

Gearmotor with Brake Wiring

Types of Wiring and Selecting Points

Wiring	Selecting Point	Inverter	Hoisting Operation	Wire Saving	Braking Delay
DC Switching	Because of the shortest braking delay time, most appropriate for the application which needs sudden braking such as hoisting operation.	(Usable)	(Optimum)		
AC Switching (A)	Separate circuit can be employed for motor and brake. Therefore, most appropriate for inverter drive operation.	(Optimum)	(Usable)		
AC Switching (B)	This is the simplest way. Operation can be done only by connecting to the power source. You can save wiring.	x(Unusable)	x(Unusable)		

Note) Braking delay time indicates interval between switching off and brake on. (Not the braking time.)
 For braking delay time by wiring method, refer to Table-15 on page E21.
 In case braking time is needed, refer to the calculation method on page E8.

Wiring Method [Standard Voltage]

No.	Motor Capacity Designation 3-Phase [T50 ~ T040·075 ~ 220]	Motor Capacity Designation 1-Phase [S100]	Motor Capacity Designation 1-Phase [100 ~ 400]
1. DC Switching			

S: Rotation Changeover Switch C: Capacitor MS: Electro-Magnetic Switch -N: Surge Suppressor (option)

- Note 1**) For the application of vertical motion such as lifting, DC Switching wiring should be employed.
- 2**) It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423 ~ 517V)
- 3**) The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to shield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
- 4**) Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.
- 5**) For wirings and cautions in case of inverter drive, refer to page E44.

Wiring Method [High Voltage]

No.	Motor Capacity Designation 3-Phase [T50 ~ T040W·075W ~ 220W]	Motor Capacity Designation 1-Phase [S100W]	Motor Capacity Designation 1-Phase [100W ~ 400W]
1.DC Switching			
2.AC Switching(A)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.
3.AC Switching(B)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.

S: Rotation Changeover Switch C: Capacitor MS: Electro-Magnetic Switch -N: Surge Suppressor (option)

- Note 1)** For the application of vertical motion such as lifting, DC Switching wiring should be employed.
- It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423 ~ 517V)
 - The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to shield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
 - Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.
 - AS for the 3-phase/double voltage model or over 230V model, be sure to connect 200V leads(red, 0.75 ~ 2.2kW for B terminal), which are extended out from the motor for the brake supply, to the input of rectifier.
In case of the operation by inverter drive, the 200V terminal extended out from the motor is not feasible. For details, contact us. For cautions in case of inverter drive, refer to page E44.

Braking Delay Time: T_a

Braking delay time indicates interval (second) between switching off and brake on.
(Not the braking time.)

Table-15

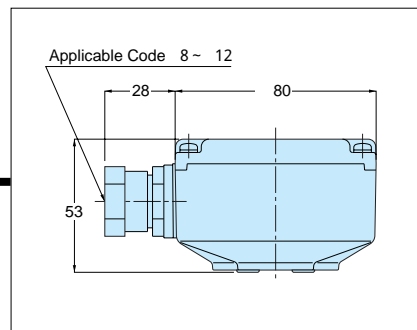
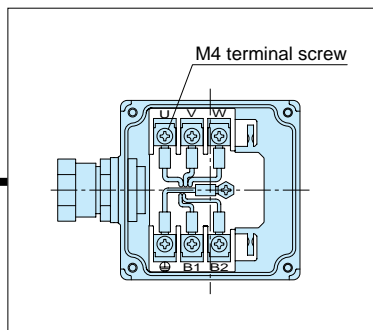
No.	Motor Capacity Designation 3-Phase [T50 ~ T040 ·075] 3-Phase [T50W ~ T040W·075W]	Motor Capacity Designation 3-Phase [150 ·220] 3-Phase [150W·220W]	Motor Capacity Designation 1-Phase [S100 ·100 ~ 400] 1-Phase [S100W·100W ~ 400W]
1.DC Switching	0.005 ~ 0.015	0.005 ~ 0.020	0.005 ~ 0.015
2.AC Switching(A)	0.03 ~ 0.10	0.05 ~ 0.15	0.03 ~ 0.10
3.AC Switching(B)	0.1 ~ 0.2	0.2 ~ 0.4	0.1 ~ 0.2

- Parallel Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reducer (Double Shaft)
- S-Type Reducer
- Right Angle Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch /Brake
- Reduce (Double Shaft)
- S-Type Reducer
- Hollow Shaft Solid Shaft Performance Table/Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reduce (Double Shaft)
- S-Type Reducer
- Concentric Hollow Shaft Concentric Solid Shaft Performance Table Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reducer (Parallel Shaft)
- S-Type Reducer
- Technical Information
- Standard Motors
- Cautions for Safety
- Option
- GT-STEP Index Gearmotor
- KOMPASS Gearbox

Water-Resistant Specifications Gearmotor with Brake Wiring·Rectifier

E-Type Terminal Box 3-Phase/Standard Voltage·High Voltage

Separated rectifier type is the standard specification of the terminal box in gearmotor with brake. please refer to page E31 for rectifier built-in type.



Wiring for Water-Resistant, Outdoor Gearmotors with Brake

Wiring Method

Wiring	Motor capacity designation		Braking Delay Time: t_a Braking delay time indicates interval (second) between switching off and brake on. (Not the braking time.)
	Standard Voltage 3-Phase [T010 ~ T040·075]	High Voltage 3-Phase [T010W ~ T040W·075W]	
AC Switching (A)	<p>Blue for Rectifie Blue should be short circuited.</p>	<p>Blue for Rectifie Blue should be short circuited.</p>	0.03 ~ 0.13
AC Switching (B)	<p>Blue for Rectifie Blue should be short circuited.</p>	<p>Blue for Rectifie Blue should be short circuited.</p>	0.1 ~ 0.3
DC Switching			0.005 ~ 0.015

S: Rotation Changeover Switch C: Capacitor MS: Electro-Magnetic Switch -N: Surge Suppressor (option)

- Note 1)** For the application of vertical motion such as lifting, DC Switching wiring should be employed.
- 2)** It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423 ~ 517V)
- 3)** The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to shield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
- 4)** Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.
- 5)** For 3 phase High voltage or 230V and above special voltage, please use and connect with AC 200V terminal which is separately take out from the motor, (Red wires, and 0.75kW type is B terminal) and input terminal of rectifier. However, separated 200V terminal cannot be used for use of inverter, Please contact as for more information. For wiring or notes for use of inverter, Please refer to page E44.