

3-3 TERMINAL BOX TYPE MOTOR

- Rescue line etc.. charging of MOTOR is sealed by TERMINAL BOX that protects against dust and moisture.
- Therefore, it is easy to use where environment-resisting is weighed.
- Also, was sealed certainly using GASKET.
- Grade of Unit Protection Structure of our TERMINAL BOX MOTOR is IP54
- It is designed by COMPACT
- GROUND terminal has attached.
- Piping is structured with convenient that working is excellent at connection, and CABLE is fixed certainly that tension is high after wiring cable.

4. About Time Rating

INDUCTION MOTOR is possible continuous operation (continuous rating).
 possible continuous operation time of REVERSIBLE MOTOR is 30 minutes. (30 minutes Rated: Was recorded that it is 30 mins on tabature.)

5. About burnout protection during arrest

This motor has burnout protection function at arrest. There are two kinds of protection in the following.

Thermal protector method (it is recorded THERMALLY PROTECTED on tabature.)

If becomes fixed temperature, built-in thermal protector operates and motor stops.

It is automatic return type that restarts operation automatically if temperature of motor goes down. Turn off power certainly and should be carried checking work

Impedance protector method (It is recorded IMPEDANCE PROTECTED on tabature.)

If become arrest state at abnormal, winding impedance grows and controls input to motor. Motor winding is designed not to be burned.

6. Installation of the product

6-1 Installation conditions

Install Motor, condenser in place that fulfill condition as followings.

If use in where it is not this extent, product can be damaged.

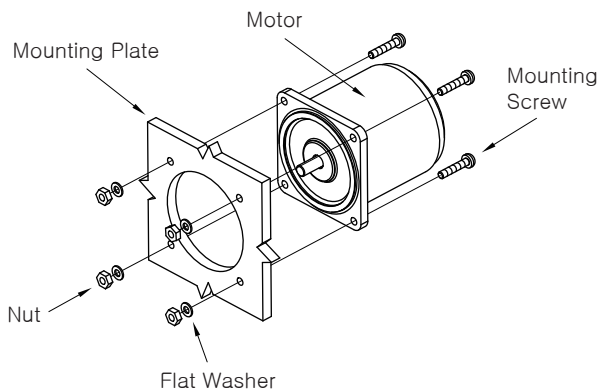
- Indoors (This product is designed, manufactured for device mounting.)
- Where ambient temperature is $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ (not to freeze)
 (Only, $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$ when operate by 100V/200V)
- Where is (where dew does not condensate) below ambient humidity 85%
- Where is not affected by explosive gas, flammable gas, corrosive gas
- Where no direct sunlight
- Where dust does not pile and water, oil do not bound
- Where heat goes well
- Where do not receive continuous vibration, excessive shock
- Where is altitude below 1,000 m

6-2 Installation of the motor

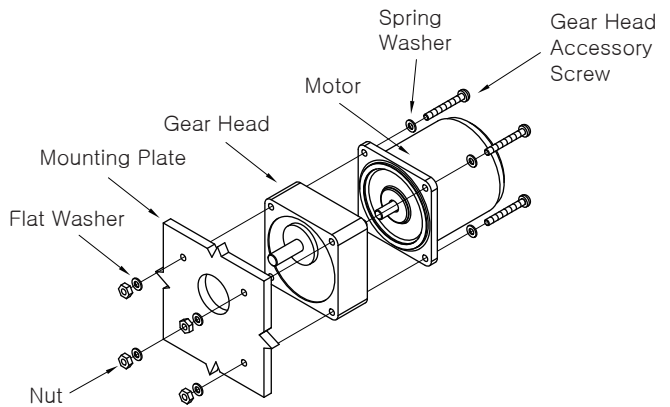
Mounting instruction changes according to shape of motor output shaft

■ INDUCTION/ REVERSIBLE MOTOR

Straight Shaft Type

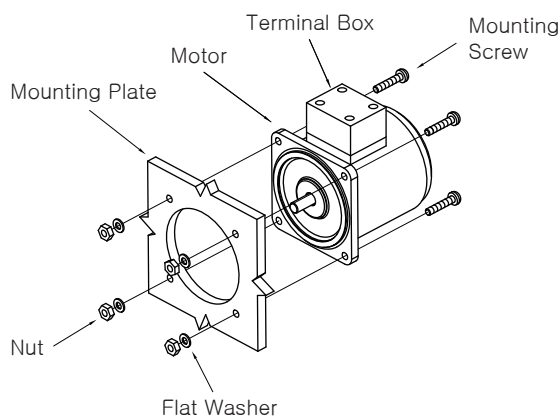


Pinion Shaft Type

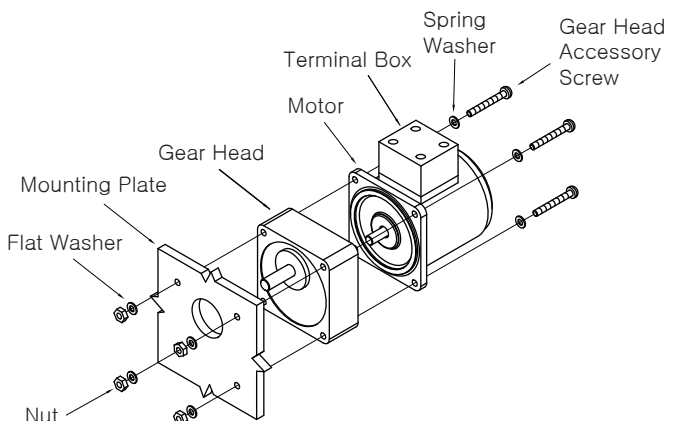


■ TERMINAL BOX TYPE MOTOR

Straight Shaft Type



Pinion Shaft Type



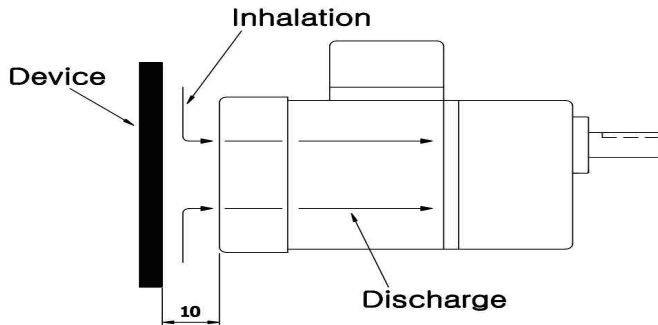
Make hole at mounting plate and fix motor on mounting plate using BOLT, NUT, WASHER. (Mounting screws are not offered.) This time, take care to avoid occurring notch between MOTOR mounting surface and mounting plate.

■ Mounting Screws

MOTOR Name	Screw Dimensions	Recommended tightening TORQUE
K6	M4	2.0N·m(20Kg·cm)
K7	M5	2.5N·m(25Kg·cm)
K8	M5	2.5N·m(25Kg·cm)
K9	M6	3.0N·m(30Kg·cm)
K10	M8	6.0N·m(60Kg·cm)

Cautions) Do not insert motor obliquely at mounting hole, or not mount by force.
Motor can be damaged due to the grooves in flange.

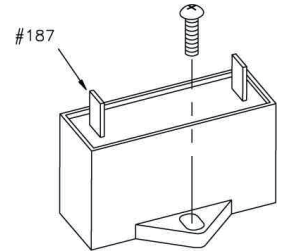
6-3 Installation of motor with fan



In case of install motor attached cooling fan, separate back of ventilator cover more than 10mm or make ventilating hole so that cooling intake of motor back part is not blocked.

6-4 Condenser install (Only single phase motor)

After confirm whether condenser capacity meets with capacity that recorded on motor tabature, please. attach condenser. Use M4 screw for install condenser. (Mounting Screws are not included)



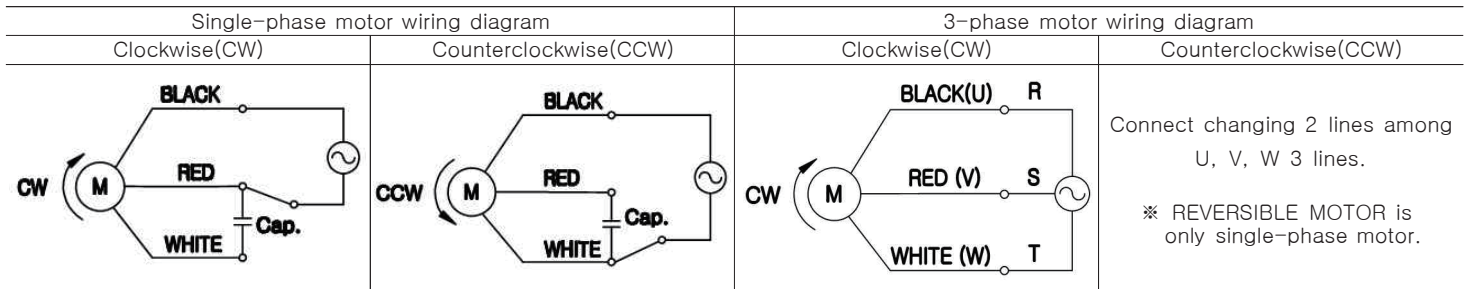
Note) Tightening torque of Condenser Mounting Screws shall be given by below 1 N·m (10 kgf·cms) of install angle for damage prevention.

Please leave at least 10cm away from the motor. Otherwise, the life-time of condenser will shorten by the heat of the motor.

7. Connection and operation

- Connect motor depending on connection wiring diagram, please.
 - All the connection parts such as motor leads and power connections, condenser terminal connection part etc. shall be insulated.
- Direction of rotation is an instance seeing from motor output shaft. Clockwise is CW, and counter clockwise is CCW.

■ INDUCTION/ REVERSIBLE MOTOR

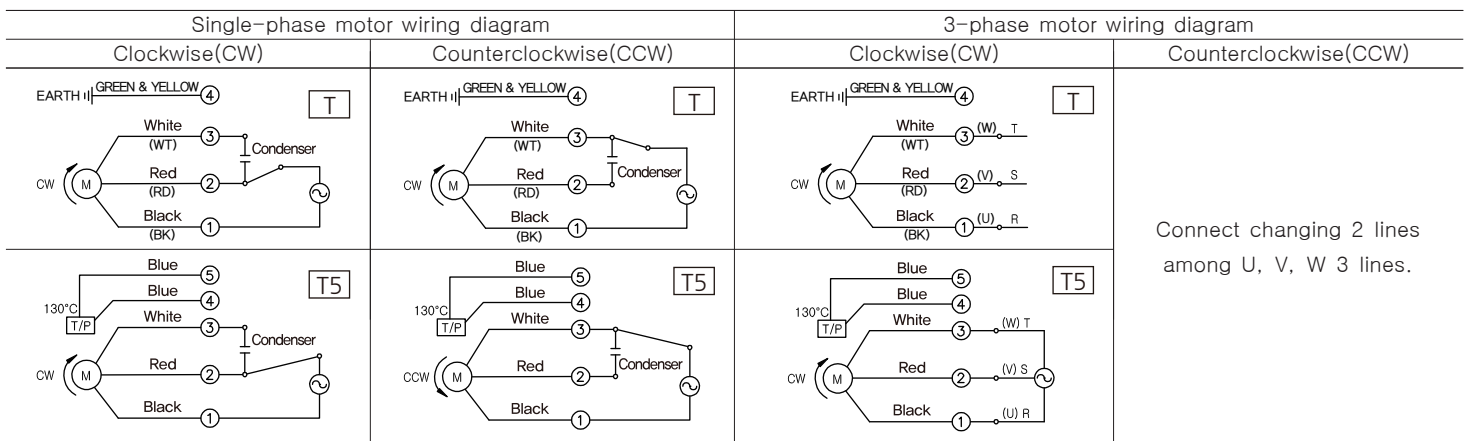
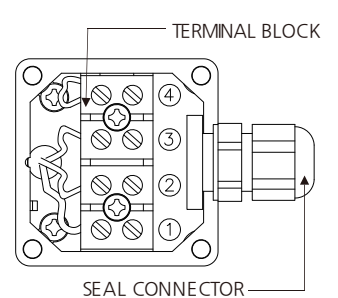
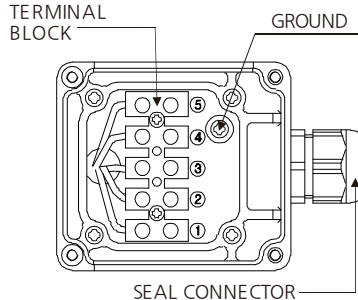
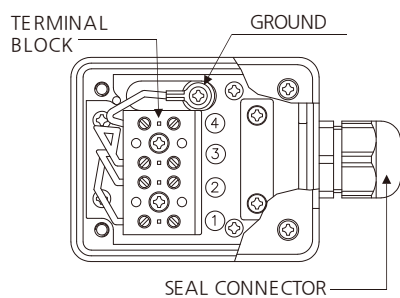


■ TERMINAL BOX TYPE MOTOR

- □80 25W~□90 200W(T)

- □80 25W~□90 200W(T5)

- □60 6W~□70 15W



* Cap. is abbreviation of CAPACITOR and also called (CONDENSER)

Cautions) · This MOTOR is B Class insulation MOTOR

Confirm whether Temperature of MOTOR case exceed 90°C while motor operation.

If operate MOTOR at temperature exceeding 90°C, winding, ball bearing become deterioration significantly and shorten the life.

Temperature of MOTOR case can measure fixing thermometer on the MOTOR surface.

Also, can measure using thermo tape or thermocouple

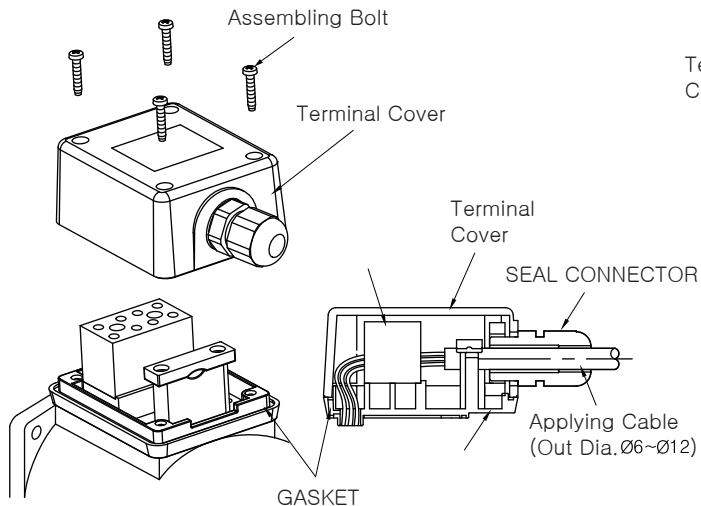
· Replacement of direction of rotation of Single Phase INDUCTION MOTOR MOTOR shall be done after stop motor perfectly.

Otherwise, direction of rotation does not change or there is in case of taking somewhat time.

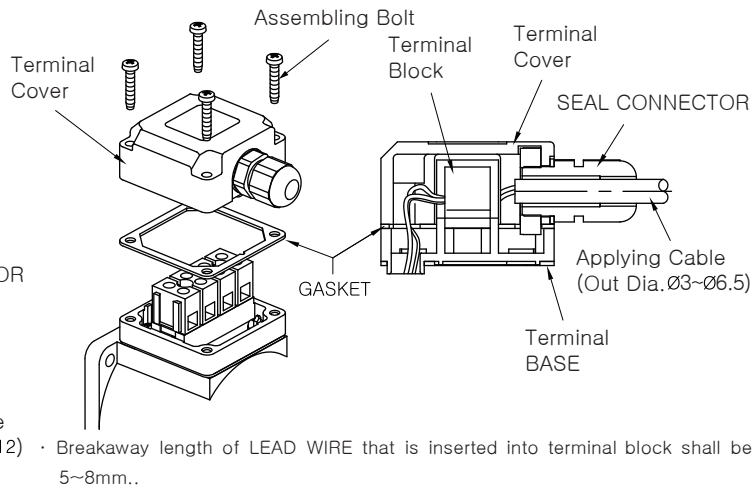
· For single phase motor, connect CONDENSER always even after MOTOR is moved using attached CONDENSER.

■ TERMINAL BOX Structure

- □80 25W ~ □90 200W



- □60 6W ~ □70 15W



8. Check points in case of does not work normally

In case of motor does not work normally, please check the table below as a reference. According to check result, despite it is all normally, in case of motor does not work right, do not decompose or repair, please contact our sales representative or distributor.

Phenomenon	Confirmation
Motor does not rotate Or, rotate slow	Is normal voltage applied to motor? Is power connected correctly? Is the load too big? In case of is extending using terminal block or crimp-terminal, is not there any bad connection? In case of single motor, condenser capacity recorded on tablature or attached condenser was connected with connection wiring diagram ?
Motor rotates and then does not rotate	Is connection with power correct? In case of is using terminal block and crimp-terminal, is not there any bad connection? In case of single-phase motor, condenser capacity recorded on tablature or attached condenser was connected with connection wiring diagram ?
rotate in the reverse direction	Was not connected differed from connection wiring diagram? Check connection wiring diagram again. Direction of rotation of gearheads output shaft changes according to deceleration ratio of gear head. Please refer to manual of gear head. In case of single-phase motor, condenser capacity recorded on tablature or attached condenser was connected with connection wiring diagram ? Is not differ from viewing direction? When see in motor output shaft side, it is called direction of rotation is clockwise or anticlockwise.
The motor is too hot (temperature of motor case is exceeding 90°C.)	Is normal voltage applied to motor? Does not ambient temperature range exceed limit? In case of single-phase motor, condenser capacity recorded on tablature or attached condenser was connected with connection wiring diagram ?
Producing abnormal sound	Did you put motor and gear head correctly? Please refer to manual of gear head. Did install same toothwheel shaft type reducer such as motor?

※ Please contact your dealer or our 2nd factory for Product inquiries and A/S request

Leader of geared motor. GGM CO. LTD.,

<http://www.ggm.co.kr>

Head Office / Factory #1

22, Gyeongin-ro 3beon-gil, Bucheon-si, Gyeonggi-do, Republic of Korea
TEL : 82-32-664-7790 FAX : 82-32-611-7791

Factory #2

180, Oksan-ro, Bucheon-si, Gyeonggi-do, Republic of Korea
TEL : 82-32-684-7791 FAX : 82-32-683-5059