Magnetic Starter - 30A, 120 or 240V Coil

Wiring Guide
Notice

Veeder-Root makes no warranty of any kind with regard to this publication, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Veeder-Root shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this publication.

Veeder-Root reserves the right to change system options or features, or the information contained in this publication.

This publication contains proprietary information which is protected by copyright. All rights reserved. No part of this publication may be photocopied, reproduced, or translated to another language without the prior written consent of Veeder-Root.

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


©Veeder-Root 2012. All rights reserved.
## Introduction

This Magnetic Starter is a 3 phase, full voltage across the line starter with the coil factory wired for 110–120 volts (Figure B) or 208–240 volts (Figure E). 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.

## Safety Precautions

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

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

**WARNING**

This magnetic starter is to be installed in systems operating near locations where highly combustible fuels or vapors may be present. 
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. Read and follow all instructions in this manual, including all safety warnings. 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.

This magnetic starter contains high voltages which can be lethal. It is also connected to low power devices that must be kept intrinsically safe. 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. These starters are designed to be used with copper wire - DO NOT USE ALUMINUM WIRE!

Explosive vapors or flammable liquids could be present near locations where fuels are stored or being dispensed. The Magnetic Starter is not explosion proof. Do not install this device in a volatile, combustible, or explosive atmosphere. 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).

## 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.
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.
Wiring Diagrams for Starters with 110–120 volt Coil

A

To 208/230V Supply

L1  L2  L3  N

Blue  Blue  Blue

T1  T2  T3

Black  Orange  Red

To STP (see diagram D)

NOTE: Coil above is wired for 230 V to pump motor, 120 V from Isotrol or dispenser switch. (Remove red wire connecting X2 to L2).

B

To 208/230V Supply

L1  L2  L3  N

Dispenser

Blue  Blue

T1  T2  T3

Black  Orange  Red

To STP (see diagram D)

NOTE: Coil above is wired for 230 V to pump motor, 120 V to dispenser switch.

C

To 575 V Supply

L1  L2  L3  N

Blue  Blue

T1  T2  T3

Black  Orange  Red

To STP (see diagram D)

NOTE: Coil above is wired for 575 V to pump motor, 120V from Isotrol or dispenser switch. (Remove red wire connecting X2 to L2).

D

Junction box in manifold

5-Wire electrical interlock

Extractable packer

Thermal overload protector

STP

Motor

LEGEND

Overload heater

Normally closed contact

Normally open contact

Screw terminal

Wire added by installer

Wire added by manufacturer
Wiring Diagrams for Starters with 208–240 volt Coil

**Diagram E**
- To 208/230V Supply
- L1, L2, L3
- Dispenser
- To STP (see diagram H)

**Diagram F**
- To 380/415V Supply
- L1, L2, L3, N
- Blue, Blue
- To STP (see diagram H)

**Diagram G**
- To 380/415V Supply
- L1, L2, L3
- Dispenser
- To STP (see diagram H)

**Diagram H**
- Junction box in manifold
- 5-Wire electrical interlock
- Extractable packer
- Thermal overload protector
- Motor

**Legend**
- Overload heater
- Normally closed contact
- Normally open contact
- Screw terminal
- Wire added by installer
- Wire added by manufacturer

**Notes:**
- Coil above is wired for 230 V to pump motor, 230 V to dispenser switch.
- Coil above is wired for 400 V to pump motor, 230 V to dispenser switch.
- Coil above is wired for 230 V to pump motor, 230 V to dispenser switch.
- Remove red wire connecting X2 to L2.
NOTE: Coil above is wired for 400 V to pump motor, 230 V from Isotrol or dispenser switch. (Remove red wire connecting X2 to L2)

NOTE: Coil above is wired for 400 V to pump motor, 230 V to dispenser switch.

LEGEND

- Overload heater
- Normally closed contact
- Normally open contact
- Screw terminal
- Wire added by installer
- Wire added by manufacturer