

ELECTRICAL POWER GUIDE



**Natural Gas Modulating,
Condensing Water
Heater Models:**

- INN600
- INN800
- INN1060
- INN1350
- Recon 1000

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INNOVATION Gas-Fired Water Heaters



RECON Gas-Fired Water Heaters



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1 GENERAL

Innovation (INN) and Recon Gas Fired Water Heaters are fully factory wired and packaged units which require simple power wiring as part of the installation. This technical guide is intended to help designers provide electrical power wiring (line voltage) to Innovation units. Control wiring details are provided in other publications depending on the intended application. This document is intended as a guide only, and cannot include all alternatives, situations, or be totally inclusive. To comply with all codes and authorities having jurisdiction, designers and installers must plan the electrical wiring carefully and execute the installation completely. Emergency shutoffs, fusible fire switches, break glass stations, and other electrical requirements should be considered and installed whenever necessary.

2 Heater Electrical Requirements

Innovation and Recon Water Heaters requires 120/1Ø/60 Hz electrical supply. The distribution block for field connection is located in the upper right of the control box. All copper wire must be connected to the terminal distribution block. 110 VAC is the minimum allowable supply voltages to the unit. Lower voltages will result in increased wear and premature failure of the blower motor. Wire size and type should be made per the National Electrical Code based on length and load.

Refer to Figure 1 for typical Service Disconnect Switch location.

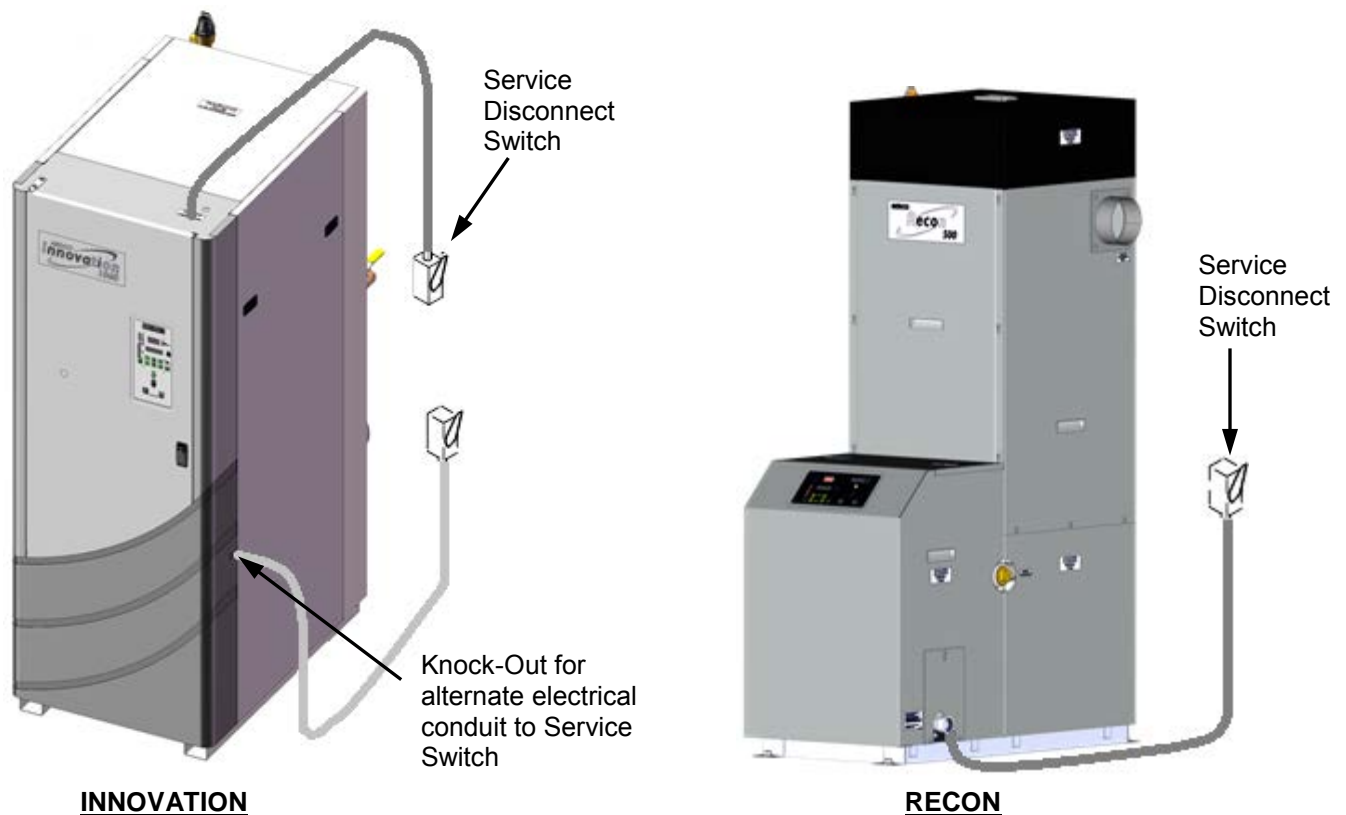


Figure 1. Service Switch Typical Location

Figure 2 shows the location of the Power Box containing the terminal block connections. The Power Box is accessed by removing the front panel door of the unit.

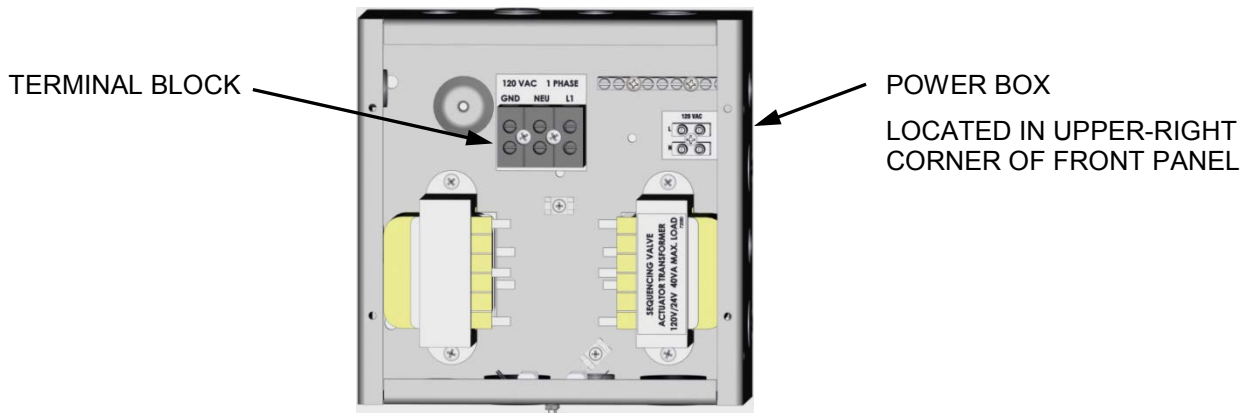


Figure 2. Terminal Block Location

3 Provisions for Service

Designers must provide emergency shutoffs and other devices to satisfy electrical codes. It is also recommended to provide an electrical shutoff disconnect switch of suitable load carrying characteristics on or near each water heater. No electrical boxes or field components should be mounted to the surface of the unit or where they would interfere with the removal of the side or top panels for maintenance. The disconnect switch should be mounted near the unit as illustrated in Figure 1. Wiring conduit, EMT, or other wiring paths should not be secured to the unit, but supported externally. Electricians should be instructed as to where the wiring conduit should be located, such as away from the relief valve discharge, drains, etc. All electrical conduit and hardware should be installed so that it does not interfere with the removal of any cover, inhibit service or maintenance, or prevent access between the unit and walls or another unit.

4 Unit Wiring

A dedicated protected circuit should be provided from the power source to the unit. No other electrical devices should be permanently wired on the same circuit. An emergency switch (electrical shutoff) must be in series with the power to the unit. Refer to Figure 3 for the wiring connections to the terminal block contained in the unit's Power Box.

5 Multiple Unit Wiring

Whenever multiple units are installed within the same mechanical spaces, electrical code requirements call for a single electrical shutoff for emergency use. It is the responsibility of the electrical designer to comply with local codes and regulations affecting an individual installation.

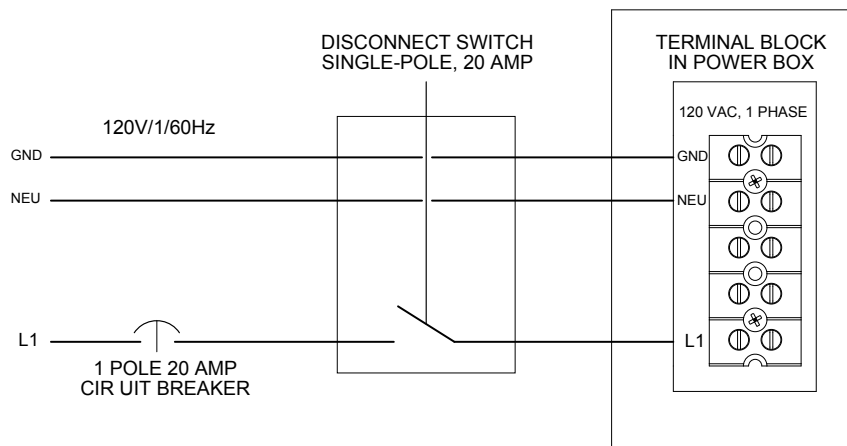


Figure 3. 120V/1Ø/60 Hz Wiring Schematic

Change Log

Date	Description	Changed By
10/14/2014	Rev C PIR: 1056, 934-101 : Changed document name to reflect that this document now applies to Innovation AND Recon products, added outline numbering to section titles	Chris Blair
05/05/2016	Rev D PIR: 934-186 : Remove references to ReCon 500. DIR 345 : Updated Figure 2.	Chris Blair



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