



**FE PETRO<sup>®</sup>**

**Franklin Fueling Systems**

**DISPENSER HOOK ISOLATION**

**STP-DHI**

STP-DHI 120 Volt Hook  
STP-DHIB 240 Volt Hook


*STP-DHI*


**Installation  
and  
Owner's Manual**

## Important Safety Messages


FE Petro equipment is designed to be used to pump volatile hydrocarbon liquids such as gasoline and diesel fuel. Installing or working on this equipment means working in an environment in which these highly flammable liquids are present. **This presents a risk of severe injury or death if these instructions and standard industry practices are not followed. Read and follow this entire instruction booklet before installing or working on this equipment.**


As you read these instructions, watch for the following safety symbols:


**Warning**  This symbol identifies a potentially hazardous situation which, if the instructions that follow it are not adhered to, could result in death or serious bodily injury.

**Caution**  This symbol identifies a potentially hazardous situation which, if the instructions that follow it are not adhered to, could result in serious property damage, including possible environmental contamination as a result of the leakage of fuel from the equipment.

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**Warning**  **Highly flammable vapors may be present in the environment in which this equipment is being installed or serviced. Do not smoke while working on or near this equipment. Use only non-sparking tools. Failure to follow this instruction could result in serious fire or explosion.**

**Warning**  **Follow all federal, state, and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A, and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage, and/or environmental contamination.**

**Warning**  **If the electrical circuit breakers are accidentally turned on while the Dispenser Hook Isolator (DHI) is being installed, potentially lethal electrical shock hazards will be present during DHI installation, which could result in death or serious injury. ALWAYS tag and lock breakers so they are not turned on accidentally.**

**Installer:** This instruction booklet **MUST** be left with the owner of the service station at which the equipment is being installed.

**Station Owner:** Retain these instructions for future use and provide them to persons servicing or removing this equipment.

## INTRODUCTION

FE Petro's Dispenser Hook Isolation (DHI) is an electronic device that isolates dispenser hook signals from one another. The STP-DHI assists in preventing: electrical feedback from dispenser hook circuits during servicing, the damage caused by cross-phasing of dispenser hook circuits, and some of the negative effects caused by dispenser voltage leakage on the hook signal circuit. The advantages of the STP-DHI are; no mechanical relays are required to achieve isolation and it provides the ability to troubleshoot or service a dispenser without disabling all dispensers.

**Note:** The reference to "STP-DHI(B)" in this document refers to either the STP-DHI with a 120V dispenser hook signal or the STP-DHIB with a 240V dispenser hook signal.

**Warning**  **Other power supplies may be present at the dispensers. Prior to servicing, verify all power sources are removed.**

## INSTALLATION INSTRUCTIONS

- 1) Install STP/IST per STP\IST Fixed and Variable Length Installation and Owner's Manual using the appropriate control box.
- 2) Remove cover of the STP-DHI(B) and mount base indoors to wall or other surface.

**Note:** See Table 1 for wiring diagram specifics and reference the applicable diagram for the following installation instructions.

Reference:	For:
<b>Wiring Diagram 1</b>	STP-DHI & STP-DHIB general wiring
<b>Wiring Diagram 2</b>	STP-DHI & STP-CBS Or STP-DHIB & STP-CBBS
<b>Wiring Diagram 3</b>	STP-DHI & STP-SC Or STP-DHIB & STP-SCB

**Table 1**

- 3) Connect input power of 120 VAC (supply & neutral) for STP-DHI or 240 VAC (supply & return) for STP-DHIB to the input terminals.
- 4) Connect the hook output of 120 VAC (supply & neutral) for the STP-DHI or 240 VAC (supply & return) for the STP-DHIB to the output terminals.

**Note:** The hook outputs of the STP-DHI(B) will be connected to the hook signal terminals of the controller for the STP/IST. Some of FE Petro's controllers are: STP-CB(B)S, STP-SC(B), IST-VFC.

- 5) Connect the Dispenser Hook Signal power wires of 120 VAC (supply & neutral) for the STP-DHI or 240 VAC (supply & return) for the STP-DHIB to terminals.
- 6) Repeat step 5 for each Dispenser Hook Signal to be connected, with a maximum of up to 8 dispensers per STP-DHI(B). Multiple STP-DHI(B)'s may be connected together if more than 8 Dispenser Hook Signal terminals are needed, see Wiring Diagram 1 for details.
- 7) Connect ground wire to one of the green grounding terminals on the STP-DHI(B) box.

8) Attach the cover to the base.


**Warning**  **Not installing a ground wire increases the risk of potentially lethal electrical shock and equipment failure.**

### TROUBLESHOOTING GUIDELINES

To aid field service personnel, the STP-DHI(B) is equipped with LEDs on the front panel that make it possible for the unit to display abnormal operating conditions. The following is a definition of all operation and abnormal operating LED displays.

1. **Top Green LED on** - Power is applied to the STP-DHI(B)
2. **Bottom Green LED on** – Dispenser Hook Signal present

Problem	Possible Causes	Action
Top power on LED not lit	No input power to STP-DHI(B)	1) Check for 120 VAC for the STP-DHI or 240 VAC for the STP-DHIB at the input power terminals.
Bottom Dispenser Hook Signal LED not lit	Blown fuse or no dispenser hook signal present	1) Shut off the power and check for a blown fuse. If so, replace fuse. If operating correctly, continue with next step. 2) Verify Dispenser Hook Signal power is applied, when requested, at terminals for each dispenser that is connected. The power should be 120 VAC for the STP-DHI or 240 VAC for the STP-DHIB. If no dispenser hook signal present, troubleshoot dispenser signal per dispenser manufacturer's recommendations.

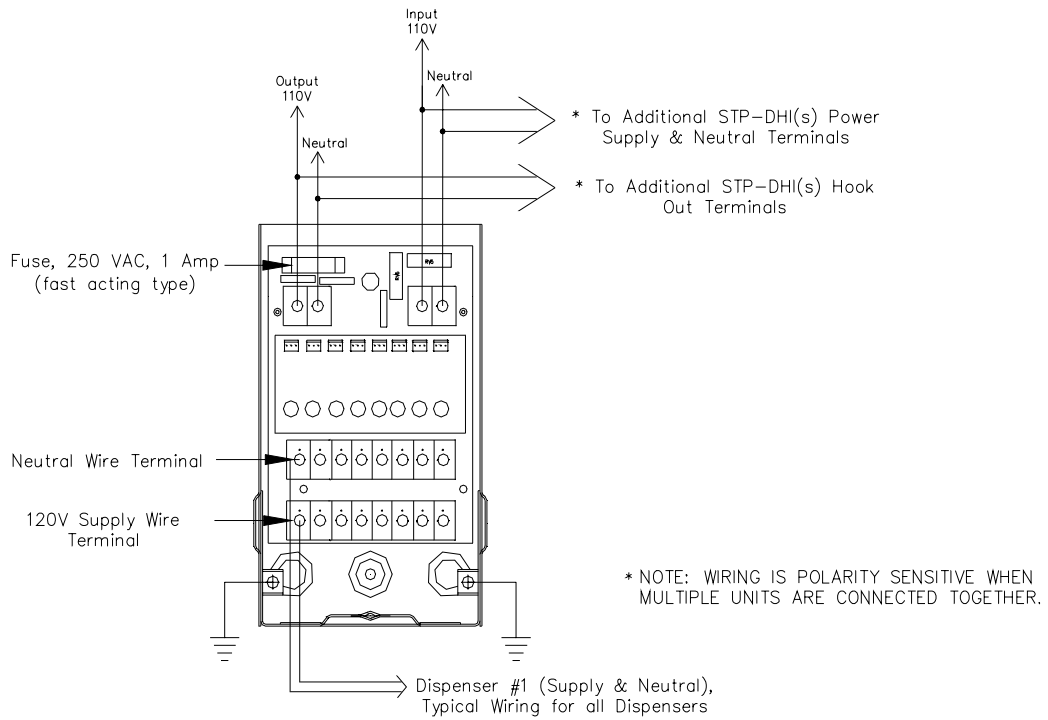
**Warning**  **Replace fuse with 250VAC, 1Amp Fast acting type (example: Bussman p/n ACG-1, Littlefuse p/n 312001). DO NOT USE 32 Volt automotive fuses. Failure to do this could result in damage to this controller as well as to other equipment interfacing with it.**

Replacement Parts	
Part #	Description
223243103	Fuse, 250VAC, 1Amp Fast acting type
223885901	Circuit board assembly (120 Volt)
223885910	Circuit board assembly (240 Volt)

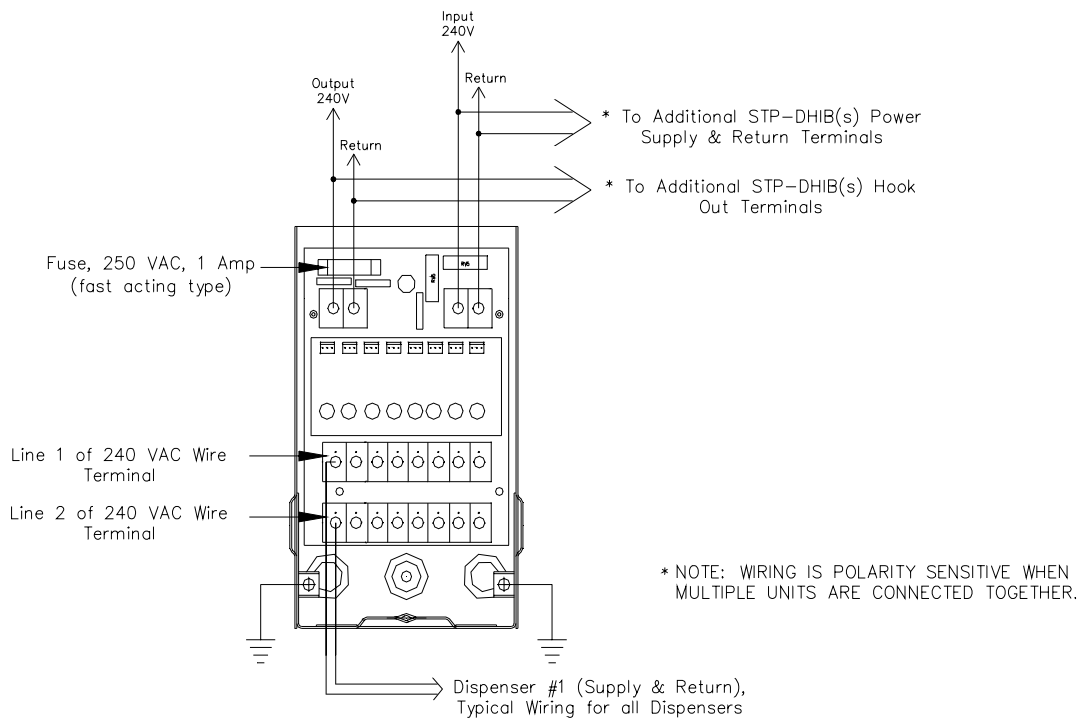
**Contact FE Petro for additional troubleshooting information at 1-800-225-9787.**

# WIRING DIAGRAM 1

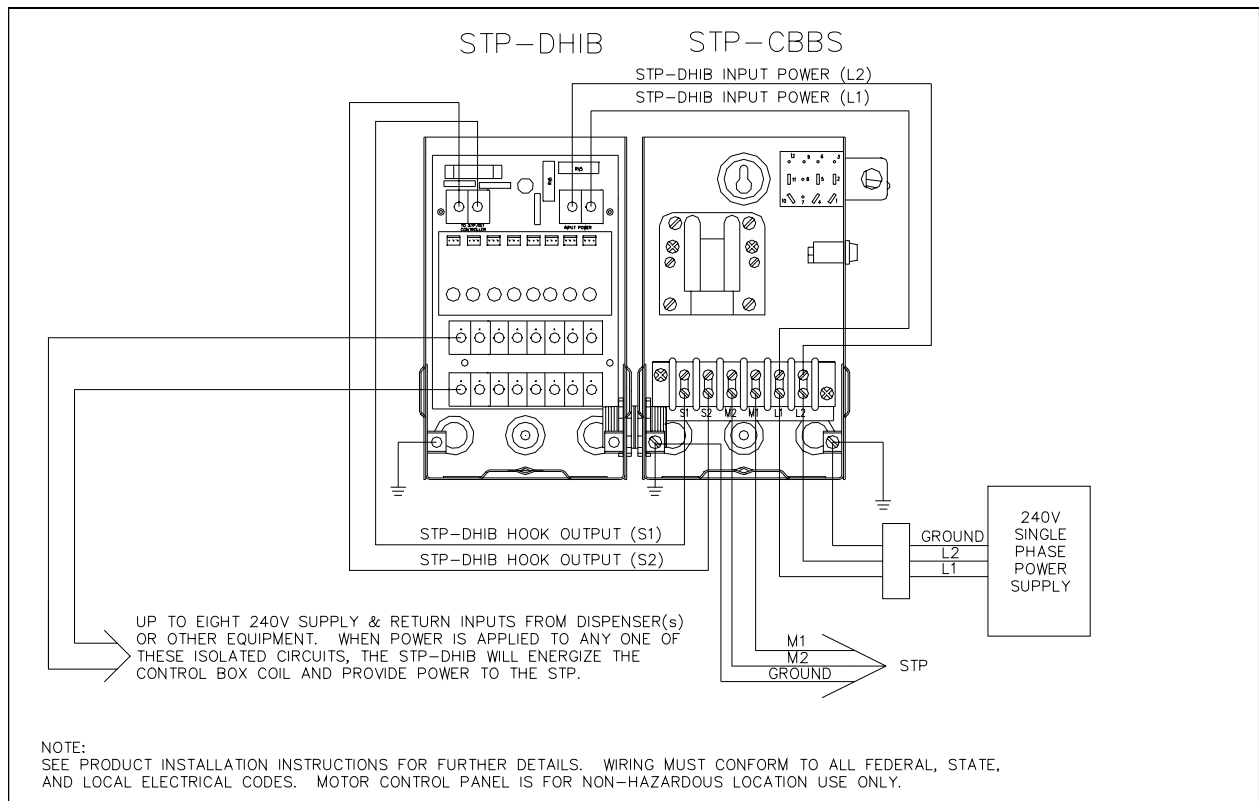
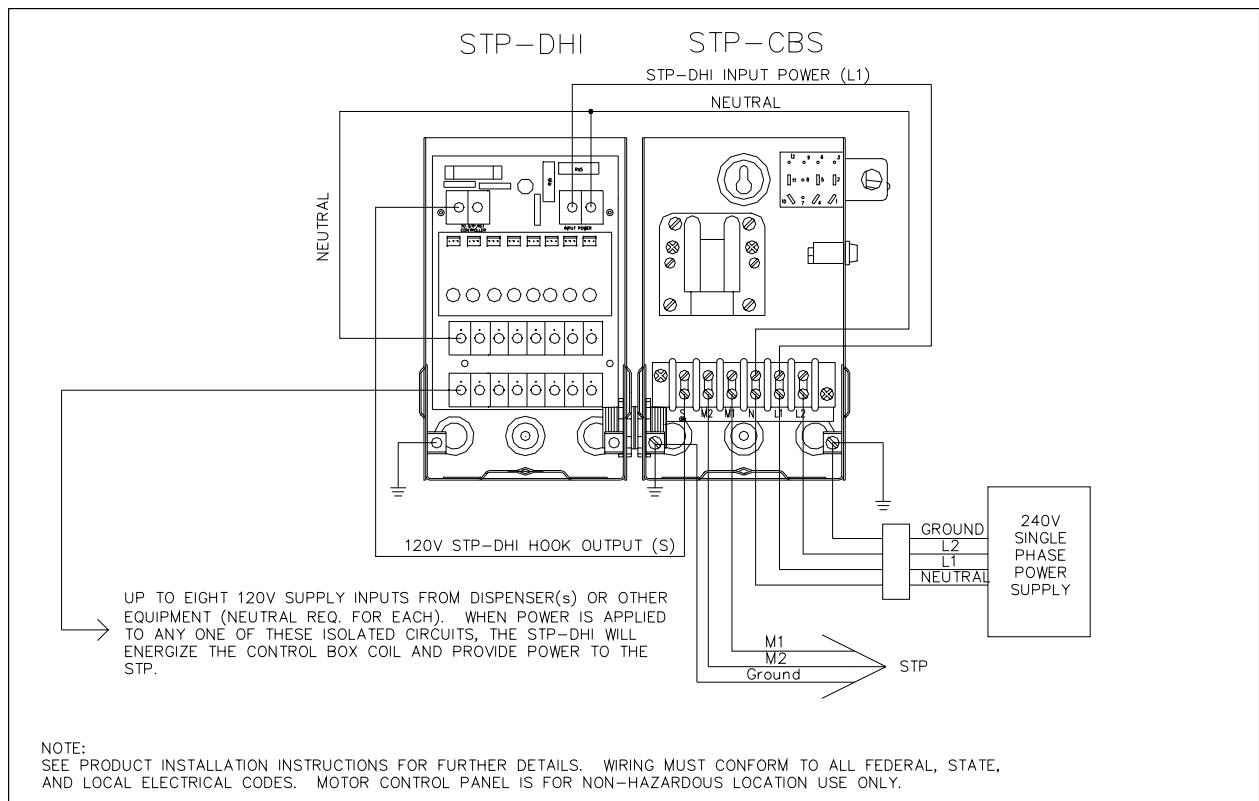
WIRING DIAGRAM FOR DISPENSER HOOK ISOLATION WITH 120 VAC DISPENSER HOOK SIGNAL  
MODEL STP-DHI



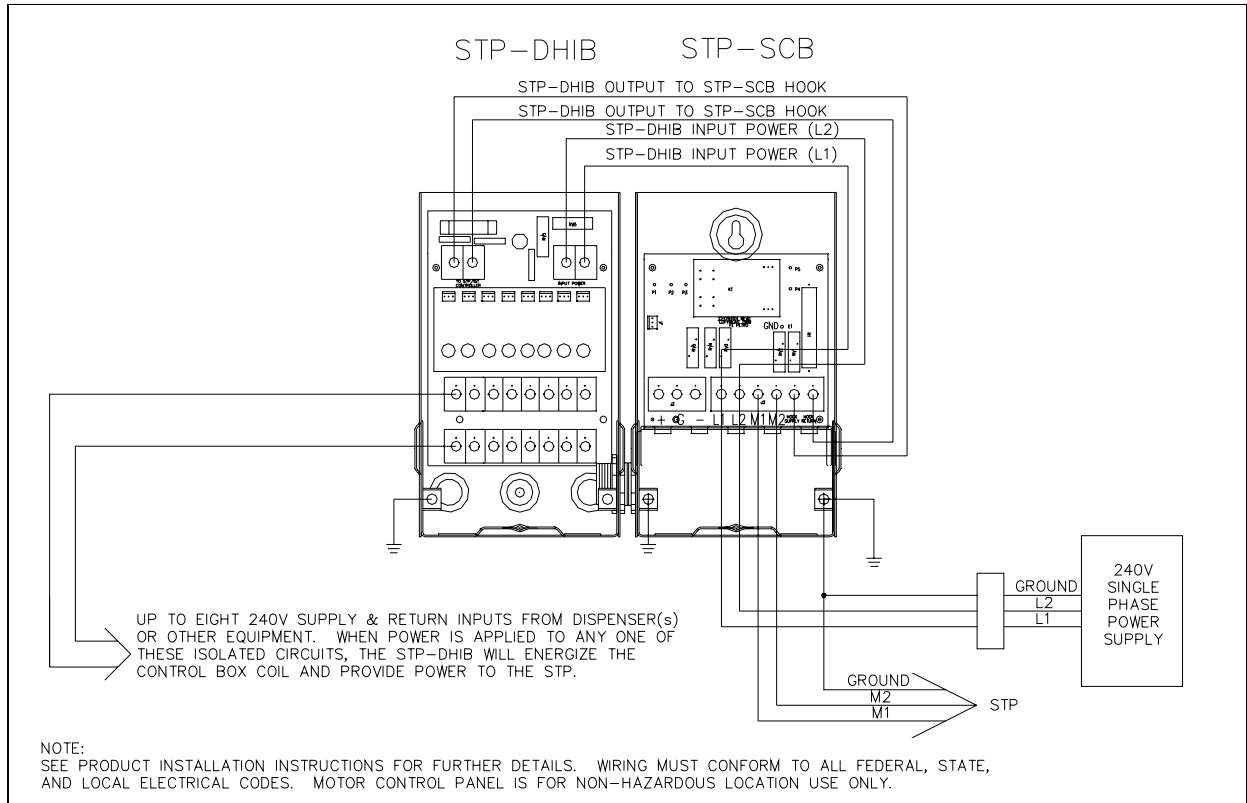
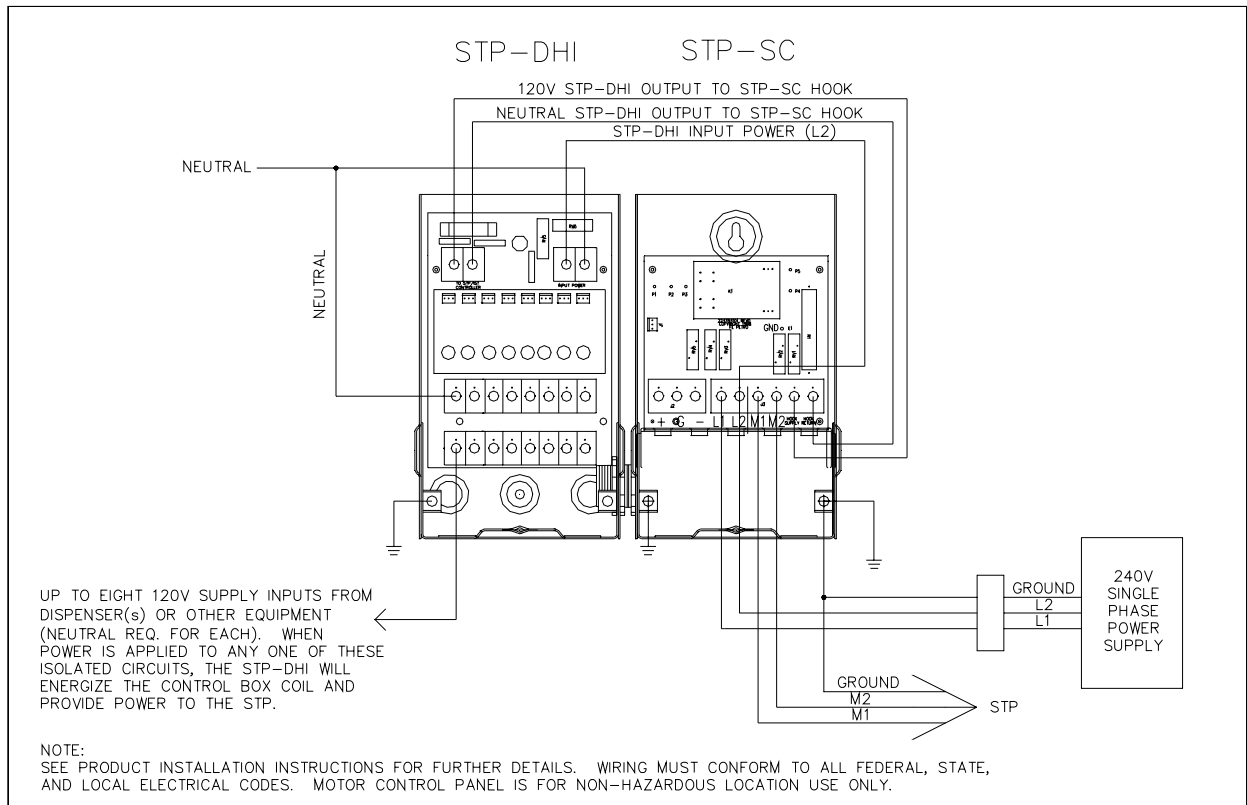
WIRING DIAGRAM FOR DISPENSER HOOK ISOLATION WITH 240 VAC DISPENSER HOOK SIGNAL  
MODEL STP-DHIB



# WIRING DIAGRAM 2



# WIRING DIAGRAM 3





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**Franklin Fueling Systems**

3760 Marsh Road • Madison, WI 53718 U.S.A.  
Tel: +1 608 838 8786 • Fax: +1 608 838 6433 • [www.franklinfueling.com](http://www.franklinfueling.com)  
Tel: USA & Canada 1 800 225 9787 • Tel: Mexico 001 800 738 7610