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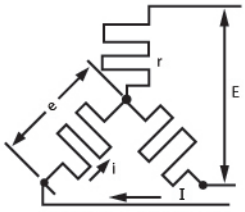
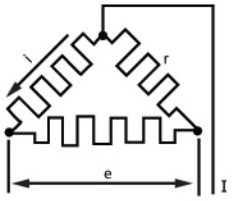
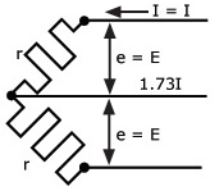
ELECTRICAL DATA



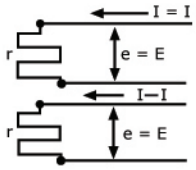
WYE OR STAR CONNECTION



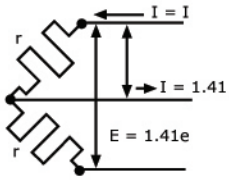
DELTA CONNECTION



3-PHASE OPEN DELTA



2-PHASE 4 WIRE



2-PHASE 3 WIRE

The energy put out by a heating unit is measured in watts. The power factor is always unity.

Single phase, $W = I^2R = EI$

Three Phase Delta, $W = 3Ei = 1.73\ EI$

Three Phase Wye, $W = 3eI = 1.73\ EI$

Two Phase 4 Wire, $W = 2I^2R = 2\ EI$

Two Phase 3 Wire, $W = 2I^2R = 2\ EI$

(Voltage between outside wires = 1.41e)

Amps $= I = \frac{W}{E} = \frac{E}{R}$

1 Phase Amps $= I = \frac{W}{E \times PF}$

A.C., 3 Phase Amps $= I = \frac{W}{1.73\ E \times PF}$

A.C., 2 Phase 3 Wire: Middle Wire Amps = Amps in outside Wires x 1.41

W = Power, Watts

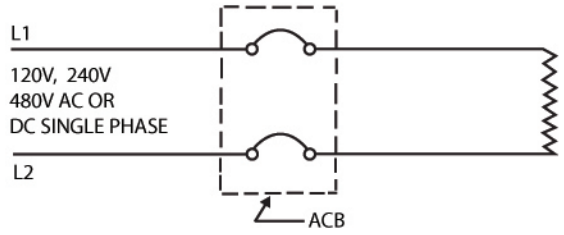
E = E.M.F. Volts

I = Current, Amperes

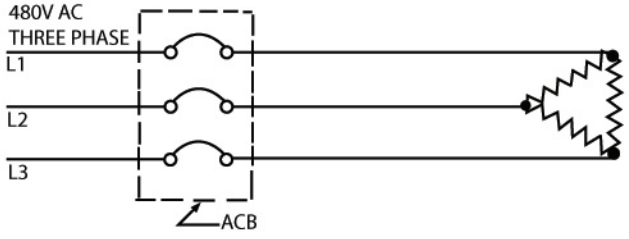
R = Resistance, Ohms

PF = Power Factor

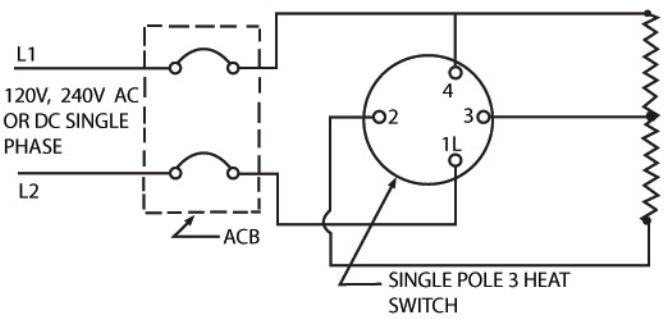
WIRING DIAGRAMS



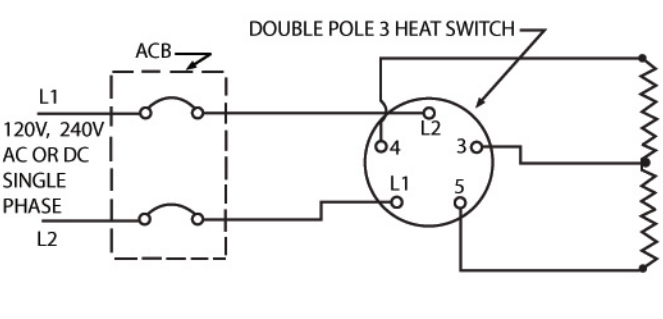
One or more heaters in parallel, single phase.



Three phase Delta.



Single phase, single pole, three heat switch.



Single phase, double pole, three heat switch.

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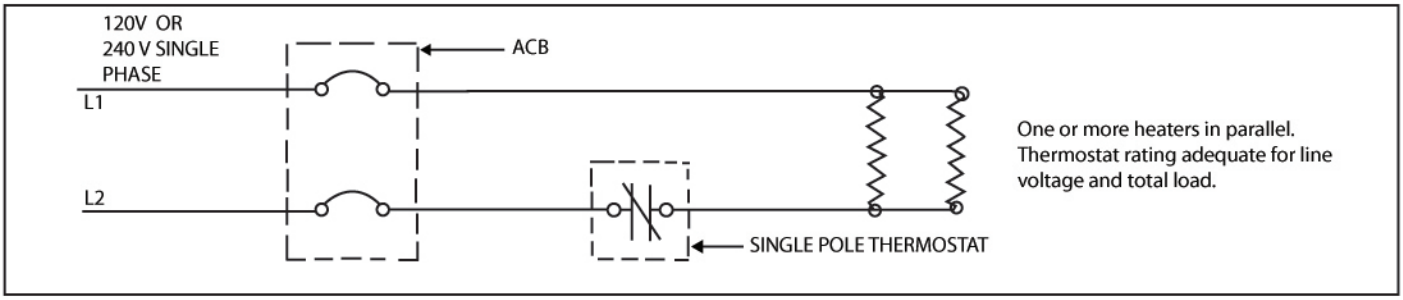
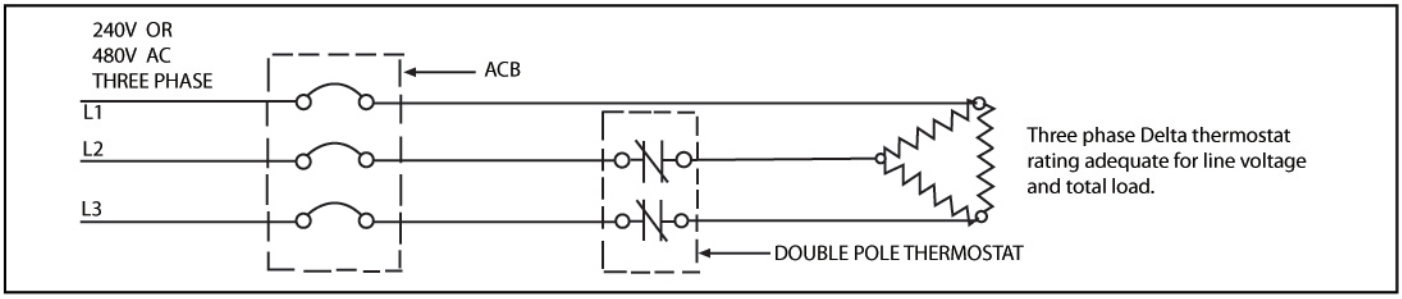
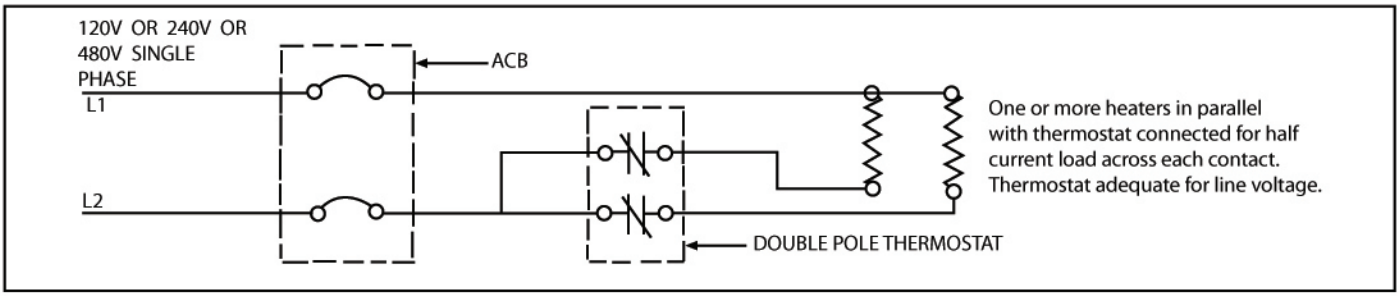
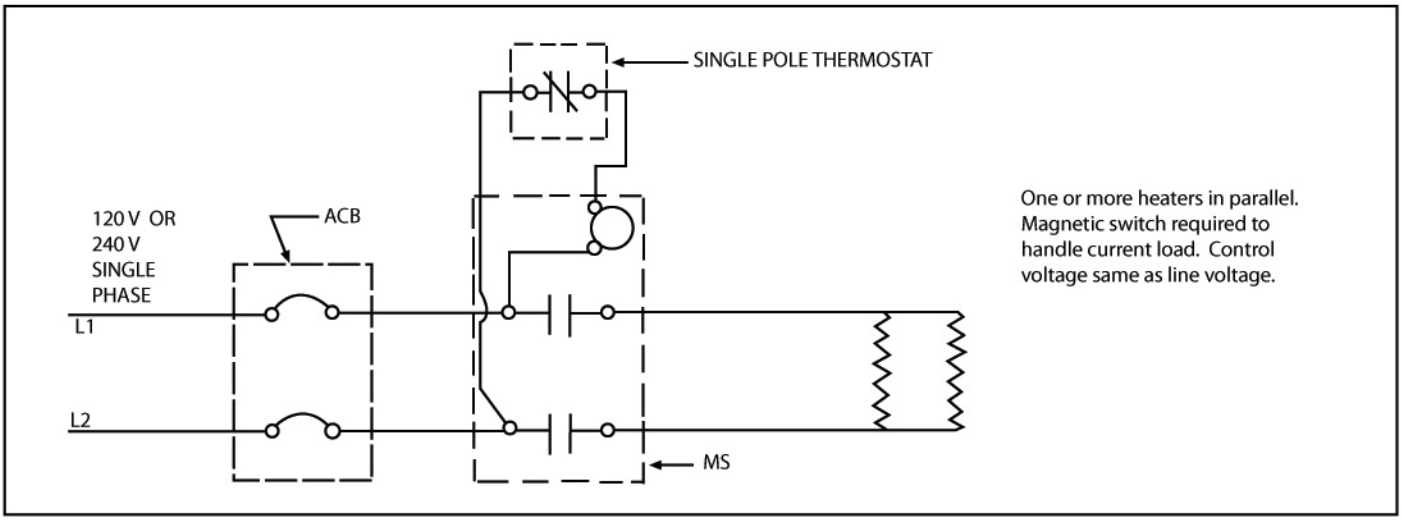
WIRING DIAGRAMS









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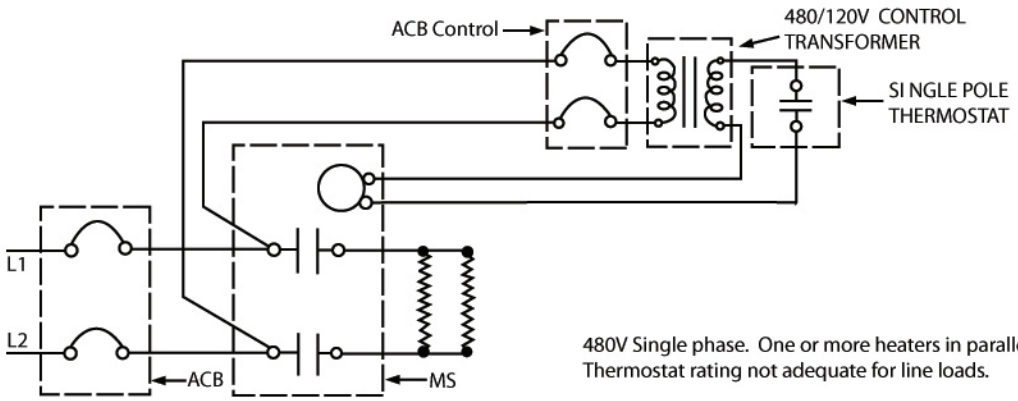
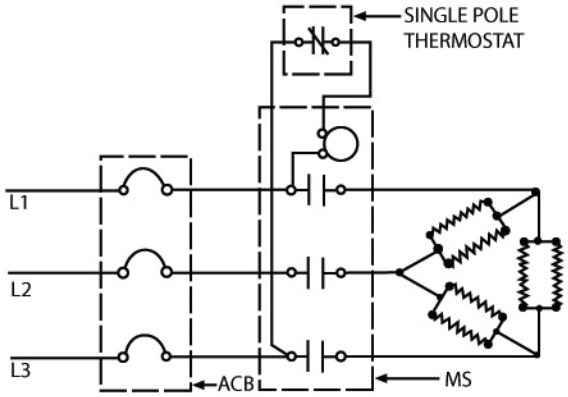
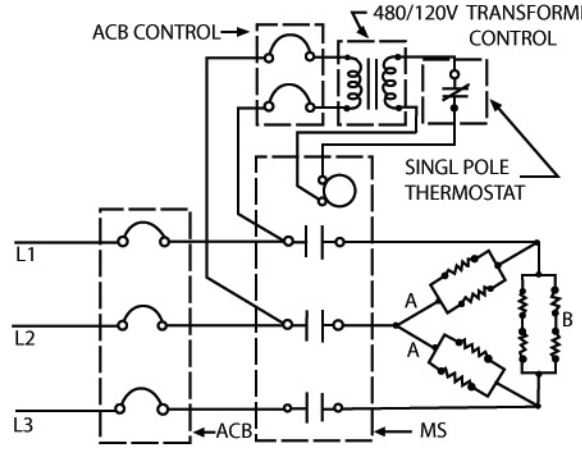
WIRING DIAGRAMS



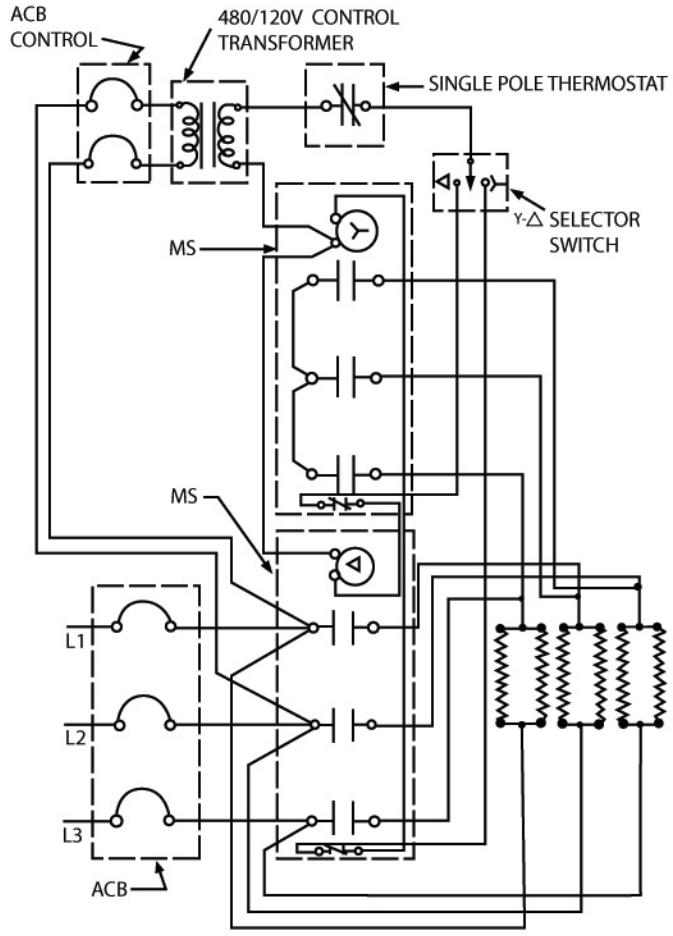
480V Single phase. One or more heaters in parallel.
Thermostat rating not adequate for line loads.



One or more heaters in parallel in each leg of 3 phase circuit.
Magnetic switch required to handle current load.
Control voltage same as line voltage.



One or more heaters in parallel on 480V 3 phase circuit.
Magnetic switch required to handle current load.
Thermostat rating not adequate for line loads.



One or more heaters in parallel 3 phase Wye-Delta connection.
Heaters rated at line voltage. Power is 100% of rated on Delta,
33 1/3% on Wye. MS coil 240 volts if 240 volt line; 120 volts
with control transformer for 480 volt line.