

## Wiring suggestions for Power Grinder 110 Volt / 220 Volt grain mill motors

110V / 220V motors have six (6) motor wires in the junction box, and do not come with a power cord attached.

If your motor came with a power cord attached, it is compatible with 110 Volt electrical current only, and requires a different wiring connection than is described here.

Please contact us for wiring instructions.

Connecting electrical power to the Power Grinder grain mill motor is very straight forward.

**HOWEVER, we recommend that all of our customers consult with a licensed electrician who is familiar with motor wiring.**

### **WARNING!**

**Improper or incorrect wiring of an electrical device can cause bodily harm, and death.**

**Always consult with a licensed electrician who is familiar with motor wiring before using this device.**

**Incorrect wiring will cause damage to the motor and components.**

There is **no warranty** for this product, due to the inability of the seller to verify the proper installation of the product.

A “shaft to shaft” configuration will produce an opposite shaft rotation direction.

For example, to obtain a clockwise mill shaft rotation, a *counterclockwise* motor shaft rotation is required.

To determine the direction of rotation of a shaft, put your nose on the shaft, and then back your head away from the shaft. You are now looking at the shaft and can determine which direction you want the shaft to rotate – either clockwise, or counterclockwise.

For a **counterclockwise** motor shaft rotation, the following suggestions apply:

We recommend the use of no smaller\* than 16-gauge wire, with hard connectors (fork, spade, “U”, ring, etc.) on the wires to the terminals on the electrical bus in the junction box.

<https://ae01.alicdn.com/kf/HTB1WhxwLVXXXa6aXXXq6xXFXXf/25pcs-lot-Semi-Insulated-FC-Fork-Connector-Wire-Cable-Spade-Electrical-Crimp-Terminal-Assortment-Audio-Screw.jpg>

\*Electricians know this, but wire gets physically larger as the size number of the wire gets smaller. For example, 16-gauge wire is larger than 18-gauge wire. We believe that 14-gauge wire is larger than is needed, but we believe 18-gauge wire is too small.

### **For 110 Volt electrical current:**

First, disconnect from under the screws all six of the numbered wires which are attached under screws on the electrical bus inside the junction box which is mounted on the motor.

DO NOT disconnect or disassemble ANY other wires!!!! DO NOT loosen or disconnect any wire nuts!!!!

Of the six upper terminals on the electrical bus (located in the junction box) you will **use only two** of the upper terminals, and the two corresponding lower terminals.

On one of the upper terminals, join the 1 / 3 / 6 motor wires all under the same screw.  
On the corresponding lower terminal connect the “hot” wire from the switch – usually black in the USA.

On one of the other upper terminals, join the 2 / 4 / 5 motor wires all under the same screw.  
To the corresponding lower terminal, connect the neutral wire from the power source – usually white in the USA.

Remember, you are using only two of the six upper terminals, and the two corresponding lower terminals on the electrical bus in the junction box mounted on the motor.

It does not matter which terminals you use for these connections.

Take your pick.

Just make sure you combine the 1 / 3 / 6 motor wires on an upper terminal and the “hot” wire from the switch to the corresponding lower terminal.

Join the 2 / 4 / 5 motor wires on another upper terminal, and connect the neutral wire from the power source to the corresponding lower terminal.

The ground wire goes to the ground screw threaded into the junction box. We recommend a ring connector on the ground wire to the ground post.

<http://www.autoconsumables.com/ekmps/shops/227sparts/images/electrical-crimp-connector-terminals-semi-insulated-ring-red-to-fit-8.4mm-stud-3384-p.jpg>

You may want to put a 5mm nut on the ground screw on the inside of the junction box.

For a **CLOCKWISE** motor shaft rotation, combine the 1 / 3 / 5 motor wires on an upper terminal, and connect the hot wire from the power source to the corresponding lower terminal.

On one of the other upper terminals, combine the 2 / 4 / 6 motor wires, and connect the neutral wire from the power source to the corresponding lower terminal.

The wiring diagram plate on the motor (if installed) shows this connection, but it is not explained.

### FOR 220 VOLT electrical current:

WARNING: 220 Volt current in North America (United States / Canada) is NOT the same as 220 Volt current in Europe and Asia.

For this reason, we STRONGLY recommend that a licensed electrician who is familiar with motor wiring AND local electrical sources be consulted before connections to 220 Volt current are completed.

The wiring diagram plate on the motor (if installed) shows connections for “low voltage” (110 Volt) and “high voltage” (220 Volt), but the connections are not explained.

Hope this helps.

**Please** contact us if there are **any** questions, and again **WE RECOMMEND THAT ALL OF OUR CUSTOMERS CONSULT WITH A LICENSED ELECTRICIAN WHO IS FAMILIAR WITH MOTOR WIRING.**

**HAPPY BREWING!**



*This photo shows the electrical bus for a 110 Volt application with the 1/3/5 wires joined on one upper terminal, and the 2/4/6 wires joined on another upper terminal. No matter which direction of rotation is selected, the “hot” wire (usually black) from the switch will always connect to the terminal directly below where the number 1 motor wire is connected. The neutral wire (usually white) from the power source will always connect to the terminal directly below where the number 4 motor wire is connected.*