



# 使用說明書

## User's manual

### KBTW系列穩壓器

KBTWseries voltage regulator

使用前請仔細閱讀本說明書

Please read this manual carefully before use and keep it properly

# 前言

## Preface

尊敬的用戶：

感謝您選擇和使用金保公司的電源產品!為了您正確使用您的电源产品，請在电源安裝和使用前仔細閱讀本說明書，并妥善保管以供日后參考。

感謝您選擇和使用金保的電源產品，我們承諾您金保电源產品需要安裝或維護時，將為您提供成套增值服務：

1. 7\*24小時的諮詢服務
2. 售前及售後服務
3. 提供專業電源解決方案
4. 提供送貨上門與安裝的服務
5. 產品技術培訓，以延長產品壽命，節約能源
6. 預約現場技術救援服務
7. 免費定期巡查保養服務
8. 保外維修改裝服務

歡迎您對我們的服務進行監督，一旦我們的服務承諾未執行到位，請撥打全國統一客服電話400-6480-668進行投訴。

Dear user

Thank you for choosing and using the power products of KingBao company! For your correct use of this regulator Please read this manual carefully before installing and using the product and keep it properly for future reference Test.

Thank you for choosing and using KingBao's power supply products. We promise that you need KingBao's voltage regulator products During installation or maintenance, you will be provided with a complete set of value-added services:

1. 7 \* 24-hour consultation service
2. Pre sales and after-sales service
3. Provide professional power solutions
4. Provide door-to-door delivery and installation services
5. Product technical training to prolong product life and save energy
6. Make an appointment for on-site technical rescue service
7. Free regular inspection and maintenance services
8. Warranty repair and modification services

You are welcome to supervise our service. Once our service commitment is not implemented in place, please Call the national unified customer service hotline 400-6480-668 to complain.

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# 獲取說明書

Obtain instructions

## 1. 通過產品銘牌上的二維碼掃碼

Scan the code through the QR code on the product nameplate

**數控式高精度交流穩壓器**  
**KING BAO** Numerical control high precision A.V.R

型號 (Model):	KBW-15	 KBW 產品說明 說明書掃碼 Manual scanning
容量 (Capacity):	15KVA	
相數 (Phase):	3 $\Phi$ 4W	
頻率 (Frequency):	50/60Hz	
輸入電壓 (Input):	380V $\pm$ 15%	
輸出電壓 (Output):	380V $\pm$ 2%	
絕緣等級 (Class):	F級	
物料編號 (MN):	W. KBW. 002-001	
日期編號 (SN):	DW210708-0004	

金保機電科技有限公司  
KINGBAO ELECTROMECHANICAL TECHNOLOGY CO., LTD

Hotline: 400-6480-668  
Sales line: 188-1908-5550

MADE IN CHINA  
JB/T 8749. 8-2014



掃一掃獲取說明書

Scan the instructions

## 2. 通過網站小程序找到相應產品查看說明書

Find the product specification through the website applet



# 注意事項

Be careful

## ▲ 注意

為了保證使用安全，避免對您和他人造成傷害和財產損失，請您務必遵守以下安全注意事項，不遵守安全警告而錯誤使用使用可能導致事故發生。

## be careful

In order to ensure the safety of use and avoid injury and property loss to you and others, you must abide by the following safety precautions. Improper use without complying with the safety warning may lead to accidents.

## ⊗ 表示【禁止】的內容

Indicates the content of prohibited



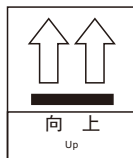
- 電源上方請勿壓置重物，以免造成人體損傷及設備損壞。
- 電源禁止翻轉，請勿置本機於不平或傾斜之處。
- 電源避免放置陽光直射、雨淋或潮濕之處。
- 設備周邊禁止放置易燃易爆及含有腐蝕性的液體和物品，以免造成設備損壞和發生重大火災。
- 遇暴風雨或閃電、打雷時，如無良好的避雷措施，請先將變壓器關掉。
- 請遠離火源及高溫，以防機器溫度過高。
- Do not place heavy objects above the power supply to avoid human injury and equipment damage.
- Do not turn the power supply. Do not place the machine on an uneven or inclined place.
- The power supply shall be kept away from direct sunlight, rain or humidity.
- Flammable, explosive and corrosive liquids and articles are forbidden to be placed around the equipment to avoid equipment damage and major fire.
- In case of storm, lightning or thunder, if there is no good lightning protection measures, please turn off the transformer first.
- Please keep away from fire source and high temperature to prevent the machine from overheating.

# 注意事項

Be careful

⚠ 表示【強制執行】的內容

Indicates the content of enforcement



- 本電源需要強行接地使用。
- 當看到閃電警示標籤時，注意觸電。
- 當看到注意警示標籤時，注意看安全事項說明
- 施工時請按照電工法規實施，需要專業電工安裝。
- 請勿使用非原廠建議之配件，以免發生危險。
- 請勿置本機倒放、置於不平或傾斜之處。
- 為保持電源本身的散熱效果及正常運轉，請勿將散熱通風口堵塞，且機背至少離牆壁300mm以利於進風孔通暢。
- 在接入電源前，應先確定設備與電壓及容量規格，以避免造成貴重機器損壞，安裝輸入及輸出端子時，請按標示正確安裝，並確實鎖緊，避免接觸不良防止發生火災。
- 電源及電纜請勿超載使用，以防止觸電或造成火災。

- the power supply needs to be forcibly grounded.
- pay attention to electric shock when you see the lightning warning label.
- when you see the warning label, pay attention to the instructions of safety precautions
- construction shall be carried out in accordance with electrician regulations, and professional electricians are required for installation.
- do not use accessories not recommended by the original manufacturer to avoid danger.
- do not place the machine upside down, on an uneven or inclined place.
- in order to maintain the heat dissipation effect and normal operation of the power supply itself, do not block the heat dissipation vent, and the back of the machine shall be at least 300 mm away from the wall to facilitate the unobstructed air inlet.
- before connecting the power supply, the equipment, voltage and capacity specifications shall be determined to avoid damage to valuable machines. When installing the input and output terminals, please install them correctly according to the marks and lock them firmly to avoid poor contact and prevent fire.
- do not overload the power supply and cables to prevent electric shock or fire.

# 產品概述

## Product overview

KBTW系列數控式高精度交流穩壓器是金保科技公司經過科技認證研發的高端穩壓器電源，本款穩壓器是在ISO9001-2015品質管理體系自動化生產，是以SBW原理為基礎優化改良而成，延用了三相柱式調壓的結構，但突破了傳統外補償的設計理念，在銅柱內部集成補償的設計原理，進而縮小了產品體積，避免了輸入端接零線的困擾，增加了技術難度；此款穩壓器也使用了伺服驅動結構，優化工藝細節，從系統界面、控制方式、採樣電路、保護裝置、多信號報警、外觀工藝做到了全球電源行業進一步的跨越，本產品金保科技已經申請并通過10項專利保護，CE認證，KBTW研發的成功標誌著金保品牌成為電源行業領導者地位的又一次創新高度。

本系列穩壓器可用于一切需要穩壓的精密設備，如空壓機、激光切割機、數控加工中心、刀具磨床、中慢走絲、火花機、數控彈簧機、印刷機、醫療器械、科研機構、進口精密設備等等。

KBTW series CNC high-precision AC voltage regulator is a high-end voltage regulator power supply developed by Kingbao technology company through scientific and technological certification. This voltage regulator is produced automatically in iso9001-2015 quality management system. It is optimized and improved based on SBW principle, and uses the structure of three-phase column voltage regulation. However, it breaks through the traditional design concept of external compensation and integrates the design principle of compensation inside the copper column, thus reducing the product volume, The trouble of zero line connection at the input end is avoided and the technical difficulty is increased; This regulator also uses the servo drive structure to optimize the process details. It has made a further leap forward in the global power supply industry from the system interface, control mode, sampling circuit, protection device, multi signal alarm and appearance technology. Kingbao technology of this product has applied for and passed 10 patent protection, CE certification and the success of KBTW research and development, marking another innovation height of Kingbao brand as a leader in the power supply industry.

This series of voltage regulators can be used for all precision equipment requiring voltage stabilization, such as laser cutting machine, CNC machining center, tool grinder, medium and slow wire walking, spark machine, CNC spring machine, imported precision equipment, printing machine, medical equipment, scientific research institutions, etc.

# 工作原理

## Working principle

KBTW系列穩壓器結構它由三相柱式調壓變壓器、伺服電機、傳動絲杆、電刷接觸系統、保護裝置、控制系統和箱體等組成。三相柱式調壓變壓器式繞組外表面經磨光加工，去除絕緣，呈光滑的導體面，以便於電刷良好接觸；傳動機構由伺服電機、變速箱、碳刷總成組成；電刷接觸系統由壓力彈與碳刷組成，結構合理可靠；箱體採用封閉櫃式，體積小，散熱好，面板數顯儀錶醒目，精度高；控制系統採用集成電路（微電腦控制），控制功能強，功能完善，調節方便穩定可靠。

KBTW系列穩壓器基本原理是當輸入電壓高于或者低于380V時，控制取樣電路會偵測到輸出電壓過高或者過低，系統會向調壓電機發出補償電壓命令，帶動碳刷改變調壓變壓器的匝數比，從而改變補償變壓器一次側輸入電壓，達到補償變壓器二次側的電壓補償V數，使輸出達到穩定380V的目的。

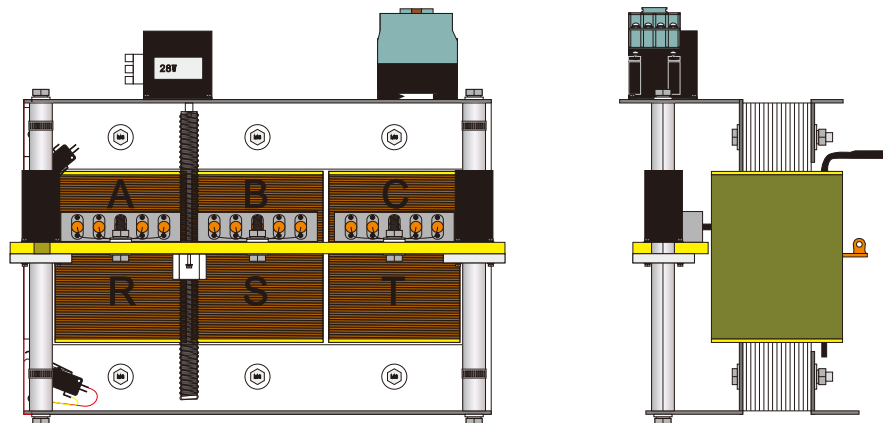
KBTW series voltage regulator structure is composed of three-phase column voltage regulating transformer, servo motor, transmission screw rod, brush contact system, protection device, control system and box. The outer surface of the three-phase column voltage regulating transformer winding is polished to remove the insulation and form a smooth conductor surface for good contact with the brush; The transmission mechanism is composed of servo motor, gearbox and carbon brush assembly; The brush contact system is composed of pressure spring and carbon brush, with reasonable and reliable structure; The box body adopts closed cabinet type, with small volume, good heat dissipation, eye-catching panel digital display instrument and high precision; The control system adopts integrated circuit (microcomputer control), with strong control function, perfect function, convenient adjustment, stability and reliability.

The basic principle of KBTW series voltage regulator is that when the input voltage is higher or lower than 380V, the control sampling circuit will detect that the output voltage is too high or too low, and the system will send a compensation voltage command to the voltage regulating motor to drive the carbon brush to change the turn ratio of the voltage regulating transformer, so as to change the input voltage at the primary side of the compensation transformer, so as to compensate the voltage compensation V at the secondary side of the compensation transformer and stabilize the output at 380V.



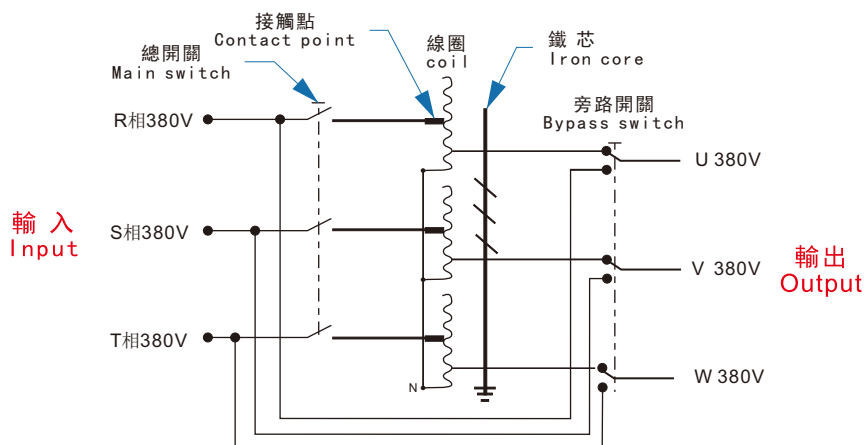
# 工作原理圖

Working principle diagram



調壓主體結構圖

Main structure diagram of voltage regulation



工作原理圖

Working principle diagram

# 性能指標

## Performance index

相 數 (Phase) : AC 3P4W.

頻 率 (Frequency) : 50/60Hz.

輸入電壓 (Input) : AC 380V $\pm$ 15%.

輸出電壓 (Output) : AC 380V $\pm$ 2%.

穩壓精度 (Voltage stabilizing accuracy) :  $\pm 1\sim 5\%$ 之內可以設定(Adjustable).

反應時間 (Reaction time) : 當輸入電壓躍躍變在10V內反應時間為2秒。

(When the input voltage jump is within 10V, the reaction time is 2s) .

穩壓方式 (Voltage regulation mode) : 三相補償式統調

(Three phase compensation unified regulation) .

連接組別 (Connection) : D/y.

保護功能 (Protection function) : 自動穩壓、手動調壓、欠相指示、电压过高/过低報警

短路保護、過載保護 (Automatic voltage stabilization, manual voltage regulation, under phase indication, over / under voltage alarm, short circuit protection, overload protection) .

絕緣等級 (Glass) : F級.

負載測試 (Load test) : EN-61558-2-4 , JEC-204.

耐壓測試 (Withstand voltage test) : 線圈與鐵芯之間AC 2500V/分鐘無異常.

(There is no abnormality in AC 2500V / min between coil and iron core) .

溫 升 (temperature rise) : 在全负荷连续运转下每个绕组与铁芯在夏天的温度 $\leq 60^{\circ}\text{C}$ .

(Under full load continuous operation, the temperature of each winding and iron core in summer is  $\leq 60^{\circ}\text{C}$ ) .

絕緣電阻 (Insulation resistance) :  $\geq 5\text{M}\Omega$

抗電強度 (Electrical strength) : AC 3000V/分钟无异常(No abnormal AC 3000V / min).

工作效率 (Work efficiency) :  $\geq 95\%$ .

超載能力 (Overload capacity) : 超額定負載100%運行1分鐘 (100% load for 1 minute)

噪 音 (Noise) : 50dB/1米內(Within 50dB / 1m).

溫 度 (Temperature) : 存放溫度-20~60 $^{\circ}\text{C}$ , 工作溫度-10~40 $^{\circ}\text{C}$ .

濕 度 (Humidity) : 30-90%无凝結(30-90%No condensation).

防護等級 (Degree of protection) : IP20.

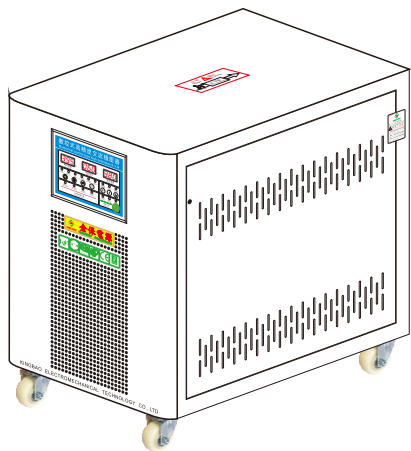
冷卻方式 (Cooling mode) : 干式風冷(Dry air cooling).

設計壽命 (Design life) : 20 年years.

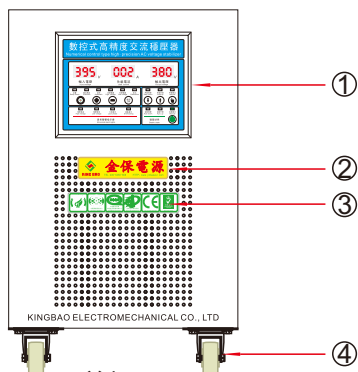
執行標準 (Executive standard) : JB/T 7620-1994.

# 產品外觀介紹

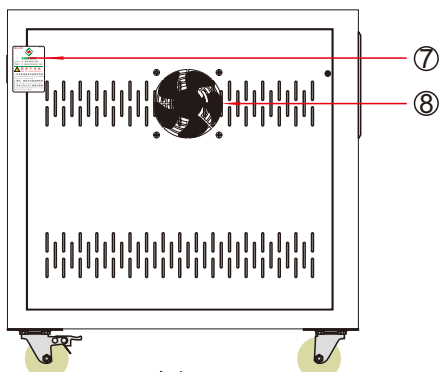
## Product appearance introduction



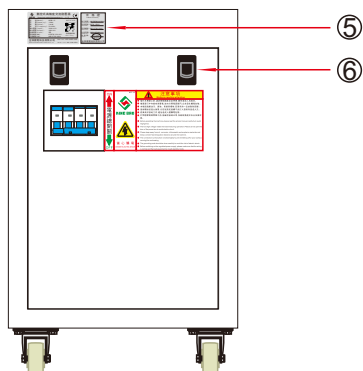
- ① 控制系統顯示區 Control system display area
- ② 品牌標籤 Brand label
- ③ 認證標籤 Certification label
- ④ 移動腳輪 Caster movement
- ⑤ 產品規格銘牌 Product specification nameplate
- ⑥ 安裝門板扣鎖 Install door panel buckle lock
- ⑦ 撕毀不保標籤 Tear up the non protective label
- ⑧ 散熱風扇 Cooling fan
- ⑨ 電源總開關 Main power switch
- ⑩ 輸入輸出接線端子 Input and output terminals
- ⑪ 扎線馬鞍座 Binding saddle



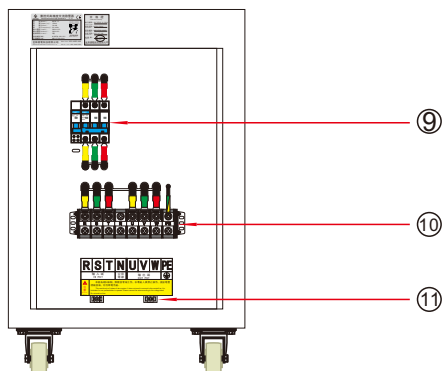
前視圖  
Front view



右視圖  
Right view



后視圖  
Rear view



安裝視圖  
Installation view

# 容量規格參數表

Capacity specification parameter table

容量 Capacity (kVA)	功率 Power (KW)	輸入電壓 Input voltage (V)	輸出電壓 Output voltage (V)	額定電流 Rated current (A)	電纜規格 Cable size (mm <sup>2</sup> )	外觀尺寸 長L*寬W*高H (mm)	淨重 Net weight (Kg)
15kVA	12KW	380V±15	380V±2	22A	4芯 6mm <sup>2</sup>	550*360*570	46
20kVA	16KW			30A	4芯 6mm <sup>2</sup>		50
30kVA	24KW			45A	4芯 10mm <sup>2</sup>	650*400*643	70
40kVA	32KW			60A	4芯 10mm <sup>2</sup>		74
50kVA	40KW			75A	4芯 16mm <sup>2</sup>		78
60kVA	48KW			91A	4芯 25mm <sup>2</sup>	700*420*693	105
80kVA	64KW			121A	4芯 25mm <sup>2</sup>	850*450*756	145
100kVA	80KW			151A	4芯 35mm <sup>2</sup>		153
125kVA	100KW			189A	4芯 35mm <sup>2</sup>		169
150kVA	120KW			227A	4芯 50mm <sup>2</sup>	950*520*856	220
180kVA	144KW			273A	4芯 70mm <sup>2</sup>		225
200kVA	160KW			303A	4芯 70mm <sup>2</sup>		235

注意：外形尺寸、重量等僅供參考，產品更新后沒有及時通知請以實物為準。

Note: the overall dimension and weight are for reference only. If there is no timely notice after the product is updated, please take the real object as the standard.

## 訂貨須知：

1. 新客戶訂貨時需要說明自己的電網情況，是電壓過高還是過低，高低電壓值具體是多少，我方需要確認電壓範圍。
2. 老客戶訂貨時需要說明產品型號、輸入輸出電壓規格。
3. KBTW系列為三相統調系統，如需要分調系統請說明。
4. 電網複雜有特殊要求請提出，可按要求定做。

## Ordering instructions:

1. When ordering, new customers need to explain their own power grid situation, whether the voltage is too high or too low, and we need to confirm the voltage range.
2. Regular customers need to specify the product model, input and output voltage specification when ordering.
3. KBTW series is a three-phase unified dispatching system. Please explain if separate dispatching system is required.
4. The power grid is complex. Please put forward special requirements, which can be customized as required.

# 系統功能

## System features

九大标配特色功能 9 features:

自動穩壓 Automatic voltage stabilization

手動調壓 Manual voltage regulation

短路保護 Short circuit protection

低壓保護 Low voltage protection

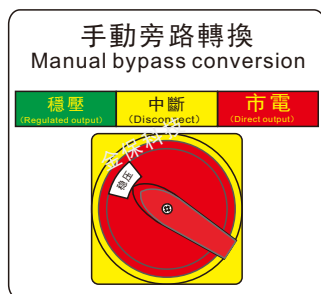
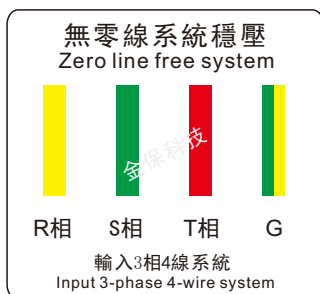
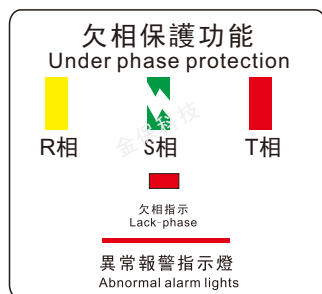
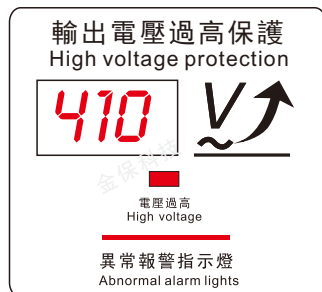
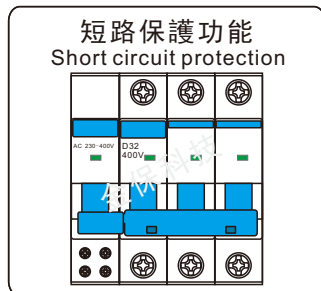
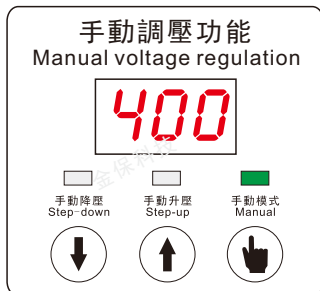
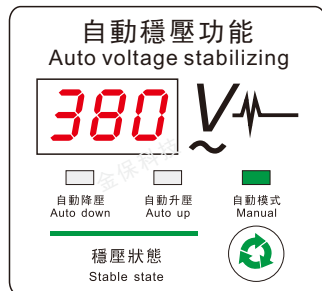
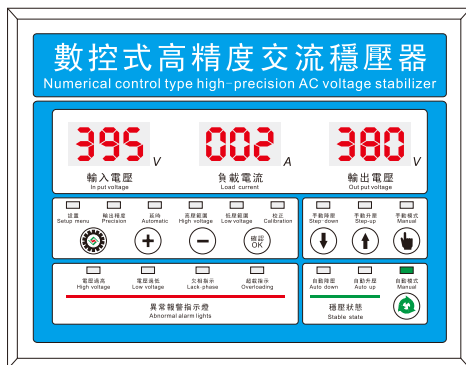
高壓保護 High voltage protection

欠相保護 Under phase protection

超載保護 Overload protection

無N線工作 No n-line operation








手動旁路 (订单选配) Manual bypass



# 用戶系統設置說明








## User system setting description

系統用戶設置進入方式：

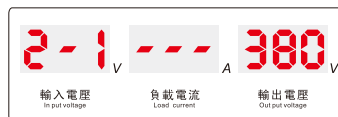
在面板為穩壓狀態時按下面板上的“”鍵，嘀的一聲后表示待輸入密碼進入，此時第一個顯示界面為 **1-1 --- 000**，這是密碼解鎖畫面，這時需要按“”鍵改變右邊000為 **1-1 --- 007** 后再緊接著按“”進入設置狀態，此時設置指示燈常亮，第一個設置界面顯示為輸出電壓設置界面 **2-1 --- 380**，設置項目一共有9個界面，分別按“”鍵循序切換設置項目，當有設置項目需要進行修改時，請按“”與“”來進行修改，或者設置完成某個項目后直接按“”保存并退出。

5個基本用戶設置界面解說如下：

System user setting entry mode:

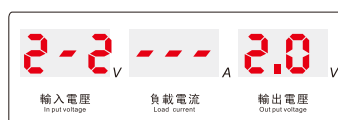
When the panel is in the voltage stabilizing state, press the "" key on the lower panel. After a beep, it indicates that the password is to be entered. At this time, the first display interface is **1-1 --- 000**, which is the password unlocking screen. At this time, press the "" key to change the 000 on the right to **1-1 --- 007**, and then press "" to enter the setting state. At this time, the setting indicator is always on, The first setting interface is displayed as output voltage setting interface **2-1 --- 380**. There are 9 interfaces for setting items. Press "" to switch the setting items in sequence. When there are setting items that need to be modified, press "" and "" to modify them, or press "" to save and exit after setting an item.

The five basic user setting interfaces are explained as follows:



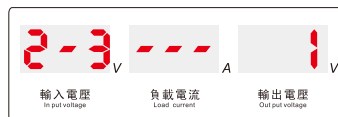
第1個設置界面是設置輸出電壓值，默認出廠為380V，可以按“+”或“-”進行改變。

The first setting interface is to set the output voltage value, which is 380V by default and can be changed by pressing "+" or "-".



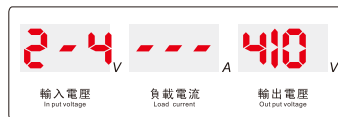
第2個設置界面是設置輸出電壓精度值，默認出廠2%，可以按“+”或“-”進行改變。

The second setting interface is to set the output voltage accuracy value, which is 2% by default and can be changed by pressing "+" or "-".



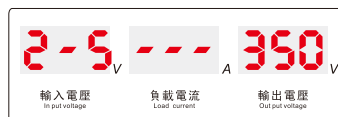
第3個設置界面是設置穩壓延時時間默認出廠為1秒，可以按“+”或“-”進行改變。

The third setting interface is to set the voltage stabilization delay time, which is 1 second by default, and can be changed by pressing "+" or "-".



第4個設置界面是設置輸出高壓保護值，默認出廠為410V，可以按“+”或“-”進行改變。

The fourth setting interface is to set the output high-voltage protection value, which is 410v by default and can be changed by pressing "+" or "-".



第5個設置界面是設置輸出低壓保護值，默認出廠為360V，可以按“+”或“-”進行改變。

The fifth setting interface is to set the output low-voltage protection value. The default factory value is 360V, which can be changed by pressing "+" or "-".

# 收貨檢查

## Receiving inspection

### ●收貨流程

1. 請在收貨第一時間請不要直接簽單。
2. 一項檢查：包裝是否損壞。
3. 二項檢查：打開包裝檢查機箱鈹金有沒有變形或者損壞。
4. 三項檢查：核對送貨單與產品銘牌信息是否一致。
5. 以上確認完無誤直接簽收即可完成收貨程序。
6. 如果以上三項檢查有問題，請不要簽收，與物流做退單處理。

#### Receiving process

1. Please do not sign the bill directly at the first time of receiving the goods.
2. One inspection: whether the package is damaged.
3. Second inspection: open the package and check whether the metal plate of the chassis is deformed or damaged.
4. Three checks: check whether the delivery note is consistent with the information on the product nameplate.
5. After the above confirmation is correct, the receiving procedure can be completed by signing directly.
6. If there are problems in the above three inspections, please do not sign for receipt, and refund with logistics.

### ●隨機配件與資料

1. 電源主體設備一臺。
2. 產品使用說明書（掃銘牌二維碼）。
3. 產品合格證一張（在安裝板端子處理）。
4. 接線8個線鼻（在安裝板接線端子上）。
5. 送貨單與發票各一份。

#### Random data and accessories

1. One main power supply equipment.
2. Product instruction manual (scan the nameplate QR code).
3. One product certificate (processed at the terminal of the installation board).
4. Connect 8 lugs (on the terminal block of the mounting plate).
5. One delivery note and one invoice respectively.

# 安裝環境

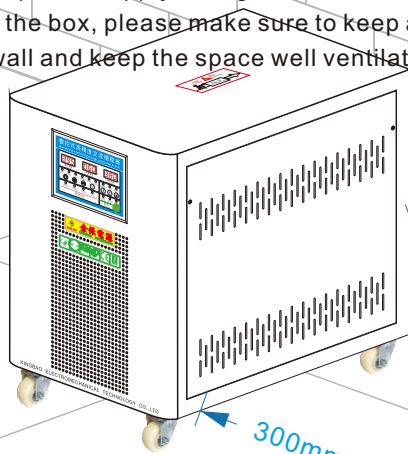
## Installation environment

### ● 安裝環境

1. 海拔高度不超過1000m;
2. 環境空氣溫度最高不超40°C，最低不低於-10°C；
3. 空氣相對濕度月平均最大相對為90%；
4. 無劇烈震動和沖擊的地方；
5. 在無爆炸危險的介質中，且介質中無足以腐蝕金屬和破壞絕緣的氣體及導電塵埃的地方；
6. 不受雨雪侵襲的場所；
7. 電源電壓波形近似於正弦波；
8. 安裝箱體請確認與牆壁主體保持300mm的間距，並保持空間通風良好。

### ● Installation environment

1. The altitude shall not exceed 1000m;
2. The maximum ambient air temperature shall not exceed 40 , and the minimum temperature shall not be less than - 10 ;
3. The monthly average maximum relative humidity of air is 90%;
4. Places without violent vibration and impact;
5. In the medium without explosion hazard, and there is no place in the medium where there is enough gas and conductive dust to corrode metal and damage insulation;
6. Places free from rain and snow;
7. The waveform of power supply voltage is similar to sine wave;
8. When installing the box, please make sure to keep a distance of 300mm from the main body of the wall and keep the space well ventilated.





# 安裝配線

## Installation wiring

### ◎ 配線注意事項

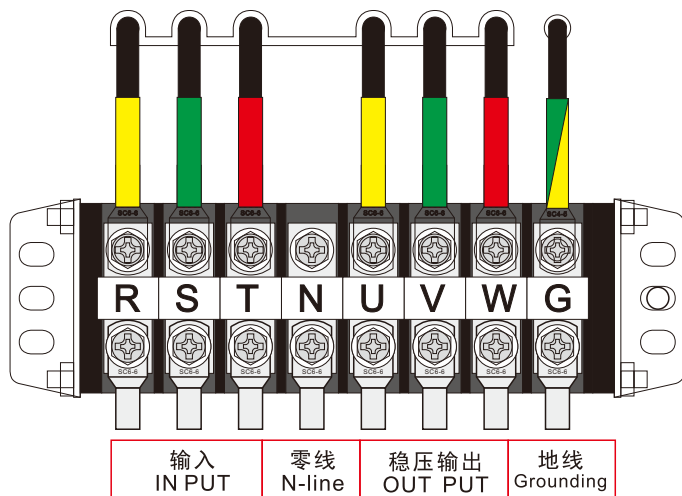
1. 本產品是3相4線或者3相5線系統通用，輸入無需零線工作。
2. 電纜長度建議選用3米，特殊場合請測量實際長度
3. 電源接入市電前，應先確定電源容量、電壓規格是否與負載設備匹配，以避免造成穩壓器損壞害。
4. 穩壓器因容量及電壓不同而有不同的安裝標準，請依照容量規格表選擇適當的配線方案，尤其注意其電線必須合乎規定。
5. 注意穩壓器應避免與其它設備共用一個開關，並儘量接近市電源頭。
6. 輸入及輸出端子盤接線時，務必將電纜線接好，避免接觸不良並防止發生火災。
7. 接線時請關閉電源，嚴禁帶電作業以策安全。
8. 配線時請專業人員參照電工法規施工。
9. 穩壓器的輸入及輸出接線均通過一組合式端子盤作接線之用。端子盤的下緣有一標籤，清楚地標示出配線位置。

### Wiring precautions

1. This product is universal for 3-phase 4-wire or 3-phase 5-wire systems, and zero line operation is not required for input.
2. The cable length is recommended to be 3M. Please measure the actual length in special occasions
3. Before the power supply is connected to the mains power supply, determine whether the power capacity and voltage specification match the load equipment to avoid damage to the voltage regulator.
4. The voltage regulator has different installation standards due to different capacity and voltage. Please select the appropriate wiring scheme according to the capacity specification table, and pay special attention to that its wires must meet the regulations.
5. Avoid sharing one power supply with other power supply devices as far as possible.
6. When connecting the input and output terminal blocks, be sure to connect the cables to avoid poor contact and fire.
7. Please turn off the power supply when wiring. Live working is strictly prohibited for safety.
8. When wiring, professional personnel shall refer to electrical regulations for construction.
9. The input and output wiring of the voltage regulator are connected through a combined terminal block. There is a label on the lower edge of the terminal block to clearly mark the wiring position.

# 安裝步驟

## Installation instructions



### ● 安裝步驟

1. 檢查市電輸入開關的通斷可靠性，保持開關在關閉狀態。
2. 打開穩壓器安裝門板，確認開關為關閉狀態，找到接線端子盤。
3. 輸入電纜一端安裝穩壓器輸入端，一端通過輸入電纜通道安裝到市電開關。
4. 打開市電開關，測試穩壓器輸入端的電壓是否正常。
5. 打開穩壓器電源開關，測試穩壓器處於正常工作狀態，再檢驗一下輸出電壓是否精準
6. 關閉所有開關，將穩壓器輸出電纜連接負載設備。
7. 再打開所有開關，測試負載是否正常運行，如果發生相序錯誤，請及時糾正。
8. 現場客戶確認安裝成功，本次安裝服務即可完成。

### Installation instructions

1. Check the on-off reliability of the mains power input switch and keep the switch closed.
2. Open the installation door panel of the voltage regulator, confirm that the switch is closed, and find the terminal block.
3. One end of the input cable is installed with the input end of the voltage regulator, and one end is installed to the mains switch through the input cable channel.
4. Turn on the mains switch and test whether the voltage at the input end of the voltage regulator is normal.
5. Turn on the power switch of the voltage regulator, test that the voltage regulator is in normal working state, and then check whether the output voltage is accurate
6. Turn off all switches and connect the voltage regulator output cable to the load equipment.
7. Turn on all switches again to test whether the load operates normally. If there is a phase sequence error, please correct it in time.
8. After the on-site customer confirms that the installation is successful, the installation service can be completed.

# 安裝完成

Installation complete



# 故障自檢

## Fault self-test

故障現象 Fault phenomenon	可能原因 Possible causes	排除方法 Exclusion method
欠相指示異常保護跳閘 控制器無顯示 輸出端子無電壓 Under phase alarm protection No display of controller No voltage at output terminal	開關損壞 三相電缺相 電纜斷裂或接觸不良 The switch is damaged Three phase electric phase failure Broken cable or poor contact	檢查開關通斷性能，確認穩壓器前端是否缺相，更換開關。 Check the on-off performance of the switch, confirm whether there is phase loss at the front end of the voltage regulator, and replace the switch.
電壓過高異常保護跳閘 Over voltage abnormal protection tripping	系統故障 電機故障 輸入電壓超440V以上 System failure Motor failure The input voltage exceeds 440V	測量輸入電壓是否高于440V以上，如果有，請解決外部電網問題；如果沒有，系統或調壓電機損壞。 Measure whether the input voltage is higher than 440V. If yes, please solve the problem of external power grid; If not, the system or voltage regulating motor is damaged.
電壓過低異常保護跳閘 Low voltage abnormal protection tripping	系統故障 電機故障 輸入電壓超330V以下 System failure Motor failure Input voltage exceeding 330V	測量輸入電壓是否低于330V以下，如果有，請解決外部電網問題；如果沒有，系統或調壓電機損壞。 Measure whether the input voltage is lower than 330V. If yes, please solve the problem of external power grid; If not, the system or voltage regulating motor is damaged.
風扇不轉 手感機箱高溫 超載指示異常保護跳閘 Fan does not turn Feel the high temperature of the chassis Overload indication abnormal protection trip	風扇故障 負載超載 電源工作溫度過高 Fan failure Load overload The operating temperature of the power supply is too high	檢查穩壓器環境溫度是否在 $\leq 40^{\circ}\text{C}$ ，再檢查負載電流是否與穩壓器額定匹配，請更換大容量穩壓器安裝，或者負載設備運行不正常。 Check whether the ambient temperature of the voltage regulator is $\leq 40^{\circ}\text{C}$ , and then check whether the load current matches the rated voltage of the voltage regulator. Please replace the installation of high-capacity voltage regulator, or the load equipment does not operate normally.
內部打火花現象 Internal spark phenomenon	碳刷接觸不良 碳刷已經磨損 內部粉塵污染嚴重 Poor contact of carbon brush The carbon brush is worn Serious internal dust pollution	用干燥氣槍做產品粉塵清潔保養一次；折箱檢查碳刷是否接觸不良，可以用細沙紙打磨平整恢復；如果碳刷已經磨損待盡，請聯系廠家更換。 Clean and maintain the product dust with a dry air gun once; Check whether the carbon brush is in poor contact when folding the box. It can be polished and leveled with fine sandpaper for recovery; If the carbon brush is worn out, please contact the manufacturer for replacement.
內有噪音 Noise inside	電源過載 碳刷卡死震裂 碳刷接觸不良 螺絲鬆動 Power overload Carbon brush cracking Poor contact of carbon brush Loose screw	折箱檢查碳刷是否接觸不良造成噪音，可以用細沙紙打磨平整恢復；如果碳刷已經損壞，請聯系廠家更換。 Check whether the carbon brush is in poor contact and causes noise. It can be polished and leveled with fine sandpaper for recovery; If the carbon brush is damaged, please contact the manufacturer for replacement.

# 保修條例

## Warranty regulations

尊敬的客戶：

感覺感謝您選用我公司的電源產品，為了使您對我們公司的產品用的更加滿意與放心，請妥善保管好本說明明書與保修卡，以便完善本公司對您後期的產品服務。並希望您提供更寶貴的意見及建議。

本產品自購買日起憑本保修卡享有1年的免費保修服務（也可按合同時間）

產品諮詢及維修專線：400-6480-668

下列因素導致穩壓器故障不會享有免費維修範圍

1. 無法提供任何購買記錄和無法出示本保修卡的用戶。
2. 自行撕掉保修標籤用戶
3. 非正常使用下所發生的故障（人為操作、移機過程、超負載工作）。
4. 自行改裝或是非專業人員折機維修。
5. 市電供電超出穩壓器的過高或者過低範圍。
6. 自然災害，如水災、火災、地震等。

Dear customer

Thank you for choosing our power supply products. In order to make you more satisfied and assured with our products, please keep this instruction and warranty card properly, so as to improve our later product service to you. And I hope you can provide more valuable opinions and suggestions.

This product is entitled to 1-year free warranty service (or according to the contract time) with this warranty card from the date of purchase

Product consultation and maintenance hotline: 400-6480-668

The following factors lead to the failure of the voltage regulator and will not enjoy the free maintenance scope

1. Users who do not show this warranty card.
2. Tear off the warranty label by yourself
3. Faults under abnormal use (manual operation, relocation process, overload work).
4. Self modification or non professional folding machine maintenance.
5. The mains power supply exceeds the range of too high or too low of the voltage regulator.
6. Natural disasters, such as flood, fire, earthquake, etc.

# 保修卡

## Warranty card

用戶信息（用戶填寫） User information (filled in by the user)	
用戶姓名： User name:	聯繫電話： Contact number:
通訊地址： Mailing address:	
產品型號： Product model:	產品編號： Product number:
電壓規格： Voltage specification:	購買日期： Date of purchase:
購買渠道： Purchase channel:	發票號碼： Invoice number:

維修記錄 Maintenance record	
報修日期： Repair date:	維修日期： Maintenance date:
故障描述： Fault description:	
處理詳情： Processing details:	
維修單位名稱： Name of maintenance unit:	維修電話： Maintenance Telephone:
維修員簽名： Signature of maintainer:	客戶確認簽名： Customer confirmation signature:

# 服務網點

## Service Network

### 湖北總部 Headquarters

地址：湖北省麻城市鰲樓小河頭工業區金保產業園  
Address: Jinbao Industrial Park, xiaohetou Industrial  
Zone, Shilou, Macheng City, Hubei Province  
TEL:+86 400-6480-668

### 華東分公司 East China branch

地址：江蘇省昆山市玉山鎮城北模具城4期23棟29號  
No. 29, building 23, phase 4, Chengbei mould City, Yushan  
Town, Kunshan City, Jiangsu Province  
TEL:+86 150-5160-1058  
FAX:+86 0512-5031-3433

地址：山東省濟南市歷城區翡麗公館4—1—302  
Address: 4-1-302, Feili residence, Licheng District, Jinan  
TEL:+86 159-6261-3781

### 華南分公司 South China branch

地址：廣東省東莞市長安鎮上沙社區創業橫路5號  
Address: No. 5 chuanygeheng Road, Shangsha community,  
Chang'an Town, Dongguan City, Guangdong Province  
TEL:+86 188-1908-5002  
FAX:+86 0769-8188-8995

地址：佛山市順德區北滘鎮順江社區工業園偉業路2號B棟2樓  
TEL:+86 135-3902-0941  
FAX:+86 0757-2332-8777

### 華中分公司 Central China branch

地址：河南省許昌市建安區張潘鎮張村桃園路1號  
Address: No. 1, Taoyuan Road, Zhangcun, zhangpan Town,  
Jian'an District, Xuchang City, Henan Province  
TEL:+86 136-0230-3340

### 西南辦事處 Southwest Office

地址：成都市溫江區江安路739號2棟2205  
Address: 2205, building 2, No. 739, Jiang'an Road, Wenjiang  
District, Chengdu  
TEL:+86 138-2727-8926

### 東北辦事處 Northeast Office

地址：沈陽市于洪區沈胡路中國機床城A2-14  
Address: a2-14, China Machine Tool City, Shenhu Road,  
Yuhong District, Shenyang  
TEL:+86 133-5240-1088

### 華北辦事處 Northeast Office

地址：天津市東麗區北方五金城C12-111  
Address: c12-111, North Hardware City, Dongli District, Tianjin  
TEL:+86 188-1908-5550



管方網站  
Management website



管方公眾號  
Management public account

400- 6480- 668