



HotButton Add-On Controller Installation Manual

Add-on Board Installation Kit For NPE-180A/210A/240A

This device is designed to work with NPE-180A/210A/240A models ONLY.

Note
This device is not compatible with cascade (multi-unit) installations.

WARNING

All installations should be done only by a qualified expert and in accordance with the appropriate Navien manual. Installing an electric appliance with improper methods or materials may result in serious injury or death due to fire.

ELECTRICAL SHOCK HAZARD. Disconnect power before installing or servicing. Otherwise, electrical shock may result causing severe personal injury, death, or substantial property damage.

All wiring must be installed in accordance with local regulations of the installation site.

When Installing this Product:

1. Read these instructions carefully. Failure to comply could damage the product or cause a hazardous condition.
 2. Check the ratings provided in the instructions and on the product to make sure the product is suitable for the application.
 3. Installers must be trained, experienced, and licensed service technicians.
 4. Follow local codes for installation and application requirements.
- After the installation is complete, verify proper operation of this product by following the instructions provided in this manual.

Note

All wiring must be installed in accordance with local codes and regulations. This accessory will not operate in conjunction with the Navien H₂Air system.

1. About the HotButton Kit

The Navien HotButton Kit is an add-on input board for the Navien NPE-180A/210A/240A water heaters. It adds signal input functions to the NPE-180A/210A/240A water heaters for more efficient DHW hot water recirculation functionality.

With the HotButton Kit, DHW recirculation is carried out exactly when the actual demands arise. This prevents energy loss caused by unnecessary operation of the burner and pump throughout the day.

The HotButton Kit receives signals from multiple push buttons installed in various areas and performs optimal DHW recirculation only when there is a demand for hot water.

1.1 Included Items

The product is supplied with the following items. Make sure that the installation kit contains all the items before installing the product.



Navien HotButton Kit



Installation Manual



Main Connector - 13-pin to Navien NPE-180A/210A/240A Water Heaters



Push Button Switch (FGXXX001426)



Wall Plate (FGXXX001427)



Temperature Sensor (FGXXX001640)

1.2 Specifications

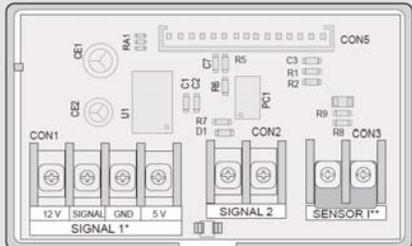
Refer to the following table for product specifications.

| Items | Specifications |
|--------------------------|--|
| Model name | NPE-ODC |
| Device type | Add-on input board for Navien NPE-180A/210A/240A water heaters for HotButton Recirculation |
| Installation type | Snap-on (onto the NPE-180A/210A/240A water heater PCB tray) |
| Connections | Main connector socket to water heater Main control connector (13-pin cable) Switch terminal* Contacts for multiple push button switches |

* Push button switches do not require a power source. Multiple switches may be installed in parallel to activate DHW recirculation from various locations.

1.3 Device Layout

Refer to the following diagram for the product layout.



* SIGNAL1 contacts are for optional wireless push buttons or motion sensor accessories.

** SENSOR I contacts are connected with a piece of metal plate by default. Remove the metal plate before connecting a temperature sensor to the circuit board.

2. Installing the Device

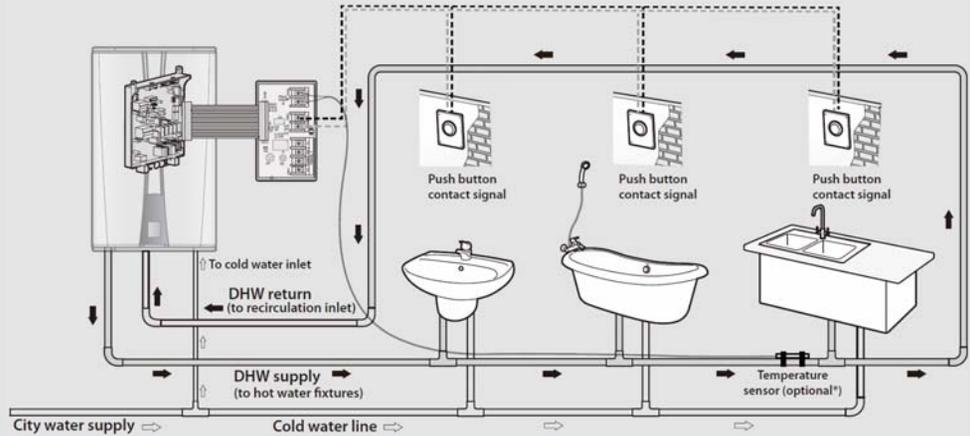
This section provides information required to install the HotButton Kit in an NPE-180A/210A/240A water heater.

WARNING

Ensure that you have turned off the power to the water heater before installing the device.

2.1 Basic Principles

The following diagram shows the basic operation of an NPE-180A/210A/240A water heater recirculation system with the HotButton Kit.



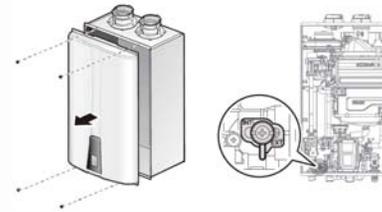
* When the optional temperature sensor is installed, it must be insulated. The sensor wire may be extended by up to 100 ft (30m) using 22AWG wire.

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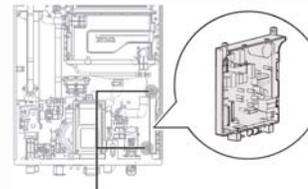
2.2 Installing the Device in an NPE-180A/210A/240A Water Heater

Follow the instructions to install the HotButton Kit in an NPE-180A/210A/240A water heater.

1. Turn off the power supply to the water heater.
2. Remove the water heater's front cover by loosening the four screws securing it to the case.
3. Make sure that the 2-way valve is turned to the EXTERNAL setting, once the plumbing system is completely installed.

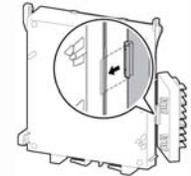


4. Remove the two screws holding the PCB tray in place and pull out the PCB tray from the unit.

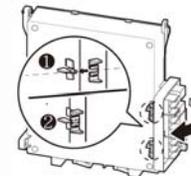


Remove screws here.

4. Verify the current PCB version of the NPE water heater.
 - **For OLD PCB Version KDC-330-5M P12:** The PCB must be replaced with an updated version. Remove all the cables and connectors from the PCB and replace with the latest PCB version that is compatible with the HotButton Kit. Reconnect all the cables and connectors to the PCB. Proceed to the next step.
 - **For NEW PCB Version KDC-330-5M P20:** The existing PCB can be used. Pull out the PCB from the tray, but do NOT disconnect any cables or wires. Proceed directly to the next step.
5. Install the HotButton Kit onto the NPE-180A/210A/240A water heater's PCB tray. Align the latch at the back of the case with the front lip of the PCB tray.



6. Align the two latches at the back of the HotButton Kit with the two catch bars at the back of the water heater's PCB tray. Then pivot the HotButton Kit onto the PCB tray until the latches snap-on to the catch bars.



7. Connect cables to the HotButton Kit. For more details, refer to **3. Wiring The Device.**

8. Replace the PCB tray back into the water heater and secure it with the two screws.
9. Close the front cover and secure it with the 4 screws.

CAUTION

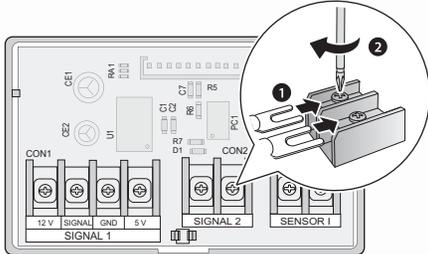
Before disconnecting cables inside the unit, label all cables. Wiring errors can cause improper operation and dangerous situations. Verify wiring connections and unit operation after servicing.

3. Wiring the Device

This section provides information required to plan and install the system wiring.

3.1 Connecting Wired Switches

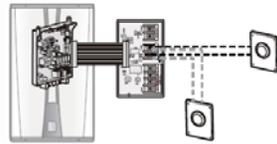
Navien HotButton Kit provides terminal contacts for wired switch applications. Refer to the following diagrams to connect a wired switch, or multiple wired switches to the HotButton controller.



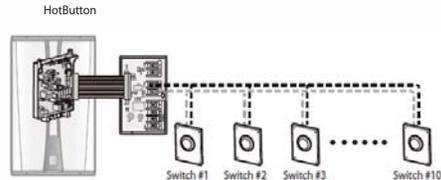
Note

- Multiple wired switches may be connected to the same terminal contacts.
- Use spade connectors at the end of the cables to securely install the cables to the terminal contacts.

When you connect the push button switches to the controller, you can run cables from each switch directly to the controller and connect them to the same terminal. Or, you can run a common branch circuit that runs from the controller and connect each switch to the branch.



[Multiple switches connected directly to the same terminals at the controller]



[Multiple switches connected to a common branch circuit]

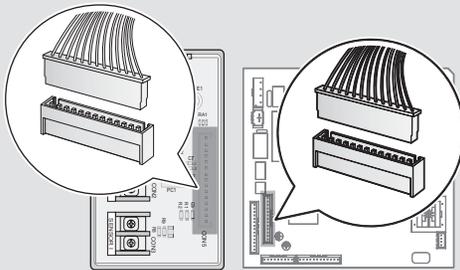
Note

- You can connect up to 10 push button switches to one HotButton controller.
- Use UTP cables or cables with a diameter greater than AWG 24.
- Make sure that the total cable length does not exceed 328 feet (100 meters).
- Additional push button switches (#GXXX001426) and wall plates (#GXXX001427) can be purchased through Navien.

3.2 Connecting the Main Control Connector

To connect the HotButton Kit to the Navien NPE-180A/210A/240A water heaters, use the 13-pin main control connector supplied with the HotButton Kit.

Connect one end of the cable to the connector socket on the HotButton Kit PCB. Then, connect the other end to the connector socket on the NPE-180A/210A/240A water heater PCB.



4. Configuring the HotButton Operation

This section provides the information required to set the desired options for the NPE-180A/210A/240A water heater system with the HotButton Kit.

4.1 Entering the R&D Information Menu

This section describes how to enter the R&D information mode to configure various parameters and control system functions.

4.1.1 Entering the R&D Information Menu

Follow the instructions below to enter the R&D information menu.

1. On the Front panel, press the Power button to turn off the water heater.
2. Enter the R&D information menu by pressing the Up (+) button three times, the Down (-) button three times, and then the Up (+) button four more times.
3. In the R&D information menu, use the Up (+) or Down (-) buttons to move to 2.PAR (Parameter information mode), and then press the Info button.

| No. | Mode | Display |
|-----|-----------------------|---------|
| 1 | Technical Information | 1TEC |
| 2 | Parameter Information | 2PAR |

4. To return to the previous menu (R&D information menu), press the [Reset] button once.

4.2 Parameter Setting for the Recirculation Pump Operation

Refer to the tables on page 7 to set the pump duration for the recirculation operation by HotButton signal.

Follow the instructions in **4.1.1 Entering the R&D Information Menu** to enter the parameter setting mode. Press the up (+) button until you reach the items to verify or configure.

HotButton pump cycle interval time (P.12)

| Item | Description | Display |
|----------------------------------|---|---------|
| (P.12) HotButton pump cycle time | Pump duration for the recirculation operation by HotButton signal | P.12 |
| Range | Description | Display |
| 1-5(min) | Sets the pump duration for the recirculation operation by HotButton signal (default: 5 min*). | 5 |

* The default setting (5 minutes) is recommended for most applications. Set the duration to 5 minutes or less to conform to the energy saving requirements in California.

5. HotButton Kit Operation Details

This section provides technical information required to properly operate the HotButton recirculation functions with the HotButton Kit.

Compatible Water Heater Types

HotButton Kit is compatible with "A" type NPE water heaters only. This device is NOT compatible with "S" type NPE water heaters.

HotButton Operation Condition Table

The following table lists HotButton operation conditions based on different applications.

| Operation Conditions | Operation |
|----------------------------------|---|
| HotButton pump cycle time (P.12) | 1-5 min (default: 5 min). When the interval is set to 5 min, the pump operates in 4 min 50 sec intervals. |
| HotButton OFF temperature | 100 °F (38 °C) |
| HotButton OFF condition #1 | When the HotButton pump cycle interval time set at P.12 has elapsed |

Configuring the Recirculation Operation by the HotButton Kit

Set Parameter #12 (P. 12) to configure the internal circulation pump cycle time when a HotButton signal is detected. Refer to **HotButton Operation Condition Table** for different operating conditions.

Recirculation Operation by the HotButton Kit

With the HotButton Kit installed, the water heater's built-in intelligent preheating feature is disabled (recirculation operation does not run unless a HotButton signal is received). Refer to **HotButton Operation Condition Table** for different operating conditions.

The HotButton recirculation cycle must be fully completed before a new input signal can be received. Any new input signals will be ignored during operation. The cycle cannot be extended during operation.

Priority in Operation

- When the HotButton Kit is installed,
- Timer settings with the remote controllers are disabled.
- Recirculation settings available at the water heater's Front panel are disabled.

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6. Maintenance

Please refer to the NPE Installation Manuals for more information on maintenance and service.

Service

If your HotButton Kit requires service, you have several options for getting service:

- Contact Navien Technical Support at 1-800-519-8794 or on the website: www.navien.com. For warranty service, always contact Technical Support first.
- Contact the technician or professional who installed your HotButton Kit.
- Contact a licensed professional for the affected system (for example, a plumber or electrician).

LIMITED WARRANTY NAVIEN, INC.

Warranty Period

Navien products come with a limited warranty covering parts. The following warranty periods begin to run from the date of original installation. The date of original installation must be provided to Navien, and upon request, proof of the original installation date must also be provided to Navien. When the product is installed in a new construction, the commencement date shall be dated upon which the end-user takes title to the property.

APPLICABLE WARRANTY PERIOD

| Period of Coverage | |
|--------------------------------|---------|
| All other parts and components | 3 years |

Warranty Claim Procedures

To obtain warranty repair service, the end user or homeowner must contact the original installer of your Navien product. If the original installer cannot be identified, the end user or home owner may contact Navien's Technical Administration Department at (800) 519-8794. Proof of purchase is required to obtain warranty service.

Warranty Service

At its option, Navien will replace the defective component (part), in accordance with the terms of this Limited Warranty, if it fails in normal use and service during the applicable warranty period identified above. The replacement component must be Navien original factory component. Navien, at its sole discretion, may replace the product with a new or refurbished product of comparable quality and design. The replacement component or product will be warranted only for the unexpired portion of the original component's applicable warranty period. Payment for labor in completing the warranty service is subject to Navien's prior written approval and shall be subject to Navien's schedule of approved labor allowances.

NAVIEN

Navien, Inc.
20 Goodyear Irvine, CA 92618
TEL +949-420-0420 FAX +949-420-0430
www.navien.com