

# Basic set-up procedure for a Variable speed KMG

This web page is presented as a basic guide only. It is recommended that all installation work be performed by qualified personal.

## Motor:

The output power from the VFD/controller will be 220V 3ph regardless of the input which can be 110V or 220V 1ph.. The motor supplied will be a 220V 3 ph motor designed to run on this output power and should be connected for 220V.

Punch out a plug in the junction box and install the supplied Cable Gland and 16/4 electrical cord. Noting that the motor wires are numbered, connect as shown in the wiring diagram below or follow the name-plate diagram on the motor for the low voltage connection.

Connect with a wire nut:

- T4,T5 and T6
- T1, T7 and Red from VFD
- T2, T8 and White from VFD
- T3, T9 and Black from VFD

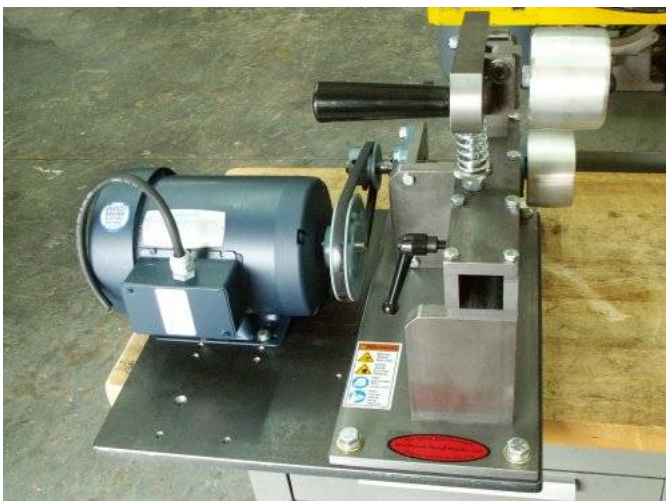
There is a green grounding lug located inside the junction box as seen in the photo to the left.

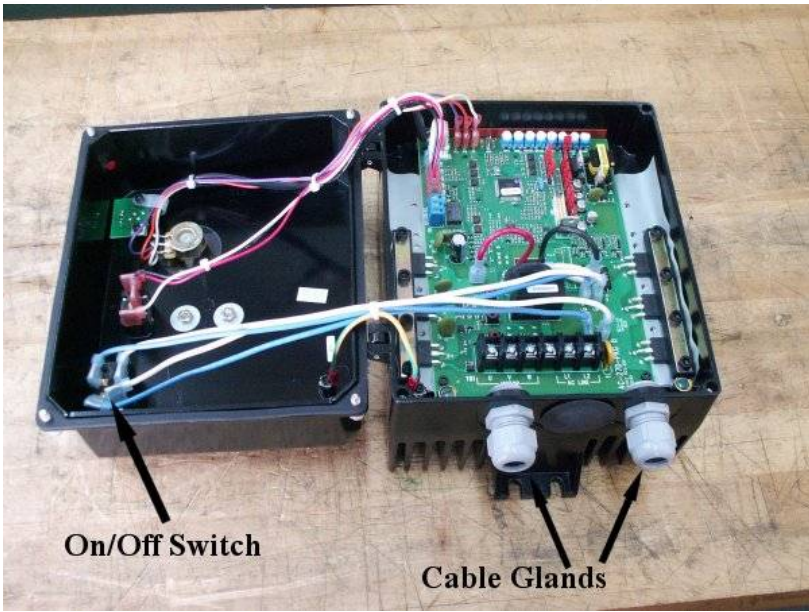
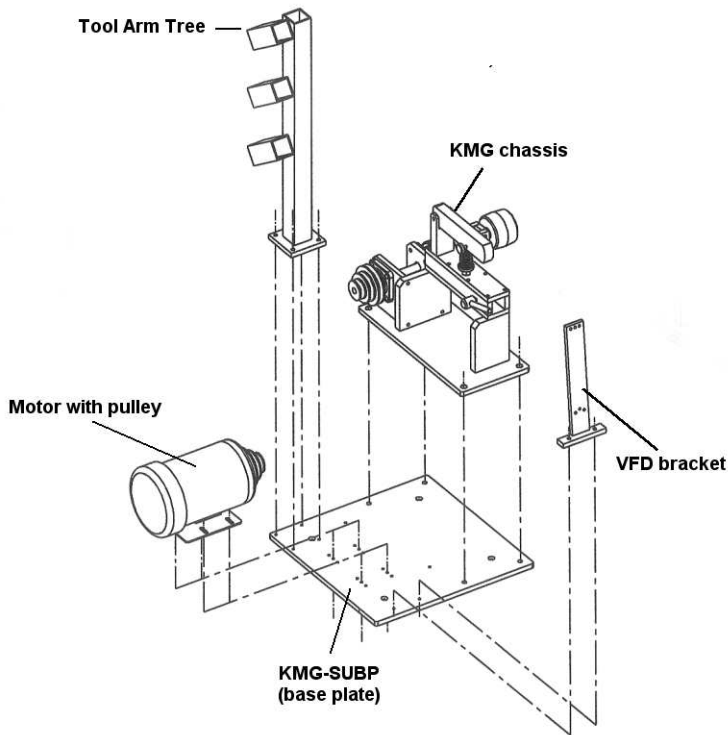
## Base Plate:

The KMG-SUBP can be fastened to a table or stand using flat-head fasteners in the countersunk holes on the top of the plate.

Bolt the grinder chassis and motor to the base plate with the drive belt and pulleys as shown on the left.

Then bolt the VFD bracket to the base plate using the 2 holes located on the front left edge.



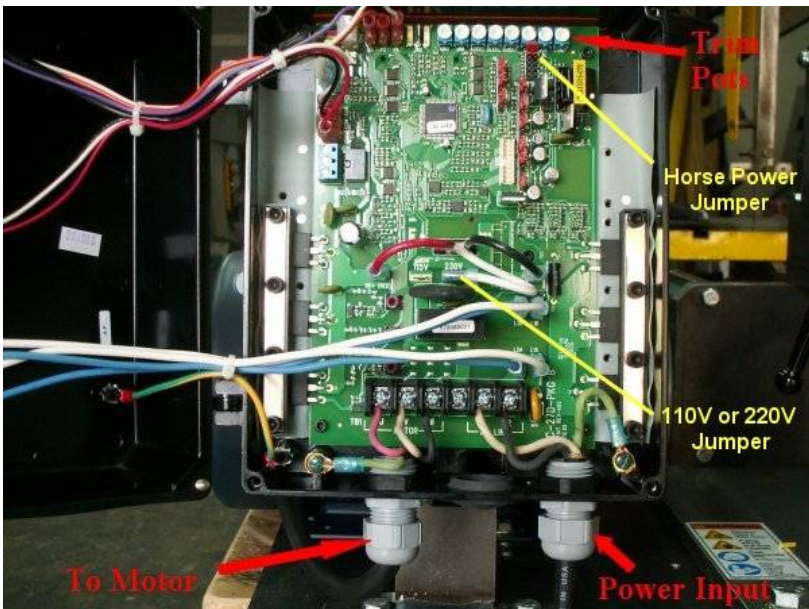


### Variable Frequency Drive:

Install the supplied "On/Off switch" according to the instructions included with the switch.

Install the supplied cable glands and seal the center hole of the VFD case.

Then mount the VFD onto the bracket previously mounted to the base plate.



### Connecting the Electrical Cords

Referring to diagram below, connect the 16/4 electrical cord from the motor to the terminals and ground lug inside the VFD.

- Red to U
- White to V
- Black to W

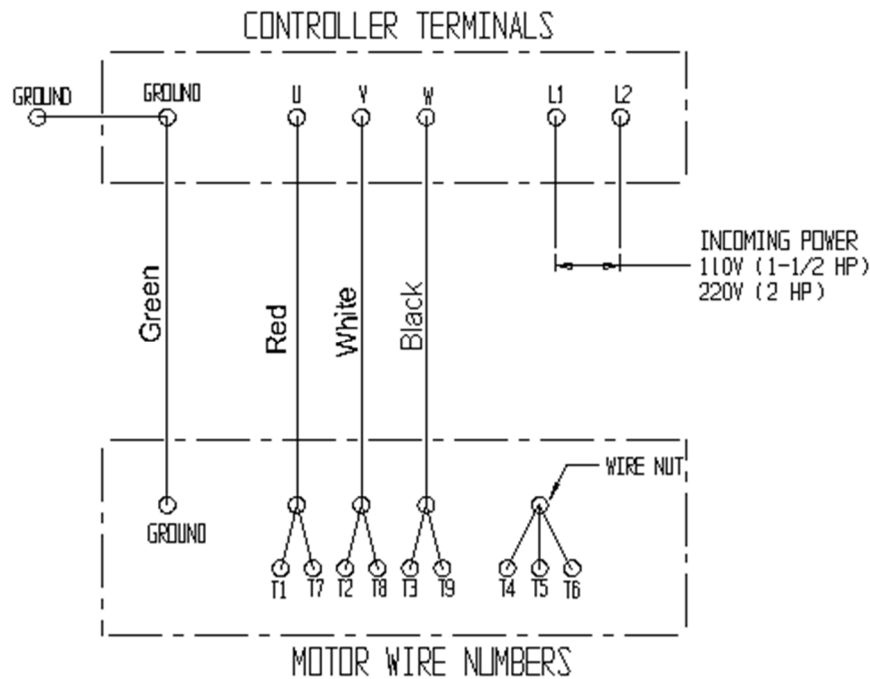
Obtain a 14/3 (14 ga. 3 conductor) Cord to supply the incoming power to the VFD and connect to the terminals and Ground lug.

Referring to the VFD's factory supplied Installation & Operation manual,

Set the jumper on the VFD for the incoming power Voltage, 115V or 230V. See note in yellow in picture to the left. If you run the VFD on 115V, then you will need to move this wire to the 115V position.

Set the motor *Horse-Power* jumper for the appropriate motor size .

Due to different revision levels of the VFD's circuit board, check your VFD's documentation for specific instructions.



Wiring connections between the Motor and VFD

## Tuning adjustments for optimum performance

Through extensive testing, we suggest the following trim pot settings for the maximum performance of your Variable Speed KMG:

**MAX:** Turn all the way clock wise.

**MIN:** Approximately set at the 9:00 position and adjust to personal preference. This controls the grinder's speed when the "% Speed Knob" on the front cover of the VFD is turned to 0%. It is recommended to set this so that the grinder is still

moving slowly as a reminder to the operator that the unit is in the "run" mode until the switch is placed in the "stop" position.

**ACCEL:** Approximately set at the 9:00 position and adjust to personal preference. This controls how fast the grinder accelerates up to speed when started from rest. If this is set too aggressively, the controller will shut-off with a fault alarm. Turning the Pot clockwise increases the amount of time for the grinder to accelerate to full speed.

**DECEL:** Approximately set at the 9:00 position and adjust to personal preference. This controls how fast the VFD brakes the grinder to a full stop when the Run/Stop switch is placed in the Stop position. If this is set too aggressively, the controller will shut-off with a fault alarm. Turning the Pot clockwise increases the amount of time for the grinder to stop.

**BOOST:** Do not use this feature with the KMG and ignore this adjustment.

**CL:** Turn all the way Clockwise.

**JOG:** Do not use this feature with the KMG and ignore this adjustment.

**COMP:** Turn all the way Counter Clockwise.

When Running your KMG, flip the Power on/off switch to "ON". Then use the Start/Stop switch to start and stop your grinder.

**Starting requires the switch to be fully flipped upwards against the spring return of the switch. Notice that this switch actually has 3 positions to it's mechanical action.**

Do not use the power on/off switch to stop the grinder as this disconnects power to the VFD and disables the VFD's motor stop sequence and the associated braking feature.