



## Induction Motor & Speed Reducer Installation Manual



Thank you for selecting SESAME products.  
Please read this manual before operation.



ISO 9001  
ISO 14001

Safety Standards: The safety standard marks are indicated on the nameplates of approved products.

### 1. Attention

#### 1.1 Install preparation

- ◆ Please read this operation manual before using this motors. Any problems caused by inappropriate operation contrary with the manual, or damage caused by natural disasters, or restructure without our permission, Sesame will not take any responsibility nor will the motor / speed reducer be cover by warranty.
- ◆ Warranty is within one year after purchase. Within warranty period, if motor / speed reducer damage is not caused by operation error or by natural disaster, then please send back the product, we should replace the damaged spare part at free of charge.
- ◆ Before Installation, ensure correct voltage can be applied to motor
- ◆ Do not bend the lead wires.
- ◆ Installation should be proceeded by trained technicians only.
- ◆ Please wire motor correctly according to the manual to prevent fire or electrical shock.
- ◆ Do not attempt to disassemble or modify the motor to prevent electrical shock or injury.

#### 1.2 Installation Conditions

The conditions below must be fulfilled to avoid any motor damage, which is not covered under warranty.

- ◆ The motor was designed to be installed on the other facilities/applications.
- ◆ Do not expose the motor to flammable or corrosive gas.
- ◆ Indoor application only. Room temperature should be maintained between -10 ~ +50°C (-10~+40°C for motor with capacitor)
- ◆ The air humidity should not exceed 85%.
- ◆ The altitude of where the motor was installed should not exceed 1000 meter above the sea level.
- ◆ Do not expose the motor to the sunshine directly. Dust and spray of oil/water is also forbidden.
- ◆ Avoid any continuous vibration or impact on the motor.
- ◆ Ensure the motor was installed in a well ventilated location.

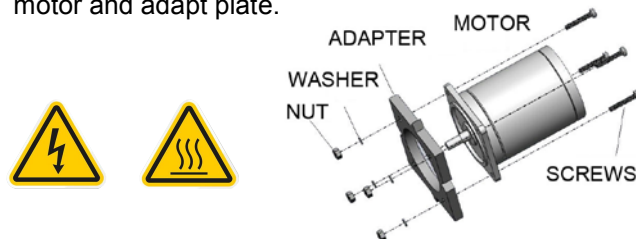
#### 1.3 Preparation of start up

- ◆ Please check the power supply before starting the motor.
- ◆ High temperature might cause the coil and bearing failed earlier.
- ◆ Do not connect the motor with inverter.
- ◆ Motor might burn out if wrong wiring or overloaded.

### 2. Installation

#### 2.1 Round shaft model

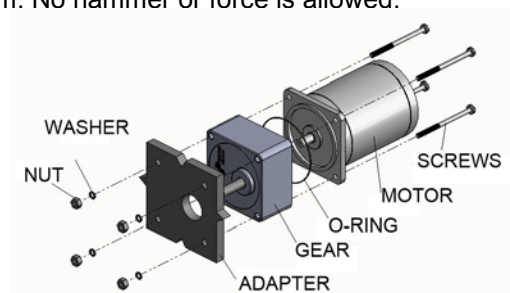
- ◆ Mount the motor on the adapt plate by screws. Make sure the motor and the adapter were tightly mounted. (Note that screws for connecting motor and machine were not included)
- ◆ Please note that there should be no gap between motor and adapt plate.



Flange dim. □ :	Screw	Tightening torque
60mm	M4	2.0 N · m
70mm	M5	2.5 N · m
80mm	M5	2.5 N · m
90mm	M6	3.0 N · m

#### 2.2 Gear shaft model

- ◆ Install motor and speed reducer by turning speed reducer left and right when gently inserting motor gear shaft into speed reducer until no gap between the mounting surfaces. Insert the screws and tighten them. No hammer or force is allowed.



- ◆ O-rings are necessary for some specific models. Please install accordingly.

#### ! Attention

- ◆ Metal chips/unconfirmed substance left inside speed reducer or incorrect installation will damage gears and results in abnormal noise, short lifespan or accident. Please be alert.
- ◆ Installation is available only when speed reducer and motor output shaft have the same gear type. Please confirm the specification of both products before installation.
- ◆ Specification compatibility check is required before applying both products to other machinery or equipment.
- ◆ Sesame Motor Corp. is not responsible for any cause there might occur if user's neglects of specification compatibility checking.

#### ! Attention

- ◆ The product must always be switched off before any work is performed on it (assembly, dismantling, maintenance, installation). The product must be disconnected from the electrical system and secured against being switched on again. All rotating parts must have come to a stop.

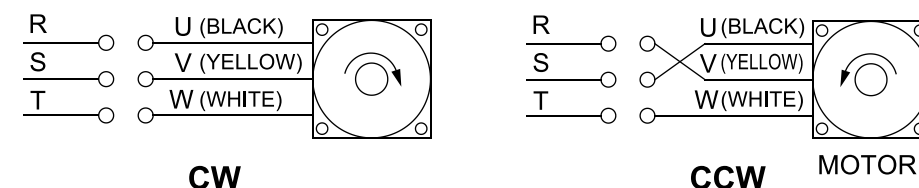
- ◆ Incorrectly performed electrical work can result in fatal injury! This work may only be carried out by a qualified electrician.
- ◆ The housing parts can heat up to well above 40°C. There is a danger of burns. After switching off, let the product cool down to ambient temperature.

### 3. Wiring Diagrams

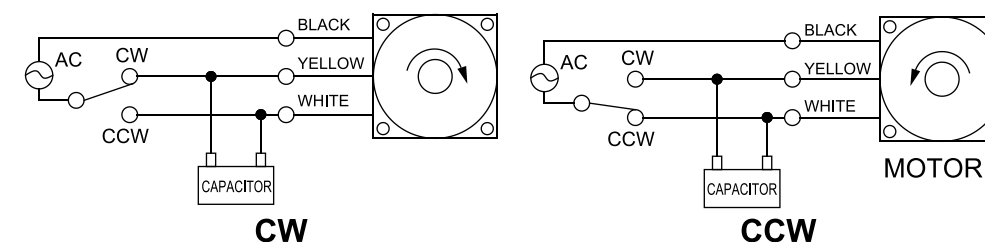
- ◆ The motor rotating direction was defined by looking toward the output shaft. In the forward direction for CW, reversed direction for CCW.
- ◆ 1 phase motor rotating direction change is available by switching wiring to CW. or CCW.
- ◆ 3 phases motor rotating direction change is available by switching any two wires of U, V, and W.

#### 3.1 Induction / reversible motor

##### 3.1.1 3 phases



##### 3.1.2 1 phase

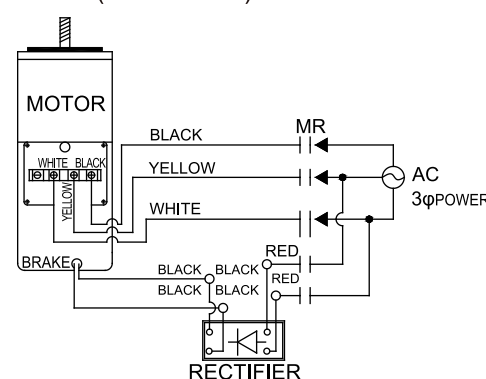


#### 3.2 Brake motor

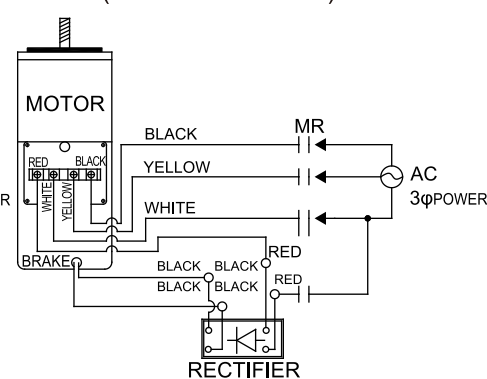
#### ! Attention

- The lining clearance will bigger than 0.3~0.35mm after a period of usage, please contact us to replace the lining.
- Isolating wiring is required when frequent braking condition.

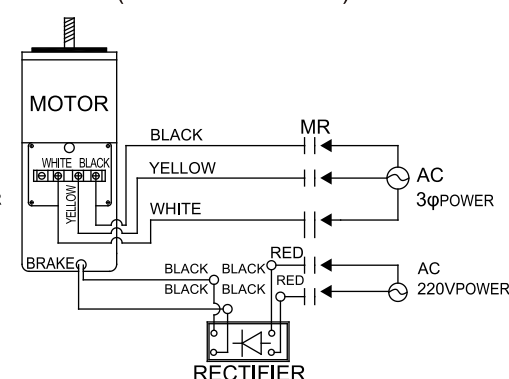
##### 3.2.1 3 phases brake motor with terminal box. (220V / IP54)



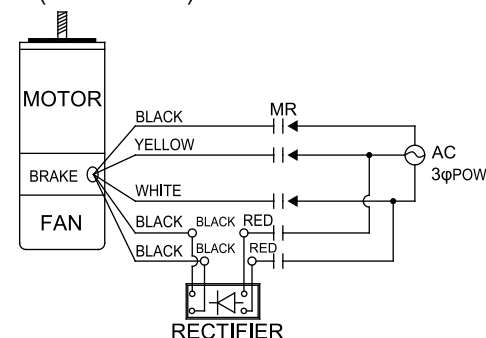
##### 3.2.2 3 phases brake motor with terminal box. (380V~460V / IP54)



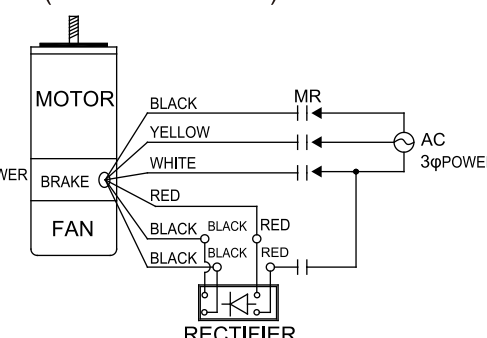
##### 3.2.3 3 phases brake motor with terminal box. (460V~600V / IP54)



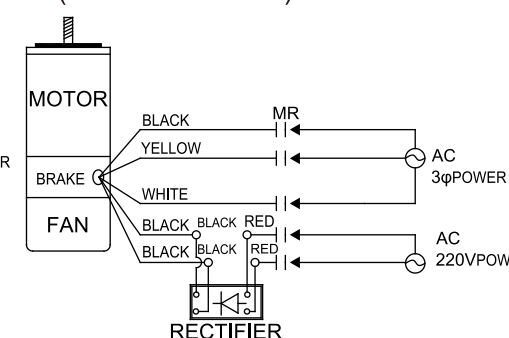
##### 3.2.4 3 phases brake motor (220V / IP22)



##### 3.2.5 3 phases brake motor (380V~460V / IP22)



##### 3.2.6 3 phases brake motor (460V~600V / IP22)





感謝您選用世協電機產品，  
在安裝及操作本產品前，請詳細閱讀本說明書



ISO 9001  
ISO 14001

認證聲明：因各國安規之差異關係，產品銘牌上列出安規標章者，即為符合該驗證。

## 1. 注意事項

### 1.1 安裝前準備

- ◆使用前請熟讀“操作說明書”，若因人為原因、非產品本身原因或天災發生等因素而導致不良或損壞，在操作時違反本說明書所示內容而造成的損害，或未依照原本設計之使用方式及非經由本公司進行的改裝及維修所造成的故障，本公司將不承擔任何賠償責任，特此聲明，敬請見諒。
- ◆本公司的產品保固期間為購買產品後一年內。保固期限內，若產品因非人為因素而發生故障，客戶將產品寄回，本公司免費更換受損零件。
- ◆安裝前請先確定使用正確之電壓規格。
- ◆請勿施壓於出口線上。
- ◆請指定技術人員進行安裝。
- ◆請按照接線圖確實地進行接線，否則有可能引起火災或觸電。
- ◆請勿對馬達進行拆解或改造，否則有可能引起觸電或受傷。

### 1.2 安裝環境的限制

馬達必須依據下列條件安裝，不符合下列之安裝條件及使用環境將會損害到本馬達，不在保固範圍內。

- ◆本產品之設計或製造，為使用裝配於其他之機械設備上。
- ◆避免將馬達使用於可燃氣體或腐蝕氣體之環境
- ◆限使用於室內。周溫範圍-10~+50℃（電容器組合馬達-10~+40℃）。
- ◆溼度：不可超過 85%，以避免水氣凝結。
- ◆高度：不可超過海平面 1000 公尺。
- ◆避免陽光直射，灰塵堆積。
- ◆避免水或油的噴濺。
- ◆避免連續性震動或撞擊。
- ◆使用於良好通風之場所。

### 1.3 操作準備

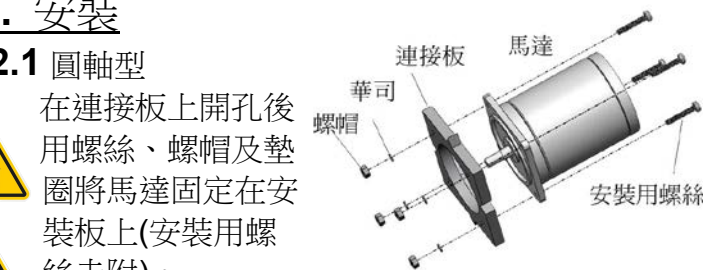
- ◆馬達啟動前請檢查電源。
- ◆高溫會損害線圈或培林之壽命。
- ◆使用前請先確認電容器規格。
- ◆請勿搭配變頻器使用。
- ◆馬達接線錯誤會導致馬達燒毀。
- ◆馬達超負荷使用有燒毀之虞。

## 2. 安裝

### 2.1 圓軸型

在連接板上開孔後用螺絲、螺帽及墊圈將馬達固定在安裝板上(安裝用螺絲未附)。

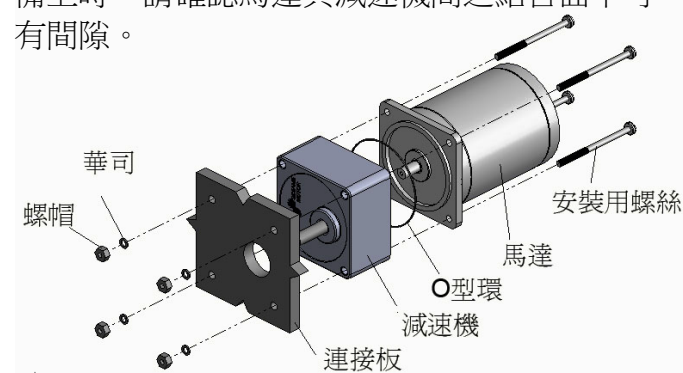
請注意馬達的安裝面與連接板之間不要留有縫隙。



法蘭面□：	螺絲規格	安裝力矩
60mm	M4	2.0 N·m
70mm	M5	2.5 N·m
80mm	M5	2.5 N·m
90mm	M6	3.0 N·m

### 2.2 齒輪軸型

將馬達齒形出力軸端與減速機金屬板端結合，結合時不可硬擠或敲擊，將減速機輕輕左右旋轉，再慢慢的銜接，使用附屬之螺絲安裝於設備上時，請確認馬達與減速機間之結合面不可有間隙。



★部份機種附加 O 型環，請確實依安裝位置安裝，以免發生漏油。

### ! 請注意

- ◆減速機若有金屬屑或異物，或未依上述方法與馬達正確組合，將會使齒輪受傷而產生異音，減少二者使用壽命，也可能造成意外，請特別注意。
- ◆只有相同齒形的減速機及馬達出力軸，才能互相匹配組裝。
- ◆將本公司產品與其他產品搭配使用時，請確認是否符合客戶所需之規格、法規或限制等。
- ◆此外，請客戶自行確認目前所使用的系統、機械或是裝置是否適用於本公司產品。
- ◆如未確認是否符合或適用時，本公司無須對本公司產品的適用性負責。

### ! 請注意

- ◆對本產品進行任何維護工作前(包括安裝、拆卸、維修保養等)務必先關閉開關，切斷電源並且確保維護中電源不會被開啓。所有運轉部件都必須停止運轉。

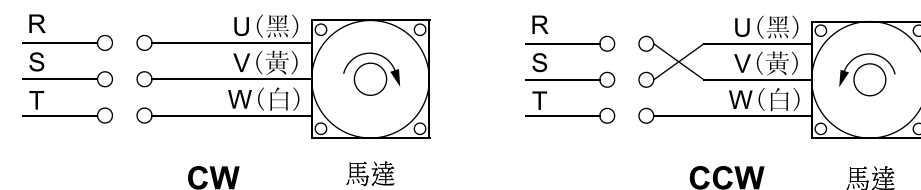
- ◆未正確的配接電源可能會引起觸電導致嚴重傷害！請由合格電氣技師人員實施。
- ◆馬達運轉時表面溫度會超過40℃，可能造成燙傷。產品維護工作請於關閉電源並且等待馬達溫度降至室溫後實施。

## 3. 配線圖

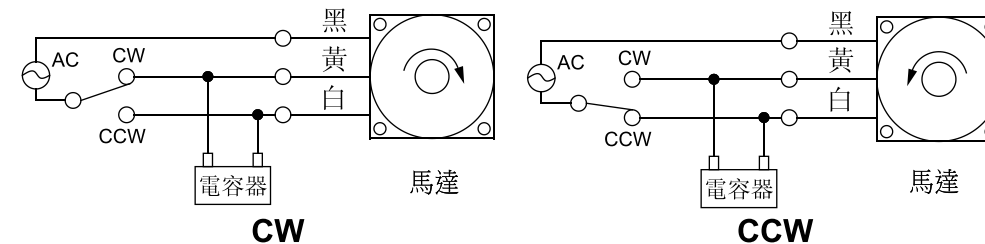
- ◆馬達運轉方向乃為從輸出軸心正視目測到的方向。正轉方向為 CW，逆轉方向為 CCW。
- ◆單相馬達運轉方向的切換：將開關扳至 CW 時馬達則以順時鐘方向運轉，開關扳至 CCW 時，則以逆時鐘方向運轉。
- 三相馬達運轉方向的切換：只須改變 U、V、W 中任何 2 線的位置，馬達便會以逆時鐘方向運轉。

### 3.1 感應式 / 可逆式馬達

#### 3.1.1 三相馬達



#### 3.1.2 單相馬達

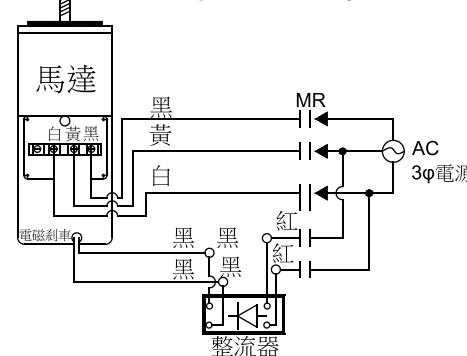


### 3.2 剎車馬達

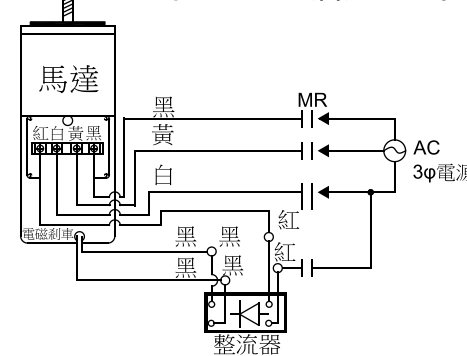


- ▶請注意 使用一段時間之後，來令片間隙超過 0.3~0.35mm，請更換來令片。
- ▶剎車馬達使用頻繁及高應答時，請使用隔離配線。

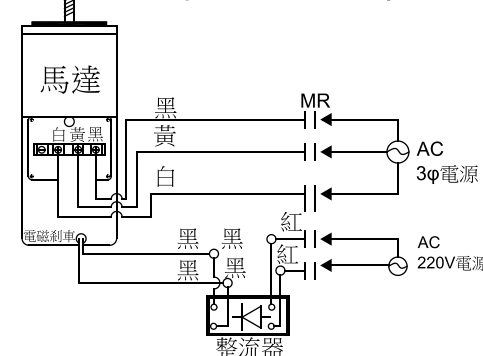
#### 3.2.1 T盒三相剎車馬達 (220V/ IP54)



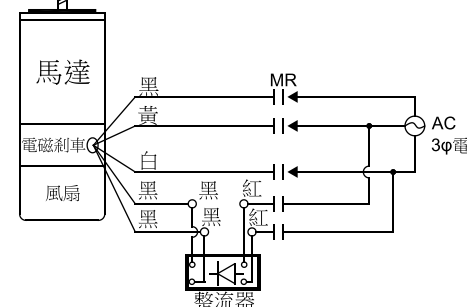
#### 3.2.2 T盒三相剎車馬達 (380V~460V(含)/ IP54)



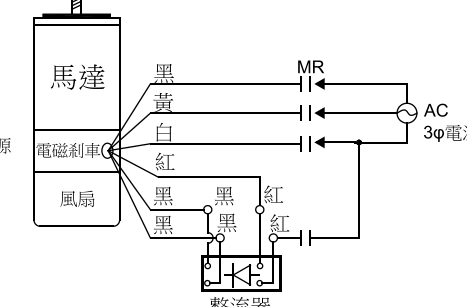
#### 3.2.3 T盒三相剎車馬達 (460V~600V/IP54)



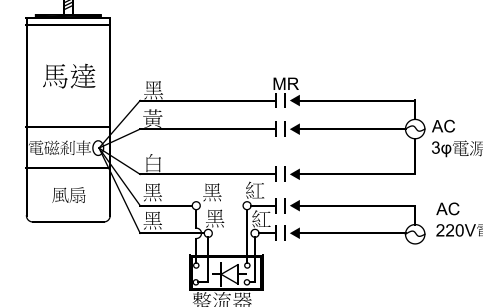
#### 3.2.4 三相剎車馬達 (220V/IP22)



#### 3.2.5 三相剎車馬達 (380V~460V(含)/IP22)



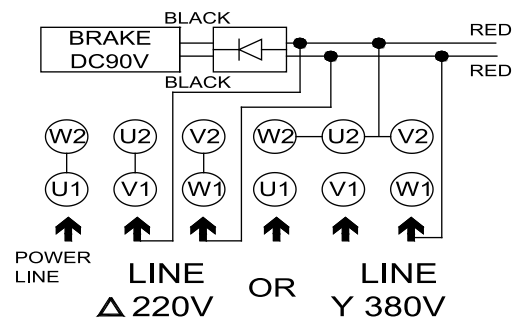
#### 3.2.6 三相剎車馬達 (460V~600V/IP22)



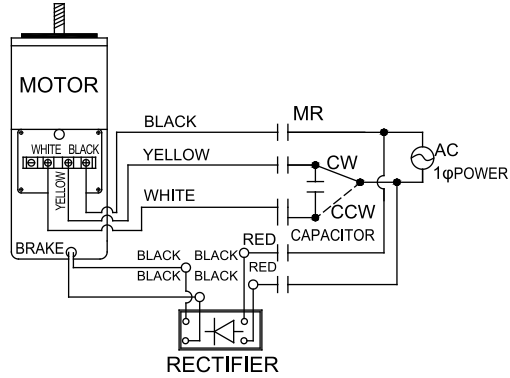


3.Wiring Diagrams(cont.)

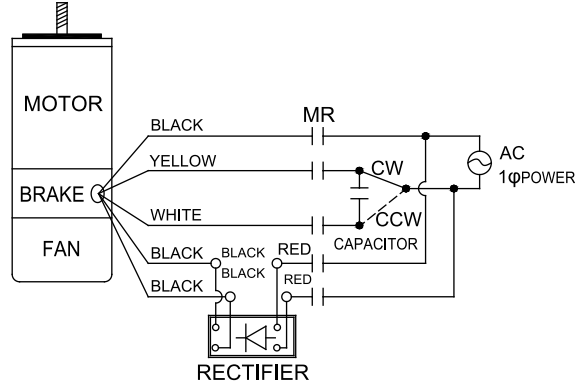
3.2.7  
3 phases brake motor (dual voltage)



3.2.8  
1 phases brake motor with terminal box (IP54)

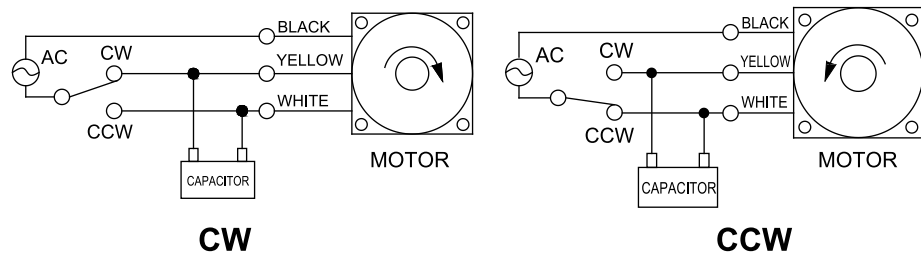


3.2.9  
1 phases brake motor (IP22)



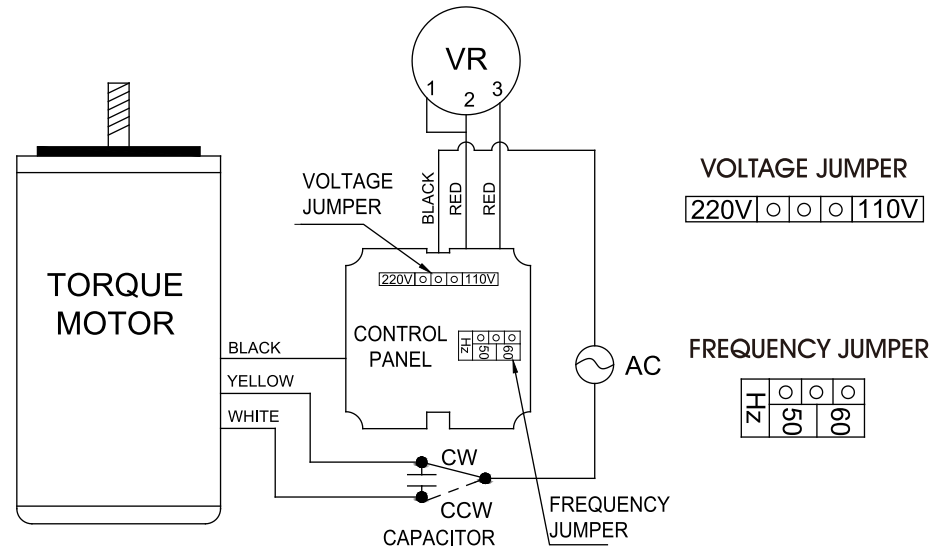
3.3 Torque motor  
3.3.1 Standard type

- ◆ Motor rotating direction change is available by switching wiring to CW. or CCW.
- ◆ To adjust speed and torque, an external voltage regulator is needed.



3.3.2 Terminal box type

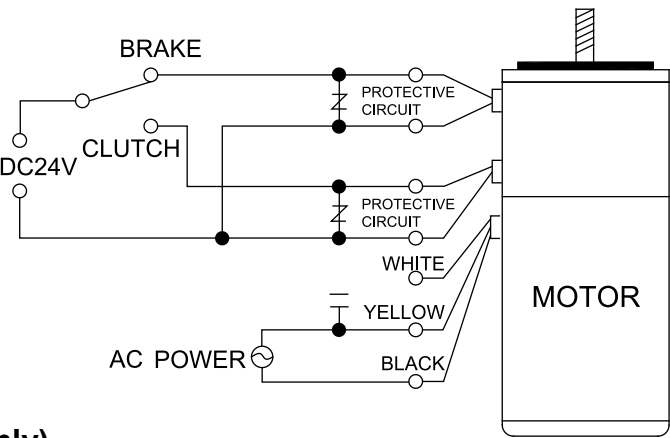
- ◆ Voltage regulator is installed in terminal box. Motor speed adjust is available by attached speed controller.



- ◆ **Attention**  
Before operate terminal type torque motor, please make sure correct voltage and frequency jumper on the control panel to prevent motor burning down.

3.4 Clutch brake motor

- ◆ The power supply for motor (AC) and clutch brake (DC24V) must be separated.
- ◆ The output shaft keeps rotating when switch to clutch side after power supplied. As the switch is on the brake side, the brake will stop shaft rotation and keep great holding force.
- ◆ DC power off will release the brake and hence the output shaft rotates freely.



4. Installation of Capacitor (Single Phase Motor Only)

- ◆ Ensure the capacitor matches the specification of the motor before installation.
- ◆ Install the capacitor with M4 screws (not included).
- ◆ Capacitor should be installed inside the electrical box or IP54 rated box to avoid electric shock.

⚠ Attention

- ◆ To avoid damaging on the mounting foot, the screws tightening torque should not exceed 1 N.m.
- ◆ Install capacitor at least 10 cm away from motor to prevent heat damage to capacitor.
- ◆ Connect one wire in one terminal only.

5. Trouble Shooting Guides

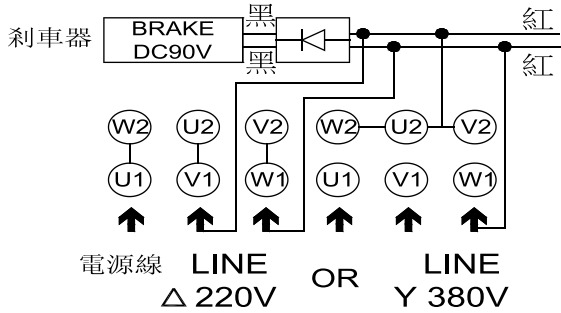
Please check the motor according to procedures below if abnormal situation.

- ◆ The motor does not work or the speed cannot be raised.
  - Check if the power supply fits the motor specification?
  - Confirm if the power supply is correctly connected?
  - Confirm if the motor is overloaded?
  - Confirm if the wires are poor connected when using crimping terminal or terminal block?
  - Confirm if the capacitor is well installed?
- ◆ The motor is over heated
  - Check if the power supply fits the motor specification?
  - Check if the room temperature is under the requirement ( < 40℃ )?
  - Confirm if the capacitor specification is correct?
- ◆ Noise
  - Check if the motor was blocked?
  - Check if a phase failure occurs?
  - Check if brake well functioning?
  - Check if the fan loosens?
- ◆ If the problem could not be solved via the procedures above, please DO NOT take apart the products, contact Sesame for technical support.

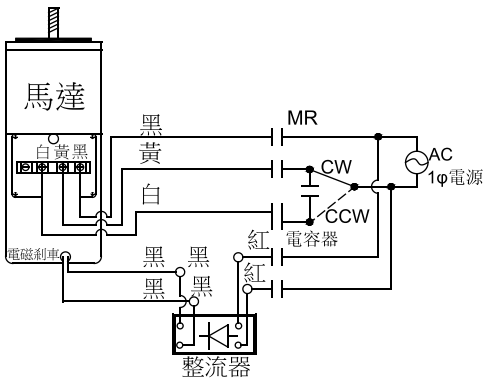
Sesame Motor Corp.  
Tel: +886-4-25610011  
Fax: +886-4-25627766  
www.sesamemotor.com.tw  
info@sesamemotor.com.tw

### 3. 配線圖(續)

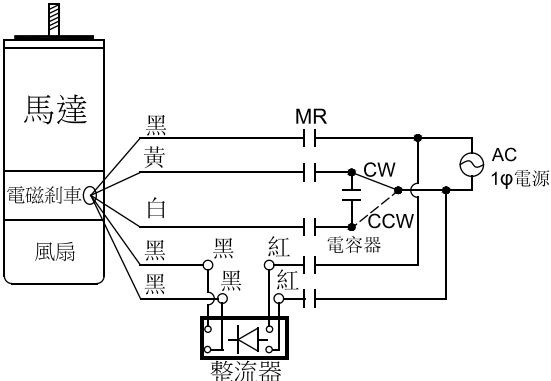
#### 3.2.7 三相剎車馬達（雙電壓）



#### 3.2.8 T盒單相剎車馬達（IP54）



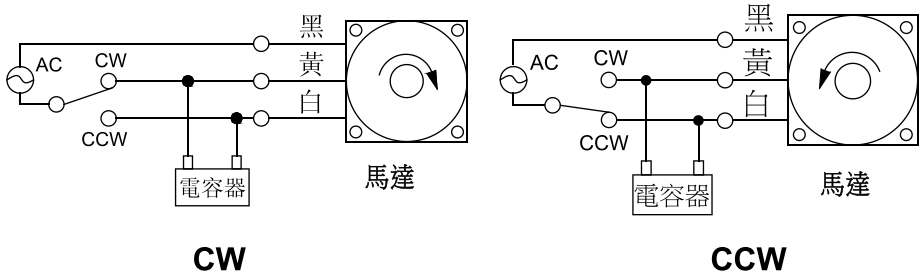
#### 3.2.9 單相剎車馬達（IP22）



### 3.3 轉矩馬達

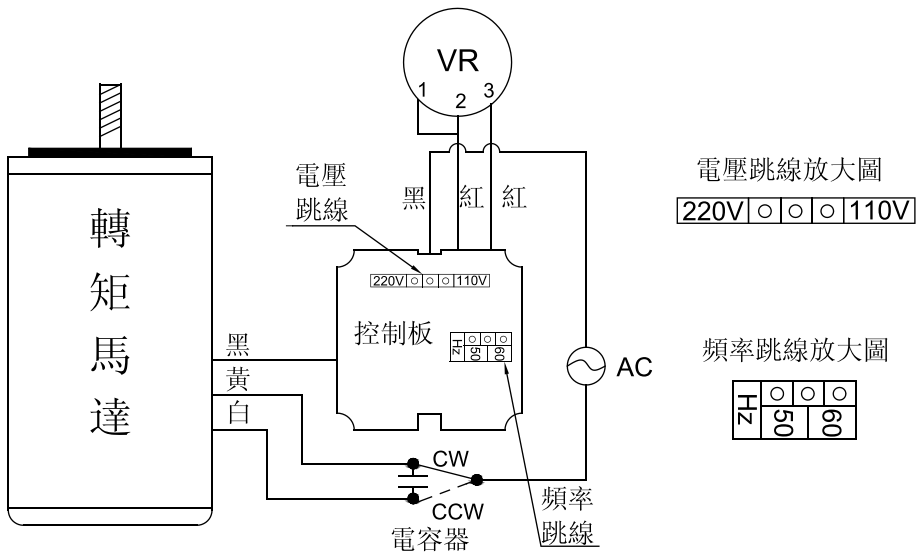
#### 3.3.1 標準型轉矩馬達

- ◆ 運轉方向的切換：將開關扳至 CW 時馬達則以順時鐘方向運轉，開關扳至 CCW 時，則以逆時鐘方向運轉。
- ◆ 調整速度扭力時，必須於外部架設電壓調整器。



#### 3.3.2 內藏型轉矩馬達

- ◆ 端子盒內藏電壓調節器，可依附屬的速度設定器簡單的控制馬達速度。

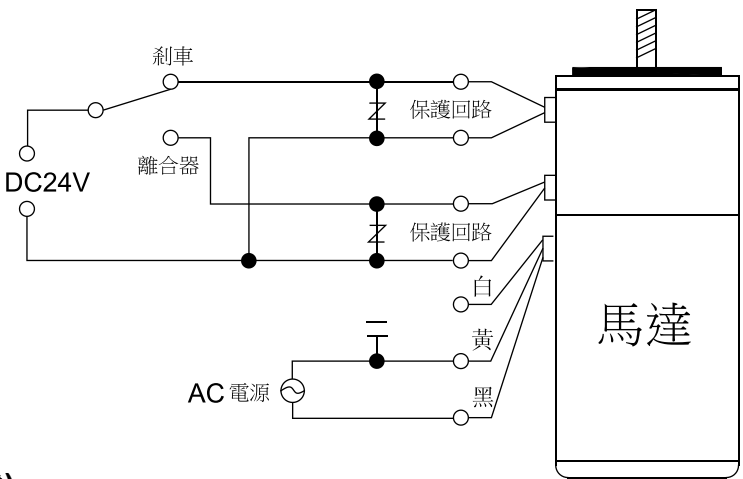


請注意

- ◆ 內藏型轉矩馬達使用前，請先調整控制板上的電壓跳線及頻率跳線，以確保馬達可以正常運轉，免於燒毀之虞。

### 3.4 離合剎車馬達

- ◆ 馬達電源（AC）與離合器、剎車用電源（DC24V）必須分開。
- ◆ 馬達在運轉狀態，開關切向離合器側時，出力軸開始回轉並將動力傳出。切向剎車側時瞬間停止，且有很大的保持力。
- ◆ 若將 DC 電源切斷時，出力軸可以自由轉動。



### 4. 電容器安裝須知 (僅附於單相馬達)

- ◆ 請再確認附屬的電容器是否符合馬達銘牌上所記載的電容量再進行安裝。
- ◆ 安裝電容器時請用 M4 螺絲（本電容器不附安裝螺絲）。
- ◆ 電容器應安裝於電氣箱內或IP54保護盒內部，以避免電擊。



請注意

- ◆ 為防止安裝腳的損毀，螺絲的安裝力矩請控制在 1N·m 以下。
- ◆ 電容器之安裝位置要離馬達外殼 10cm 以上，以防電容器會因受熱而縮短使用壽命。
- ◆ 請在 1 個端子上連接 1 根導線。

### 5. 故障排除步驟

馬達動作異常時，請依步驟進行檢查。

- ◆ 馬達不轉或轉速無法提升
  - 馬達電壓是否符合規格？
  - 電源連接是否準確？
  - 負載是否過大？
  - 使用端子台或者壓接端子作連結時是否有接觸不良的狀況？
  - 電容器是否規格正確或安裝妥當？
- ◆ 馬達異常發熱？
  - 馬達電壓是否符合規格？
  - 環境溫度是否過高(需 < 40℃)？
  - 電容器是否正確？
- ◆ 馬達發出異音
  - 確認是否有異物卡住？
  - 確認是否欠相？
  - 剎車器功能是否正常？
  - 風扇葉是否鬆脫？

- ◆ 若經以上檢查仍無法查出故障原因，請勿進行拆解，請儘快與世協電機連絡，以取得技術協助。

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