

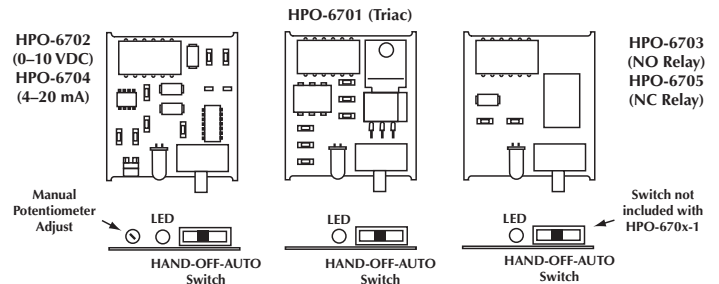
# Installation Guide

## Introduction

For enhanced output options, install a relevant HPO-6700 series output override board (in supporting controller models only).

The **HPO-6701/6703/6705** boards are designed to convert a digital output to a relay contact or triac output and to provide “Hand-Off-Auto” and feedback functions. The **HPO-6704** converts a standard 0–10 VDC output to a 4–20 mA output. The **HPO-6702/6704** enhance the respective analog output with a “Hand-Off-Auto” and feedback functions while providing an adjustable potentiometer for override settings while in the “Hand” position. (Only the HPO-6701/6704 boards are approved for smoke control applications.)

Output boards have an accessible three-position slide switch for selecting the “Hand-Off-Auto” functions. While in the “Hand” position, the output is manually energized, and the controller is provided with a feedback signal to indicate the output has been



overridden. While in the “Off” position, the output is manually de-energized, and the controller is provided with a feedback signal to indicate the output has been overridden. While in the “Auto” position, the output is under the command of the controller. Each output board also has a red LED to indicate when the output is turned On either manually or automatically. (An **HPO-670x-1** is always in auto mode and does not have the manual slide switch.)

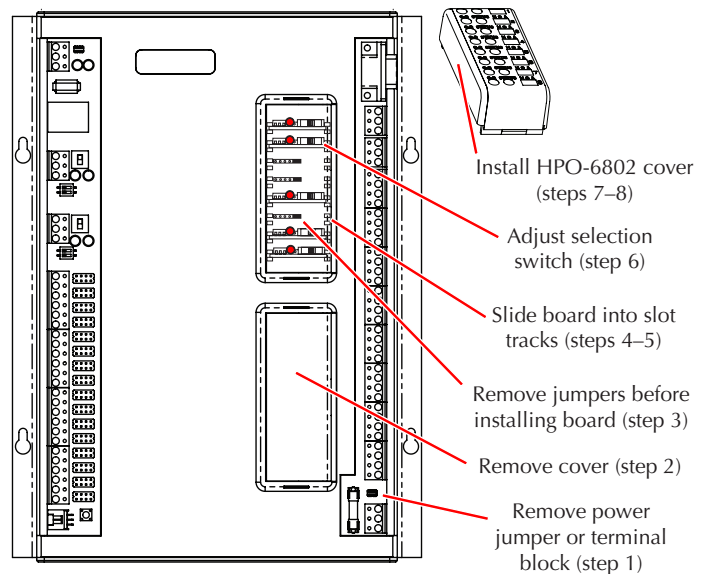
For maximum voltage, current, and temperature ratings, see the HPO-6700 Series Data Sheet (902-035-10).

## Installation

### “Metal” Case Instructions

These instructions apply to controllers with **metal and older “side-mounting” plastic cases**. After installation of the boards, the existing cover needs to be replaced by an HPO-6802 output board cover. To install the HPO-6700 series override boards:

1. Disconnect the power by removing the power jumper or terminal block.
2. Remove the relevant cover(s) by lifting the right-hand side of the cover (within the plastic frame) toward you.
3. Remove the jumper from the mounting header.
4. Position the board above the relevant slot with the Hand-Off-Auto selection switch positioned toward the output connections.
5. Slide it down the integral board tracks onto the header pins.
6. If required, set the selection switch on the override board to the appropriate position. A (Automatic) is the right position of the switch, O (Off) is the middle position, and H (“Hand” or On) is on the left position.

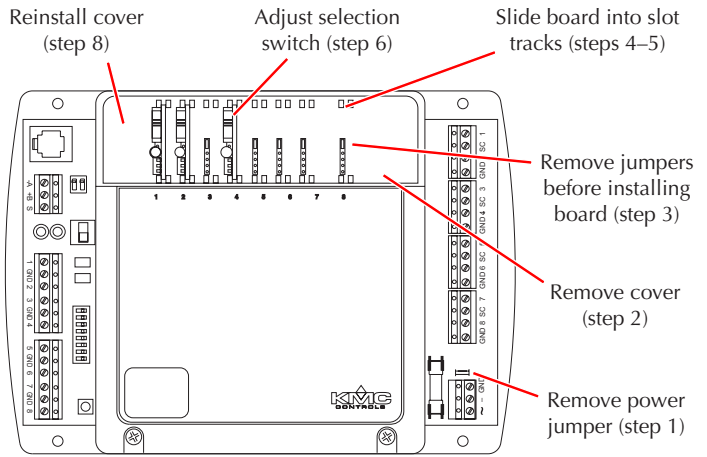


7. Repeat steps 3 through 6 for all desired boards.
8. Remove the necessary label slots for each board location in the HPO-6802 output board cover.
9. Snap the HPO-6802 cover over the boards.
10. Connect output devices to the controller outputs. (See the Wiring section.)
11. Reinstall the power jumper or terminal block.

## “Plastic” Case Instructions

These instructions apply to controllers with “top-mounting” raised plastic cases (BAC-5801/5802 and newer KMD-5801/5802). After installation of the boards, the existing cover is reinstalled. To install the HPO-6700 series override boards:

1. Disconnect the power by removing the power jumper.
2. Remove the cover by squeezing on both sides of the cover and lifting off.
3. Remove the jumper from the mounting header.
4. Position the board above the relevant slot with the Hand-Off-Auto selection switch positioned toward the top.
5. Slide it down the integral board tracks onto the header pins.
6. If required, set the selection switch on the override board to the appropriate position. A (Automatic) is the upper position of the switch,



O (Off) is the middle position, and H (“Hand” or On) is on the lower position.

7. Repeat steps 3 through 6 for all desired boards.
8. Reinstall the cover over the boards.
9. Connect output devices to the controller outputs. (See the Wiring section.)
10. Reinstall the power jumper.

## Wiring

### ⚠ CAUTION

Connecting 24 volts to an analog ground will result in improper operation and may result in equipment damage. Use the appropriate Switched Common terminals instead.

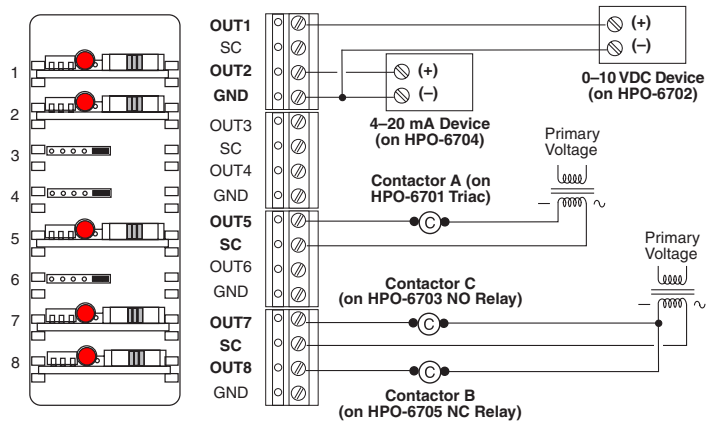
### ⚠ CAUTION

Connecting 24 volts AC or other signals that exceed the operation specifications of the controller to the output before the output jumper is removed will damage the controller. Remove the jumper and install the override board before connecting AC or other voltage to the output of the controller.

Switched Common (SC) output terminals are unconnected in the controller unless an appropriate override output board is installed. Use only the Switched Common instead of Ground with the HPO-6701 triac and HPO-6703/6705 relays. The switched common terminals are isolated from the circuit grounds used for the universal output analog circuitry in the controller.

## Maintenance

No routine maintenance is required. Each component is designed for dependable, long-term reliability and performance. Careful installation will also ensure long-term reliability and performance.



Use the SC terminal in the same output bank as the output terminal. (See the wiring sample illustration.)

NOTE: The 4–20 mA HPO-6704 board supplies the power and **will not work with a 4–20 mA device that also supplies its own power.**

NOTE: Only the HPO-6701/6704 boards are approved for smoke control applications. For smoke control application information, see Smoke Control Manuals 000-035-08 (BACnet) and/or 000-035-09 (KMDigital).

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