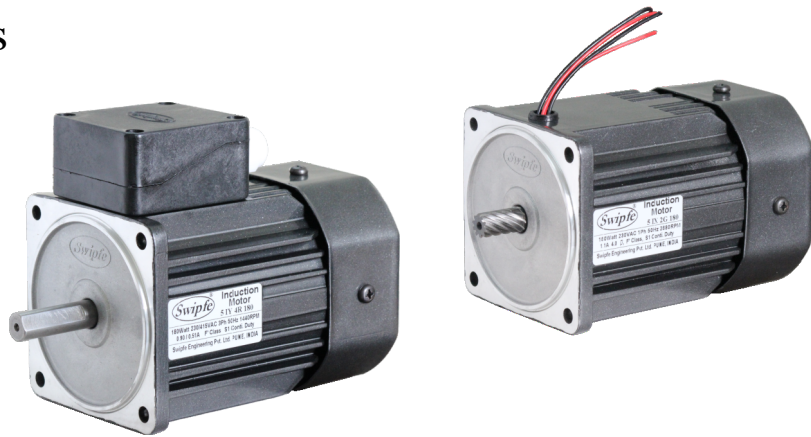


Induction Motors / Reversible Motors

MT3 ☐ 65
MT4 ☐ 80
MT5 ☐ 90

Thank you for purchasing Swipfe Motors.
Please read this operation manual thoroughly
before installing and operating the motor, and
always keep the manual where it is readily
accessible.



1. Verifying Product Name and Accessories

This manual covers all induction & reversible motors or 12w, 25w, 40W, 60w, 90w, 180w having 720 / 1440 / 2880 RPM with Gear, Round, Frame and Custom type shaft. Check the motor type, wattage, voltage, speed etc. and accessory capacitors are the ones you ordered. This box contains,

*Motor 1 piece

*Capacitor 1 piece (for single-phase motor)

2. Surrounding

1.1 Surrounding Restrictions

This product is designed and manufactured to be mounted in an indoor machine under following conditions.

Ambient temperature between -10°C ~ 40°C

Ambient humidity 0 - 85% (non-condensing)

No explosive, flammable, and / or corrosive gas.

No exposure to direct sunlight.

No splashing of water or exposure to dust or debris.

No oil or grease, organic solvents, acid and alkaline chemicals.

No continuous vibration or excessive shock.

Height above sea level not exceeding 1000 meters.

1.2 Precautions for Installation & Operation

When installing the motor into your equipment, ensure that the motor lead wires are fixed and do not move.

In addition, do not apply any pressure to these lead wires.

The motor housing must be mounted with a screw and spring washer to the ground point of the equipment.

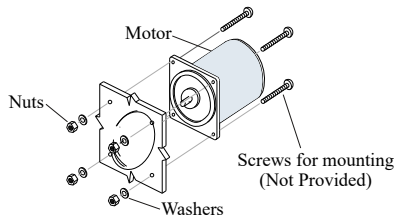
Installation must be performed by a qualified installer.

The enclosure temperature of this motor can exceed 70°C (depending on operation conditions). In case motor is accessible during operation, please attach the following warning label so that it is clearly visible. Always turn off the power to the motor before conducting checks or performing work on the motor. Thermally protected motors will restart automatically when motor temperature falls below a certain level.



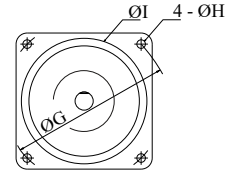
3. Installation

3.1 Mounting the motor Round shaft Motor

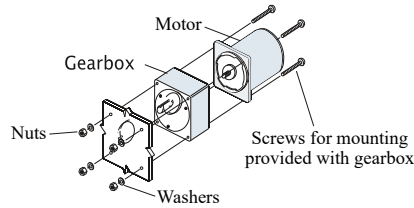


To install the motor on the equipment, make installation holes and/or tapping in the mounting place. Use four screws and secure the motor so that there are no gaps between the motor flange surface and the mounting surface. Four screws are necessary for mounting (not provided). Ensure that the spigot does not rest on the plate and has sufficient clearance.

Motor Frame	Mounting Hole Dimensions		
	G	H	I
MT3 □ 65	76	5.5	58
MT4 □ 80	94	5.5	73
MT5 □ 90	104	6.5	83



Pinion Shaft Motor and Gear head



To install motor and gearbox on the equipment, make installation holes in the mounting place. Use screws provided with gearbox and secure the motor and gearbox so that there are no gaps between the motor flange surface, surface of gearbox and the mounting surface. For dimensions of installation holes and the detail of mounting, see the operation manual of gearbox. Be sure that only Swipfe gearboxes are used with Swipfe motor of same square frame.

3.2 Mounting the capacitor (For single phase motor only)

Before mounting the provided capacitor, check the capacitor's capacitance matches that stated on the motor's name plate. Keep the capacitor connected all the time after the motor has been installed. Use clamp to mount the capacitor (not provided).

Note: Mount capacitor at least 10 centimeter away from the motor. If it is located closer, the life of the capacitor will be shortened.

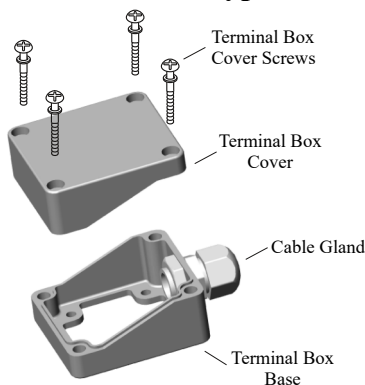
4. Connection and Operation

Make sure that the temperature of the motor case does not exceed 90° C during motor operation. When motor is operating, Some heat in the motor is unavoidable since heating is produced by an energy loss in the motor, if the motor is operated at high temperature, however, the life of the windings and the ball bearings is shortened. The temperature of the motor case can be measured by fixing a thermometer to the motor surface, or by using thermotape or a thermocouple. Before reversing the direction of Rotation of induction motor, make sure that the motor has stopped completely.

4.1 Lead Wire Type

Connection differs depending on the motor model and the required direction of rotation. Connection diagrams are shown below. Direction of rotation in the diagram is shown as viewed from the shaft side of the motor. Remember that depending on the reduction, some gearbox models reverse the direction of rotation of the motor shaft (see gearbox manual). In such a case, the desired direction of rotation can be achieved by reversing the direction of motor rotation.

4.2 Terminal Box Type



To ensure safety, ground the motor using the grounding terminal inside the terminal box. For wiring, be sure to use cable that meets the following specifications.

Cable: Diameter is 3.5mm ~ 8.0mm

Lead Wires: Thickness is 0.25mm² ~ 1.0mm²

While fitting the terminal box cover, ensure that no scraps or particles get trapped between the contact surfaces.

In order to maintain a tight seal around the terminal box, use only the provided screws. Also, this terminal box is constructed to hold a sealing Gasket. If this Gasket comes out of the box, please fix it correctly in the groove on the box.

Clamping Torque

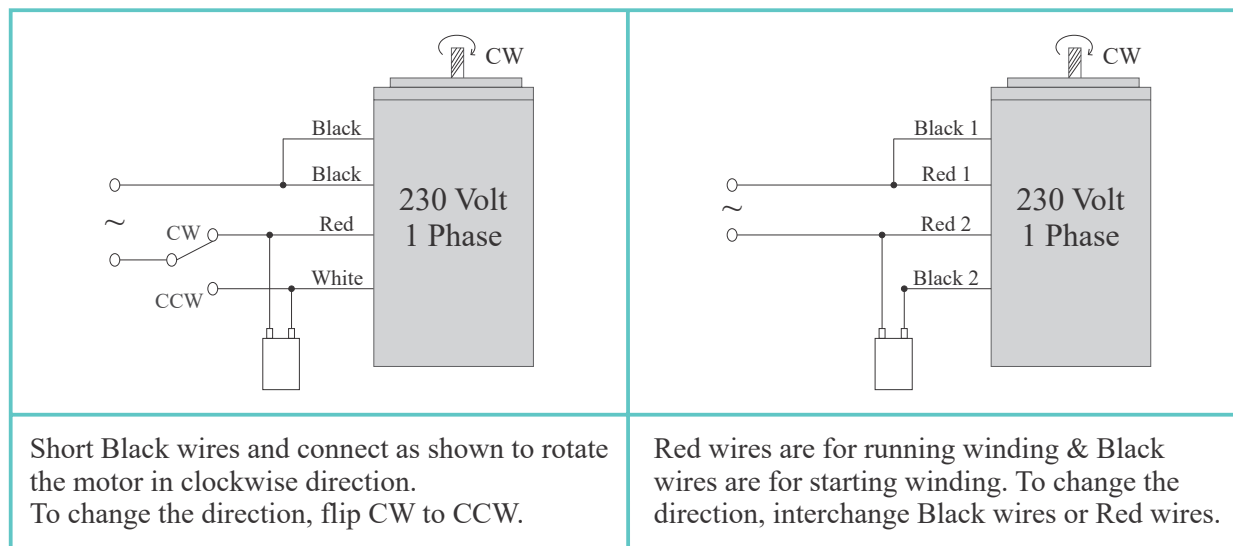
	Nm
Terminal Box Cover	0.5 ~ 0.7
Cable Gland Outlet	2.0 ~ 3.0
Wire Connecting Terminals	0.5 ~ 0.8

Note: To make sealing function fully effective, use a cable of an appropriate diameter. Also refer to the clamping torque table at left to determine the appropriate Clamping torque to use while fastening the terminal box cover and cable gland.

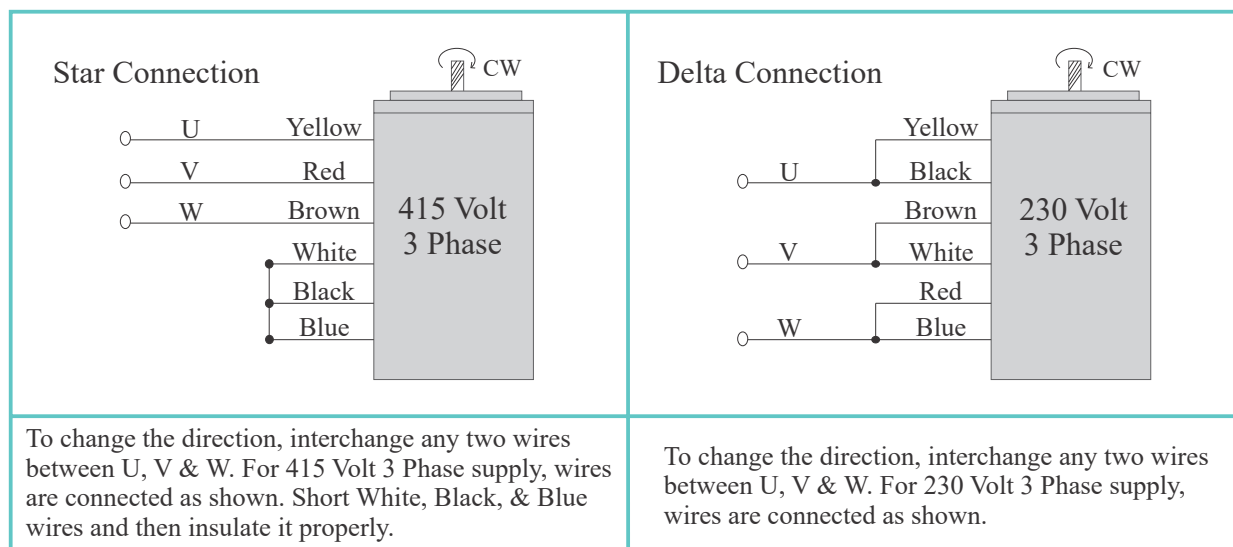
Operation Manual

5. Connection Diagrams

Wiring Diagram for Single Phase Motor



Wiring Diagram for Three Phase Motor



Change the direction of the motor only after it stops rotating. If the attempt is made during rotation, motor may ignore the reversing command or change the direction after some time.

Note: When motors are running, a voltage of twice the motor power supply voltage is applied across the terminals of the capacitor. The terminals must therefore be insulated to ensure safety, it is recommended to use a capacitor cover to insulate the terminals.

6. Duty cycle

Induction motors have a continuous rating.
Reversible motors have 30 minute rating.

7. Overcurrent / Overheat Burnout Protection

To prevent burning of windings as a result of overcurrent / overheating by locked rotor or similar condition, use a MCB and set the current to a little higher than the full load current. When motor starts drawing more than a full load current, it is an indication of a malfunction and the supply trips at a certain level.

8. Troubleshooting

If your motor does not operate normally, check the following points and take the necessary steps.

Motor does not rotate or motor rotates at low speed.	<ol style="list-style-type: none">1. Is proper voltage applied to the motor?2. Are lead wires properly and firmly connected?3. Is the load too large or mechanical alignment correct?4. If lead wires have been extended by using a terminal strip or terminal block, are the lead wires properly and firmly connected at all points?5. Is wiring correct as instructed in the wiring diagram?6. Is the capacitor properly connected and is not leaked (for Single Phase Motors).
Motor rotates in wrong direction.	<ol style="list-style-type: none">1. Is wiring correct as instructed in the connection diagram?2. Did you view the motor from the wrong direction? (The connecting diagram is shown assuming that you view the motor from the flange surface of the motor). Remember that the direction of rotation of the output shaft may be reversed due to reduction ratio of the gearhead.
Motor becomes abnormally hot.	<ol style="list-style-type: none">1. Is proper power-source voltage applied?2. Is the load too large?3. Is wiring correct as instructed in the wiring diagram?4. Is ambient temperature too high?
Motor is giving current in body.	<ol style="list-style-type: none">1. Is any screw of terminal box or fan cover changed to a longer one?2. Is any foreign particle gone inside the motor body?

Specifications are subject to change without notice.