



## STP Control and Dispenser Isolation Relay Box (PA0287) March 2003

# Installation

## Purpose of This Document

This document provides installation instructions for the Gilbarco STP Control/Dispenser Isolation Relay Box (PA0287).

## Important Notice



Use of STP control circuit isolation is mandated in the 1999 National Electric Code: "Each dispensing device shall be provided with the means to remove all external voltage sources, including feedback, during periods of maintenance and service of the dispensing equipment." NEC Article 514-6, Provisions for Maintenance and Service of Dispensing Equipment.

*Note: Failure to isolate dispenser STP control circuits can lead to cross-phasing and/or electrical spikes in the control circuitry. These conditions caused by the absence of approved isolation devices can result in extensive equipment and component damage. Such damage is **not** covered by warranty.*

## Purpose of This Device

The Isolation Relay Box provides the following protective features for dispensing equipment.

- It isolates dispensers from the STP and from other dispensers.

*Note: Without Isolation Relay Box, even with a dispenser's power breaker off, unit may still carry control voltage feedback from other dispensers, a hazardous situation.*

- It controls the STP or motor contactor coil for separate three-phase STP control box.
- It prevents dispenser damage caused by electrical cross-phasing. See preceding Important Notice.

*Note: One Isolation Relay Box is required per STP. Up to eight dispensers can be connected to each box. (Reference FE-321 for wiring configuration.)*

## Parts List

The following table lists the part descriptions and numbers associated with PA0287000000 STP Control and Dispenser Isolation Relay Box.

Part Description	Current Part Number	Previous Part Number	Qty
PCB, STP Isolation	T17786-G1		1
Relay, 30A Contactor	Q13040-01		1
Terminal Strip (7 position)	Q10130-20		1
Terminal Strip (5 position)		Q10130-19	1
Cable Assembly, J1, TB1	R19305-G2	R19301-G1	1
Indicator Light Cable Assembly	R20140-G1		1

## Recommended Tools

The following tools may be needed when installing an Isolation Relay Box.

- Drill
- Slotted Head Screwdriver
- Phillips Head Screwdriver

## Related Documents

FE-321	Field Wiring Diagram for Gilbarco Electronic Dispensers Using the Gilbarco STP Isolation Box
MDE-3116	Distribution Box Installation Manual
MDE-2530	Pump & Dispenser Installation Manual
MDE-3803	Encore and Eclipse Installation Manual
MDE-2531	Pump & Dispenser Start-Up & Service Manual
MDE-3804	Encore & Eclipse Start-Up & Service Manual

## Read NFPA 30A and NFPA 70





Before installing the equipment, the installer must read, understand and follow this manual, NFPA 30A (The Automotive and Marine Service Station Code) and NFPA 70 (The National Electric Code) and applicable federal, state and local codes and regulations. Failure to do so may adversely affect the safe use and operation of the equipment.

## Safety Information

### Before You Begin

**WARNING**

You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage.




Fire, explosion, or electrical shock and serious injury or death could result if safe service procedures are not followed.

Remove all power to pump/dispenser, including lights and power to associated STPs, before servicing. Avoid contacting large capacitors.

Check shear valves for proper operation before servicing hydraulic units.

### Correct Service Procedures

**WARNING**




Unknowledgeable or untrained individuals servicing hydraulic equipment can create safety hazards or accidents.

Fire, explosion, electrical shock or serious bodily injury could result.

Read all instructions. Do not allow untrained or unauthorized individuals to service equipment. Call a Gilbarco Authorized Service Contractor if you do not understand service or safety procedures.

### Electrical Service

**WARNING**

Servicing live power wiring or improperly closing junction boxes can be hazardous. High voltage is present.

Serious fires, explosions, electrical shocks, and injuries or deaths could result.

Remove power to unit and associated STPs when servicing or making electrical wiring connections. Replace all bolts and tighten junction box cover before turning on AC power.



Use OSHA Lock-Out and Tag-Out procedures as described by OSHA Standard 29 CFR 1910-147 Control of Hazardous Energy Sources. Also refer to MDE-2531 Pump and Dispenser Start-Up/Service manual or MDE-3804 Encore and Eclipse Start-Up/Service Manual.

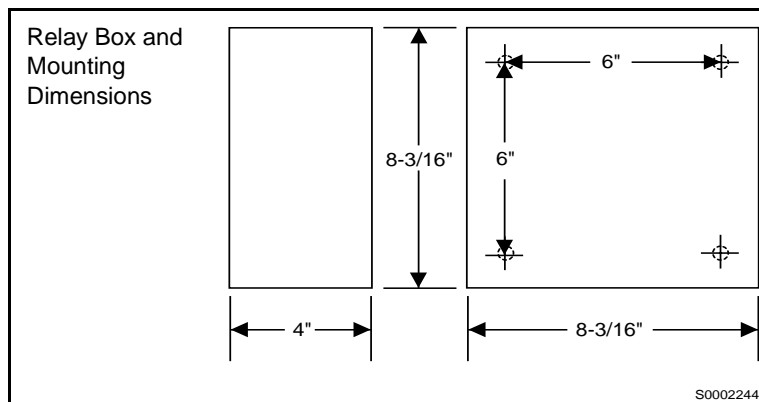
## Installing the Relay Box

Turn off all power to STPs and dispensers.

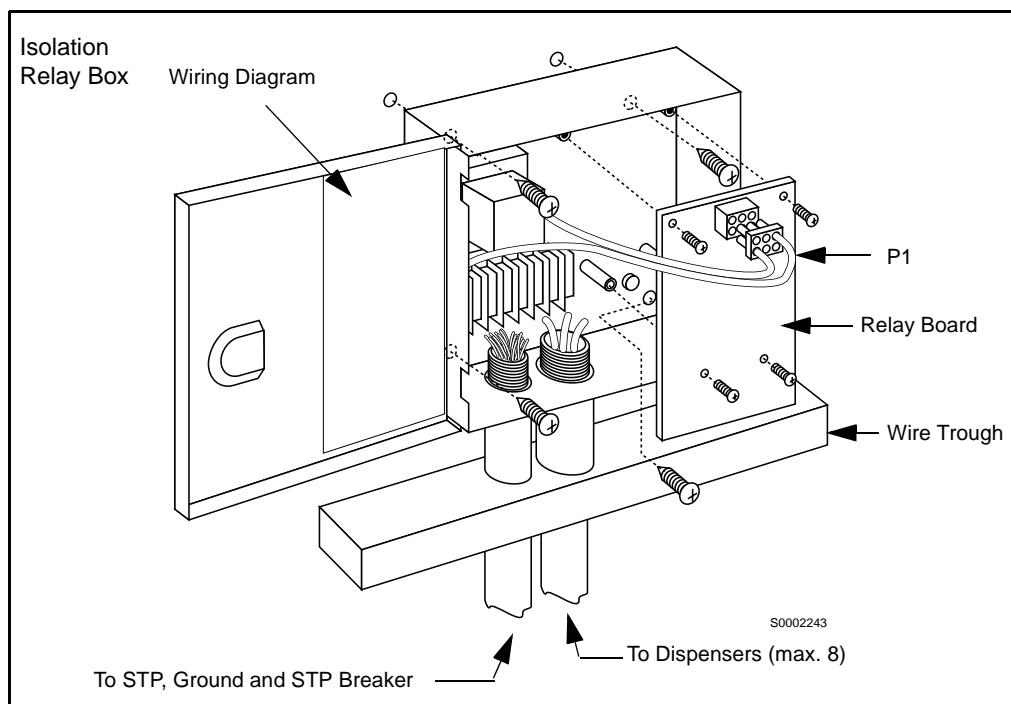
**WARNING**

High voltage may be present. Electrical shock can result in severe injury or death. Make sure power is off. Check wires in conduit for voltage before connecting to box. Only licensed electricians should make connections.

- 1 Open relay box and disconnect P1.
- 2 Using a Phillip screwdriver, remove four screws to remove relay board.
- 3 Mount relay box (minimum 18" above floor) securely to wall using four screws. Mount with wall anchors or studs.



*Note: Reinforce wall as needed.*



- 4 Replace relay board and connect P1.
- 5 Attach wire conduit(s) to box only at locations shown. Do not use other knock-outs. Using other hole locations can damage the PC board. Seal off fittings.

- 6 Connect wires in Gilbarco STP Control/Dispenser Isolation Relay Box per FE-321 dispenser field wiring diagram. (Also refer to specific dispenser installation manual and wiring diagram on relay box cover.)
- 7 Ensure proper operation of Gilbarco STP Control/Dispenser Isolation Relay Box by lifting and lowering each grade pump handle.

*Note: The LED will come "ON" to indicate power present in STP Control/Dispenser Isolation Relay Box and in submerged turbine pump (STP).*

