

Magnetic Starters - 30A, 120, 240 and 575 Volt Coils

Wiring Guide



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Contact Red Jacket Technical Support for additional troubleshooting information at 800-323-1799.

DAMAGE GOODS/LOST EQUIPMENT

Thoroughly examine all components and units as soon as they are received. If any cartons are damaged or missing, write a complete and detailed description of the damage or shortage on the face of the freight bill. The carrier's agent must verify the inspection and sign the description. Refuse only the damaged product, not the entire shipment.

VR must be notified of any damages and/or shortages within 30 days of receipt of the shipment, as stated in our Terms and Conditions.

VEEDER-ROOT'S PREFERRED CARRIER

1. Fax Bill of Lading to V/R Customer Service at 800-234-5350.
2. Call V/R Customer Service at 800-873-3313 with the specific part numbers and quantities that were received damaged or lost.
3. VR will file the claim with the carrier and replace the damaged/missing product at no charge to the customer. Customer Service will work with production facility to have the replacement product shipped as soon as possible.

CUSTOMER'S PREFERRED CARRIER

1. Customer files claim with carrier.
2. Customer may submit a replacement purchase order. Customer Service will work with production facility to have the replacement product shipped as soon as possible.
3. If "lost" equipment is delivered at a later date and is not needed, VR will allow a Return to Stock without a restocking fee.
4. VR will NOT be responsible for any compensation when a customer chooses their own carrier.

RETURN SHIPPING

For the parts return procedure, please follow the instructions in the "General Returned Goods Policy" pages of the "Policies and Literature" section of the Veeder-Root North American Red Jacket Mechanical Products Price Book. Veeder-Root will not accept any return product without a Return Goods Authorization (RGA) number clearly printed on the outside of the package.

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Introduction





Magnetic Starters covered in this manual are 30A, 3 phase, full voltage across the line starters with the coil factory wired for 110–120 volts, 208–240 volts or 575-600 volts dependent upon the device (see Table 1 on page 2). Check with the local power company to see if their power source is adequate for your requirements. Wiring diagrams are provided to show typical wiring schemes depending upon the pump model and coil voltage rating.

These devices require the installation of 3-leg ambient compensated overload heaters for proper operation and for motor protection. Please refer to Table 2 on page 2 for proper selection of the heaters which are purchased separately. Overload relays contain $\pm 10\%$ trip adjustment – achieved by turning a dial in the overload relay face to ‘tune’ the protection to the motor on the spot.









The enclosure is rated NEMA 1 and is to be installed only in a non-hazardous indoor location. Use 75°C copper conductors only. Torque terminals to 20 Lb-in.

Safety Precautions

The following safety symbols are used throughout this manual to alert you to important safety hazards and precautions.

 <p>EXPLOSIVE Fuels and their vapors are extremely explosive if ignited.</p>	 <p>FLAMMABLE Fuels and their vapors are extremely flammable.</p>
 <p>ELECTRICITY High voltage exists in, and is supplied to, the device. A potential shock hazard exists.</p>	 <p>TURN POWER OFF Live power to a device creates a potential shock hazard. Turn Off power to the device and associated accessories when servicing the unit.</p>

⚠ WARNING

       	<p>This magnetic starter is to be installed with systems operating near locations where highly combustible fuels or vapors may be present.</p> <p>Fire or explosion resulting in serious injury or death could result if the equipment is improperly installed or modified. Serious contamination of the environment may also occur.</p> <p>Read and follow all instructions in this manual, including all safety warnings.</p> <p>Comply with all applicable codes including the National Electrical Code (NFPA70); Code for Motor Fuel Dispensing Facilities and Repair Garages (NFPA 30A); federal, state, and local codes; and other applicable safety codes.</p> <p>This magnetic starter contains high voltages which can be lethal.</p> <p>Do not connect the Magnetic Starter AC power supply wires at the breaker until all devices are installed. Connecting power wires to a live circuit can cause electrical shock that may result in serious injury or death.</p> <p>These starters are designed to be used with copper wire - DO NOT USE ALUMINUM WIRE!</p> <p>Explosive vapors or flammable liquids could be present near locations where fuels are stored or being dispensed.</p> <p>The Magnetic Starter is not explosion proof. Do not install this device in a volatile, combustible, or explosive atmosphere.</p> <p>An explosion or fire resulting in serious injury or death, property loss and equipment damage could occur if the Magnetic Starter is installed in a volatile, combustible, or explosive atmosphere (Class I, Division 1 or 2).</p>
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Troubleshooting the Installation



WARNING! Lockout and tag power before performing either of these two procedures.

1. If nuisance tripping occurs, check for proper heaters, loose connections, and severe arcing or pitting of contacts.

Overload adjustments should be set no higher than 100% unless necessary to stop nuisance tripping with measured amperage in all lines below maximum pump nameplate value.

2. If the pump rotates backwards as evidenced by low pressure and flow, correct rotation by reversing any two of the three power wires to the pump.

Table 1.

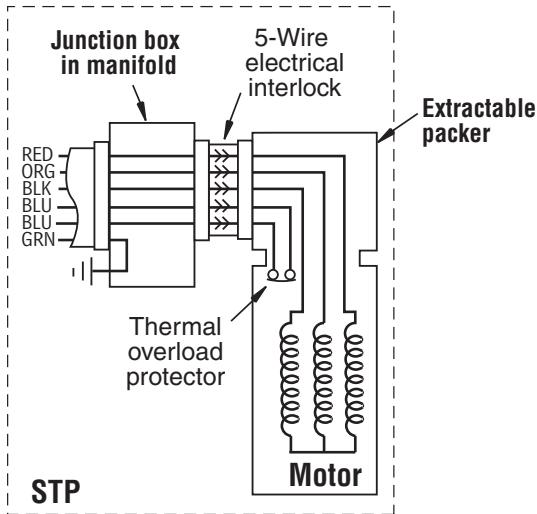
V-R Part No.	Description
410648-001	GE Magnetic starter 120V coil CR306C10200AAAAA
410648-002	GE Magnetic starter 240V coil CR306C10300AAAAA
410648-003	GE Magnetic starter 575V coil CR306C10400AAAAA

Table 2.

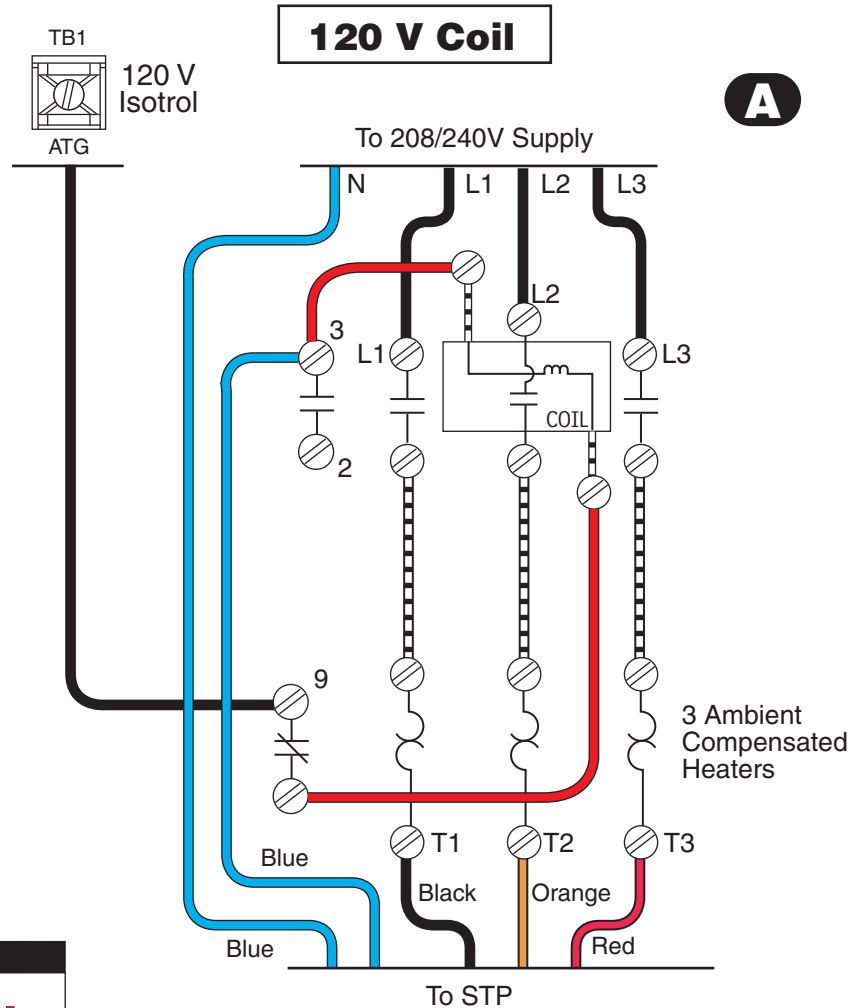
V-R Pump Model	V-R Heater No.	Description (Quantity of 3 Required)
P75U17-3 AGP75S17-3	410649-001	GE Amb. Comp. Heater - CR123C268A Trip Amps 2.59 $\pm 10\%$
P150U17-3 AGP150S17-3	410649-002	GE Amb. Comp. Heater - CR123C379A Trip Amps 4.20 $\pm 10\%$
X4P150U17 X4AGP150S17		
P200U17-4 AGP200S17-4	410649-003	GE Amb. Comp. Heater - CR123C526A Trip Amps 5.63 $\pm 10\%$
P200J4-2MB	410649-004	GE Amb. Comp. Heater - CR123C778A Trip Amps 8.18 $\pm 10\%$
P300J17-3HB	410649-005	GE Amb. Comp. Heater - CR123C592A Trip Amps 6.24 $\pm 10\%$
P300J4-2HB	410649-006	GE Amb. Comp. Heater - CR123C113B Trip Amps 11.8 $\pm 10\%$
P500J17-3K	410649-007	GE Amb. Comp. Heater - CR123C955A Trip Amps 9.91 $\pm 10\%$
P500J4-2K	410649-008	GE Amb. Comp. Heater - CR123C180B Trip Amps 19.4 $\pm 10\%$
P500J6-2K	410649-009	GE Amb. Comp. Heater - CR123C695A Trip Amps 7.35 $\pm 10\%$

Wiring Diagrams For Starters With 110–120 Volt Coil

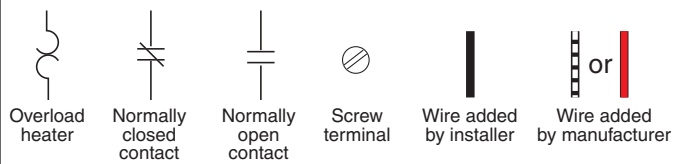
NOTE: Starter is wired for 208/240 V pump motor, 120 V from Isotrol or dispenser switch. Remove red wire connecting 9 to L2.



Make ground connection in accordance with local codes.

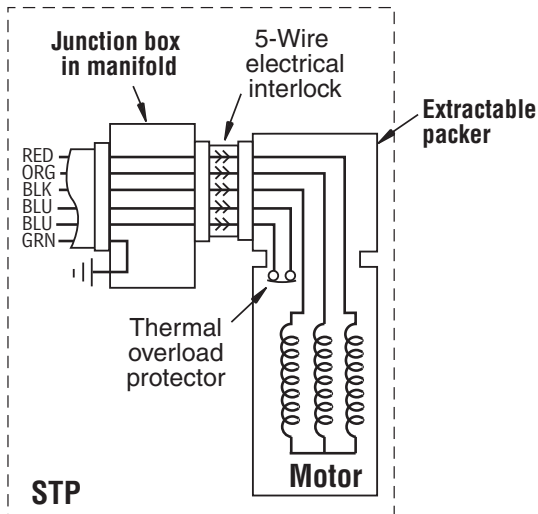


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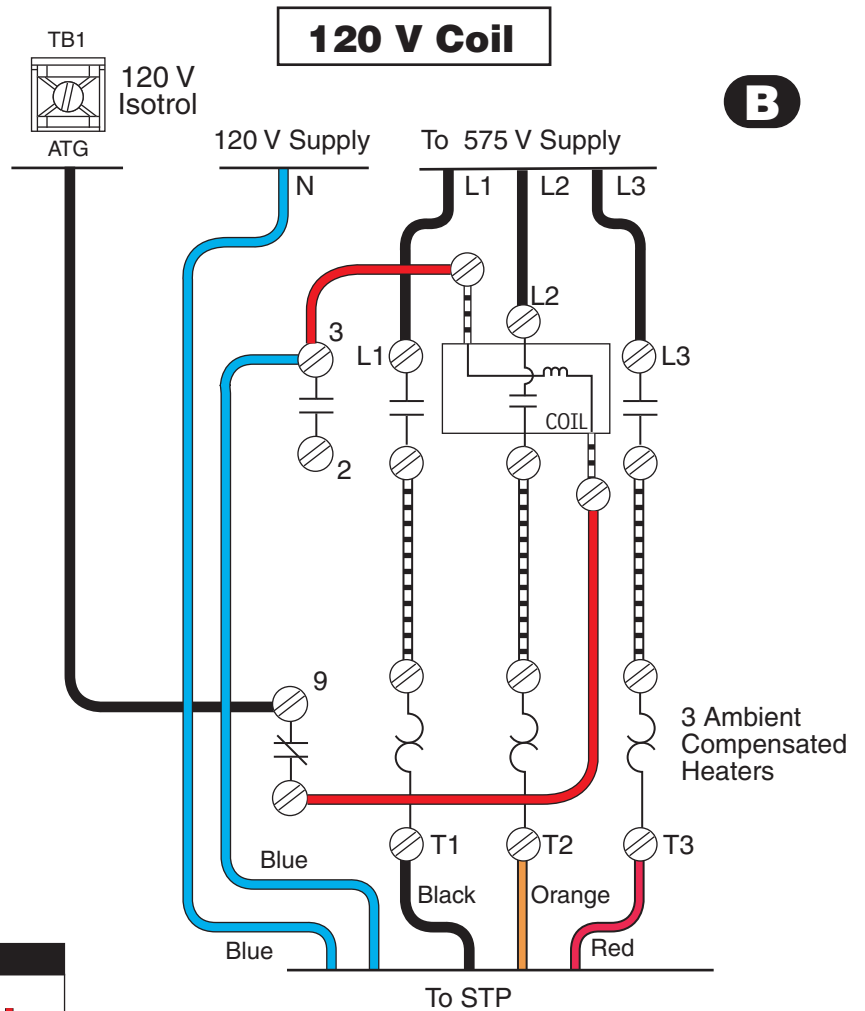
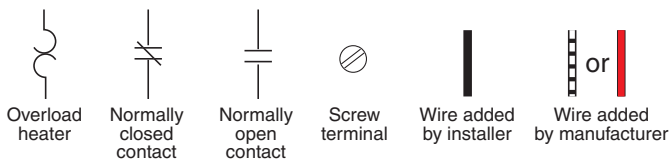
045-1

NOTE: Starter is wired for 575 V to pump motor, 120 V from Isotrol or dispenser switch. Remove red wire connecting 9 to L2.



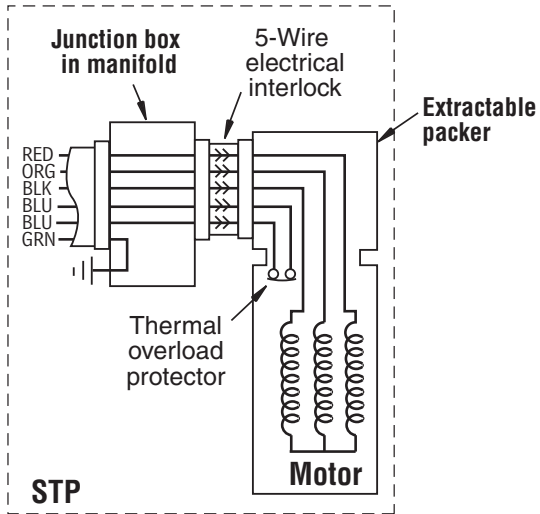
Make ground connection in accordance with local codes.

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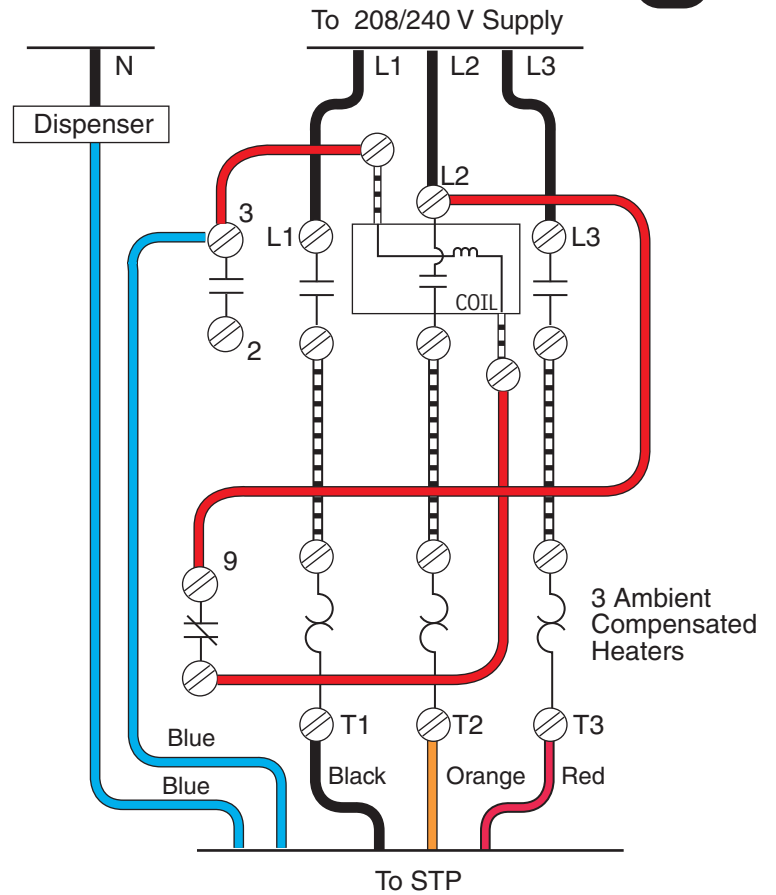
NOTE: Starter is wired for 208/240 V to pump motor, 120 V to dispenser switch.



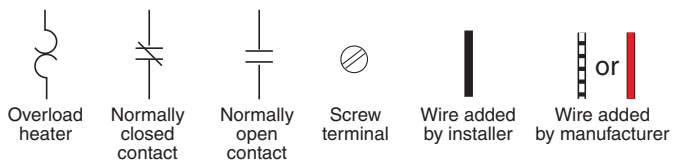
Make ground connection in accordance with local codes.

120 V Coil

C



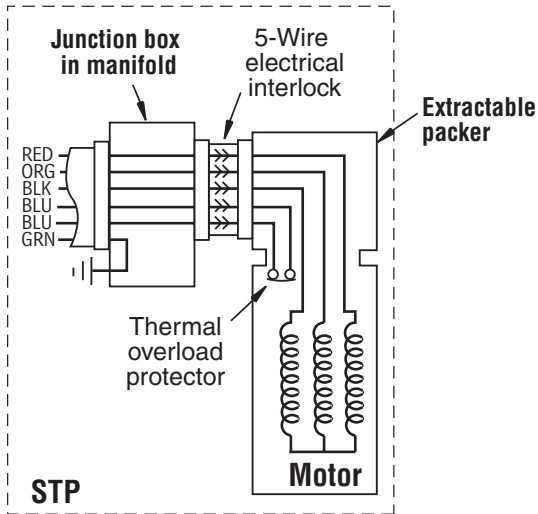
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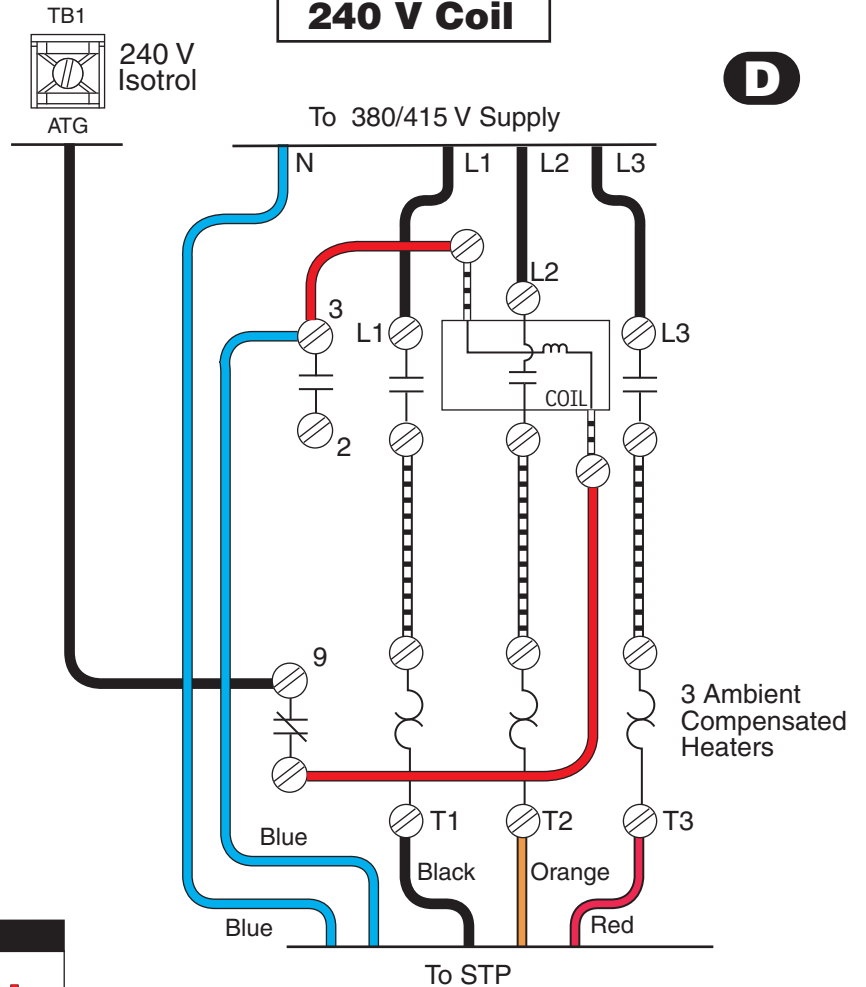
Wiring Diagrams For Starters With 208-240 Volt Coil

NOTE: Starter is wired for 380/415 V to pump motor, 240 V from Isotrol or dispenser switch. Remove red wire connecting 9 to L2.

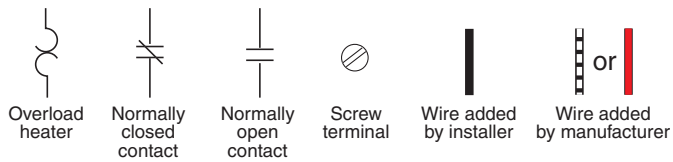


Make ground connection in accordance with local codes.

240 V Coil

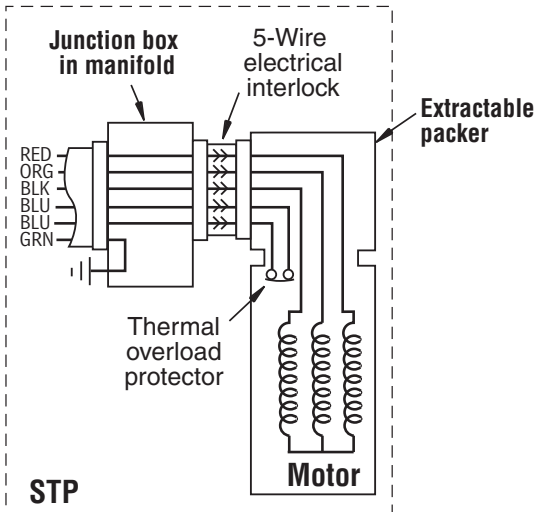


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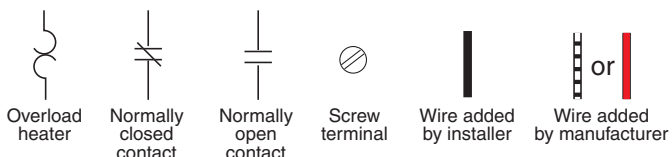
045-3

NOTE: Starter is wired for 380/415 V to pump motor, 240 V to dispenser switch.



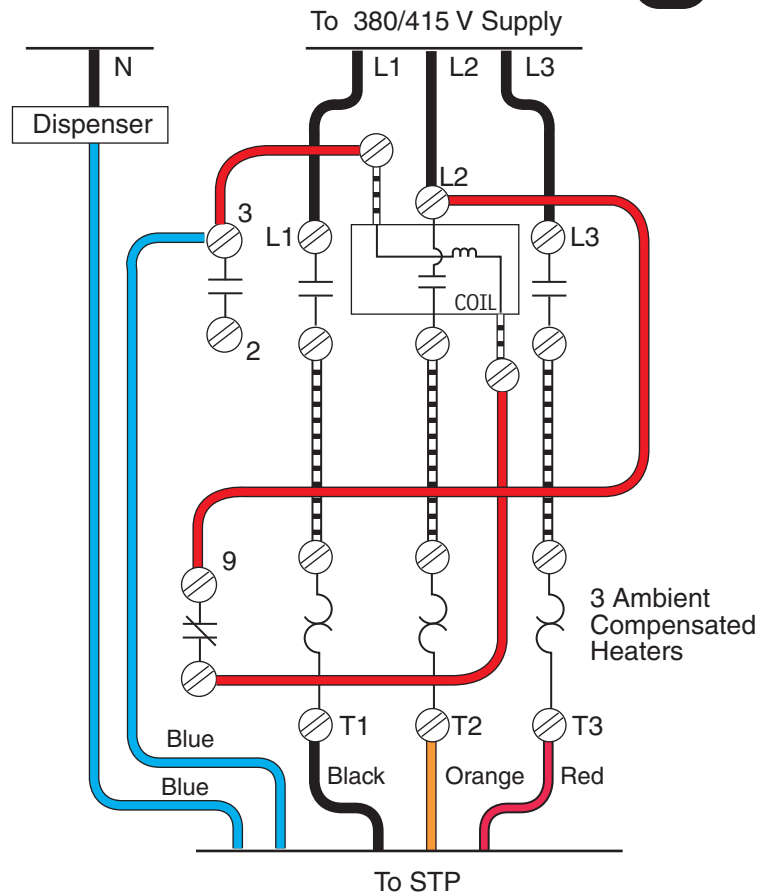
Make ground connection in accordance with local codes.

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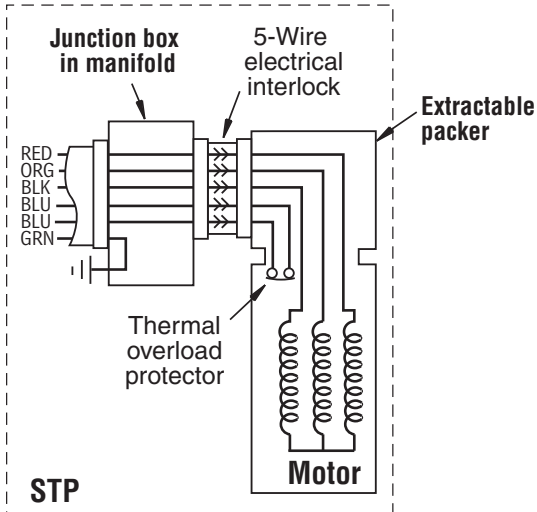
240 V Coil

E



045-6

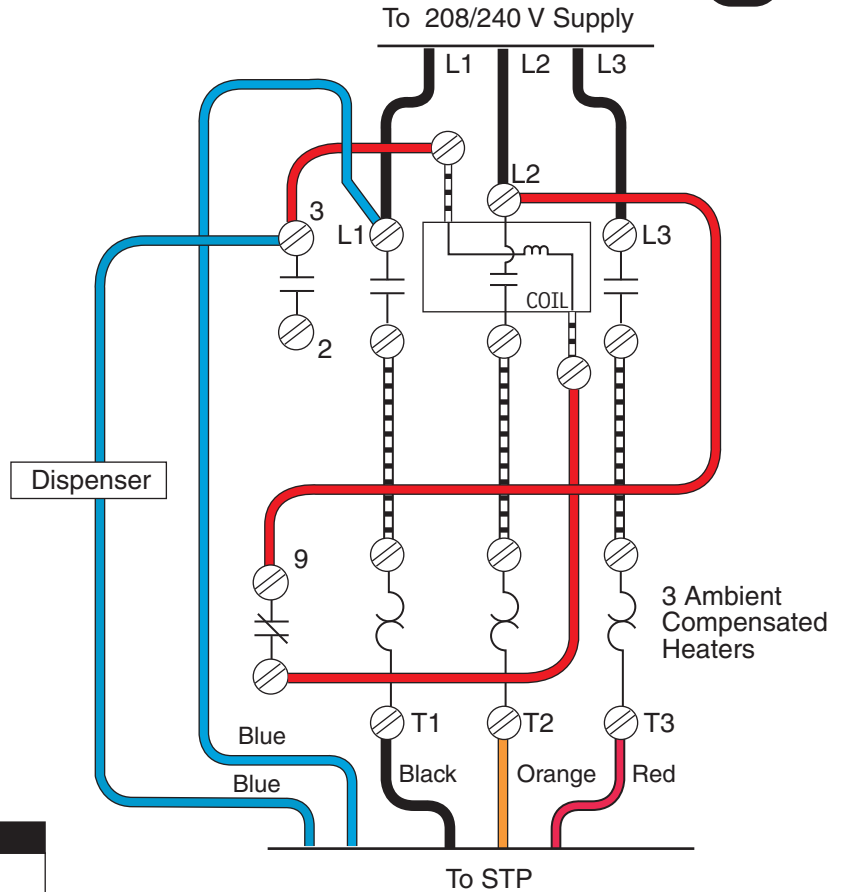
NOTE: Starter is wired for 208/240 V to pump motor, 208/240 V to dispenser switch.



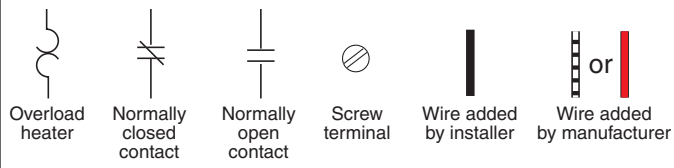
Make ground connection in accordance with local codes.

240 V Coil

F

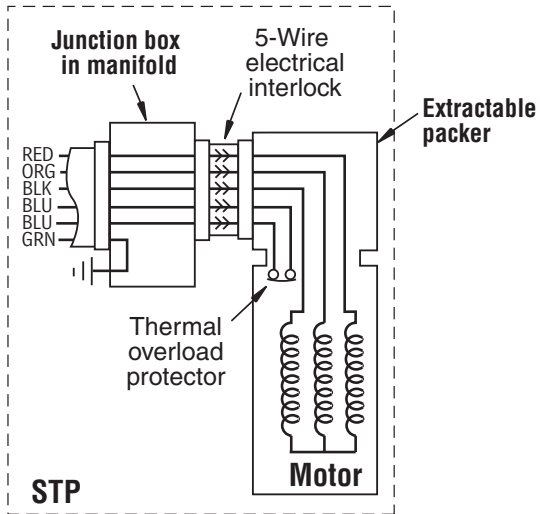


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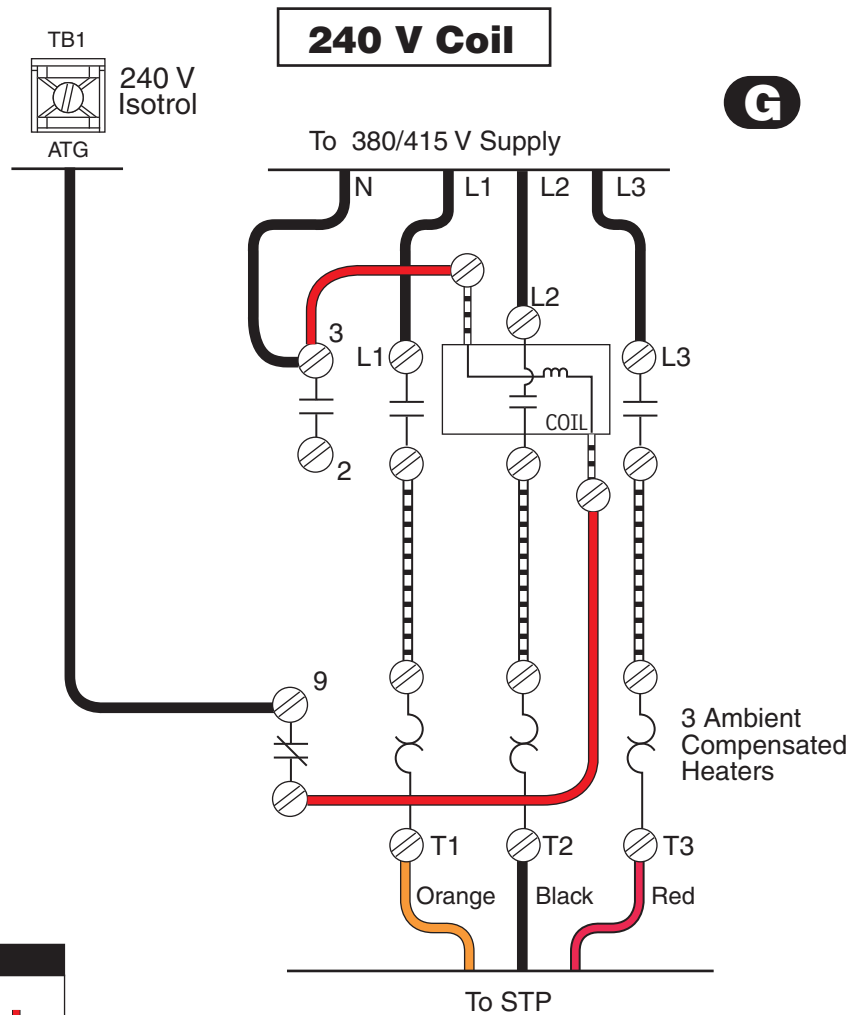
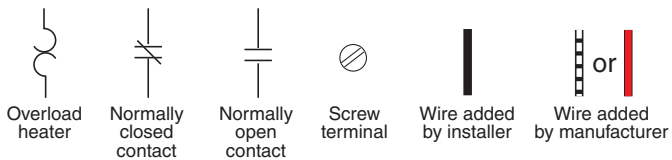
045-8

NOTE: Starter is wired for 380/415 V to pump motor, 240 V from Isotrol or dispenser switch. Remove red wire connecting 9 to L2.

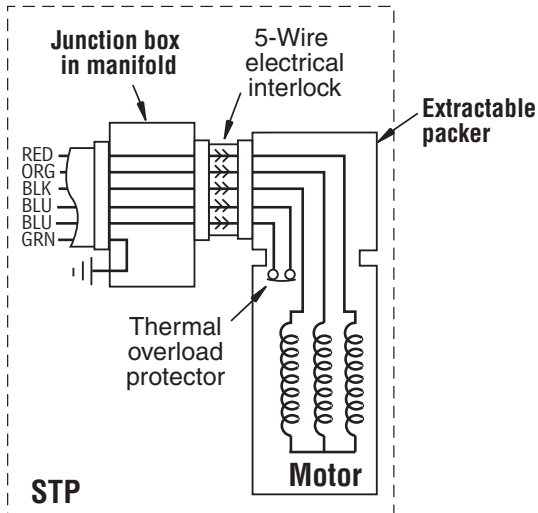


Make ground connection in accordance with local codes.

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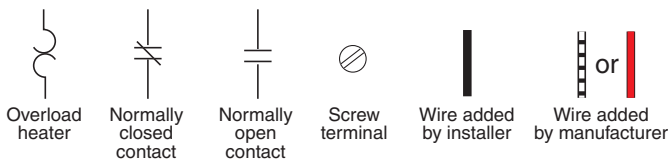


NOTE: Starter is wired for 380/415 V to pump motor, 240 V to dispenser switch.



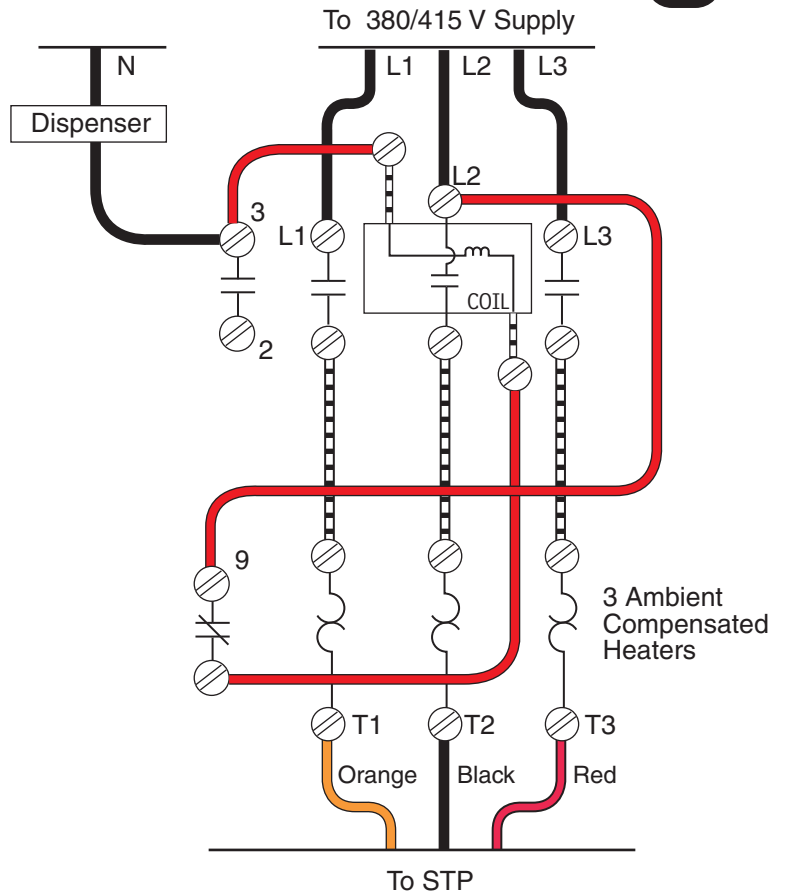
Make ground connection in accordance with local codes.

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240 V Coil

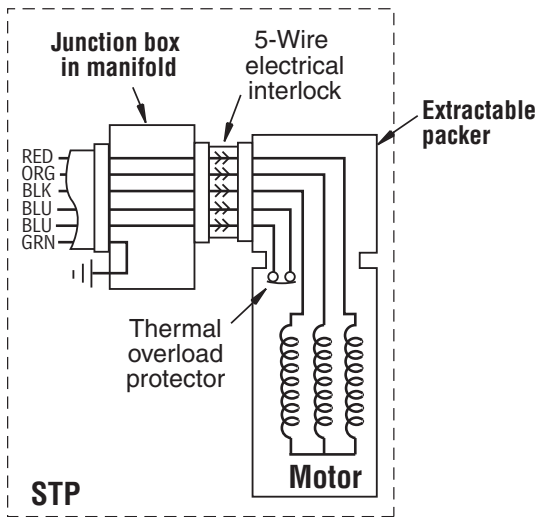
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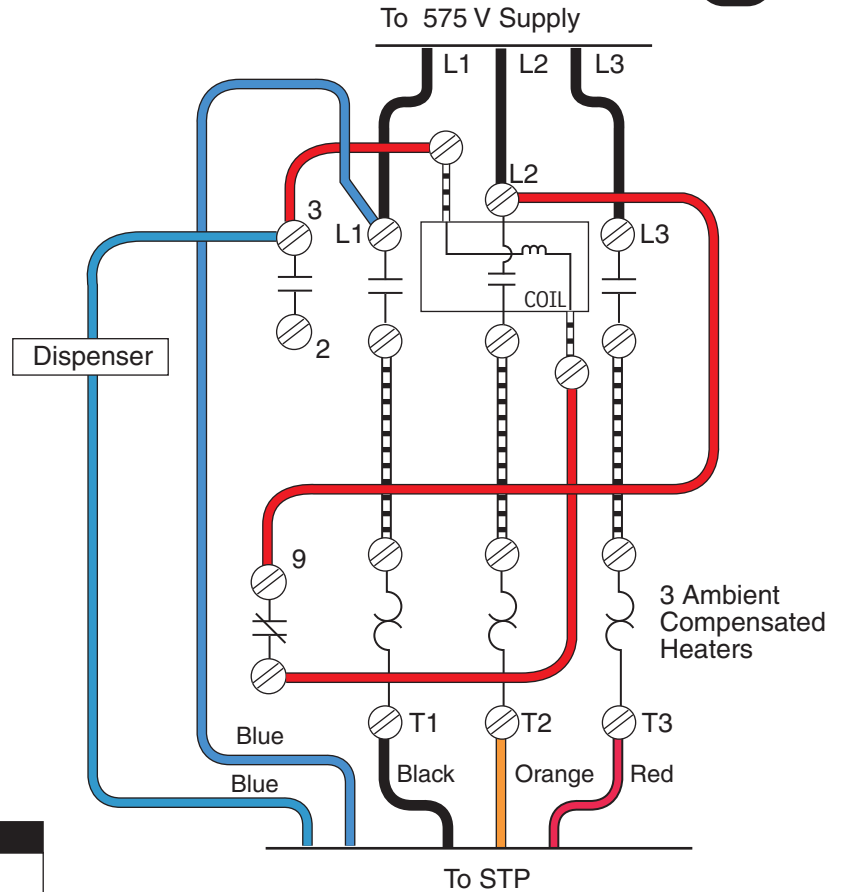
Wiring Diagrams For Starters With 575-600 Volt Coil

NOTE: Starter is wired for 575 V to pump motor, 575 V to dispenser switch.

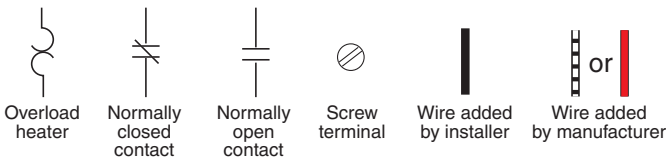


Make ground connection in accordance with local codes.

575 V Coil



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