

KwiKool 3-PHASE POWER MONITOR

The KwiKool phase monitor has the following characteristics:

1. Wired directly into the unit's alarm system and all critical components.
2. Protects against low & high voltage, a dropped leg, or reversed phases.
3. Located on the inside of the electrical box or behind the electrical panel on 3-phase models.
4. Models with a phase monitor can put the unit into alarm mode, showing a display light on the control panel combined with an audible beeping. Checking whether the display lights have changed from green to red will determine if the alarm is caused by a power issue. **All power faults must show a green light, before restarting your KwiKool unit.**

There are 4 most common reasons for the failure of a 3-phase unit to start up, reversed or dropped phases, and low and high voltage. The following steps should be followed:

Step 1 is: reverse either the 2 left or 2 middle cam lock connections. If this fails go to Step 2.

Step 2 is: Open the electrical panel, next to the start switch. Check the voltage adjustment knob to make sure the setting is on the proper voltage, set knob at 220 volt located between 208 or 230 volts for KPO12-23, 460-volt for KPO12-43, KPO5-43.

Step 3 is: Check which lights on the phase monitor are activated. Call KwiKool at 1-800-594-5665 for assistance. Have a volt meter available for checking voltage.

#1 Light Label – Lock Out; if this LED is red, Knob D – Never adjusted. A lockout means that the system won't run because of low voltage, loss of a phase or out of phase, which shuts down the power.

#2 Light Label – Front Fault or power coming in; if this LED is red, Knob C– Never adjusted.. Front fault means the loss of 1 phase or out of phase, or in reversed phases.

#3 Light Label – Back Fault; if this LED, Knob C– Never adjusted.. Back fault means there is a problem between the condenser motor to condenser contactor, eg. Wire broke or lose, not connected or motor winding is open.

#4 Light Label – High Voltage; if this LED is red, Knob B can be adjusted to raise the range for the high voltage tolerance.

#5 Light Label – Low Voltage; if the LED is red, Knob B can be adjusted to lower the range for the low voltage tolerance.

Jumping out the phase monitor at #1 and #6 Terminal leads will cause the phase monitor to disconnect and stop working all together from the unit. Use extreme caution when bypassing the phase monitor, since electrical issues may cause electrical damage.

Definitions – Non-critical faults are faults such as high or low voltage and phase imbalance, critical faults are phase loss & phase reversal. When a critical fault is detected, the power is cut off until the fault is corrected. Phase imbalance is when the voltage (230v, 460v) goes beyond the factory setting of plus or minus 10%.

KwiKool KPO 5-ton INDOOR/OUTDOOR UNIT INSTALLATION AND OPERATION GUIDE

Shipping Information

1. If receiving unit via common carrier, inspect for damage.
2. Install wheels, which are in a separate box.
3. Install two 12-inch flanges on the front of the unit, using the notched holes. Install one 20-inch flange on the back side of the unit (Control Panel side).

Unit Installation

1. Place unit in desired location with a 5-ft clearance from any adjacent wall.
2. If unit is used outside, there is no need to hook up the condenser hot air discharge on the front side of the unit (Control Panel side).
3. On the back of the unit connect to the flanges two 12-inch ducts, which are then run into the space that is being cooled. These ducts should be separated by at least 10 feet within the space being cooled. The maximum duct length is 50 feet for each run. **Be sure that the duct is not restricted or collapsed, since this will cause the evaporator coil to freeze.**
4. If unit is used inside, attach a 12" duct to the single flange on the front of the unit which can be up to a maximum of 60 feet.
5. Condensate is pumped out through a 1/4-in. nipple, located on the unit front next to the power cord. If the unit is indoors, run a water line to the nearest drain. The condensate pump has a 20-ft. pump pressure.

Operation Use

1. The controls are located inside control panel on the front right side top of the unit. Open the small door to access the controls. To start the unit you must turn the switch to the right.
2. The temperature set point is controlled by the arrow buttons. To change the setting press the set button, then the arrow key up or down. The lowest allowed set point is 65 degrees F. However, it is best to set the temperature at 72 degrees F. for normal operation.

Electrical Requirements (THE FOLLOWING MUST BE DONE BY A QUALIFIED ELECTRICIAN:

1. For the model KPO5-21, single phase 208/230 Volt UNIT YOU WILL NEED: NO. 8 SO Cable, AW/8/3 600V Water & Oil RESISTANT CABLE. You will have 2 hot leads and 1 green ground wire.
2. For the model KPO5-43, 460 Volt UNIT YOU WILL NEED: NO. 10 SO Cable, 10/4AW, 600V WATER AND OIL RESISTANT CABLE. You will have 3 hot leads and 1 green ground wire.
3. **BEFORE YOU DO ANYTHING IF YOU ARE USING 208-Volt POWER THE FOLLOWING MUST BE DONE. Open the electrical box above the power cable, using a screw driver. Then move the rocker switch to the 208-V position.**
4. Turn the breaker on. For KPO5-43 model, 3-phase 460-volt unit, make sure that evaporator blower is turning counter clockwise. If the blower goes clockwise, reverse the phases on the power connection. Wait 2 minutes for the compressor to come on and then you can adjust the temperature setting.

Alarms – When an audible alarm occurs, there is a mechanical failure, unless the unit is a 3-phase model equipped with a phase monitor. **Model KPO5-21 does not have a phase monitor.** The electrical alarms will be indicated by the red lights on the phase monitor located inside the electrical box behind the control panel (See reverse side for alarm explanation). If the phase monitor has no red lights, this indicates a mechanical failure. The most likely mechanical failure is due to high pressure from a collapsed duct or restricted air flow. The high pressure switch must be reset manually by pressing the button, located inside the left side front panel of the unit when facing the control end of the unit. **If you are unable to solve a shut down problem, call KwiKool at 1-800-594-5665 and ask for technical assistance.**