

### 精密齒輪馬達 操作說明書



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°C（電容器組合馬達-10~+40°C）。
  - ◆ 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

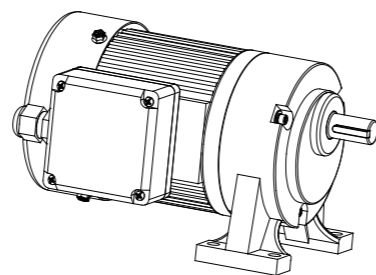
- ◆ 馬達啟動前請檢查電源。
- ◆ 高溫會損害線圈或培林之壽命。
- ◆ 使用前請先確認電容器規格。
- ◆ 請勿搭配變頻器使用。

- ◆ 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。

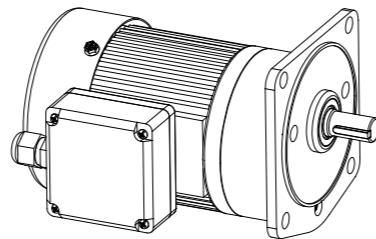
## 2. 負荷之取用及安裝方法

出力軸外徑為研磨加工，並以鍵槽作為傳動媒介，故傳動元件內孔請預銑鍵槽以便安裝。

〈臥式馬達〉



〈立式馬達〉



**請注意**

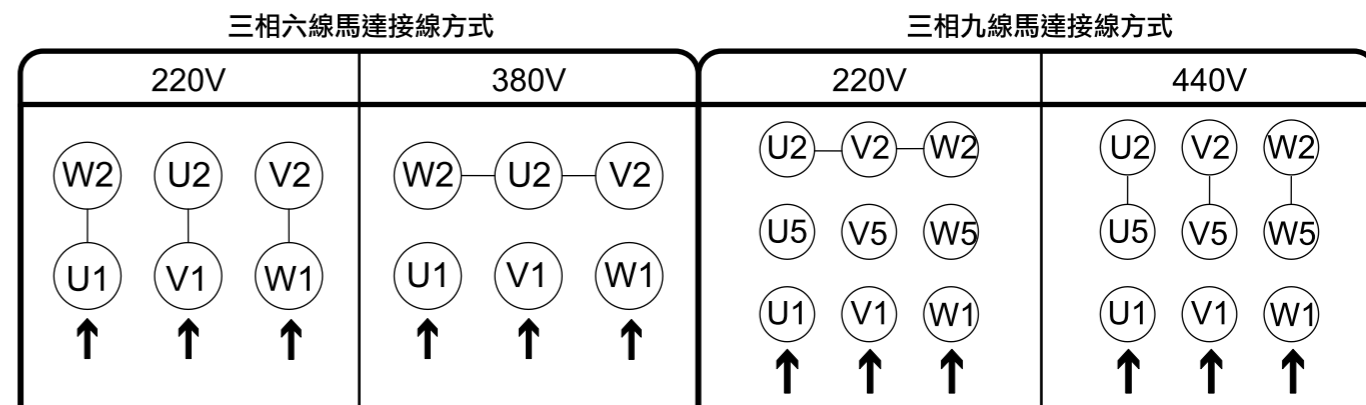
- ◆ 安裝過程中，請勿以任何工具敲擊，以免損壞馬達。
- ◆ 將本公司產品與其他產品搭配使用時，請確認是否符合客戶所需之規格、法規或限制等。
- ◆ 此外，請客戶自行確認目前所使用的系統、機械或是裝置是否適用於本公司產品。
- ◆ 如未確認是否符合或適用時，本公司無需對本公司產品的適用性負責。
- ◆ 對本產品進行任何維護工作前(包括安裝、拆卸、維修保養等)務必先關閉開關，切斷電源並且確保維護中電源不會被開啓。所有運轉部件都必須停止運轉。
- ◆ 未正確的配接電源可能會引起觸電導致嚴重傷害！請由合格電氣技師人員實施。
- ◆ 馬達運轉時表面溫度會超過40°C，可能造成燙傷。產品維護工作請於關閉電源並且等待馬達溫度降至室溫後實施。

## 3. 配線圖

馬達運轉方向為從輸出軸上目測到的方向。正轉方向為順時鐘，逆轉方向為逆時鐘。

### 3.1 三相馬達

- ◆ 三相馬達依據出線數不同，接線方式請參考下圖。需逆轉時請將入電三線中任兩線交換即可。
- ◆ 三相馬達接線完成後請確實檢查，防止欠相及相位電壓不平衡。

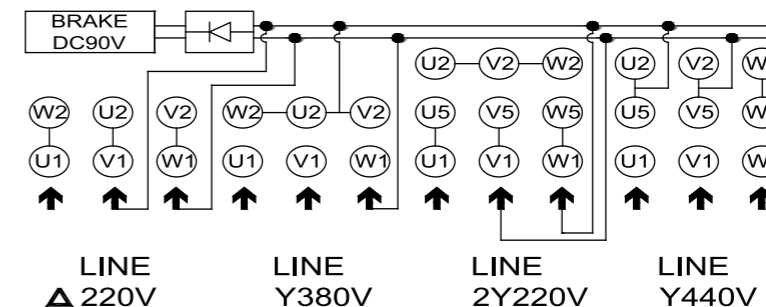


### 3.2 三相剎車馬達

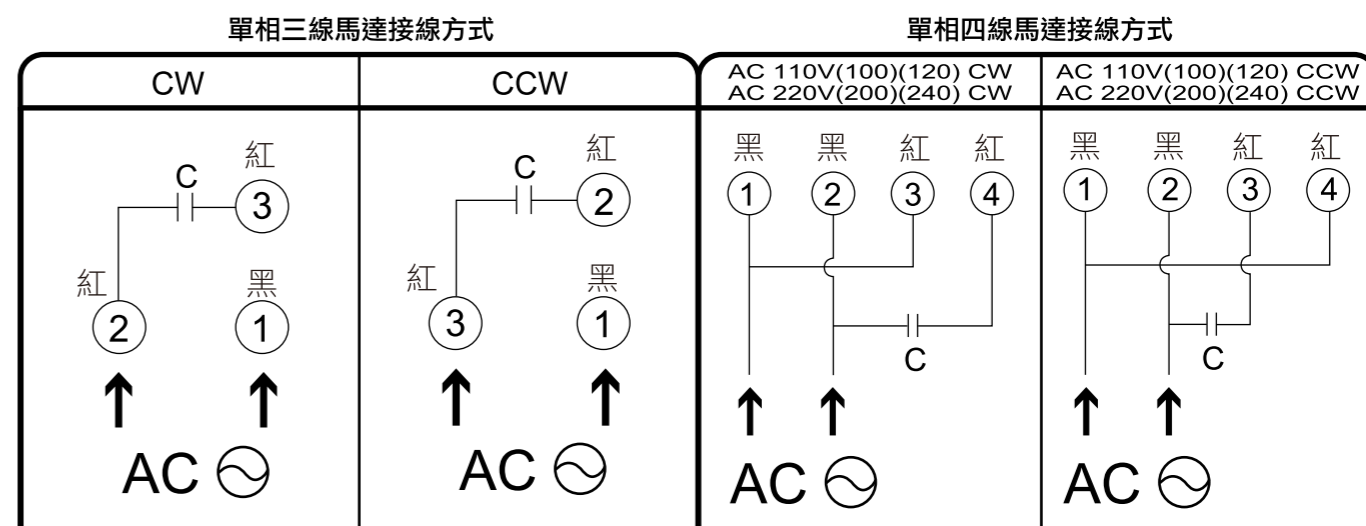
三相剎車馬達接線方式

YELLOW IN-AC 200(220)  
BLACK OUT-DC 90V

CONNECTION

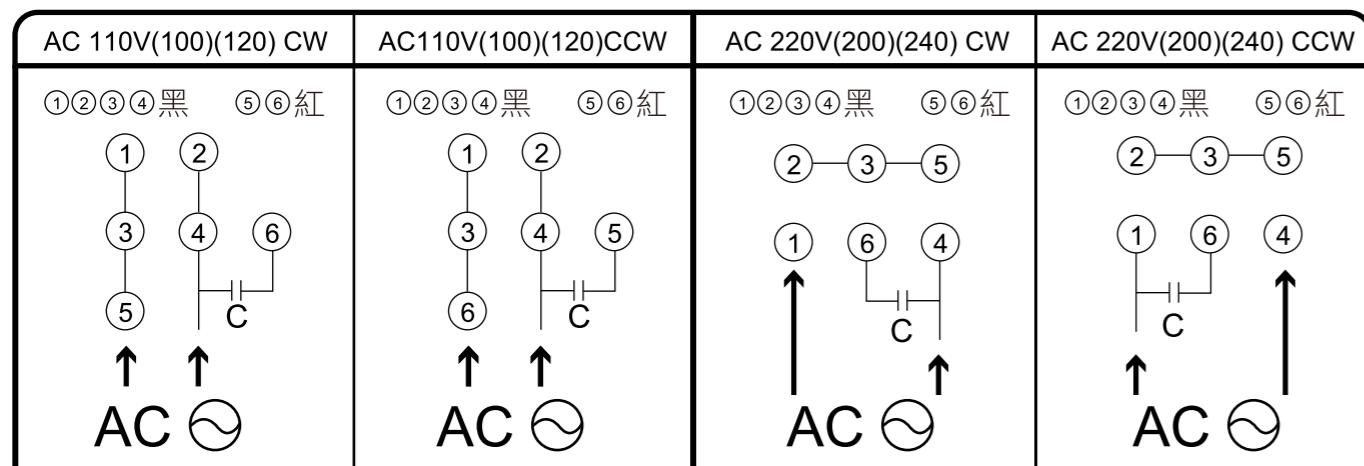


### 3.3 單相馬達



### 3.3 單相馬達 (續)

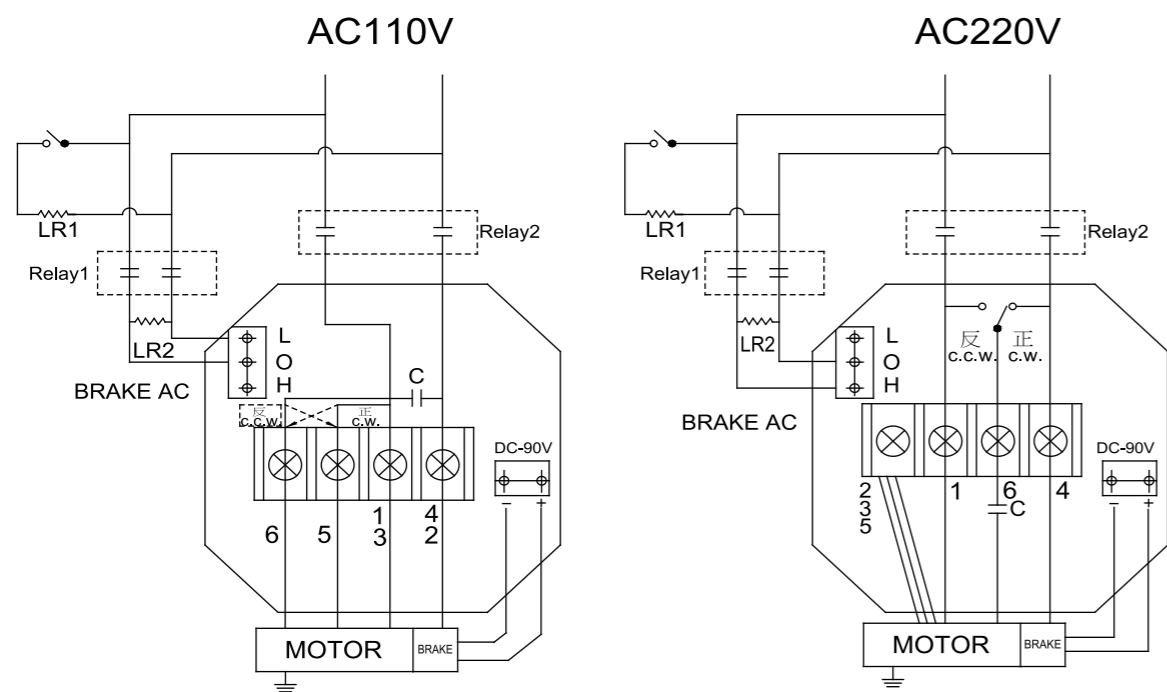
單相六線馬達接線方式



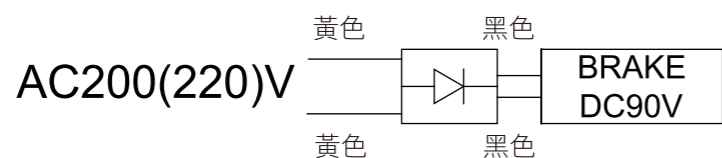
### 3.4 單相剎車馬達

單相剎車馬達接線方式

● 若選配之剎車電路板，無內部繼電器，配線方式請參考下列配線圖。



● 若選配之剎車電路板，無內部繼電器，配線方式請參考下列配線圖。



### 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容量是否符合馬達銘板上所記載的電容量再進行安裝。
- ◆安裝電容器時請用所附之電容器束環以 M5 的螺絲固定 (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

- ◆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。

### 5. 剎車器使用須知

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。  
感應式電磁剎車馬達之使用頻率不可大於10次/分

### 6. 溫控機種注意事項

- ◆單相馬達內藏過熱保護裝置，該裝置可在馬達因某種原因造成過熱時自行啟動而使馬達停止。馬達於溫度下降時會自動恢復運轉，所以在進行檢查作業時，請務必事先切斷電源。
- ◆三相馬達過熱保護裝置，輸出二條紅色出口線，請與控制系統連結。該裝置可在馬達因某種原因造成過熱時自行啟動而使馬達停止。馬達於溫度下降時會自動恢復運轉，所以在進行檢查作業時，請務必事先切斷電源。

### 7. 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°C)?
  - 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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# SESAME MOTOR CORP.

## Precision Gear Motor Operation Manual



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



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

### 1. ATTENTION

#### 1.1 Installation 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 the Motor without our permission, Sesame will not hold any responsibility nor will the Motor be cover by warranty.
- ◆ Warranty start within one year after purchase the Motor. Within warranty period, if Motor damage is not cause by operation error nor by natural disaster, then please send back the Motor, we should replace the damage spare part at free of charge.
- ◆ Before Installation ensure correct Voltage can be apply to Motor.
- ◆ Do not bend the lead wires.
- ◆ Installation should be proceeding by trained technicians only.
- ◆ Please ground the motor according to the manual or a fire or electrical shock might be arose.
- ◆ Do not attempt to disassemble or modify the motor.

#### 1.2 Installation conditions

The conditions below must be fulfilled to avoid any damage caused on the motor :

- ◆ The motor was designed to be installed on the other Facilities/Application.
- ◆ 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 1000m 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.

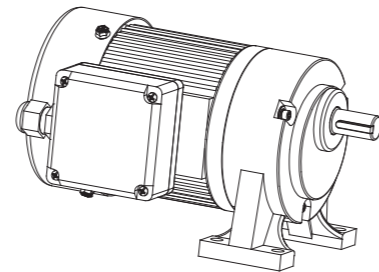
#### 1.3 Preparation of start up

- ◆ 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.
- ◆ Confirm the specification of capacitor before installation.
- ◆ Motor might burn out if wrong wiring or overloaded.

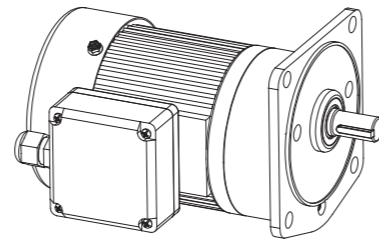
### 2. LOADING INSTALLATION METHOD

The output shaft surface was precisely grinded, it needed to milling a hole for input the keyway since the keyway is the transmission media, between motor and application.

<Foot-Mount type>



<V-Casing type>



#### ! Attention

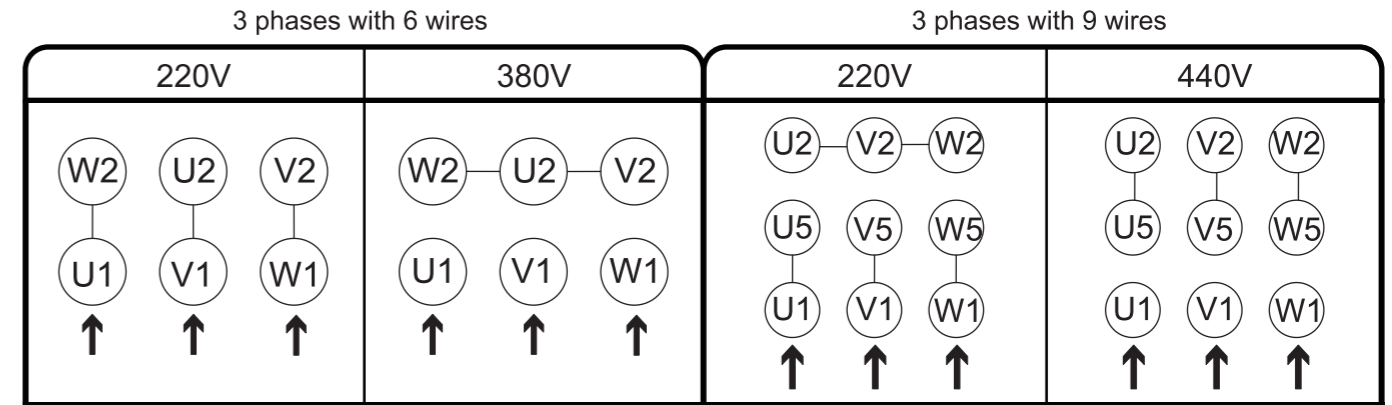
- ◆ Do not knock the motor by any tool during installation.
- ◆ The motor with gear shaft can only been mounted with adequate gear box. Please confirm the specification of gearbox before installation.
- ◆ Apply our product with other, please ensure it match other's requirement, specification, or limitation.
- ◆ Customer need to recheck our product is suitable for their current system or machinery usage.
- ◆ If customer is neglecting for rechecking, then Sesame is not responsible for any cause there might occur.
- ◆ 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

Visual direction for Motor running direction is from motor's the output shaft. Forward direction is clockwise, counterclockwise direction for reversal.

#### 3.1 Three phases motor

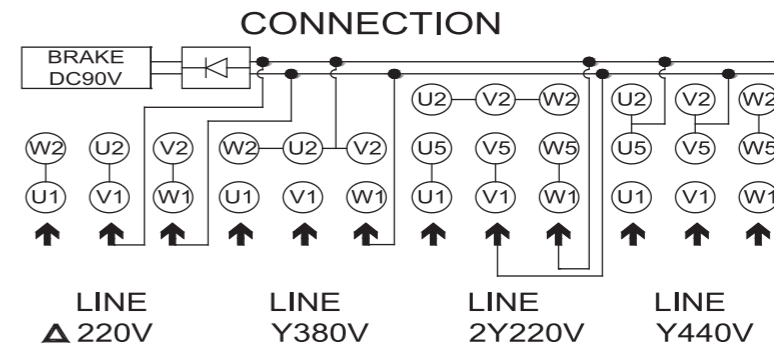
- ◆ Please wire the power supply according to the incoming voltage as shown below. Whenever the rotating direction needs to be reversed, switch any two wires of the incoming power cable.
- ◆ Please check if the wiring is correct after installation, ensure there is no missing phase, or phase voltage unbalance.



#### 3.2 Three phases motor with brake

3 phase brake motor wiring instruction

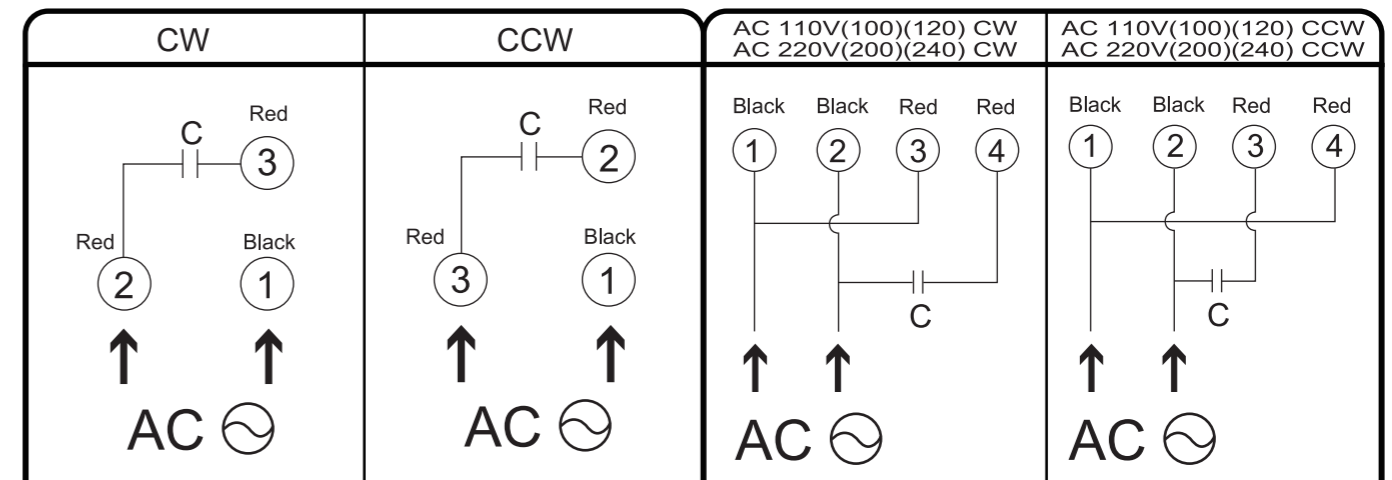
YELLOW IN-AC 200(220)  
BLACK OUT-DC 90V



#### 3.3 Single phase motor

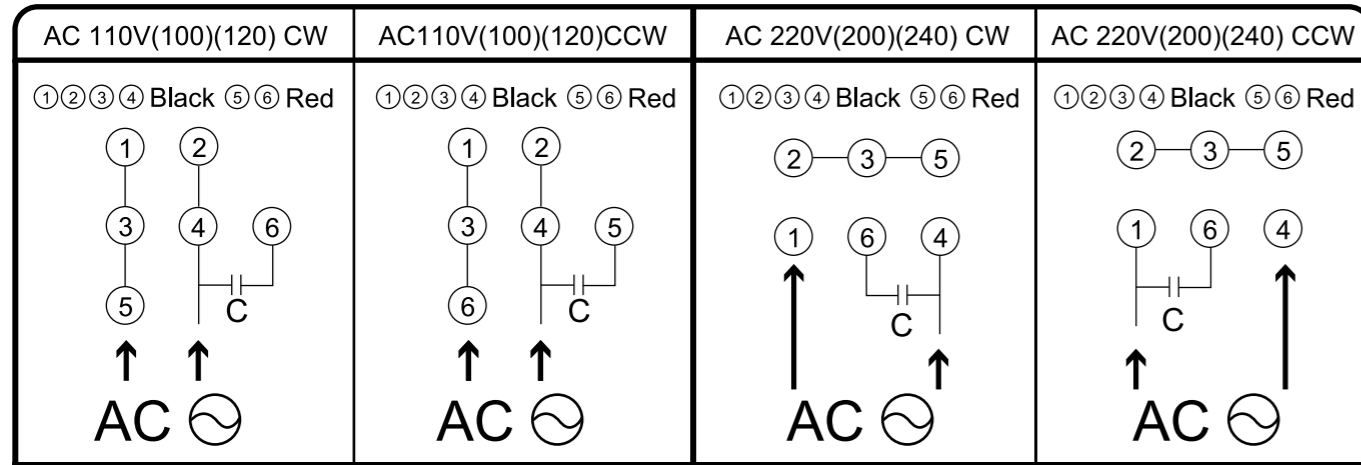
Wiring instruction of single phases with 3 wires

Wiring instruction of single phases with 4 wires



### 3.3 Single phase motor (cont.)

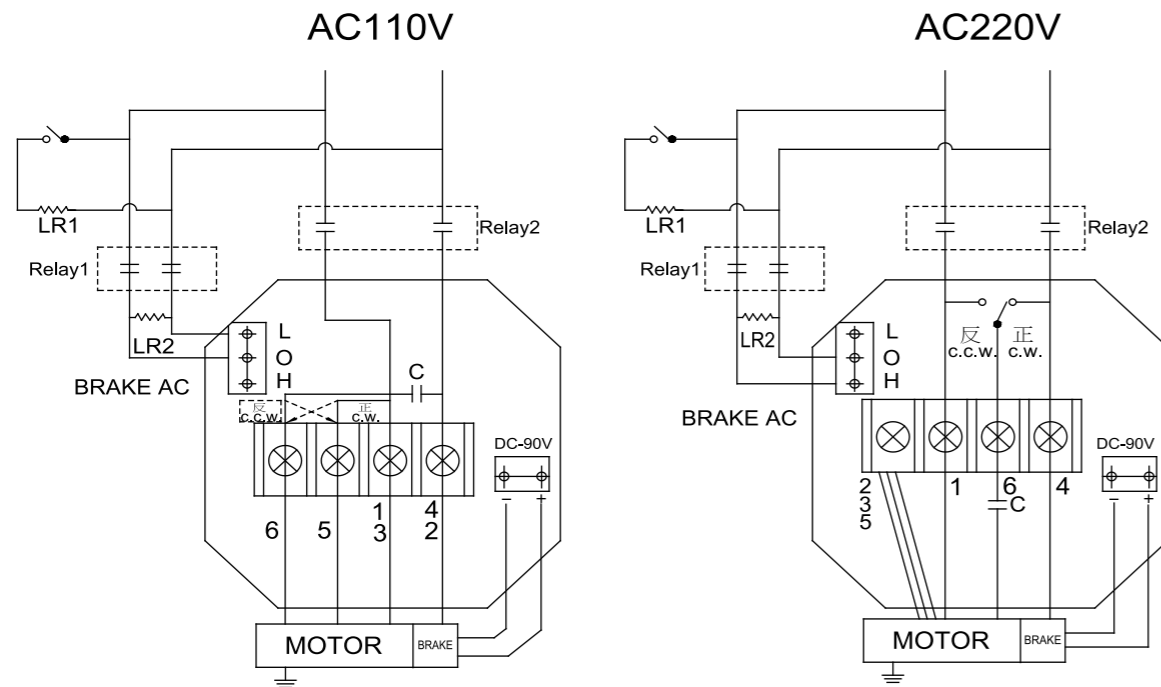
Wiring instruction of 1 phases with 6 wires



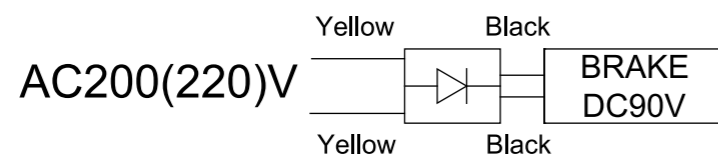
### 3.4 Single phase motor with brake

Single Phase Brake Motor Wiring Instruction

● Brake control panel without relay, wiring diagram



● Brake control panel with relay, wiring diagram



### 4. Installation of the capacitor (for single phase motor only).

- ◆ Ensure the capacitor matches the specification of the motor before installation.
- ◆ Install the capacitor with M5 screws (not included).
- ◆ Capacitor should be installed inside the electrical box or IP54 rated box to avoid electric shock.

#### ⚠ Attention

- ◆ Install capacitor at least 10 cm away from motor to prevent heat damage to capacitor.

### 5. Electro Magnetic Brake Operate Precautions.

- ◆ 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.
- ◆ Brake frequency limit 10 times per minite.

### 6. Thermally Protected Motor Precaution

- ◆ Single phase thermally protected motor will restart automatically when motor temperature falls below a certain level. Always turn off the power before conducting checks or performing work on the motor.
- ◆ Thermal switch of three phases motor is installed with two red wires. Please connect two red wires to control system. Thermally protected motor will restart automatically when motor temperature falls below a certain level. Always turn off the power before conducting checks or performing work on the motor.

### 7. Trouble shooting guides

Please check the motor according to procedures below, if abnormal situation were found such as:

- ◆ 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 well connected with the 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 temperature of the environment is under 40°C?
  - Confirm if the capacitor specification is correct?
- ◆ Noise
  - Check if the motor was blocked?
  - Check if an open-phase 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 of the motor, contact SESAME for technical support right away.

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