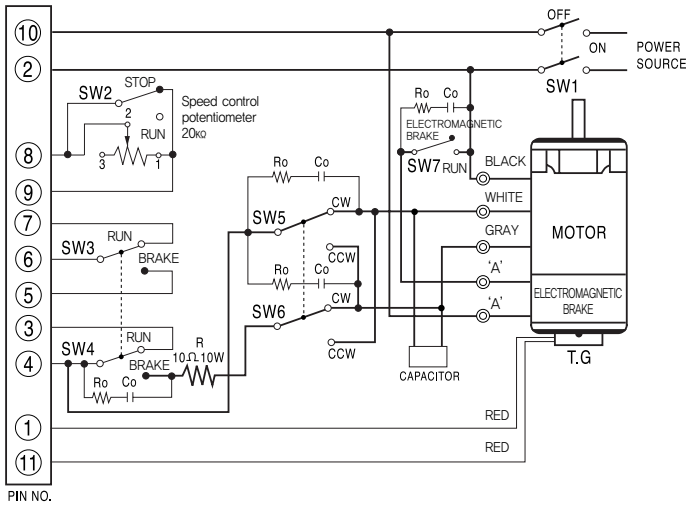
● Slow Run/Slow Stop function

- When SW2 is switched to Run/Stop after slow run, slow stop is set by the volume of controller, the motor will slowly start and slowly stop per set time.
- The speed of slow run and slow stop changes in rectilinearly against set time and the slope can be controlled within 0.5sec~15sec/1200rpm.
- Slow stop cannot be set for shorter period than natural stopping period of motor.

※ Turn SW1 off to prevent control pack from generating heat when not used for a long period.

+ SCHEMATIC DIAGRAM (E · S MOTOR)

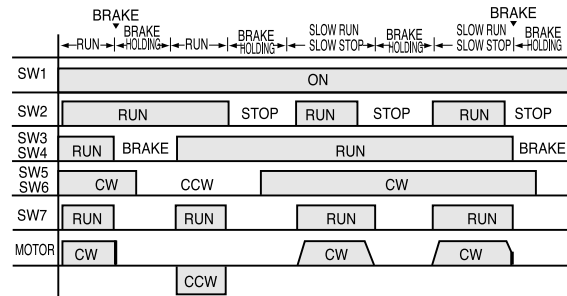
3-1 Reverse + Variable Speed (6W~40W)



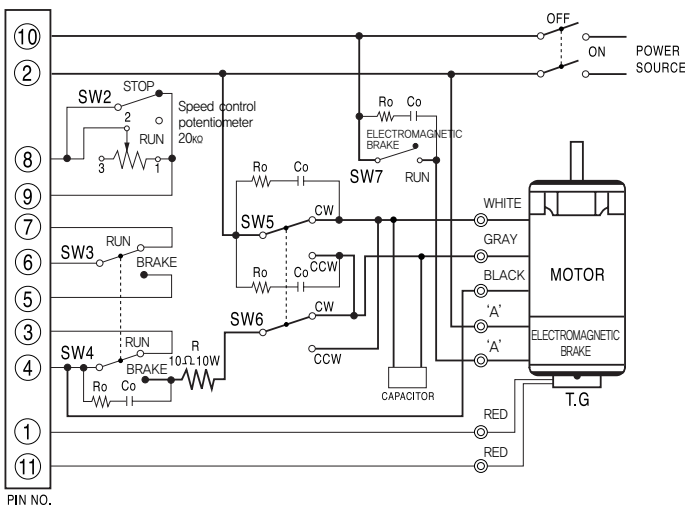
VOLTAGE	LEAD WIRE 'A'
SINGLE PHASE AC100V~110V	Blue
SINGLE PHASE AC200V~240V	Orange

SW1,4,5,6,7	AC125V or AC 250V	MIN. 5A
SW2,3	DC 20V	10mA
Ro,Co	Ro=10~200Ω (MIN. 1/4W) Co=0.1~0.2μF (AC125W, AC250W)	
R : Braking external resistor	10Ω, MIN. 10W	

◆ Example of operation



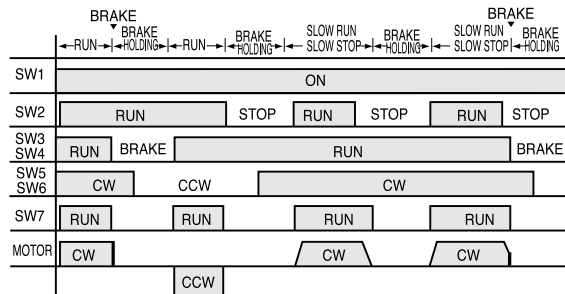
3-2 Reverse + Variable Speed + Brake (6W~25W)



VOLTAGE	LEAD WIRE 'A'
SINGLE PHASE AC100V~110V	Blue
SINGLE PHASE AC200V~240V	Orange

SW1,4,5,6,7	AC125V Or AC 250V	MIN. 5A
SW2,3	DC20V	10mA
Ro,Co	Ro = 10~200Ω (MIN. 1/4W) Co = 0.1~0.2μF (AC 125W, AC 250W)	
R : Braking external resistor	10Ω, MIN. 10W	

◆ Example of operation



3-3 Instruction (E · S MOTOR)

- **Run/Stop function**

If SW2 is switched to "RUN" as section 3-1,2,3, the motor will rotate per fixed speed set by external speed controller. When switched to "STOP" rotation will spontaneously stop by inertia force.

- **Run/Brake function**

If SW3 and SW4 is turned to stop while SW2 is on RUN condition, the brake will function for about 0.5 seconds and stop the motor instantaneously.

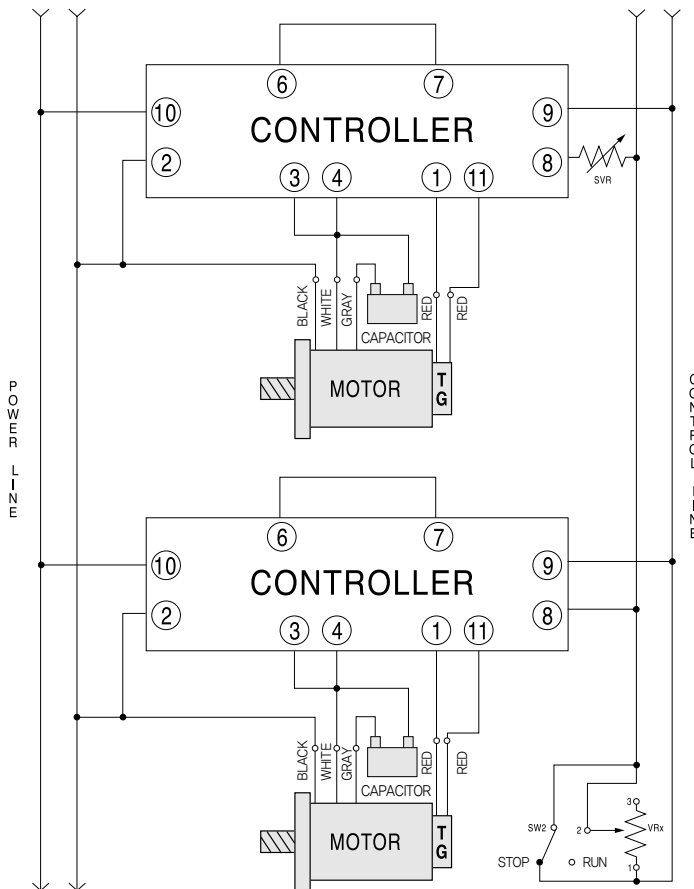
- **Slow Run/Slow Stop function**

- When SW2 is switched to Run/Stop after slow run, slow stop is set by the volume of controller, the motor will slowly start and slowly stop per set time.
 - The speed of slow run and slow stop changes in rectilinearly against set time and the slope can be controlled within 0.5sec~15sec/1200rpm.
 - Slow stop cannot be set for shorter period than natural stopping period of motor.
- ※Turn SW1 off to prevent control pack from generating heat when not used for a long period.

+ APPLICATION OF SCHEMATIC DIAGRAM

Parallel operation

SS TYPE high output controller can control speed of multiple motors using one variable resistor as per following diagram at same speed.



Usage(Parallel operation)

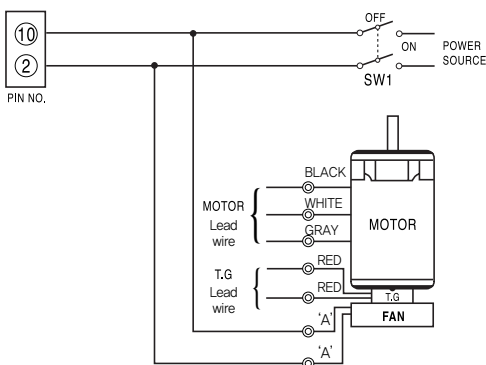
Connect power supply line(Terminal No. ②,⑩)& control line (Terminal No. ⑧, ⑨) for same line like the side wiring. In case of other motor and control pack, set power line and control line for parallel operation.

Warning

- Connect to correct pin numbers for power line and control line.
- The capacity of variable resistor for speed setting is calculated as follows.
 $VRX = 20/N \text{ k}\Omega$, $N/4W(N : \text{Quantity of motor})$
 eg) For 2EA of motors, it is $10\text{k}\Omega$ 1/2W
- Although every motor runs at almost the same speed, there could be slight error due to difference of load and variation of products. To prevent this phenomenon, prepare 5~10% of resistance and 1/4 capacity of $VR \times (\text{Variable resistance for speed setting})$ with SVR(Variable resistor for precise control) of terminal ⑧.

◀ For wiring of 220V~240V, 50Hz motor, change gray to brown.

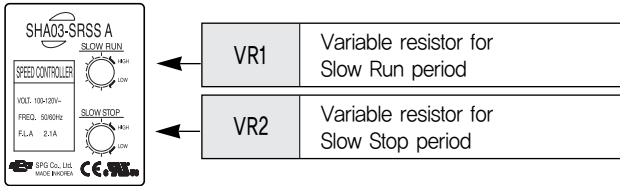
Box Fan Motor Connection



VOLTAGE	LEAD WIRE COLOR 'A'
SINGLE PHASE AC100V~110V	Brown
SINGLE PHASE AC200V~240V	Yellow

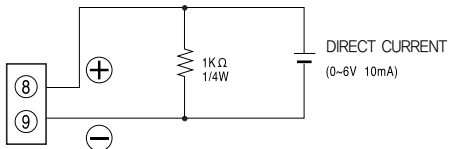
※ For the connection of something other than the box fan, refer to the electrical wiring diagram for the corresponding connection.

Panel



Speed control using external direct current

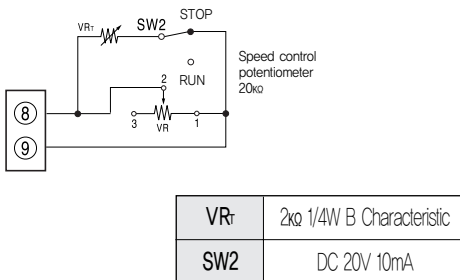
When speed is controlled by external direct current instead of supplied variable resistor for external speed setting, connect the wires of direct current with control pack as following diagram. (However, output of direct current has to be seperated and insulated with alternative current input and avoid changing polarity.)



〈The connection of speed control using external direct current〉

Increasing operating speed

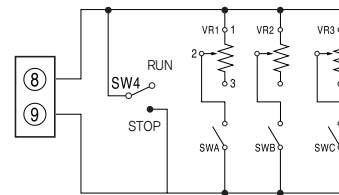
To quicken operating speed, as the set speed is decelerated, there are more delays to start rotations when switch is turned 'ON'. If this causes problems, please refer to following diagram and connect VRT (Variable resistor for operating time control)



- ※ For instantaneous stop, operate both RUN/BRAKE switch and RUN/STOP switch above.
- ※ Place RUN/STOP switch to stop and control VRT until motor starts.

Multistage speed conversion

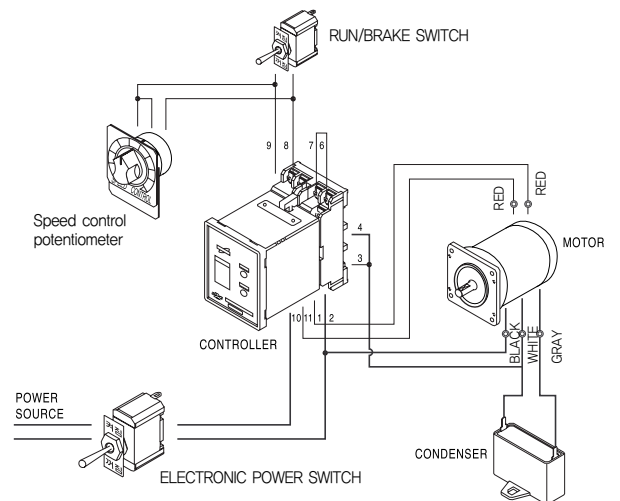
1. When multistage speed control is required, set each VR1, VR2 & VR3 and conversion is possible by using SWA, SWB, and SWC. Switch conversion time should be maintained similar to the operating time of relay operation.



VR1,2,3	20kΩ 1/4W B Characteristic
SW1,2,3,4	DC 20V 10mA

2. One external speed setting volume is included in a control pack. If additional external speed setting volume is required, please purchase SVR20KH.

Total system



1. Speed of motor can be controlled without steps by using variable speed resistor for external speed setting. Turn to (HIGH) for high speed, and (LOW) for low speed.
2. There are operating current flowing on thick line. Use cable with 0.75mm² for thick line and 0.5mm² for thin line.
3. For single-phase AC220V~240V 50Hz motors, change gray wire to brown.

PACK TYPE SPEED CONTROL MOTORS



Characteristics

- Variable speed conversion is possible using speed controller. (50Hz: 90~1400rpm, 60Hz: 90~1700rpm)
- Variable operation is possible such as speed conversion, braking, reversion. (Slow Run/Slow Stop is possible when SS type controller is used)
- Tacho Generator is installed to control feedback, so even when Hz changes, rpm remains the same.
- Applicable motors include Induction Motors, Reversible Motors, and Electromagnetic Brake Motors
- Motor capacity for induction motor is 6W~90W, reversible motor and electromagnetic brake motor is 6W~40W(6W~90W for SR type).

SPECIFICATIONS OF SOCKET TYPE SPEED CONTROL MOTORS

GENERAL Built-in thermal protector OF SPEED CONTROL MOTORS

ITEM	Specification
Insulation Resistance	100M Ω or more when 500V megger is applied between the windings and the housing after rated motor operation under normal ambient temperature and humidity
Dielectric Strength	Sufficient to withstand 1.5V at 50/60Hz applied between the windings and the case after rated motor operation under normal ambient temperature and humidity for 1min.
Temperature Rise	80°C or less increase measured by thermometer after rated operation, (less than 45°C for motors with fan)
Insulation Class	Class B(130°C)
Overheat Protection Device	THERMAL PROTECTOR 내장 (automatic return type) : Open 120°C \pm 5°C, Close 76°C \pm 15°C
Ambient Temperature	-10°C ~ +40°C
Ambient Humidity	85% maximum(non condensing)

SPEED CONTROL INDUCTION MOTORS

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6W INDUCTION SPEED CONTROL MOTOR

□ 60mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min		at 90 r/min		(kgf·cm)	(mN·m)				
					(kgf·cm)				(mN·m)	(kgf·cm)	(mN·m)							
SG6106GA-S12 SG6106DA-S12 SG6106SA-S12	SRA01-A	4	1	100	50	Cont. S1	0.22	90-1400	0.45	45	0.30	30	0.58	58	3.5 (250V)	IP23	B(130)	Z.P.
					60		0.20	90-1700	0.35	35	0.25	25	0.58	58				
			1	110	60		0.19	90-1700	0.35	35	0.25	25	0.50	50	2.5 (250V)			
					60		0.19	90-1700	0.35	35	0.25	25	0.50	50				
SG6106GB-S12 SG6106DB-S12 SG6106SB-S12	SRB01-B	4	1	200	50	Cont. S1	0.10	90-1400	0.45	45	0.30	30	0.52	52	0.8 (450V)	IP23	B(130)	Z.P.
					60		0.10	90-1700	0.35	35	0.25	25	0.52	52				
			1	220	50		0.12	90-1400	0.45	45	0.30	30	0.45	45	0.6 (450V)			
					60		0.09	90-1700	0.35	35	0.25	25	0.45	45				
			1	230	50		0.12	90-1400	0.45	45	0.30	30	0.52	52				
					60		0.09	90-1700	0.35	35	0.25	25	0.52	52				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min		at 90 r/min		(kgf·cm)	(mN·m)				
					(kgf·cm)				(mN·m)	(kgf·cm)	(mN·m)							
SG6106GA-S24 SG6106DA-S24 SG6106SA-S24	SSA01-SRSSA SHA03-SRSSA	4	1	100	50	Cont. S1	0.22	90-1400	0.45	45	0.30	30	0.58	58	3.5 (250V)	IP23	B(130)	Z.P.
					60		0.20	90-1700	0.35	35	0.25	25	0.58	58				
			1	110	60		0.19	90-1700	0.35	35	0.25	25	0.50	50	2.5 (250V)			
					60		0.19	90-1700	0.35	35	0.25	25	0.50	50				
SG6106GB-S24 SG6106DB-S24 SG6106SB-S24	SSB01-SRSSB SHB03-SRSSB	4	1	200	50	Cont. S1	0.10	90-1400	0.45	45	0.30	30	0.52	52	0.8 (450V)	IP23	B(130)	Z.P.
					60		0.10	90-1700	0.35	35	0.25	25	0.52	52				
			1	220	50		0.12	90-1400	0.45	45	0.30	30	0.45	45	0.6 (450V)			
					60		0.09	90-1700	0.35	35	0.25	25	0.45	45				
			1	230	50		0.12	90-1400	0.45	45	0.30	30	0.52	52				
					60		0.09	90-1700	0.35	35	0.25	25	0.52	52				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

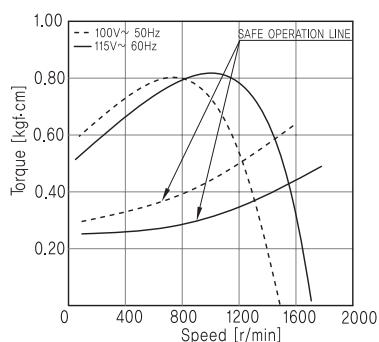
■ GEARED MOTOR – 50Hz

Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360	
Model	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8
SG6KA□	kgf·cm	2.10	2.50	3.11	3.73	4.14	5.20	6.21	7.50	8.30	10.4	11.9	14.2	15.8	19.8	23.7	29.7	35.6	39.6	47.5	55.9	60.0	60.0	60.0	60.0	60.0
SG6DA□	N·m	0.21	0.25	0.31	0.37	0.41	0.52	0.62	0.75	0.83	1.04	1.19	1.42	1.58	1.98	2.37	2.97	3.56	3.96	4.75	5.59	6.00	6.00	6.00	6.00	6.00
SG6SA□																										

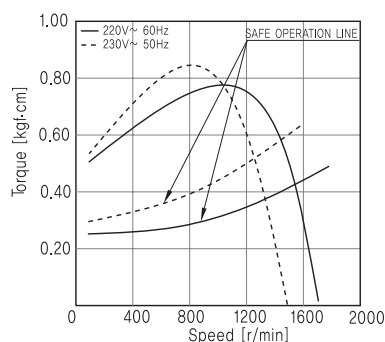
■ GEARED MOTOR – 60Hz

Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360	
Model	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7
SG6KA□	kgf·cm	1.71	2.10	2.60	3.10	3.42	4.30	5.13	6.20	6.84	8.60	9.80	11.8	13.1	16.3	19.6	24.5	29.4	32.7	39.2	46.2	55.4	60.0	60.0	60.0	60.0
SG6DA□	N·m	0.17	0.21	0.26	0.31	0.34	0.43	0.51	0.62	0.68	0.86	0.98	1.18	1.31	1.63	1.96	2.45	2.94	3.27	3.92	4.62	5.54	6.00	6.00	6.00	6.00
SG6SA□																										

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.



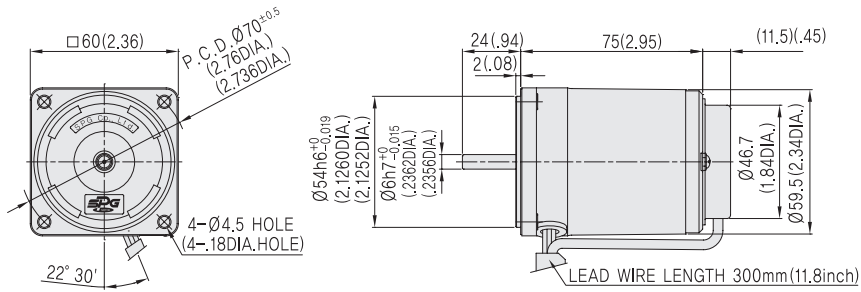
- ▶ SG6I06GA-S12 ▶ SG6I06GA-S24
- ▶ SG6I06DA-S12 ▶ SG6I06DA-S24
- ▶ SG6I06SA-S12 ▶ SG6I06SA-S24



- ▶ SG6I06GB-S12 ▶ SG6I06GB-S24
- ▶ SG6I06DB-S12 ▶ SG6I06DB-S24
- ▶ SG6I06SB-S12 ▶ SG6I06SB-S24

MOTOR

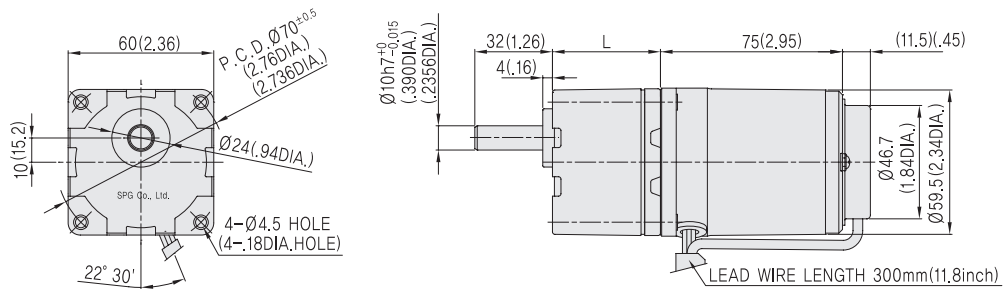
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG6I06G□-S12	SG6I06D□-S12	SG6I06S□-S12

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG6KA□	SG6DA□	SG6SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG6□A□	5~25	34	0.28
		30~120	38	0.33
		150~360	43	0.37
MOTOR	SG6I06□□-S12			0.76
	SG6I06□□-S24			0.76



15W INDUCTION SPEED CONTROL MOTOR

□ 70mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG7115GA-S12 SG7115DA-S12 SG7115SA-S12	SRA02-A	4	1	100	50	Cont. S1	0.37	90-1400	1.10	110	0.60	60	0.80	80	5.5 (250V)	IP23	B(130)	T.P.
				60	0.32		90-1700	0.90	90	0.50	50	0.80	80					
			1	110	60	0.32	90-1700	0.90	90	0.50	50	0.70	70	4.5 (250V)				
				115	60	0.32	90-1700	0.90	90	0.50	50	0.80	80					
SG7115GB-S12 SG7115DB-S12 SG7115SB-S12	SRB02-B	4	1	200	50	Cont. S1	0.18	90-1400	1.20	120	0.60	60	1.00	100	1.5 (450V)	IP23	B(130)	T.P.
				60	0.19		90-1700	0.90	90	0.50	50	1.00	100					
			1	220	50	0.18	90-1400	1.10	110	0.60	60	0.70	70	1.0 (450V)				
				60	0.15	90-1700	0.90	90	0.50	50	0.70	70						
			1	230	50	0.18	90-1400	1.10	110	0.60	60	0.80	80					
				60	0.15	90-1700	0.90	90	0.50	50	0.80	80						

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG7115GA-S24 SG7115DA-S24 SG7115SA-S24	SSA02-SRSSA SHA03-SRSSA	4	1	100	50	Cont. S1	0.37	90-1400	1.10	110	0.60	60	0.80	80	5.5 (250V)	IP23	B(130)	T.P.
				60	0.32		90-1700	0.90	90	0.50	50	0.80	80					
			1	110	60	0.32	90-1700	0.90	90	0.50	50	0.70	70	4.5 (250V)				
				115	60	0.32	90-1700	0.90	90	0.50	50	0.80	80					
SG7115GB-S24 SG7115DB-S24 SG7115SB-S24	SSB02-SRSSB SHB03-SRSSB	4	1	200	50	Cont. S1	0.18	90-1400	1.20	120	0.60	60	1.00	100	1.5 (450V)	IP23	B(130)	T.P.
				60	0.19		90-1700	0.90	90	0.50	50	1.00	100					
			1	220	50	0.18	90-1400	1.10	110	0.60	60	0.70	70	1.0 (450V)				
				60	0.15	90-1700	0.90	90	0.50	50	0.70	70						
			1	230	50	0.18	90-1400	1.10	110	0.60	60	0.80	80					
				60	0.15	90-1700	0.90	90	0.50	50	0.80	80						

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

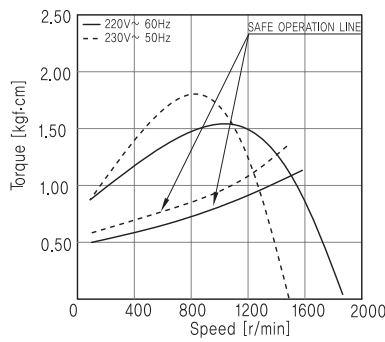
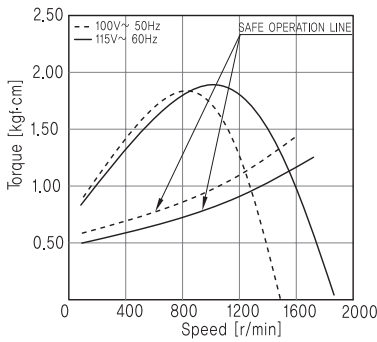
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	280	233	187	156	140	112	93,3	77,7	70,0	56,0	46,6	38,8	35,0	28,0	23,3	18,6	15,5	14,0	11,6	9,3	7,7	7,0	5,6	4,6	3,8
SG7KA □	kgf·cm	5,20	6,21	7,80	9,32	10,4	12,9	15,5	18,6	20,7	25,9	29,7	35,6	39,6	49,5	59,3	74,2	89,0	98,9	100	100	100	100	100	100	100
SG7DA □	N·m	0,52	0,62	0,78	0,93	1,04	1,29	1,55	1,86	2,07	2,59	2,97	3,56	3,96	4,95	5,93	7,42	8,90	9,89	10,0	10,0	10,0	10,0	10,0	10,0	10,0
SG7SA □																										

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	340	283	227	189	170	136	113	94,4	85,0	68,0	56,6	47,2	42,5	34,0	28,3	22,6	18,8	17,0	14,1	11,3	9,4	8,5	6,8	5,6	4,7
SG7KA □	kgf·cm	4,20	5,02	6,30	7,53	8,40	10,5	12,6	15,1	16,7	20,9	24,0	28,8	32,0	40,0	48,0	60,0	72,0	80,0	96,0	100	100	100	100	100	100
SG7DA □	N·m	0,42	0,50	0,63	0,75	0,84	1,05	1,26	1,51	1,67	2,09	2,40	2,88	3,20	4,00	4,80	6,00	7,20	8,00	9,60	10,0	10,0	10,0	10,0	10,0	10,0
SG7SA □																										

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min).
Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

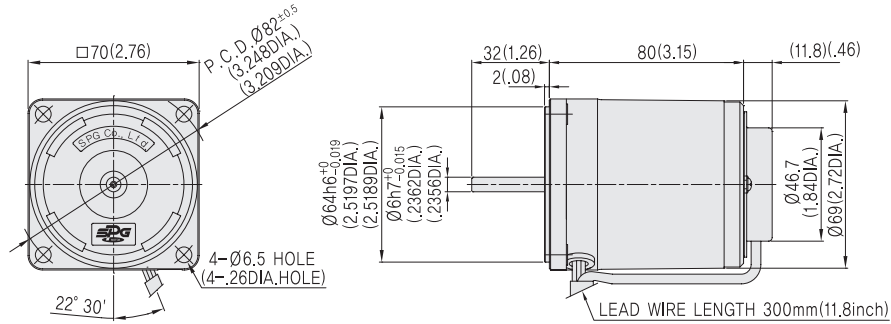


- ▶ SG715GA-S12 ▶ SG715GA-S24
- ▶ SG715DA-S12 ▶ SG715DA-S24
- ▶ SG715SA-S12 ▶ SG715SA-S24

- ▶ SG715GB-S12 ▶ SG715GB-S24
- ▶ SG715DB-S12 ▶ SG715DB-S24
- ▶ SG715SB-S12 ▶ SG715SB-S24

MOTOR

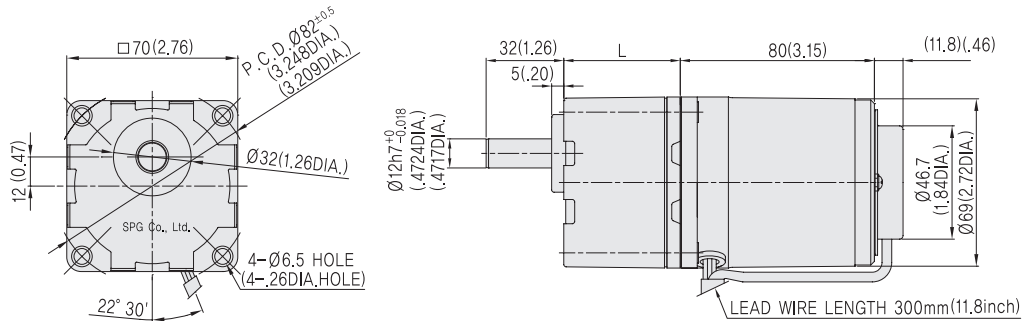
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG7I15G□-S12	SG7I15D□-S12	SG7I15S□-S12

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG7KA□	SG7DA□	SG7SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG7□□□	5~120	43	0.42
		150~360	48	0.52
MOTOR	SG7I15□□-S12			1.04
	SG7I15□□-S24			1.04



25W INDUCTION SPEED CONTROL MOTOR

□ 80mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	at 1200 r/min (mN·m)	at 90 r/min (kgf·cm)	at 90 r/min (mN·m)	(kgf·cm)	(mN·m)				
SG8125GA-S12	SRA02-A	4	1	100	50	Cont. S1	0.49	90-1400	1.90	190	1.00	100	1.80	0.18	8.0 (250V)	IP23	B(130)	T.P.
SG8125KA-S12				60	0.47		90-1700	1.50	150	0.80	80	1.70	0.17					
SG8125DA-S12			1	110	60	0.45	90-1700	1.50	150	0.80	80	1.60	0.16	6.5 (250V)				
SG8125SA-S12				115	60	0.45	90-1700	1.50	150	0.80	80	2.00	0.20					
SG8125GB-S12	SRB02-B	4	1	200	50	Cont. S1	0.24	90-1400	2.00	200	1.00	100	1.40	0.14	1.5 (450V)	IP23	B(130)	T.P.
SG8125KB-S12				60	0.24		90-1700	1.60	160	0.80	80	1.40	0.14					
SG8125DB-S12			1	220	50	0.23	90-1400	1.90	190	1.00	100	1.60	0.16	1.0 (450V)				
SG8125SB-S12					60	0.21	90-1700	1.50	150	0.80	80	1.60	0.16					
SG8125SB-S12			1	230	50	0.23	90-1400	1.90	190	1.00	100	1.70	0.17					
					60	0.21	90-1700	1.50	150	0.80	80	1.80	0.18					

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	at 1200 r/min (mN·m)	at 90 r/min (kgf·cm)	at 90 r/min (mN·m)	(kgf·cm)	(mN·m)				
SG8125GA-S24	SSA02-SRSSA	4	1	100	50	Cont. S1	0.49	90-1400	1.90	190	1.00	100	1.80	0.18	8.0 (250V)	IP23	B(130)	T.P.
SG8125KA-S24				60	0.47		90-1700	1.50	150	0.80	80	1.70	0.17					
SG8125DA-S24			1	110	60	0.45	90-1700	1.50	150	0.80	80	1.60	0.16	6.5 (250V)				
SG8125SA-S24	115	60		0.45	90-1700	1.50	150	0.80	80	2.00	0.20							
SG8125GB-S24	SSB02-SRSSB	4	1	200	50	Cont. S1	0.24	90-1400	2.00	200	1.00	100	1.40	0.14	1.5 (450V)	IP23	B(130)	T.P.
SG8125KB-S24				60	0.24		90-1700	1.60	160	0.80	80	1.40	0.14					
SG8125DB-S24			1	220	50	0.23	90-1400	1.90	190	1.00	100	1.60	0.16	1.0 (450V)				
SG8125SB-S24					60	0.21	90-1700	1.50	150	0.80	80	1.60	0.16					
SG8125SB-S24			1	230	50	0.23	90-1400	1.90	190	1.00	100	1.70	0.17					
					60	0.21	90-1700	1.50	150	0.80	80	1.80	0.18					

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

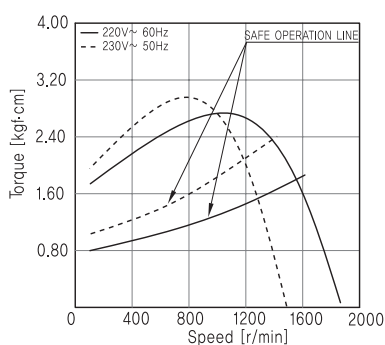
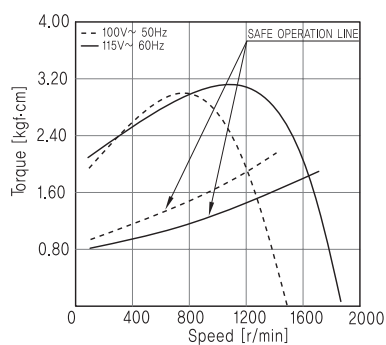
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8
SG8KA □	kgf·cm	8.90	10.7	13.4	16.0	17.8	22.3	26.7	32.1	35.6	44.6	51.1	61.3	68.1	85.1	102	128	153	160	160	160	160	160	160	160	160
SG8DA □	N·m	0.89	1.07	1.34	1.60	1.78	2.23	2.67	3.21	3.56	4.46	5.11	6.13	6.81	8.51	10.2	12.8	15.3	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
SG8SA □																										

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7
SG8KA □	kgf·cm	7.30	8.80	10.9	13.1	14.6	18.2	21.9	26.2	29.2	36.5	41.8	50.2	55.7	69.7	83.6	105	125	139	160	160	160	160	160	160	160
SG8DA □	N·m	0.73	0.88	1.09	1.31	1.46	1.82	2.19	2.62	2.92	3.65	4.18	5.02	5.57	6.97	8.36	10.5	12.5	13.9	16.0	16.0	16.0	16.0	16.0	16.0	16.0
SG8SA □																										

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

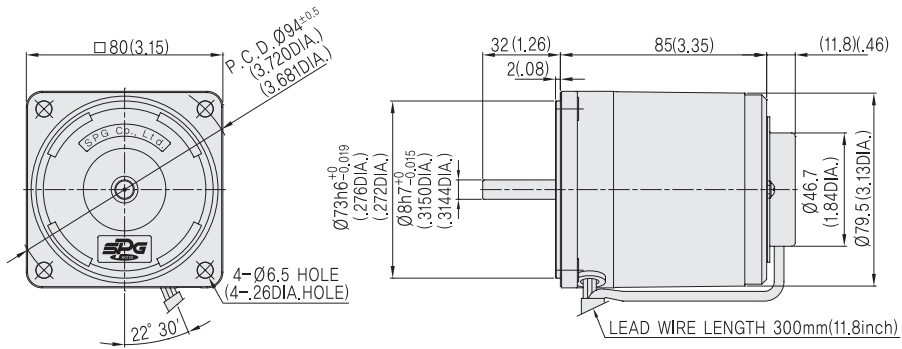


- ▶ SG8I25GA-S12 ▶ SG8I25GA-S24
- ▶ SG8I25KA-S12 ▶ SG8I25KA-S24
- ▶ SG8I25DA-S12 ▶ SG8I25DA-S24
- ▶ SG8I25SA-S12 ▶ SG8I25SA-S24

- ▶ SG8I25GB-S12 ▶ SG8I25GB-S24
- ▶ SG8I25KB-S12 ▶ SG8I25KB-S24
- ▶ SG8I25DB-S12 ▶ SG8I25DB-S24
- ▶ SG8I25SB-S12 ▶ SG8I25SB-S24

MOTOR

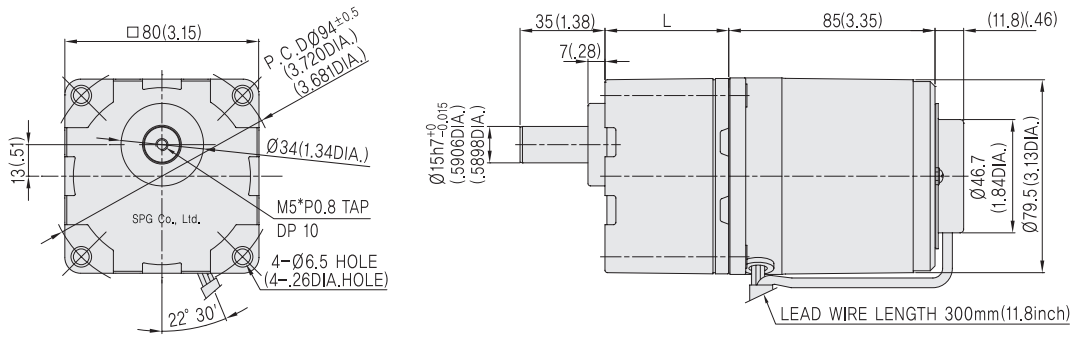
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG8I25G□-S	SG8I25K□-S	SG8I25D□-S	SG8I25S□-S

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG8KA□	SG8DA□	SG8SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG8□A□	5~25	41	0.61
		30~120	46	0.72
		150~360	51	0.80
MOTOR	SG8I25□□-S12			1.60
	SG8I25□□-S24			1.60



40W INDUCTION SPEED CONTROL MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	at 1200 r/min (mN·m)	at 90 r/min (kgf·cm)	at 90 r/min (mN·m)	(kgf·cm)	(mN·m)				
SG9I40GA-S12	SRA02-A	4	1	100	50	Cont. S1	0.70	90-1400	3.00	0.30	1.20	0.12	2.20	0.22	11.0 (250V)	IP23	B(130)	T.P.
SG9I40KA-S12					60		0.71	90-1700	2.40	0.24	1.00	0.10	2.30	0.23				
SG9I40DA-S12			1	115	60		0.63	90-1700	2.40	0.24	1.00	0.10	2.10	0.21	9.0 (250V)			
SG9I40SA-S12					60		0.61	90-1700	2.30	0.23	1.00	0.10	2.60	0.26				
SG9I40GB-S12	SRB02-B	4	1	200	50	Cont. S1	0.34	90-1400	2.90	0.29	1.20	0.12	2.70	0.27	3.0 (450V)	IP23	B(130)	T.P.
SG9I40KB-S12					60		0.38	90-1700	2.40	0.24	1.00	0.10	2.90	0.29				
SG9I40DB-S12			1	220	50		0.35	90-1400	2.90	0.29	1.20	0.12	2.40	0.24	2.3 (450V)			
SG9I40SB-S12					60		0.30	90-1700	2.40	0.24	1.00	0.10	2.40	0.24				
			1	230	50		0.35	90-1400	2.90	0.29	1.20	0.12	2.40	0.24				
					60		0.30	90-1700	2.40	0.24	1.00	0.10	2.80	0.28				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	at 1200 r/min (mN·m)	at 90 r/min (kgf·cm)	at 90 r/min (mN·m)	(kgf·cm)	(mN·m)				
SG9I40GA-S24	SSA02-SRSSA	4	1	100	50	Cont. S1	0.70	90-1400	3.00	0.30	1.20	0.12	2.20	0.22	11.0 (250V)	IP23	B(130)	T.P.
SG9I40KA-S24					60		0.71	90-1700	2.40	0.24	1.00	0.10	2.30	0.23				
SG9I40DA-S24			1	115	60		0.63	90-1700	2.40	0.24	1.00	0.10	2.10	0.21	9.0 (250V)			
SG9I40SA-S24					60		0.61	90-1700	2.30	0.23	1.00	0.10	2.60	0.26				
SG9I40GB-S24	SSB02-SRSSB	4	1	200	50	Cont. S1	0.34	90-1400	2.90	0.29	1.20	0.12	2.70	0.27	3.0 (450V)	IP23	B(130)	T.P.
SG9I40KB-S24					60		0.38	90-1700	2.40	0.24	1.00	0.10	2.90	0.29				
SG9I40DB-S24			1	220	50		0.35	90-1400	2.90	0.29	1.20	0.12	2.40	0.24	2.3 (450V)			
SG9I40SB-S24					60		0.30	90-1700	2.40	0.24	1.00	0.10	2.40	0.24				
			1	230	50		0.35	90-1400	2.90	0.29	1.20	0.12	2.40	0.24				
					60		0.30	90-1700	2.40	0.24	1.00	0.10	2.80	0.28				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

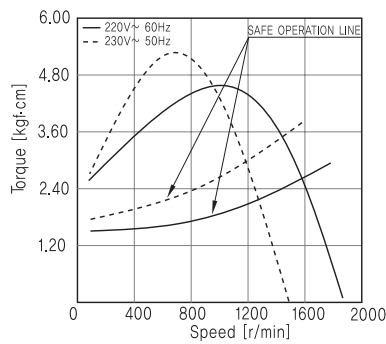
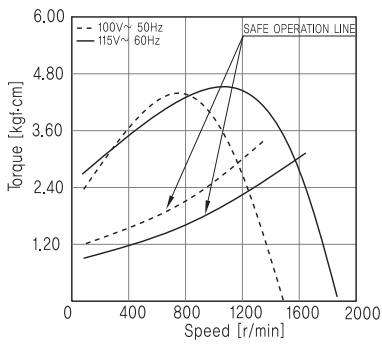
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6
SG9KB□	kgf·cm	13.4	16.1	20.1	24.1	26.8	33.5	40.2	48.3	51.3	64.1	76.9	92.3	103	128	154	192	231	256	290	300	300	300	300	300
SG9DB□	N·m	1.34	1.61	2.01	2.41	2.68	3.35	4.02	4.83	5.13	6.41	7.69	9.23	10.3	12.8	15.4	19.2	23.1	25.6	29.0	30.0	30.0	30.0	30.0	30.0
SG9SB□																									

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6
SG9KB□	kgf·cm	10.9	13.1	16.3	19.6	21.8	27.2	32.7	39.2	41.6	52.0	62.4	74.9	83.2	104	125	156	187	208	235	294	300	300	300	300
SG9DB□	N·m	1.09	1.31	1.63	1.96	2.18	2.72	3.27	3.92	4.16	5.20	6.24	7.49	8.32	10.4	12.5	15.6	18.7	20.8	23.5	29.4	30.0	30.0	30.0	30.0
SG9SB□																									

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of □, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

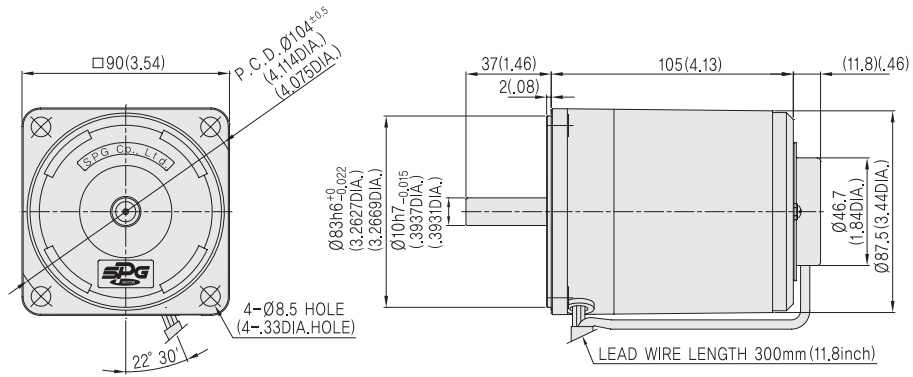


- ▶ SG9I40GA-S12 ▶ SG9I40GA-S24
- ▶ SG9I40KA-S12 ▶ SG9I40KA-S24
- ▶ SG9I40DA-S12 ▶ SG9I40DA-S24
- ▶ SG9I40SA-S12 ▶ SG9I40SA-S24

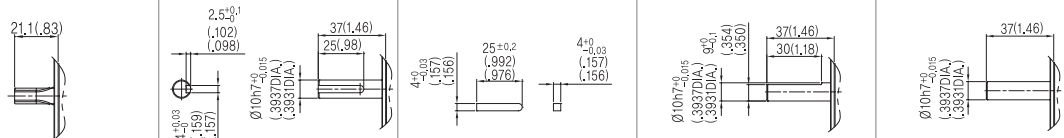
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- ▶ SG9I40KB-S12 ▶ SG9I40KB-S24
- ▶ SG9I40DB-S12 ▶ SG9I40DB-S24
- ▶ SG9I40SB-S12 ▶ SG9I40SB-S24

MOTOR

Unit : mm(inch)

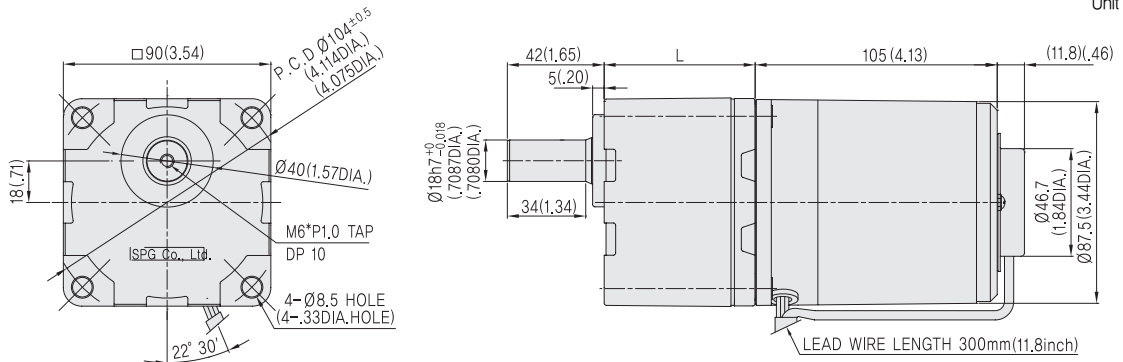


MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9I40G□-S12	SG9I40K□-S12	SG9I40D□-S12	SG9I40S□-S12

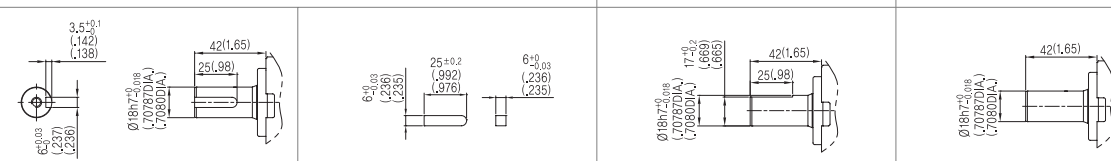


GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9KB□	SG9DB□	SG9SB□



MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□B□	5~20	45	0.85
		25~100	58	1.15
		120~300	64	1.30
MOTOR	SG9I40□□-S12			2.42
	SG9I40□□-S24			2.42



60W INDUCTION SPEED CONTROL MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG9160GA-S12	SRA02-A	4	1	100	50	Cont. S1	1.03	90-1400	4.40	0.44	1.80	0.18	4.10	0.41	20.0 (250V)	IP23	B(130)	T.P.
SG9160KA-S12					60		1.17	90-1700	3.60	0.36	1.50	0.15	4.30	0.43				
SG9160DA-S12			1	110	60	1.08	90-1700	3.50	0.35	1.40	0.14	4.60	0.46	18.0 (250V)				
SG9160SA-S12					60	1.08	90-1700	3.50	0.35	1.40	0.14	5.30	0.53					
SG9160GB-S12	SRB02-B	4	1	200	50	Cont. S1	0.52	90-1400	4.30	0.43	1.80	0.18	4.50	0.45	5.0 (450V)	IP23	B(130)	T.P.
SG9160KB-S12					60		0.60	90-1700	3.60	0.36	1.50	0.15	4.80	0.48				
SG9160DB-S12			1	220	50	0.54	90-1400	4.30	0.43	1.80	0.18	4.50	0.45	4.0 (450V)				
					60	0.48	90-1700	3.50	0.35	1.40	0.14	4.50	0.45					
SG9160SB-S12			1	230	50	0.58	90-1400	4.30	0.43	1.80	0.18	4.90	0.49	4.0 (450V)				
					60	0.48	90-1700	3.50	0.35	1.40	0.14	4.80	0.48					

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG9160GA-S24	SSA02-SRSSA SHA03-SRSSA	4	1	100	50	Cont. S1	1.03	90-1400	4.40	0.44	1.80	0.18	4.10	0.41	20.0 (250V)	IP23	B(130)	T.P.
SG9160KA-S24					60		1.17	90-1700	3.60	0.36	1.50	0.15	4.30	0.43				
SG9160DA-S24			1	110	60	1.08	90-1700	3.50	0.35	1.40	0.14	4.60	0.46	18.0 (250V)				
SG9160SA-S24					60	1.08	90-1700	3.50	0.35	1.40	0.14	5.30	0.53					
SG9160GB-S24	SSB02-SRSSB SHB03-SRSSB	4	1	200	50	Cont. S1	0.52	90-1400	4.30	0.43	1.80	0.18	4.50	0.45	5.0 (450V)	IP23	B(130)	T.P.
SG9160KB-S24					60		0.60	90-1700	3.60	0.36	1.50	0.15	4.80	0.48				
SG9160DB-S24			1	220	50	0.54	90-1400	4.30	0.43	1.80	0.18	4.50	0.45	4.0 (450V)				
					60	0.48	90-1700	3.50	0.35	1.40	0.14	4.50	0.45					
SG9160SB-S24			1	230	50	0.58	90-1400	4.30	0.43	1.80	0.18	4.90	0.49	4.0 (450V)				
					60	0.48	90-1700	3.50	0.35	1.40	0.14	4.80	0.48					

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

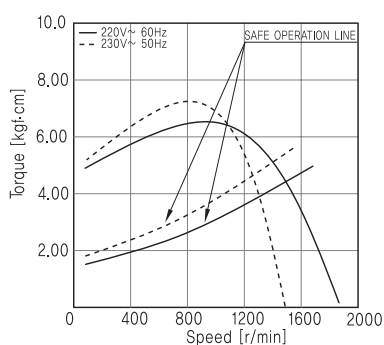
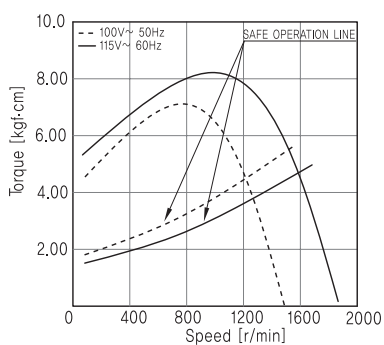
■ GEARED MOTOR – 50Hz

Ratio		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
Model	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6
	kgf-cm	19.7	23.7	29.6	35.5	39.4	49.3	59.1	71.0	75.3	94.2	113	136	151	188	226	283	300	300	300	300	300	300	300	300
SG9KB□	N-m	1.97	2.37	2.96	3.55	3.94	4.93	5.91	7.10	7.53	9.42	11.3	13.6	15.1	18.8	22.6	28.3	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
SG9DB□		1.97	2.37	2.96	3.55	3.94	4.93	5.91	7.10	7.53	9.42	11.3	13.6	15.1	18.8	22.6	28.3	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
SG9SB□		1.97	2.37	2.96	3.55	3.94	4.93	5.91	7.10	7.53	9.42	11.3	13.6	15.1	18.8	22.6	28.3	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

■ GEARED MOTOR – 60Hz

Ratio		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
Model	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6
	kgf-cm	16.5	19.8	24.8	29.7	33.0	41.3	49.6	59.5	63.1	78.9	94.7	114	126	158	189	237	284	300	300	300	300	300	300	300
SG9KB□	N-m	1.65	1.98	2.48	2.97	3.30	4.13	4.96	5.95	6.31	7.89	9.47	11.4	12.6	15.8	18.9	23.7	28.4	30.0	30.0	30.0	30.0	30.0	30.0	30.0
SG9DB□		1.65	1.98	2.48	2.97	3.30	4.13	4.96	5.95	6.31	7.89	9.47	11.4	12.6	15.8	18.9	23.7	28.4	30.0	30.0	30.0	30.0	30.0	30.0	30.0
SG9SB□		1.65	1.98	2.48	2.97	3.30	4.13	4.96	5.95	6.31	7.89	9.47	11.4	12.6	15.8	18.9	23.7	28.4	30.0	30.0	30.0	30.0	30.0	30.0	30.0

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min).
Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

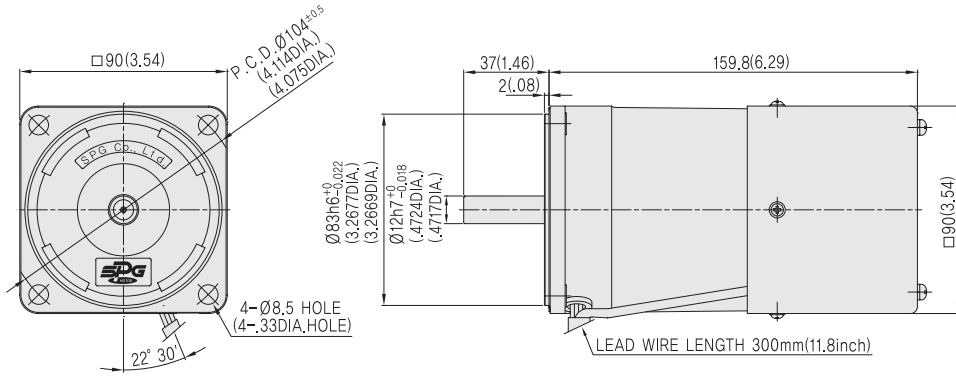


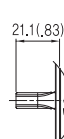
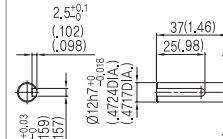
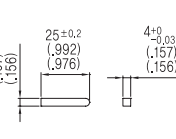
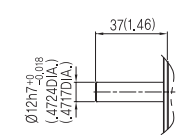
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- ▶ SG9I60DA-S12 ▶ SG9I60DA-S24
- ▶ SG9I60SA-S12 ▶ SG9I60SA-S24

- ▶ SG9I60GB-S12 ▶ SG9I60GB-S24
- ▶ SG9I60KB-S12 ▶ SG9I60KB-S24
- ▶ SG9I60DB-S12 ▶ SG9I60DB-S24
- ▶ SG9I60SB-S12 ▶ SG9I60SB-S24

MOTOR

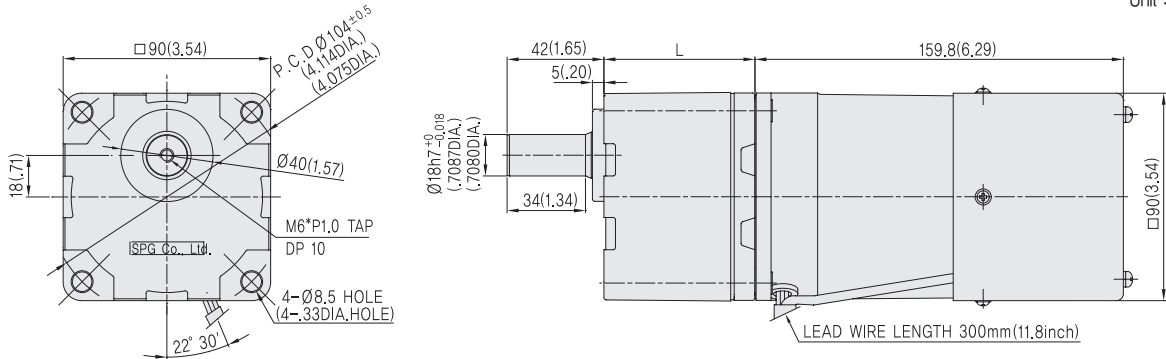
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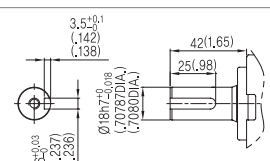
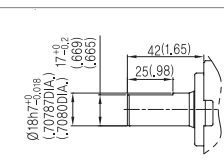
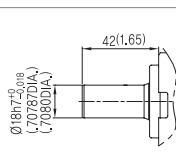


MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9I60G□-S12	SG9I60K□-S12	SG9I60D□-S12	SG9I60S□-S12
				

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9KB□	SG9DB□	SG9SB□
			

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□B□	5~20	45	0.85
		25~100	58	1.15
		120~300	64	1.30
MOTOR	SG9I60□□-S12			2.93
	SG9I60□□-S24			2.93



90W INDUCTION SPEED CONTROL MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm) (mN·m)	at 90 r/min (kgf·cm) (mN·m)	(kgf·cm)	(mN·m)						
SG9I90GA-S12	SRA02-A	4	1	100	50	Cont. S1	1.46	90-1400	6.50	0.65	2.60	0.26	4.70	0.47	28.0 (250V)	IP23	B(130)	T.P.
SG9I90KA-S12					60		1.78	90-1700	5.30	0.53	2.20	0.22	5.10	0.51				
SG9I90DA-S12			1	110	60		1.29	90-1700	5.30	0.53	2.20	0.22	4.60	0.46	20.0 (250V)			
SG9I90SA-S12				115	60		1.26	90-1700	5.20	0.52	2.10	0.21	5.20	0.52				
SG9I90GB-S12	SRB02-B	4	1	200	50	Cont. S1	0.74	90-1400	6.50	0.65	2.60	0.26	5.70	0.57	7.0 (450V)	IP23	B(130)	T.P.
SG9I90KB-S12					60		0.92	90-1700	5.30	0.53	2.20	0.22	5.90	0.59				
SG9I90DB-S12			1	220	50		0.67	90-1400	6.40	0.64	2.60	0.26	5.90	0.59	6.0 (450V)			
					60		0.79	90-1700	5.20	0.52	2.10	0.21	6.10	0.61				
SG9I90SB-S12			1	230	50		0.68	90-1400	6.30	0.63	2.60	0.26	7.00	0.70				
					60		0.78	90-1700	5.20	0.52	2.10	0.21	6.40	0.64				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm) (mN·m)	at 90 r/min (kgf·cm) (mN·m)	(kgf·cm)	(mN·m)						
SG9I90GA-S24	SSA02-SRSSA	4	1	100	50	Cont. S1	1.46	90-1400	6.50	0.65	2.60	0.26	4.70	0.47	28.0 (250V)	IP23	B(130)	T.P.
SG9I90KA-S24					60		1.78	90-1700	5.30	0.53	2.20	0.22	5.10	0.51				
SG9I90DA-S24			1	110	60		1.29	90-1700	5.30	0.53	2.20	0.22	4.60	0.46	20.0 (250V)			
SG9I90SA-S24	115	60		1.26	90-1700	5.20	0.52	2.10	0.21	5.20	0.52							
SG9I90GB-S24	SSB02-SRSSB	4	1	200	50	Cont. S1	0.74	90-1400	6.50	0.65	2.60	0.26	5.70	0.57	7.0 (450V)	IP23	B(130)	T.P.
SG9I90KB-S24					60		0.92	90-1700	5.30	0.53	2.20	0.22	5.90	0.59				
SG9I90DB-S24			1	220	50		0.67	90-1400	6.40	0.64	2.60	0.26	5.90	0.59	6.0 (450V)			
					60		0.79	90-1700	5.20	0.52	2.10	0.21	6.10	0.61				
SG9I90SB-S24			1	230	50		0.68	90-1400	6.30	0.63	2.60	0.26	7.00	0.70				
					60		0.78	90-1700	5.20	0.52	2.10	0.21	6.40	0.64				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

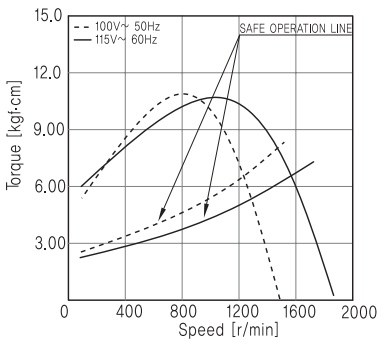
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	
SG9KC <input type="checkbox"/>	kgf-cm	31.1	37.3	46.6	56.0	62.2	77.7	93.3	107	119	149	178	214	238	297	357	400	400	400	400	400	400	400	400
SG9DC <input type="checkbox"/>	N-m	3.11	3.73	4.66	5.60	6.22	7.77	9.33	10.7	11.9	14.9	17.8	21.4	23.8	29.7	35.7	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
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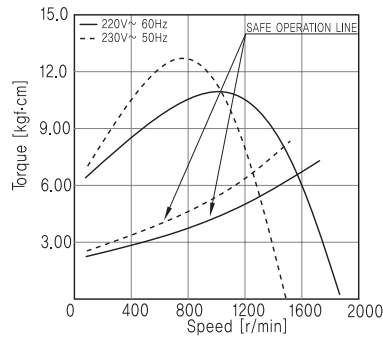
■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	
SG9KC <input type="checkbox"/>	kgf-cm	25.7	30.8	38.5	46.2	51.3	64.1	77.0	88.2	98.0	123	147	177	196	245	294	346	400	400	400	400	400	400	400
SG9DC <input type="checkbox"/>	N-m	2.57	3.08	3.85	4.62	5.13	6.41	7.70	8.82	9.80	12.3	14.7	17.7	19.6	24.5	29.4	34.6	40.0	40.0	40.0	40.0	40.0	40.0	40.0
SG9SC <input type="checkbox"/>																								

- ❖ Among GEAR HEAD model names, is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of , its reduction gear ratio has same direction with MOTOR's and in case of , its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.



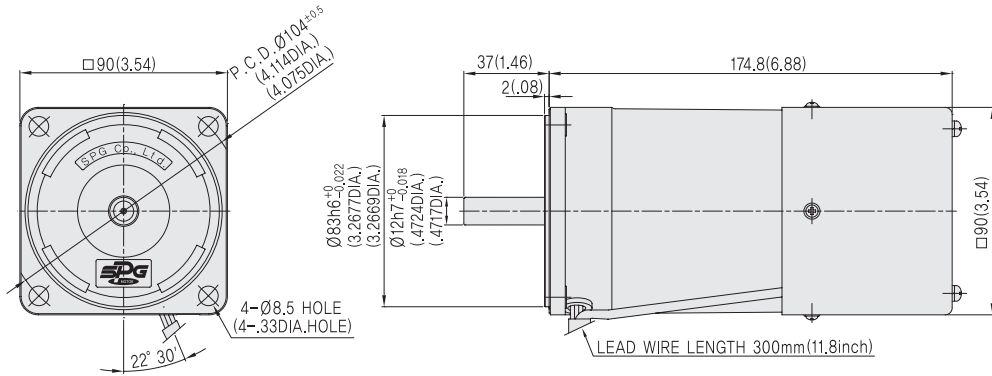
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- ▶ SG9I90DA-S12 ▶ SG9I90DA-S24
- ▶ SG9I90SA-S12 ▶ SG9I90SA-S24



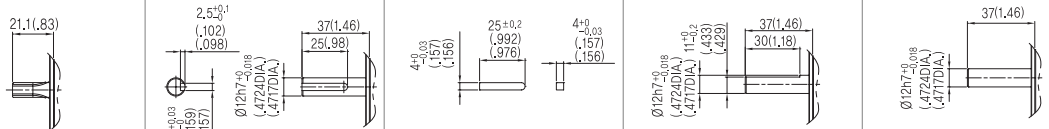
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- ▶ SG9I90DB-S12 ▶ SG9I90DB-S24
- ▶ SG9I90SB-S12 ▶ SG9I90SB-S24

MOTOR

Unit : mm(inch)

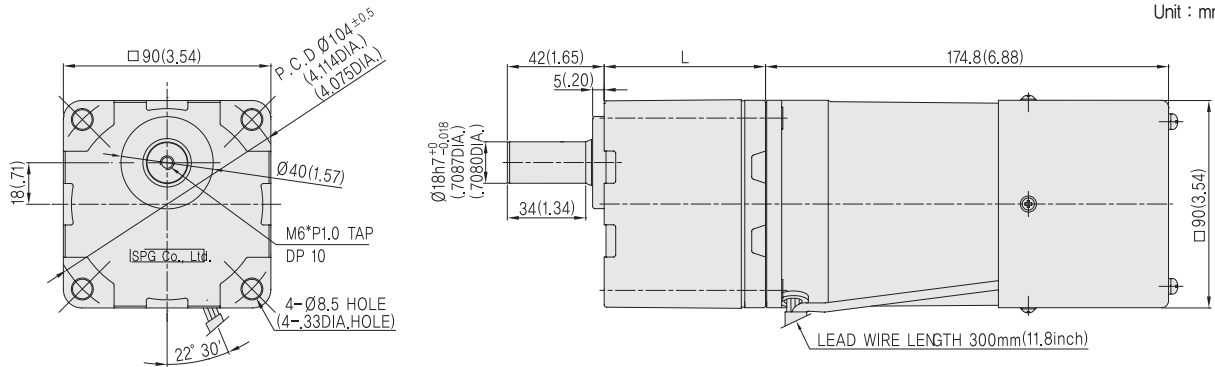


MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9190G□-S12	SG9190K□-S12	SG9190D□-S12	SG9190S□-S12

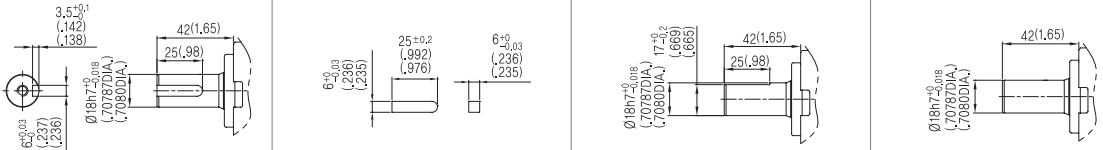


GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9KC□	SG9DC□	SG9SC□



MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□□□	5~15	45	0.85
		18~36	58	1.15
		50~180	70	1.42
MOTOR	SG9190□□-S12			3.53
	SG9190□□-S24			3.53



SPEED CONTROL REVERSIBLE MOTORS

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6W REVERSIBLE SPEED CONTROL MOTOR

□ 60mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG6R06GA-S12 SG6R06DA-S12 SG6R06SA-S12	SRA01-A	4	1	100	50	S2(30min)	0.25	90-1400	0.46	46	0.30	30	0.68	68	4.5 (250V)	IP23	B(130)	Z.P.
				60	0.30		90-1700	0.38	38	0.27	27	0.68	68					
			1	110	60	0.25	90-1700	0.37	37	0.26	26	0.68	68	3.5 (250V)				
				115	60	0.25	90-1700	0.37	37	0.26	26	0.68	68					
SG6R06GB-S12 SG6R06DB-S12 SG6R06SB-S12	SRB01-B	4	1	200	50	S2(30min)	0.12	90-1400	0.46	46	0.30	30	0.54	54	1.0 (450V)	IP23	B(130)	Z.P.
				60	0.12		90-1700	0.37	37	0.26	26	0.54	54					
			1	220	50	0.12	90-1400	0.46	46	0.30	30	0.50	50	0.8 (450V)				
					60	0.12	90-1700	0.37	37	0.26	26	0.50	50					
			1	230	50	0.12	90-1400	0.45	45	0.30	30	0.58	58					
					60	0.12	90-1700	0.37	37	0.26	26	0.58	58					

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG6R06GA-S24 SG6R06DA-S24 SG6R06SA-S24	SSA01-SRSSA SHA03-SRSSA	4	1	100	50	S2(30min)	0.25	90-1400	0.46	46	0.30	30	0.68	68	4.5 (250V)	IP23	B(130)	Z.P.
				60	0.30		90-1700	0.38	38	0.27	27	0.68	68					
			1	110	60	0.25	90-1700	0.37	37	0.26	26	0.68	68	3.5 (250V)				
					115	60	0.25	90-1700	0.37	37	0.26	26	0.68		68			
SG6R06GB-S24 SG6R06DB-S24 SG6R06SB-S24	SSB01-SRSSB SHB03-SRSSB	4	1	200	50	S2(30min)	0.12	90-1400	0.46	46	0.30	30	0.54	54	1.0 (450V)	IP23	B(130)	Z.P.
				60	0.12		90-1700	0.37	37	0.26	26	0.54	54					
			1	220	50	0.12	90-1400	0.46	46	0.30	30	0.50	50	0.8 (450V)				
					60	0.12	90-1700	0.37	37	0.26	26	0.50	50					
			1	230	50	0.12	90-1400	0.45	45	0.30	30	0.58	58					
					60	0.12	90-1700	0.37	37	0.26	26	0.58	58					

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

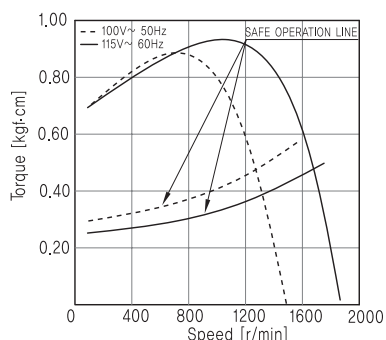
■ GEARED MOTOR – 50Hz

Ratio		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
Model	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8
SG6KA	kgf-cm	2,10	2,50	3,11	3,73	4,14	5,20	6,21	7,50	8,30	10,4	11,9	14,2	15,8	19,8	23,7	29,7	35,6	39,6	47,5	55,9	60,0	60,0	60,0	60,0	60,0
SG6DA	N-m	0,21	0,25	0,31	0,37	0,41	0,52	0,62	0,75	0,83	1,04	1,19	1,42	1,58	1,98	2,37	2,97	3,56	3,96	4,75	5,59	6,00	6,00	6,00	6,00	6,00
SG6SA																										

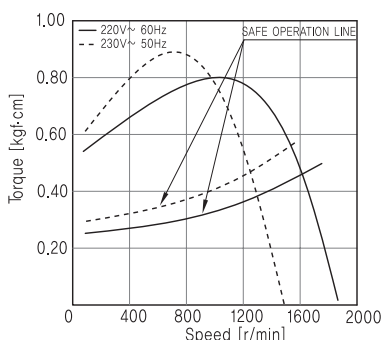
■ GEARED MOTOR – 60Hz

Ratio		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
Model	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7
SG6KA	kgf-cm	1,71	2,10	2,60	3,10	3,42	4,30	5,13	6,20	6,84	8,60	9,80	11,8	13,1	16,3	19,6	24,5	29,4	32,7	39,2	46,2	55,4	60,0	60,0	60,0	60,0
SG6DA	N-m	0,17	0,21	0,26	0,31	0,34	0,43	0,51	0,62	0,68	0,86	0,98	1,18	1,31	1,63	1,96	2,45	2,94	3,27	3,92	4,62	5,54	6,00	6,00	6,00	6,00
SG6SA																										

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of □, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.



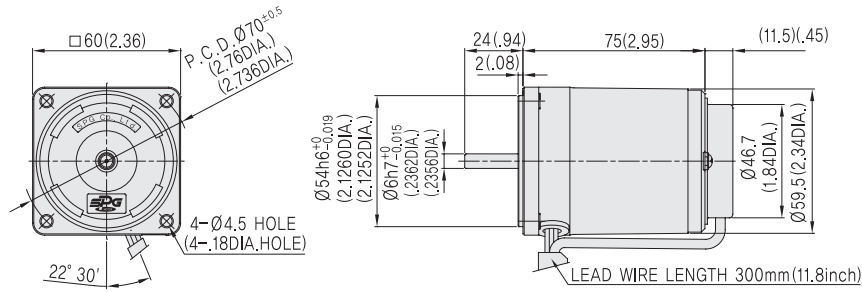
- ▶ SG6R06GA-S12 ▶ SG6R06GA-S24
- ▶ SG6R06DA-S12 ▶ SG6R06DA-S24
- ▶ SG6R06SA-S12 ▶ SG6R06SA-S24



- ▶ SG6R06GB-S12 ▶ SG6R06GB-S24
- ▶ SG6R06DB-S12 ▶ SG6R06DB-S24
- ▶ SG6R06SB-S12 ▶ SG6R06SB-S24

MOTOR

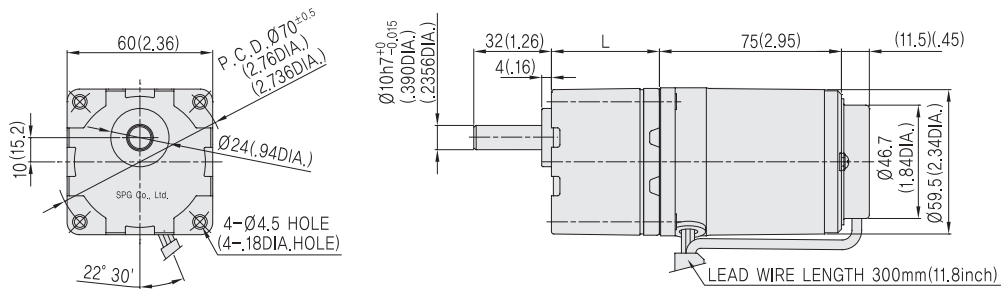
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG6R06□-S12	SG6R06D□-S12	SG6R06S□-S12

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG6KA□	SG6DA□	SG6SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG6□A□	5~25	34	0.28
		30~120	38	0.33
		150~360	43	0.37
MOTOR	SG6R06□□-S12			0.76
	SG6R06□□-S24			0.76



15W REVERSIBLE SPEED CONTROL MOTOR

□ 70mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min		at 90 r/min		(kgf · cm)	(mN · m)				
					(kgf · cm)				(mN · m)	(kgf · cm)	(mN · m)							
SG7R15GA-S12 SG7R15DA-S12 SG7R15SA-S12	SRA02-A	4	1	100	50	S2(30min)	0.39	90-1400	1.10	110	0.60	60	1.20	120	7.5 (250V)	IP23	B(130)	T.P.
					60		0.45	90-1700	0.90	90	0.50	50	1.20	120				
			1	110	60		0.37	90-1700	0.90	90	0.50	50	1.20	120	6.0 (250V)			
					60		0.37	90-1700	0.90	90	0.50	50	1.20	120				
SG7R15GB-S12 SG7R15DB-S12 SG7R15SB-S12	SRB02-B	4	1	200	50	S2(30min)	0.19	90-1400	1.10	110	0.60	60	1.20	120	1.8 (450V)	IP23	B(130)	T.P.
					60		0.24	90-1700	0.90	90	0.50	50	1.20	120				
			1	220	50		0.18	90-1400	1.10	110	0.60	60	1.20	120	1.5 (450V)			
					60		0.21	90-1700	0.90	90	0.50	50	1.20	120				
			1	230	50		0.19	90-1400	1.10	110	0.60	60	1.30	130				
					60		0.21	90-1700	0.90	90	0.50	50	1.40	140				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min		at 90 r/min		(kgf · cm)	(mN · m)				
					(kgf · cm)				(mN · m)	(kgf · cm)	(mN · m)							
SG7R15GA-S24 SG7R15DA-S24 SG7R15SA-S24	SSA02-SRSSA SHA03-SRSSA	4	1	100	50	S2(30min)	0.39	90-1400	1.10	110	0.60	60	1.20	120	7.5 (250V)	IP23	B(130)	T.P.
					60		0.45	90-1700	0.90	90	0.50	50	1.20	120				
			1	110	60		0.37	90-1700	0.90	90	0.50	50	1.20	120	6.0 (250V)			
					60		0.37	90-1700	0.90	90	0.50	50	1.20	120				
SG7R15GB-S24 SG7R15DB-S24 SG7R15SB-S24	SSB02-SRSSB SHB03-SRSSB	4	1	200	50	S2(30min)	0.19	90-1400	1.10	110	0.60	60	1.20	120	1.8 (450V)	IP23	B(130)	T.P.
					60		0.24	90-1700	0.90	90	0.50	50	1.20	120				
			1	220	50		0.18	90-1400	1.10	110	0.60	60	1.20	120	1.5 (450V)			
					60		0.21	90-1700	0.90	90	0.50	50	1.20	120				
			1	230	50		0.19	90-1400	1.10	110	0.60	60	1.30	130				
					60		0.21	90-1700	0.90	90	0.50	50	1.40	140				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

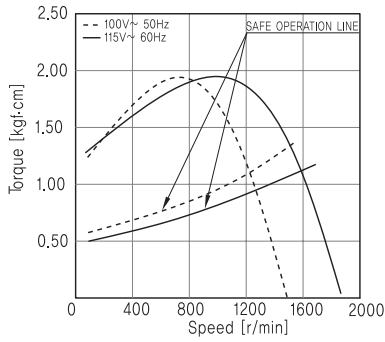
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8
SG7KA□	kgf·cm	5.20	6.21	7.80	9.32	10.4	12.9	15.5	18.6	20.7	25.9	29.7	35.6	39.6	49.5	59.3	74.2	89.0	98.9	100	100	100	100	100	100	100
SG7DA□	N·m	0.52	0.62	0.78	0.93	1.04	1.29	1.55	1.86	2.07	2.59	2.97	3.56	3.96	4.95	5.93	7.42	8.90	9.89	10.0	10.0	10.0	10.0	10.0	10.0	10.0
SG7SA□																										

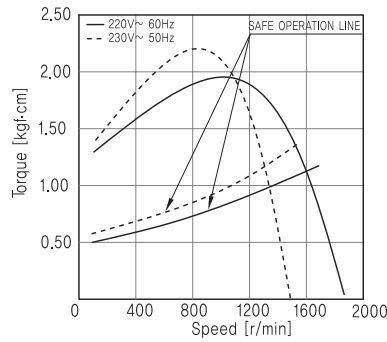
■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7
SG7KA□	kgf·cm	4.20	5.02	6.30	7.53	8.40	10.5	12.6	15.1	16.7	20.9	24.0	28.8	32.0	40.0	48.0	60.0	72.0	80.0	96.0	100	100	100	100	100	100
SG7DA□	N·m	0.42	0.50	0.63	0.75	0.84	1.05	1.26	1.51	1.67	2.09	2.40	2.88	3.20	4.00	4.80	6.00	7.20	8.00	9.60	10.0	10.0	10.0	10.0	10.0	10.0
SG7SA□																										

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.



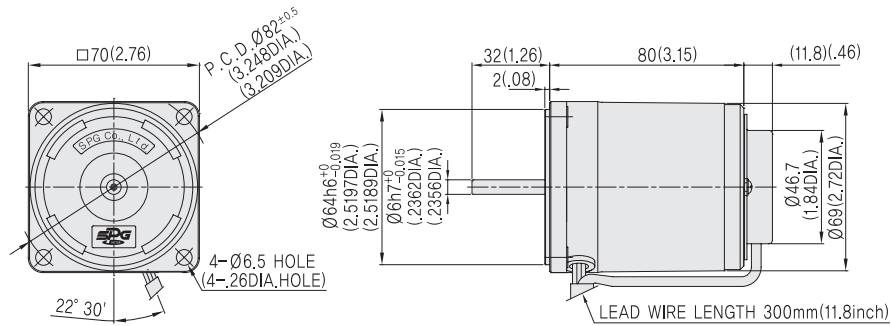
- ▶ SG7R15GA-S12 ▶ SG7R15GA-S24
- ▶ SG7R15DA-S12 ▶ SG7R15DA-S24
- ▶ SG7R15SA-S12 ▶ SG7R15SA-S24



- ▶ SG7R15GB-S12 ▶ SG7R15GB-S24
- ▶ SG7R15DB-S12 ▶ SG7R15DB-S24
- ▶ SG7R15SB-S12 ▶ SG7R15SB-S24

MOTOR

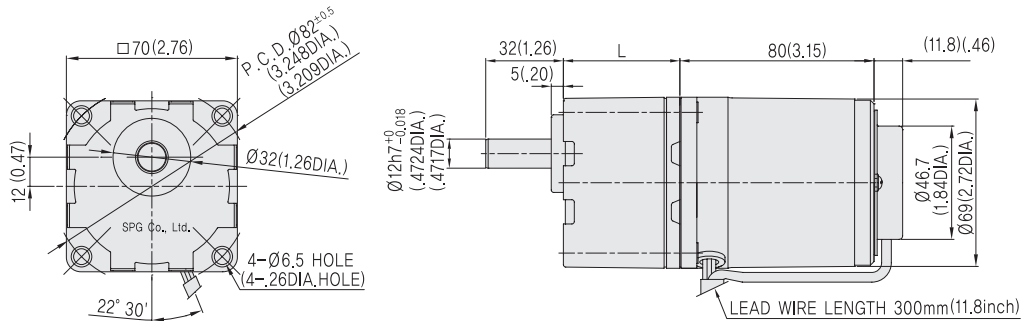
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG7R15G□-S12	SG7R15D□-S12	SG7R15S□-S12

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG7KA□	SG7DA□	SG7SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG7□A□	5~120	43	0.42
		150~360	48	0.52
MOTOR	SG7R15□□-S12			1.04
	SG7R15□□-S24			1.04



25W REVERSIBLE SPEED CONTROL MOTOR

□ 80mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG8R25GA-S12	SRA02-A	4	1	100	50	S2(30min)	0.57	90-1400	1.90	190	1.00	100	2.20	220	10.0 (250V)	IP23	B(130)	T.P.
SG8R25KA-S12				60	0.64		90-1700	1.50	150	0.80	80	2.30	230					
SG8R25DA-S12			110	60	0.51		90-1700	1.50	150	0.80	80	2.10	210	8.0 (250V)				
SG8R25SA-S12			115	60	0.51		90-1700	1.50	150	0.80	80	2.40	240					
SG8R25GB-S12	SRB02-B	4	1	200	50	S2(30min)	0.28	90-1400	2.00	200	1.00	100	1.90	190	2.5 (450V)	IP23	B(130)	T.P.
SG8R25KB-S12				60	0.34		90-1700	1.60	160	0.80	80	1.90	190					
SG8R25DB-S12			220	50	0.26		90-1400	1.90	190	1.00	100	2.20	220	2.0 (450V)				
SG8R25SB-S12			60	0.28	90-1700		1.50	150	0.80	80	2.10	210						
			230	50	0.26		90-1400	1.90	190	1.00	100	2.30	230					
			60	0.28	90-1700		1.50	150	0.80	80	2.60	260						

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG8R25GA-S24	SSA02-SRSSA	4	1	100	50	S2(30min)	0.57	90-1400	1.90	190	1.00	100	2.20	220	10.0 (250V)	IP23	B(130)	T.P.
SG8R25KA-S24				60	0.64		90-1700	1.50	150	0.80	80	2.30	230					
SG8R25DA-S24			110	60	0.51		90-1700	1.50	150	0.80	80	2.10	210	8.0 (250V)				
SG8R25SA-S24			115	60	0.51		90-1700	1.50	150	0.80	80	2.40	240					
SG8R25GB-S24	SSB02-SRSSB	4	1	200	50	S2(30min)	0.28	90-1400	2.00	200	1.00	100	1.90	190	2.5 (450V)	IP23	B(130)	T.P.
SG8R25KB-S24				60	0.34		90-1700	1.60	160	0.80	80	1.90	190					
SG8R25DB-S24			220	50	0.26		90-1400	1.90	190	1.00	100	2.20	220	2.0 (450V)				
SG8R25SB-S24			60	0.28	90-1700		1.50	150	0.80	80	2.10	210						
			230	50	0.26		90-1400	1.90	190	1.00	100	2.30	230					
			60	0.28	90-1700		1.50	150	0.80	80	2.60	260						

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

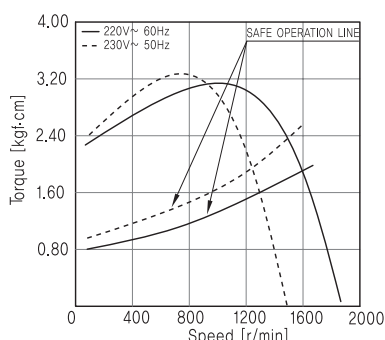
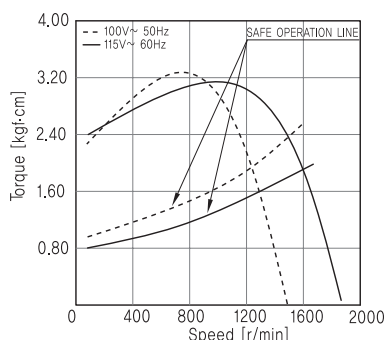
■ GEARED MOTOR – 50Hz

Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360	
Model	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8
SG8KA□	kgf-cm	8.90	10.7	13.4	16.0	17.8	22.3	26.7	32.1	35.6	44.6	51.1	61.3	68.1	85.1	102	128	153	160	160	160	160	160	160	160	160
SG8DA□																										
SG8SA□	N-m	0.89	1.07	1.34	1.60	1.78	2.23	2.67	3.21	3.56	4.46	5.11	6.13	6.81	8.51	10.2	12.8	15.3	16.0	16.0	16.0	16.0	16.0	16.0	16.0	

■ GEARED MOTOR – 60Hz

Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360	
Model	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7
SG8KA□	kgf-cm	7.30	8.80	10.9	13.1	14.6	18.2	21.9	26.2	29.2	36.5	41.8	50.2	55.7	69.7	83.6	105	125	139	160	160	160	160	160	160	160
SG8DA□																										
SG8SA□	N-m	0.73	0.88	1.09	1.31	1.46	1.82	2.19	2.62	2.92	3.65	4.18	5.02	5.57	6.97	8.36	10.5	12.5	13.9	16.0	16.0	16.0	16.0	16.0	16.0	

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min).
Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

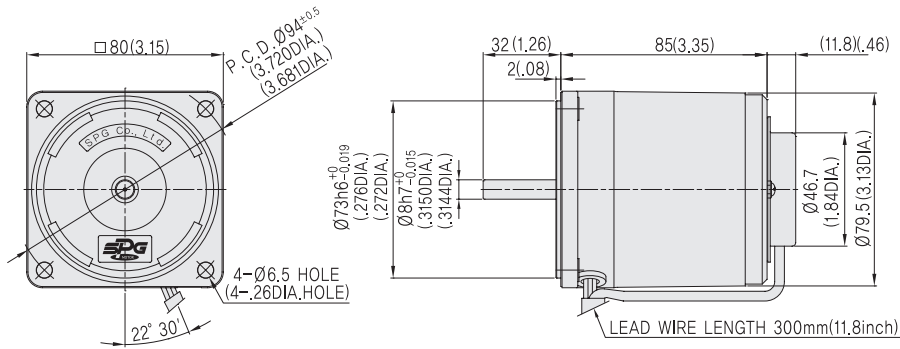


- ▶ SG8R25GA-S12 ▶ SG8R25GA-S24
- ▶ SG8R25KA-S12 ▶ SG8R25KA-S24
- ▶ SG8R25DA-S12 ▶ SG8R25DA-S24
- ▶ SG8R25SA-S12 ▶ SG8R25SA-S24

- ▶ SG8R25GB-S12 ▶ SG8R25GB-S24
- ▶ SG8R25KB-S12 ▶ SG8R25KB-S24
- ▶ SG8R25DB-S12 ▶ SG8R25DB-S24
- ▶ SG8R25SB-S12 ▶ SG8R25SB-S24

MOTOR

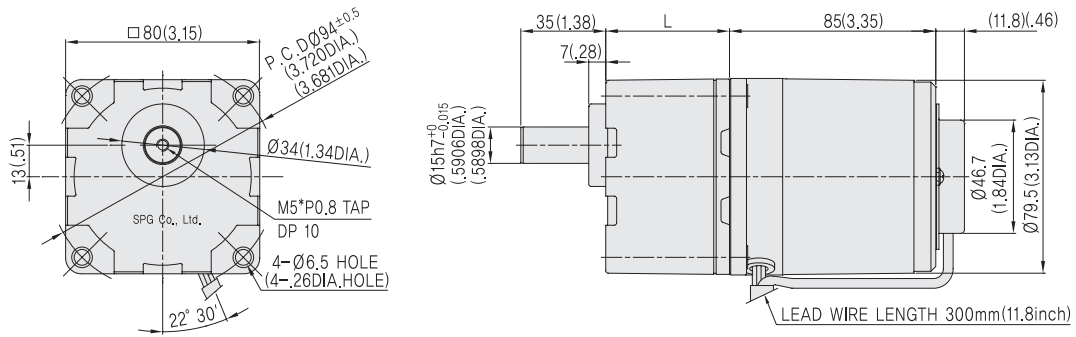
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG8R25G□-S	SG8R25K□-S	SG8R25D□-S	SG8R25S□-S

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG8K□□	SG8D□□	SG8S□□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG8□□□	5~25	41	0.61
		30~120	46	0.72
		150~360	51	0.80
MOTOR	SG8R25□□-S12			1.60
	SG8R25□□-S24			1.60



40W REVERSIBLE SPEED CONTROL MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG9R40GA-S12	SRA02-A	4	1	100	50	S2(30min)	0.81	90-1400	2.90	0.29	1.20	0.12	3.60	0.36	16.0 (250V)	IP23	B(130)	T.P.
SG9R40KA-S12					60		1.03	90-1700	2.40	0.24	1.00	0.10	3.70	0.37				
SG9R40DA-S12			1	110	60		0.78	90-1700	2.40	0.24	1.00	0.10	3.50	0.35	12.0 (250V)			
SG9R40SA-S12					60		0.78	90-1700	2.40	0.24	1.00	0.10	3.60	0.36				
SG9R40GB-S12	SRB02-B	4	1	200	50	S2(30min)	0.40	90-1400	2.90	0.29	1.20	0.12	3.70	0.37	4.0 (450V)	IP23	B(130)	T.P.
SG9R40KB-S12					60		0.50	90-1700	2.40	0.24	1.00	0.10	3.90	0.39				
SG9R40DB-S12			1	220	50		0.38	90-1400	2.90	0.29	1.20	0.12	4.00	0.40	3.5 (450V)			
					60		0.43	90-1700	2.40	0.24	1.00	0.10	4.00	0.40				
SG9R40SB-S12			1	230	50		0.38	90-1400	2.90	0.29	1.20	0.12	4.20	0.42	3.5 (450V)			
					60		0.43	90-1700	2.40	0.24	1.00	0.10	4.30	0.43				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG9R40GA-S24	SSA02-SRSSA	4	1	100	50	S2(30min)	0.81	90-1400	2.90	0.29	1.20	0.12	3.60	0.63	16.0 (250V)	IP23	B(130)	T.P.
SG9R40KA-S24					60		1.03	90-1700	2.40	0.24	1.00	0.10	3.70	0.37				
SG9R40DA-S24			1	110	60		0.78	90-1700	2.40	0.24	1.00	0.10	3.50	0.35	12.0 (250V)			
SG9R40SA-S24					60		0.78	90-1700	2.40	0.24	1.00	0.10	3.60	0.36				
SG9R40GB-S24	SSB02-SRSSB	4	1	200	50	S2(30min)	0.40	90-1400	2.90	0.29	1.20	0.12	3.70	0.37	4.0 (450V)	IP23	B(130)	T.P.
SG9R40KB-S24					60		0.50	90-1700	2.40	0.24	1.00	0.10	3.90	0.39				
SG9R40DB-S24			1	220	50		0.38	90-1400	2.90	0.29	1.20	0.12	4.00	0.40	3.5 (450V)			
					60		0.43	90-1700	2.40	0.24	1.00	0.10	4.00	0.40				
SG9R40SB-S24			1	230	50		0.38	90-1400	2.80	0.28	1.20	0.12	4.20	0.42	3.5 (450V)			
					60		0.43	90-1700	2.40	0.24	1.00	0.10	4.30	0.43				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

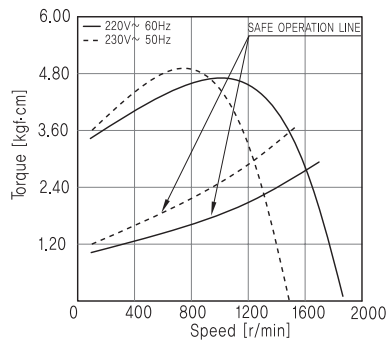
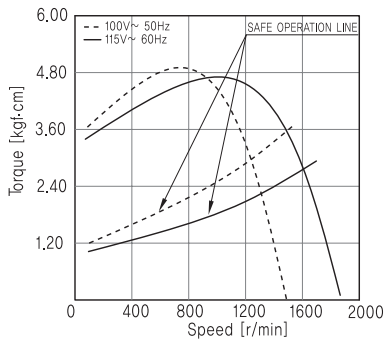
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6
SG9KB□	kgf·cm	13.4	16.1	20.1	24.1	26.8	33.5	40.2	48.3	51.3	64.1	76.9	92.3	103	128	154	192	231	256	290	300	300	300	300	300
SG9DB□	N·m	1.34	1.61	2.01	2.41	2.68	3.35	4.02	4.83	5.13	6.41	7.69	9.23	10.3	12.8	15.4	19.2	23.1	25.6	29.0	30.0	30.0	30.0	30.0	30.0
SG9SB□																									

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6
SG9KB□	kgf·cm	10.9	13.1	16.3	19.6	21.8	27.2	32.7	39.2	41.6	52.0	62.4	74.9	83.2	104	125	156	187	208	235	294	300	300	300	300
SG9DB□	N·m	1.09	1.31	1.63	1.96	2.18	2.72	3.27	3.92	4.16	5.20	6.24	7.49	8.32	10.4	12.5	15.6	18.7	20.8	23.5	29.4	30.0	30.0	30.0	30.0
SG9SB□																									

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

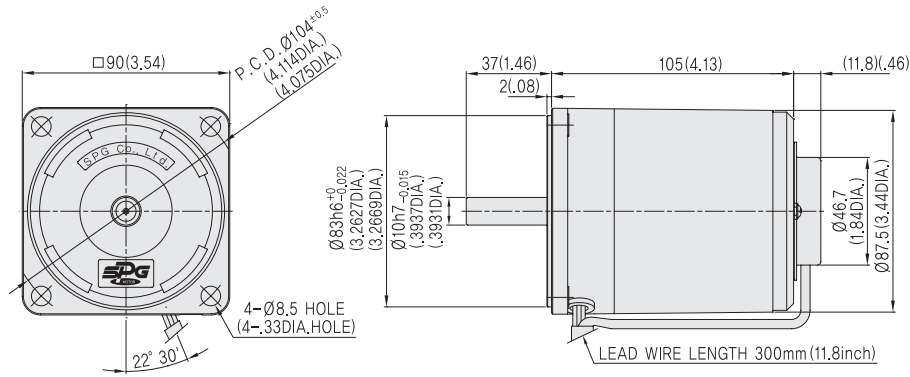


- ▶ SG9R40GA-S12 ▶ SG9R40GA-S24
- ▶ SG9R40KA-S12 ▶ SG9R40KA-S24
- ▶ SG9R40DA-S12 ▶ SG9R40DA-S24
- ▶ SG9R40SA-S12 ▶ SG9R40SA-S24

- ▶ SG9R40GB-S12 ▶ SG9R40GB-S24
- ▶ SG9R40KB-S12 ▶ SG9R40KB-S24
- ▶ SG9R40DB-S12 ▶ SG9R40DB-S24
- ▶ SG9R40SB-S12 ▶ SG9R40SB-S24

MOTOR

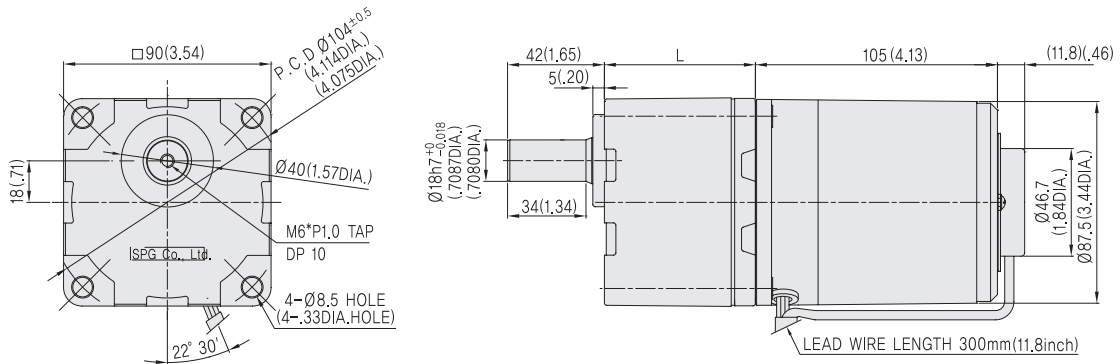
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9R40G□-S12	SG9R40K□-S12	SG9R40D□-S12	SG9R40S□-S12

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9KB□	SG9DB□	SG9SB□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□B□	5~20	45	0.85
		25~100	58	1.15
		120~300	64	1.30
MOTOR	SG9R40□□-S12			2.42
	SG9R40□□-S24			2.42



SPEED CONTROL ELECTROMAGNETIC BRAKE MOTOR (E · S MOTOR)

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6W

E · S MOTOR

□ 60mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG6R06GA-ES12 SG6R06DA-ES12 SG6R06SA-ES12	SRA01-A	4	1	100	50	S2(30min)	0.28	90-1400	0.44	44	0.30	30	0.80	80	4.5 (250V)	IP23	B(130)	Z.P.
				60			0.233	90-1700	0.37	37	0.26	26	0.74	74				
			1	110	60		0.28	90-1700	0.36	36	0.25	25	0.74	74	3.5 (250V)			
				115			60	0.28	90-1700	0.36	36	0.25	25	0.80				
SG6R06GB-ES12 SG6R06DB-ES12 SG6R06SB-ES12	SRB01-B	4	1	200	50	S2(30min)	0.14	90-1400	0.44	44	0.30	30	0.70	70	1.0 (450V)	IP23	B(130)	Z.P.
				60			0.14	90-1700	0.36	36	0.25	25	0.70	70				
			1	220	50		0.14	90-1400	0.44	44	0.30	30	0.65	65	0.8 (450V)			
							60	0.13	90-1700	0.36	36	0.25	25	0.65				
			1	230	50		0.14	90-1400	0.44	44	0.30	30	0.70	70	0.8 (450V)			
							60	0.13	90-1700	0.35	35	0.25	25	0.70				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf·cm)	(mN·m)	at 90 r/min (kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)				
SG6R06GA-ES24 SG6R06DA-ES24 SG6R06SA-ES24	SSA01-SRSSA SHA03-SRSSA	4	1	100	50	S2(30min)	0.28	90-1400	0.44	44	0.30	30	0.80	80	4.5 (250V)	IP23	B(130)	Z.P.
				60			0.33	90-1700	0.37	37	0.26	26	0.74	74				
			1	110	60		0.28	90-1700	0.36	36	0.25	25	0.74	74	3.5 (250V)			
							115	60	0.28	90-1700	0.36	36	0.25	25				
SG6R06GB-ES24 SG6R06DB-ES24 SG6R06SB-ES24	SSB01-SRSSB SHB03-SRSSB	4	1	200	50	S2(30min)	0.14	90-1400	0.44	44	0.30	30	0.70	70	1.0 (450V)	IP23	B(130)	Z.P.
				60			0.14	90-1700	0.36	36	0.25	25	0.70	70				
			1	220	50		0.14	90-1400	0.44	44	0.30	30	0.65	65	0.8 (450V)			
							60	0.13	90-1700	0.36	36	0.25	25	0.65				
			1	230	50		0.14	90-1400	0.44	44	0.30	30	0.70	70	0.8 (450V)			
							60	0.13	90-1700	0.35	35	0.25	25	0.70				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

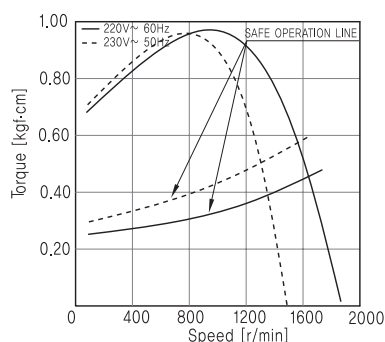
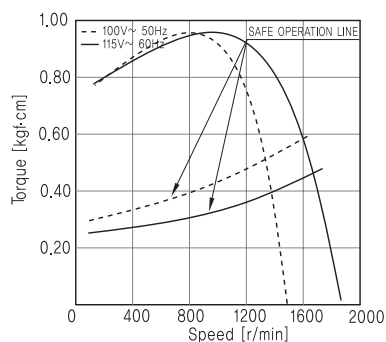
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8
SG6KA	kgf-cm	2.10	2.50	3.11	3.73	4.14	5.20	6.21	7.50	8.30	10.4	11.9	14.2	15.8	19.8	23.7	29.7	35.6	39.6	47.5	55.9	60.0	60.0	60.0	60.0	60.0
SG6DA	N-m	0.21	0.25	0.31	0.37	0.41	0.52	0.62	0.75	0.83	1.04	1.19	1.42	1.58	1.98	2.37	2.97	3.56	3.96	4.75	5.59	6.00	6.00	6.00	6.00	6.00
SG6SA																										

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7
SG6KA	kgf-cm	1.71	2.10	2.60	3.10	3.42	4.30	5.13	6.20	6.84	8.60	9.80	11.8	13.1	16.3	19.6	24.5	29.4	32.7	39.2	46.2	55.4	60.0	60.0	60.0	60.0
SG6DA	N-m	0.17	0.21	0.26	0.31	0.34	0.43	0.51	0.62	0.68	0.86	0.98	1.18	1.31	1.63	1.96	2.45	2.94	3.27	3.92	4.62	5.54	6.00	6.00	6.00	6.00
SG6SA																										

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

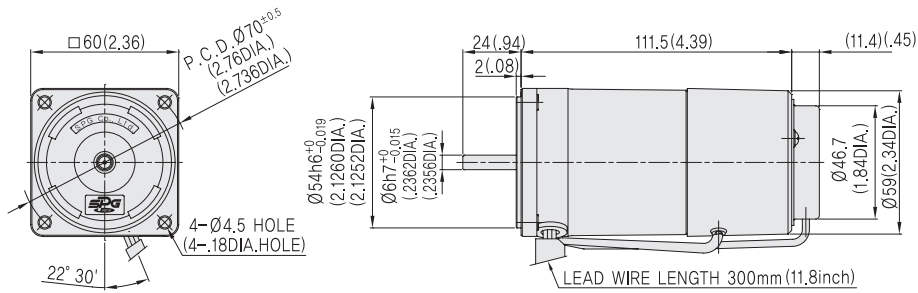


- ▶ SG6R06GA-ES12 ▶ SG6R06GA-ES24
- ▶ SG6R06DA-ES12 ▶ SG6R06DA-ES24
- ▶ SG6R06SA-ES12 ▶ SG6R06SA-ES24

- ▶ SG6R06GB-ES12 ▶ SG6R06GB-ES24
- ▶ SG6R06DB-ES12 ▶ SG6R06DB-ES24
- ▶ SG6R06SB-ES12 ▶ SG6R06SB-ES24

MOTOR

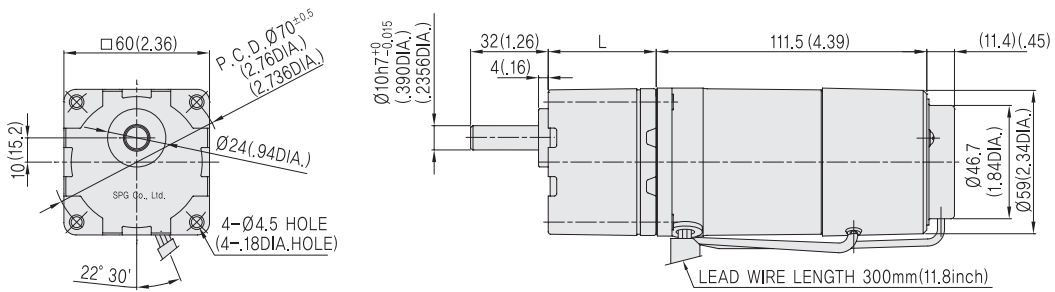
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG6R06G□-ES12	SG6R06D□-ES12	SG6R06S□-ES12

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG6KA□	SG6DA□	SG6SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG6□A□	5~25	34	0.28
		30~120	38	0.33
		150~360	43	0.37
MOTOR	SG6R06□□-ES12			1.0
	SG6R06□□-ES24			1.0



15W

E · S MOTOR

□ 70mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf · cm)	(mN · m)	at 90 r/min (kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)				
SG7R15GA-ES12 SG7R15DA-ES12 SG7R15SA-ES12	SRA02-A	4	1	100	50	S2(30min)	0.41	90-1400	1.10	110	0.60	60	1.30	130	7.5 (250V)	IP23	B(130)	T.P.
				60	0.47		90-1700	0.90	90	0.50	50	1.30	130					
			1	110	60		0.40	90-1700	0.90	90	0.50	50	1.20	120	6.0 (250V)			
				115	60		0.40	90-1700	0.90	90	0.50	50	1.20	120				
SG7R15GB-ES12 SG7R15DB-ES12 SG7R15SB-ES12	SRB02-B	4	1	200	50	S2(30min)	0.21	90-1400	1.10	110	0.60	60	1.20	120	1.8 (450V)	IP23	B(130)	T.P.
				60	0.25		90-1700	0.90	90	0.50	50	1.10	110					
			1	220	50		0.20	90-1400	1.10	110	0.60	60	1.20	120	1.5 (450V)			
				60	0.22		90-1700	0.90	90	0.50	50	1.20	120					
			1	230	50		0.21	90-1400	1.10	110	0.60	60	1.30	130				
				60	0.22		90-1700	0.90	90	0.50	50	1.30	130					

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf · cm)	(mN · m)	at 90 r/min (kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)				
SG7R15GA-ES24 SG7R15DA-ES24 SG7R15SA-ES24	SSA02-SRSSA SHA03-SRSSA	4	1	100	50	S2(30min)	0.41	90-1400	1.10	110	0.60	60	1.30	130	7.5 (250V)	IP23	B(130)	T.P.
				60	0.47		90-1700	0.90	90	0.50	50	1.30	130					
			1	110	60		0.40	90-1700	0.90	90	0.50	50	1.20	120	6.0 (250V)			
				115	60		0.40	90-1700	0.90	90	0.50	50	1.20	120				
SG7R15GB-ES24 SG7R15DB-ES24 SG7R15SB-ES24	SSB02-SRSSB SHB03-SRSSB	4	1	200	50	S2(30min)	0.21	90-1400	1.10	110	0.60	60	1.20	120	1.8 (450V)	IP23	B(130)	T.P.
				60	0.25		90-1700	0.90	90	0.50	50	1.10	110					
			1	220	50		0.20	90-1400	1.10	110	0.60	60	1.20	120	1.5 (450V)			
				60	0.22		90-1700	0.90	90	0.50	50	1.20	120					
			1	230	50		0.21	90-1400	1.10	110	0.60	60	1.30	130				
				60	0.22		90-1700	0.90	90	0.50	50	1.30	130					

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

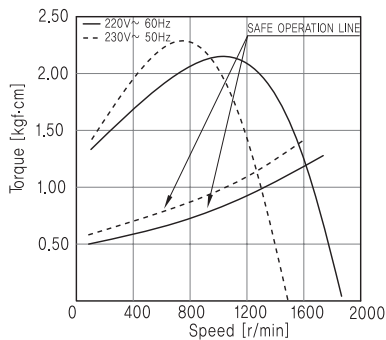
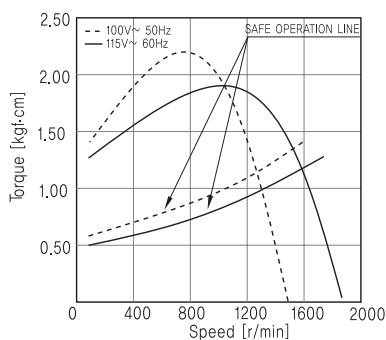
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
		r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6
SG7KA□ SG7DA□ SG7SA□	kgf·cm	5.20	6.21	7.80	9.32	10.4	12.9	15.5	18.6	20.7	25.9	29.7	35.6	39.6	49.5	59.3	74.2	89.0	98.9	100	100	100	100	100	100	100
	N·m	0.52	0.62	0.78	0.93	1.04	1.29	1.55	1.86	2.07	2.59	2.97	3.56	3.96	4.95	5.93	7.42	8.90	9.89	10.0	10.0	10.0	10.0	10.0	10.0	10.0

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
		r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6
SG7KA□ SG7DA□ SG7SA□	kgf·cm	4.20	5.02	6.30	7.53	8.40	10.5	12.6	15.1	16.7	20.9	24.0	28.8	32.0	40.0	48.0	60.0	72.0	80.0	96.0	100	100	100	100	100	100
	N·m	0.42	0.50	0.63	0.75	0.84	1.05	1.26	1.51	1.67	2.09	2.40	2.88	3.20	4.00	4.80	6.00	7.20	8.00	9.60	10.0	10.0	10.0	10.0	10.0	10.0

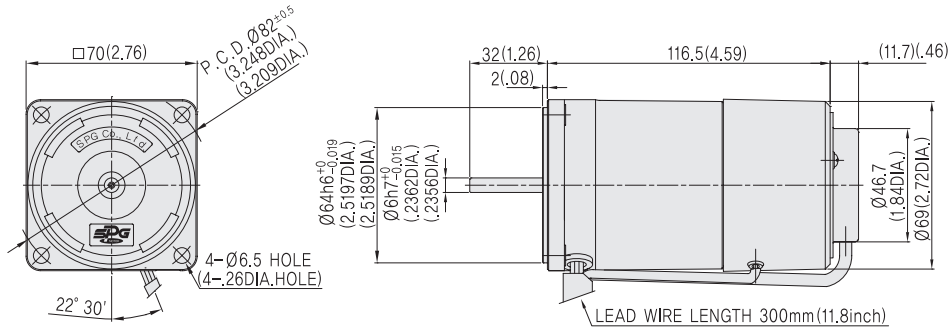
- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min).
Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.



- | | | | |
|-----------------|-----------------|-----------------|-----------------|
| ▶ SG7R15GA-ES12 | ▶ SG7R15GA-ES24 | ▶ SG7R15GB-ES12 | ▶ SG7R15GB-ES24 |
| ▶ SG7R15DA-ES12 | ▶ SG7R15DA-ES24 | ▶ SG7R15DB-ES12 | ▶ SG7R15DB-ES24 |
| ▶ SG7R15SA-ES12 | ▶ SG7R15SA-ES24 | ▶ SG7R15SB-ES12 | ▶ SG7R15SB-ES24 |

MOTOR

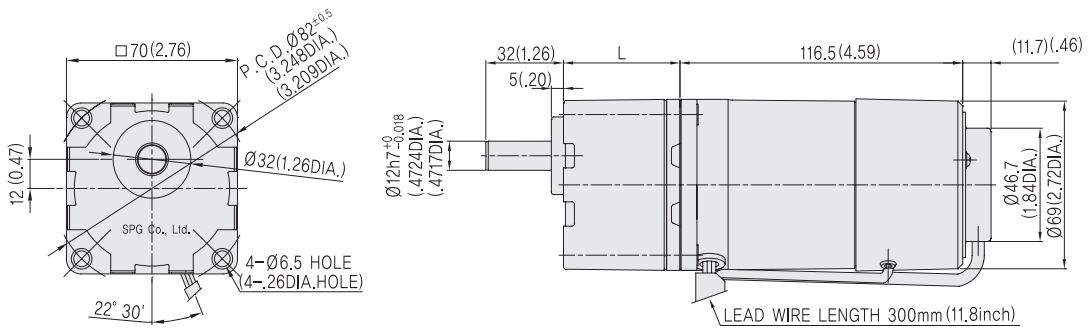
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG7R15G□-E	SG7R15D□-E	SG7R15S□-E

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG7KA□	SG7DA□	SG7SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG7□A□	5~25	43	0.42
		150~360	48	0.52
MOTOR	SG7R15□□-ES12			1.30
	SG7R15□□-ES24			1.30



25W

E · S MOTOR

□ 80mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf · cm)	(mN · m)	at 90 r/min (kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)				
SG8R25GA-ES12	SRA02-A	4	1	100	50	S2(30min)	0.58	90-1400	1.80	180	0.90	90	2.10	210	10.0 (250V)	IP23	B(130)	T.P.
SG8R25KA-ES12				60	0.65		90-1700	1.50	150	0.80	80	2.20	220					
SG8R25DA-ES12			110	60	0.55		90-1700	1.50	150	0.80	80	2.10	210	8.0 (250V)				
SG8R25SA-ES12			115	60	0.55		90-1700	1.50	150	0.80	80	2.30	230					
SG8R25GB-ES12	SRB02-B	4	1	200	50	S2(30min)	0.29	90-1400	1.80	180	0.90	90	2.10	210	2.5 (450V)	IP23	B(130)	T.P.
SG8R25KB-ES12				60	0.32		90-1700	1.50	150	0.80	80	2.20	220					
SG8R25DB-ES12			1	220	50		0.29	90-1400	1.80	180	0.90	90	2.00	200	2.0 (450V)			
SG8R25SB-ES12				60	0.28		90-1700	1.50	150	0.80	80	2.10	210					
SG8R25SB-ES12			1	230	50		0.30	90-1400	1.80	180	0.90	90	2.30	230				
				60	0.28		90-1700	1.50	150	0.80	80	2.20	220					

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf · cm)	(mN · m)	at 90 r/min (kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)				
SG8R25GA-ES24	SSA02-SRSSA SHA03-SRSSA	4	1	100	50	S2(30min)	0.58	90-1400	1.80	180	0.90	90	2.10	210	10.0 (250V)	IP23	B(130)	T.P.
SG8R25KA-ES24				60	0.65		90-1700	1.50	150	0.80	80	2.20	220					
SG8R25DA-ES24			110	60	0.55		90-1700	1.50	150	0.80	80	2.10	210	8.0 (250V)				
SG8R25SA-ES24			115	60	0.55		90-1700	1.50	150	0.80	80	2.30	230					
SG8R25GB-ES24	SSB02-SRSSB SHB03-SRSSB	4	1	200	50	S2(30min)	0.29	90-1400	1.80	180	0.90	90	2.10	210	2.5 (450V)	IP23	B(130)	T.P.
SG8R25KB-ES24				60	0.32		90-1700	1.50	150	0.80	80	2.20	220					
SG8R25DB-ES24			1	220	50		0.29	90-1400	1.80	180	0.90	90	2.00	200	2.0 (450V)			
SG8R25SB-ES24				60	0.28		90-1700	1.50	150	0.80	80	2.10	210					
SG8R25SB-ES24			1	230	50		0.30	90-1400	1.80	180	0.90	90	2.30	230				
				60	0.28		90-1700	1.50	150	0.80	80	2.20	220					

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

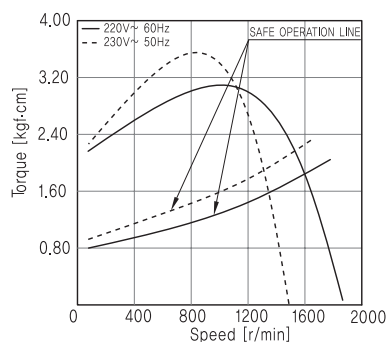
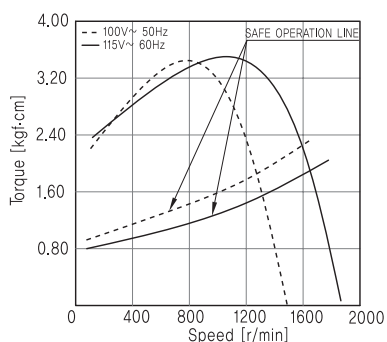
■ GEARED MOTOR – 50Hz

Ratio		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360	
Model	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6	3.8	
	kgf-cm	8.90	10.7	13.4	16.0	17.8	22.3	26.7	32.1	35.6	44.6	51.1	61.3	68.1	85.1	102	128	153	160	160	160	160	160	160	160	160	160
SG8KA□ SG8DA□ SG8SA□	N-m	0.89	1.07	1.34	1.60	1.78	2.23	2.67	3.21	3.56	4.46	5.11	6.13	6.81	8.51	10.2	12.8	15.3	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

■ GEARED MOTOR – 60Hz

Ratio		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360	
Model	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6	4.7	
	kgf-cm	7.30	8.80	10.9	13.1	14.6	18.2	21.9	26.2	29.2	36.5	41.8	50.2	55.7	69.7	83.6	105	125	139	160	160	160	160	160	160	160	160
SG8KA□ SG8DA□ SG8SA□	N-m	0.73	0.88	1.09	1.31	1.46	1.82	2.19	2.62	2.92	3.65	4.18	5.02	5.57	6.97	8.36	10.5	12.5	13.9	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

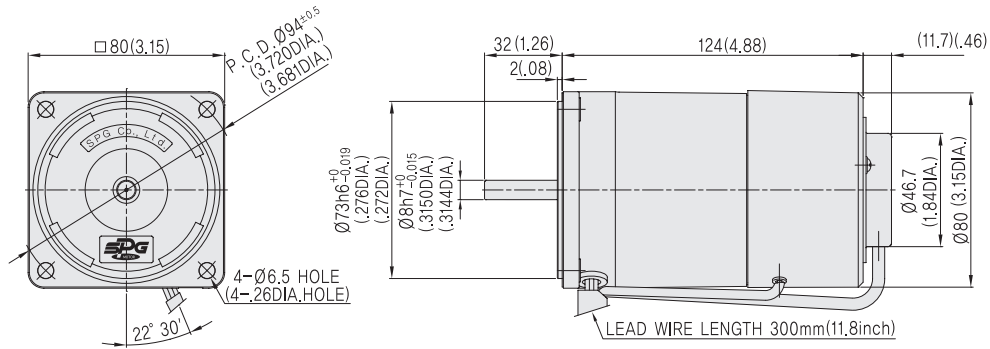


- ▶ SG8R25GA-ES12 ▶ SG8R25GA-ES24
- ▶ SG8R25KA-ES12 ▶ SG8R25KA-ES24
- ▶ SG8R25DA-ES12 ▶ SG8R25DA-ES24
- ▶ SG8R25SA-ES12 ▶ SG8R25SA-ES24

- ▶ SG8R25GB-ES12 ▶ SG8R25GB-ES24
- ▶ SG8R25KB-ES12 ▶ SG8R25KB-ES24
- ▶ SG8R25DB-ES12 ▶ SG8R25DB-ES24
- ▶ SG8R25SB-ES12 ▶ SG8R25SB-ES24

MOTOR

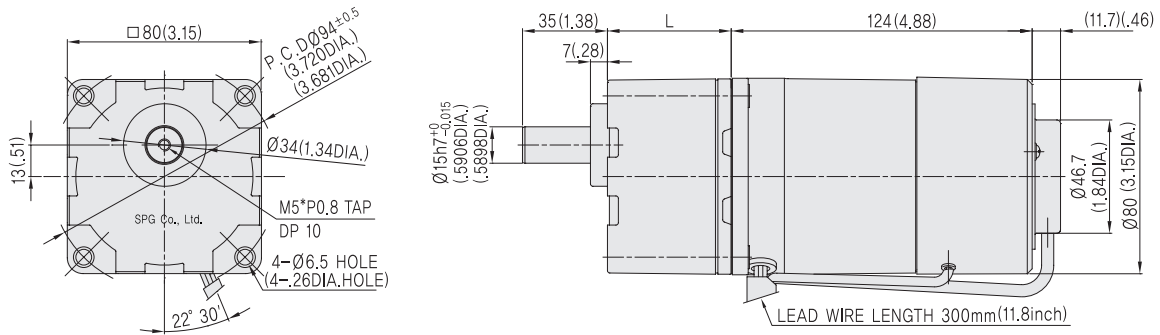
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG8R25G□-ES	SG8R25K□-ES	SG8R25D□-ES	SG8R25S□-ES

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG8KA□	SG8DA□	SG8SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG8□□□	5~25	41	0.61
		30~120	46	0.72
		150~360	51	0.80
MOTOR	SG8R25□□-ES12			1.86
	SG8R25□□-ES24			1.86



40W

E · S MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf · cm)	(mN · m)	at 90 r/min (kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)				
SG9R40GA-ES12	SRA02-A	4	1	100	50	S2(30min)	0.81	90-1400	2.80	0.28	1.20	0.12	3.70	0.37	16.0 (250V)	IP23	B(130)	T.P.
SG9R40KA-ES12							1.02	90-1700	2.40	0.24	1.00	0.10	3.80	0.38				
SG9R40DA-ES12			1	110	60		0.78	90-1700	2.30	0.23	1.00	0.10	3.20	0.32	12.0 (250V)			
SG9R40SA-ES12							0.78	90-1700	2.30	0.23	1.00	0.10	3.70	0.37				
SG9R40GB-ES12	SRB02-B	4	1	200	50	S2(30min)	0.42	90-1400	2.90	0.29	1.20	0.12	3.60	0.36	4.0 (450V)	IP23	B(130)	T.P.
SG9R40KB-ES12							0.51	90-1700	2.40	0.24	1.00	0.10	3.60	0.36				
SG9R40DB-ES12			1	220	60		0.40	90-1400	2.80	0.28	1.20	0.12	3.60	0.36	3.5 (450V)			
SG9R40SB-ES12							0.45	90-1700	2.30	0.23	1.00	0.10	3.60	0.36				
SG9R40SB-ES12			1	230	50		0.42	90-1400	2.80	0.28	1.20	0.12	4.20	0.42				
							0.45	90-1700	2.30	0.23	1.00	0.10	4.00	0.40				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ SS TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min (kgf · cm)	(mN · m)	at 90 r/min (kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)				
SG9R40GA-ES24	SSA02-SRSSA	4	1	100	50	S2(30min)	0.81	90-1400	2.80	0.28	1.20	0.12	3.70	0.37	16.0 (250V)	IP23	B(130)	T.P.
SG9R40KA-ES24							1.02	90-1700	2.40	0.24	1.00	0.10	3.80	0.38				
SG9R40DA-ES24			1	110	60		0.78	90-1700	2.30	0.23	1.00	0.10	3.20	0.32	12.0 (250V)			
SG9R40SA-ES24							0.78	90-1700	2.30	0.23	1.00	0.10	3.70	0.37				
SG9R40GB-ES24	SSB02-SRSSB	4	1	200	50	S2(30min)	0.42	90-1400	2.90	0.29	1.20	0.12	3.60	0.36	4.0 (450V)	IP23	B(130)	T.P.
SG9R40KB-ES24							0.51	90-1700	2.40	0.24	1.00	0.10	3.60	0.36				
SG9R40DB-ES24			1	220	60		0.40	90-1400	2.80	0.28	1.20	0.12	3.60	0.36	3.5 (450V)			
SG9R40SB-ES24							0.45	90-1700	2.30	0.23	1.00	0.10	3.60	0.36				
SG9R40SB-ES24			1	230	50		0.42	90-1400	2.80	0.28	1.20	0.12	4.20	0.42				
							0.45	90-1700	2.30	0.23	1.00	0.10	4.00	0.40				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

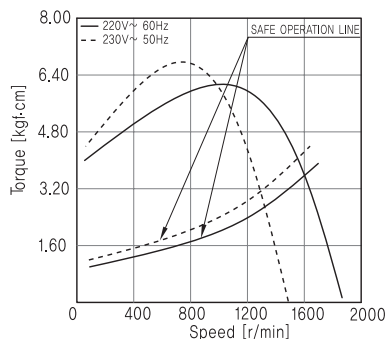
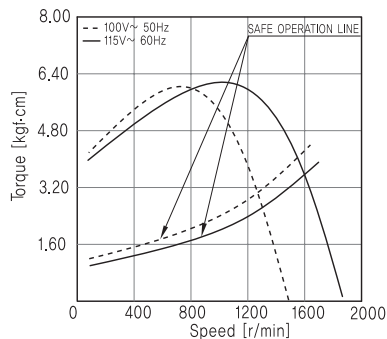
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
	r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7	7.0	5.6	4.6
SG9KB	kgf·cm	13.4	16.1	20.1	24.1	26.8	33.5	40.2	48.3	51.3	64.1	76.9	92.3	103	128	154	192	231	256	290	300	300	300	300	300
SG9DB	N·m	1.34	1.61	2.01	2.41	2.68	3.35	4.02	4.83	5.13	6.41	7.69	9.23	10.3	12.8	15.4	19.2	23.1	25.6	29.0	30.0	30.0	30.0	30.0	30.0
SG9SB																									

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
	r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4	8.5	6.8	5.6
SG9KB	kgf·cm	10.9	13.1	16.3	19.6	21.8	27.2	32.7	39.2	41.6	52.0	62.4	74.9	83.2	104	125	156	187	208	235	294	300	300	300	300
SG9DB	N·m	1.09	1.31	1.63	1.96	2.18	2.72	3.27	3.92	4.16	5.20	6.24	7.49	8.32	10.4	12.5	15.6	18.7	20.8	23.5	29.4	30.0	30.0	30.0	30.0
SG9SB																									

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

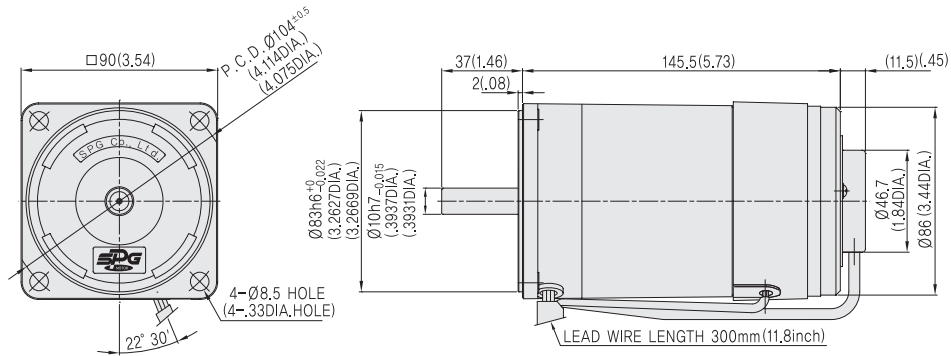


- ▶ SG9R40GA-ES12 ▶ SG9R40GA-ES24
- ▶ SG9R40KA-ES12 ▶ SG9R40KA-ES24
- ▶ SG9R40DA-ES12 ▶ SG9R40DA-ES24
- ▶ SG9R40SA-ES12 ▶ SG9R40SA-ES24

- ▶ SG9R40GB-ES12 ▶ SG9R40GB-ES24
- ▶ SG9R40KB-ES12 ▶ SG9R40KB-ES24
- ▶ SG9R40DB-ES12 ▶ SG9R40DB-ES24
- ▶ SG9R40SB-ES12 ▶ SG9R40SB-ES24

MOTOR

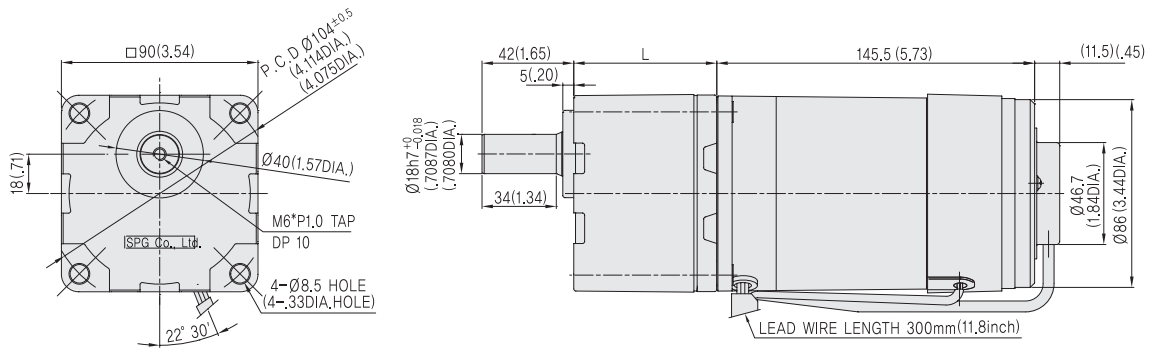
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9R40G□-E	SG9R40K□-E	SG9R40D□-E	SG9R40S□-E

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9KA□	SG9DA□	SG9SA□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□B□	5~25	45	0.85
		30~120	58	1.15
		150~360	64	1.30
MOTOR	SG9R40□□-ES12			2.74
	SG9R40□□-ES24			2.74



60W

E · S MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range		Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)				(r/min)	(kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)	(kgf·cm)	(mN·m)					
SG9R60GA-ES12	SRA02-A	4	1	100	50	S2(30min)	1.26	90-1400	4.30	0.43	1.80	0.18	5.10	0.51	25.0 (250V)	IP23	B(130)	T.P.	
1.53							90-1700	3.50	0.35	1.40	0.14	5.60	0.56						
1.21			90-1700	3.50	0.35	1.40	0.14	4.80	0.48	20.0 (250V)									
1.23			90-1700	3.50	0.35	1.40	0.14	5.80	0.58										
SG9R60GB-ES12	SRB02-B	4	1	200	50	S2(30min)	0.61	90-1400	4.30	0.43	1.80	0.18	5.80	0.58	6.0 (450V)	IP23	B(130)	T.P.	
0.78							90-1700	3.60	0.36	1.50	0.15	5.90	0.59						
0.60			90-1400	4.30	0.43	1.80	0.18	5.70	0.57	5.0 (450V)									
0.62			90-1700	3.50	0.35	1.40	0.14	6.00	0.60										
0.65			90-1400	4.30	0.43	1.80	0.18	6.40	0.64										
0.62			90-1700	3.50	0.35	1.40	0.14	6.20	0.62										

❖ All the model of SG series received UL, TÜV, CCC certificate.

❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.

❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

■ GEARED MOTOR – 50Hz

Model	Ratio	r/min																							
		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
SG9KB□	kgf·cm	13.4	16.1	20.1	24.1	26.8	33.5	40.2	48.3	51.3	64.1	76.9	92.3	103	128	154	192	231	256	290	300	300	300	300	300
SG9DB□	N·m	1.34	1.61	2.01	2.41	2.68	3.35	4.02	4.83	5.13	6.41	7.69	9.23	10.3	12.8	15.4	19.2	23.1	25.6	29.0	30.0	30.0	30.0	30.0	30.0
SG9SB□		1.34	1.61	2.01	2.41	2.68	3.35	4.02	4.83	5.13	6.41	7.69	9.23	10.3	12.8	15.4	19.2	23.1	25.6	29.0	30.0	30.0	30.0	30.0	30.0

■ GEARED MOTOR – 60Hz

Model	Ratio	r/min																							
		5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300
SG9KB□	kgf·cm	10.9	13.1	16.3	19.6	21.8	27.2	32.7	39.2	41.6	52.0	62.4	74.9	83.2	104	125	156	187	208	235	294	300	300	300	300
SG9DB□	N·m	1.09	1.31	1.63	1.96	2.18	2.72	3.27	3.92	4.16	5.20	6.24	7.49	8.32	10.4	12.5	15.6	18.7	20.8	23.5	29.4	30.0	30.0	30.0	30.0
SG9SB□		1.09	1.31	1.63	1.96	2.18	2.72	3.27	3.92	4.16	5.20	6.24	7.49	8.32	10.4	12.5	15.6	18.7	20.8	23.5	29.4	30.0	30.0	30.0	30.0

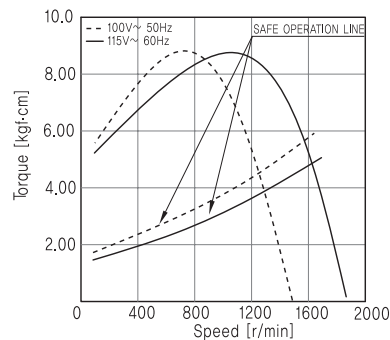
❖ Among GEAR HEAD model names, □ is reduction gear ratio.

❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.

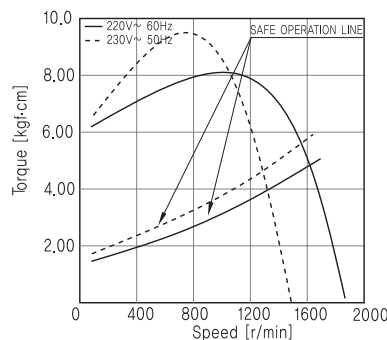
❖ Regarding direction of rotation, in case of □, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.

❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min).

Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.



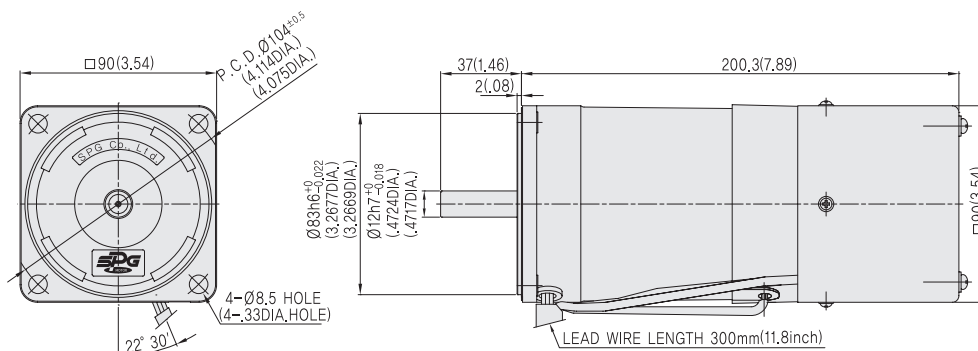
- ▶ SG9R40GA-ES12
- ▶ SG9R40KA-ES12
- ▶ SG9R40DA-ES12
- ▶ SG9R40SA-ES12



- ▶ SG9R40GB-ES12
- ▶ SG9R40KB-ES12
- ▶ SG9R40DB-ES12
- ▶ SG9R40SB-ES12

MOTOR

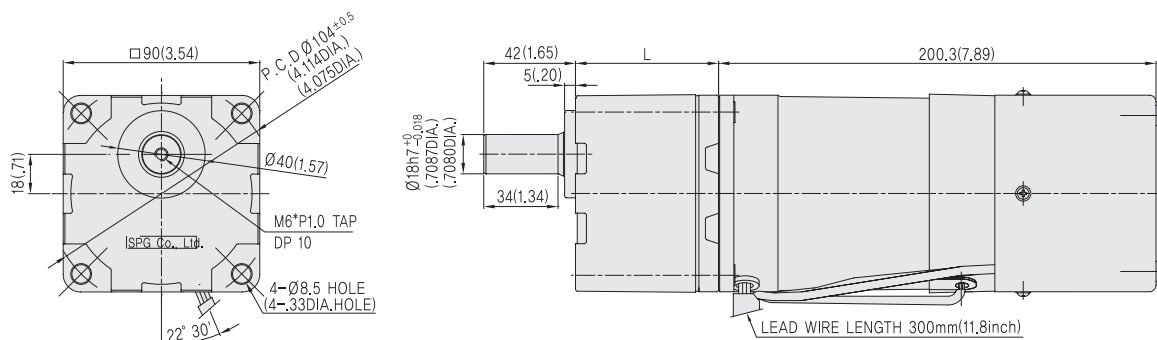
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9R60G□-E	SG9R60K□-E	SG9R60D□-E	SG9R60S□-E

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9KB□	SG9DB□	SG9SB□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□A□	5~25	45	0.85
		25~100	58	1.15
		120~300	64	1.30
MOTOR	SG9R60□□-ES12			2.90
	SG9R60□□-ES24			2.90



90W

E · S MOTOR

□ 90mm LEAD WIRE TYPE



■ SR TYPE SPEED CONTROL MOTORS

Motor Model	Controller Model	Poles	Voltage		Freq. (Hz)	Duty	Current (A)	Speed Range (r/min)	Permissible Torque				Starting Torque		Capacitor (μF)	Degree of Protection	Insulation Classification	Protected Type
			Phase	(V)					at 1200 r/min		at 90 r/min		(kgf · cm)	(mN · m)				
									(kgf · cm)	(mN · m)	(kgf · cm)	(mN · m)						
SG9R40GA-ES12	SRA02-A	4	1	100	50	S2(30min)	1.80	90-1400	6.70	0.67	2.70	0.27	7.50	0.75	35.0 (250V)	IP23	B(130)	T.P.
SG9R40KA-ES12				110	60		2.19	90-1700	5.50	0.55	2.20	0.22	7.70	0.77				
SG9R40DA-ES12				115	60		1.87	90-1700	5.40	0.54	2.20	0.22	8.30	0.83				
SG9R40SA-ES12				60	60		1.86	90-1700	5.30	0.53	2.20	0.22	8.80	0.88				
SG9R40GB-ES12	SRB02-B	4	1	200	50	S2(30min)	0.90	90-1400	6.80	0.68	2.80	0.28	7.90	0.79	8.0 (450V)	IP23	B(130)	T.P.
SG9R40KB-ES12				60	1.14		90-1700	5.70	0.57	2.30	0.23	7.90	0.79					
SG9R40DB-ES12				220	50		0.80	90-1400	6.60	0.66	2.70	0.27	8.40	0.84				
SG9R40SB-ES12				60	0.98		90-1700	5.50	0.55	2.20	0.22	8.40	0.84					
				230	50		0.80	90-1400	6.50	0.65	2.60	0.26	8.50	0.85	7.0 (450V)			
				60	60		0.98	90-1700	5.40	0.54	2.20	0.22	8.90	0.89				

- ❖ All the model of SG series received UL, TÜV, CCC certificate.
- ❖ output 6W product is Impedance Protected, 15~90W product is Thermally Protected type.
- ❖ Depend on the voltage, the capacitors are divided into two model. Please inquire separately when operational voltage is AC 100V or 200V.

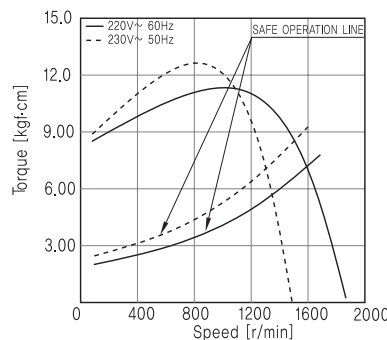
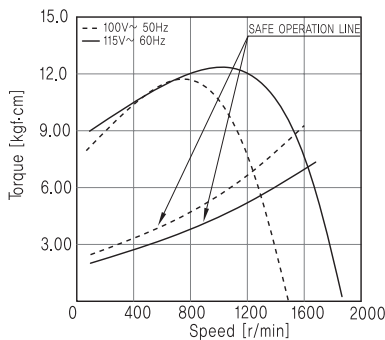
■ GEARED MOTOR – 50Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
		r/min	280	233	187	156	140	112	93.3	77.7	70.0	56.0	46.6	38.8	35.0	28.0	23.3	18.6	15.5	14.0	11.6	9.3	7.7
SG9KC □	kgf·cm	31.1	37.3	46.6	56.0	62.2	77.7	93.3	107	119	149	178	214	238	297	357	400	400	400	400	400	400	400
SG9DC □																							
SG9SC □	N·m	3.11	3.73	4.66	5.60	6.22	7.77	9.33	10.7	11.9	14.9	17.8	21.4	23.8	29.7	35.7	40.0	40.0	40.0	40.0	40.0	40.0	40.0

■ GEARED MOTOR – 60Hz

Model	Ratio	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
		r/min	340	283	227	189	170	136	113	94.4	85.0	68.0	56.6	47.2	42.5	34.0	28.3	22.6	18.8	17.0	14.1	11.3	9.4
SG9KC □	kgf·cm	25.7	30.8	38.5	46.2	51.3	64.1	77.0	88.2	98.0	123	147	177	196	245	294	346	400	400	400	400	400	400
SG9DC □																							
SG9SC □	N·m	2.57	3.08	3.85	4.62	5.13	6.41	7.70	8.82	9.80	12.3	14.7	17.7	19.6	24.5	29.4	34.6	40.0	40.0	40.0	40.0	40.0	40.0

- ❖ Among GEAR HEAD model names, □ is reduction gear ratio.
- ❖ Value of the chart is allowable torque of reduction gear of GEARED MOTOR.
- ❖ Regarding direction of rotation, in case of ■, its reduction gear ratio has same direction with MOTOR's and in case of □, its reduction gear ratio has the opposite direction of MOTOR's.
- ❖ rotation speed is calculated with synchronous rotation number of MOTOR(50Hz : 1500 r/min, 60Hz : 1800 r/min). Actual rotation speed can be less than (2~20%) depend on the size of the load 2~20%.

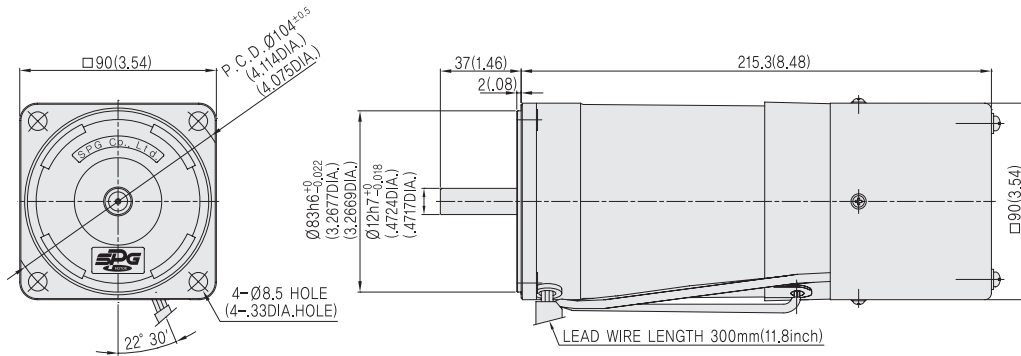


- ▶ SG9R40GA-ES12
- ▶ SG9R40KA-ES12
- ▶ SG9R40DA-ES12
- ▶ SG9R40SA-ES12

- ▶ SG9R40GB-ES12
- ▶ SG9R40KB-ES12
- ▶ SG9R40DB-ES12
- ▶ SG9R40SB-ES12

MOTOR

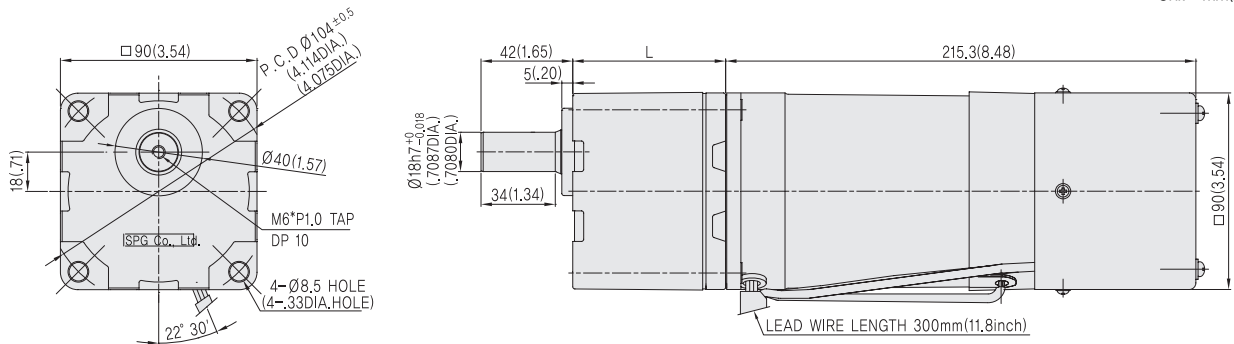
Unit : mm(inch)



MOTOR OUTPUT SHAFT	GEAR TYPE	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9R90G□-E	SG9R90K□-E	SG9R90D□-E	SG9R90S□-E

GEARED MOTOR

Unit : mm(inch)



GEAR HEAD OUTPUT SHAFT	KEY TYPE	D-CUT TYPE	STRAIGHT TYPE
	SG9K□	SG9DC□	SG9SC□

MODEL		GEAR RATIO	L	WEIGHT(kg)
GEAR HEAD	SG9□□□	5~15	45	0.85
		18~36	58	1.15
		50~180	70	1.42
MOTOR	SG9R90□□-ES12			3.41
	SG9R90□□-ES24			3.41