

230VAC Air Compressor Wiring Instructions

ELECTRICAL CONNECTIONS FOR PERMANENTLY CONNECTED ELECTRIC COMPRESSORS

NOTICE: Electrical connections should only be performed by a qualified electrician.



WARNING: Electrical installation and service must be performed by a qualified electrician who is familiar with all applicable electrical codes.

GENERAL. The motor rating, as shown on the motor nameplate, and power supply must have compatible voltage, phase and hertz characteristics.

WIRE SIZE. The electrical wiring between the power supply and electric motor varies according to motor horsepower and other factors. Install adequately sized power leads to protect against excessive voltage drop during start-up. Refer to the applicable electric codes in your area for information on selecting the proper wire size and securing electrical connections. If you connect additional electrical equipment to the same circuit, consider the total electrical load when selecting the proper wire size. **DO NOT USE UNDERSIZE WIRE.**

MINIMUM WIRE SIZE. (USE 75 DEGREE C COPPER WIRE) Make sure voltage is correct with the motor wiring. Refer to the motor label for the running HP rating. This will determine the size wire needed. See example below.

MOTOR LABEL

COMPRESSOR DUTY MOTOR		
		249665 C US
HP: 3.7 RPM: 3450 PH: 1 Hz: 60 VOLTS: 230 AMB: 40°C FR: S82 ENCL: DP	DUTY: CONT. S.F.: 10 CODE: N INS.CL: F F.L.A.: 17.2 BRG BALL 6203RZ	○ LINE1 (BLACK) ○ LINE 2 (WHITE) THERMAL PROTECTION: MANUAL MOTOR IS NON-REVERSABLE CCW-DE

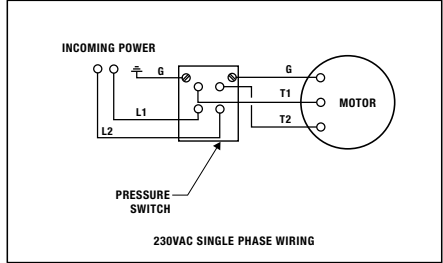
NOTE: If using 208 volts single phase, make sure the motor name plate states it is rated for 208 volts single phase. 230 volt single phase motors do not work on 208 volts unless they have the 208 volt rating.

Wire Size Chart

Model	HP	AMPS	Single Phase 230V	Max Length Allowable
C602H	3.7HP	17.2	10 - Gauge	6ft.
C801H/C803H	5HP	22	8 - Gauge	6ft.

Recommended wire sizes may be larger than the minimum set up by the local ordinances. If so, the larger wire size should be used to prevent excessive line voltage drop. The additional wire cost is very small compared with the cost of repairing or replacing a motor electrically "starved" by the use of supply wires which are too small. Also, if a lead wire longer than 6 ft. is

FUSED DISCONNECT
OR CIRCUIT BREAKER

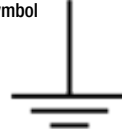


needed, consult a local electrician for alternative wiring options.

FUSES. Refer to applicable local codes to determine the proper fuse or circuit breaker rating required. When selecting fuses, remember the momentary starting current of an electric motor is greater than its full load current. Time delay or "slow-blow" fuses are recommended.

GROUNDING. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. Ground terminals are identified with a ground symbol and/or the letters "G", "GR" or "PE" (Potential Earth).

Ground Symbol



Compressors equipped with motor starters include a ground terminal inside the starter enclosure. For compressors with single-phase motors having thermal overload protection and no motor starter, the ground terminal is located inside the pressure switch. Ground must be established with a grounding wire size according to the voltage and minimum branch circuit requirements printed on the compressor specifications decal. Ensure good bare metal contact at all grounding connection points, and ensure all connections are clean and tight.



WARNING: Improper grounding can result in electrical shock and can cause severe injury or death. This product must be connected to a grounded, metallic, permanent wiring system or an equipment-grounding terminal or lead. All grounding must be performed by a qualified electrician and comply with applicable electric codes.

230VAC Air Compressor Wiring Instructions (continued)

PRESSURE SWITCH WIRING INSTRUCTIONS

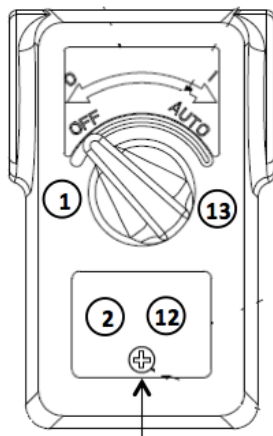


WARNING: The instructions provided below are intended to aid a certified electrician who is familiar with all applicable electrical codes. Do not attempt unless you are a qualified electrician. Before performing the following steps make certain electrical power has been shut off. Confirm with a voltage meter that no power is being supplied from the circuit.

1. Turn switch to "off" position.
2. Loosen phillips head screw from cover.
3. Remove cover.
4. Loosen cord clamp on rear of switch and route the correct gauge wire (see Wire Size Chart on previous page) through the clamp opening. Keep the wire length as short as possible to allow the wires to fit under the switch cover when re-assembled.
5. Install ground wire to the pressure switch metal body using the supplied ground screw. Torque the ground screw between 25-30 in/lbs and confirm the connection is tight.
6. Loosen both screws noted as "line" on the pressure switch.
7. Install/crimp insulated fork terminal to the black and white wire you have chosen to use for electrical connection.
 - a) Use fork style insulated terminal rated for the correct gauge wire you are using. (see Wire Size Chart on previous page)
 - b) Wire will need to be stripped to correct length prior to crimping terminal to the wire. Refer to terminal instructions provided by terminal manufacturer for correct strip length.
8. Slide fork terminal into the proper location in the pressure switch and tighten screws between 22-26 in/lbs.
9. Pull on wires and confirm the connection is tight and terminals are crimped properly to the wires.
10. Once all connections are confirmed, verify wire lengths in the switch are as short as possible. This will allow the switch cover to be re-installed properly. If the lengths are too long, it will not allow the cover to be installed completely onto the switch.
11. Tighten cord clamp screw to 15-25 in/lbs.
12. Install pressure switch cover. Tighten the cover screw snug.
13. Rotate the switch knob on and off several times to ensure proper rotation before providing electrical power to the compressor.

14. If the switch knob does not rotate freely verify the wire lengths again inside the switch. Refer to step 10
15. Once all the above steps are complete and performed correctly, power can be provided to the compressor.

Cover



Phillips
Head Screw

Cord clamp
screw

