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VITODENS 100-W B1HA/B1KA CONNECTION QUICK START GUIDE

This Quick Start Guide is designed to provide an overview to an experienced licensed professional heating contractor with the general wiring and operational knowledge of the Vitodens 100 B1HA/B1KA boiler. It is NOT a substitute for the technical support literature supplied with the Vitodens 100 B1HA/B1KA boiler and its accessories. The technical support literature of each product contains the necessary safety and national/local code requirements which, if not followed exactly, will lead to property damages, personal injuries and/or loss of life. Viessmann Manufacturing assumes no responsibility for damage(s) of any kind caused by inappropriate use of this Quick Start-up Guide and/or failure to read the technical literature provided.

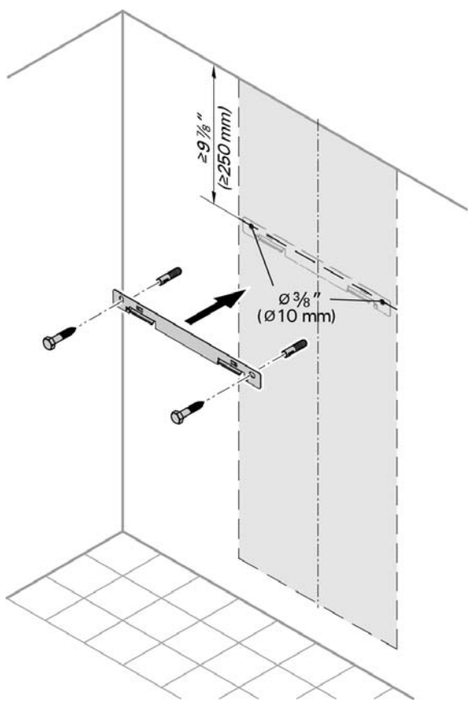
Before wiring the boiler…

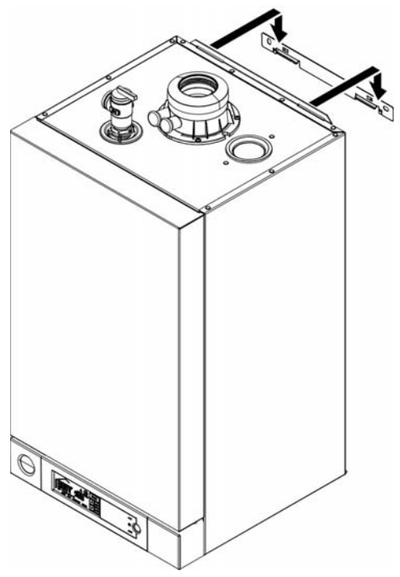
- Connect fuel supply and all hydronic piping.
- Ensure gas pressure matches rating plate.
- Verify that the venting is installed according to the Installation Instructions.
- Perform leak tests on the gas supply, heating system and venting, using approved methods.

What you need to know about wiring the boiler

- For detailed installation information of the Vitodens 100 B1HA/B1KA boiler refer to the appropriate documentation.
- Refer to boiler wiring diagram for electrical requirements of boiler.
- 120VAC wiring! The boiler can only be connected to a 120/1/60 power supply.
- Proper polarity must be maintained for 120VAC wiring.
- The control unit requires an earth ground for proper operation.
- Use shielded wire for sensor wiring to prevent electromagnetic interference.

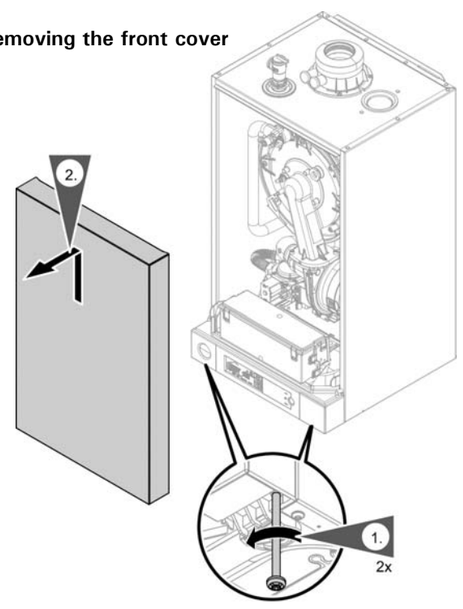
① Mounting the B1HA/B1KA Boilers





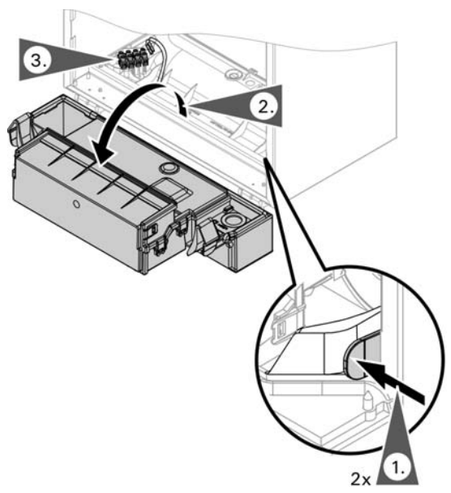
② Access to the B1HA/B1KA Wiring

Removing the front cover



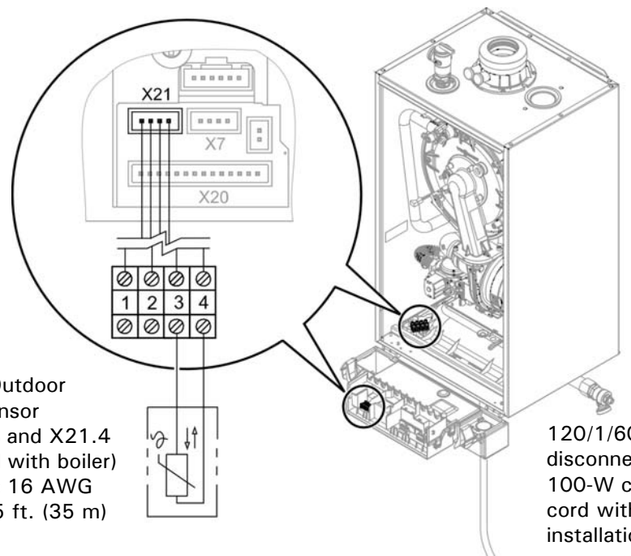
1. Loosen retaining screws, screws are captive and do not need to be fully removed.
2. Remove the front panel.

Opening the control unit



1. Press in the control retaining tabs.
2. With retaining tabs pressed in rotate the control forward and down.
3. Terminal block for OT and OTS connections.

③ Power and Sensor Connection



Connection to Outdoor Temperature Sensor terminals X21.3 and X21.4 (sensor supplied with boiler)
Min. wire gauge 16 AWG
Max. length 115 ft. (35 m)

120/1/60 12A Power Supply with disconnect and protection. The Vitodens 100-W comes with a pre-installed power cord with 3 prong plug for simplified installation.

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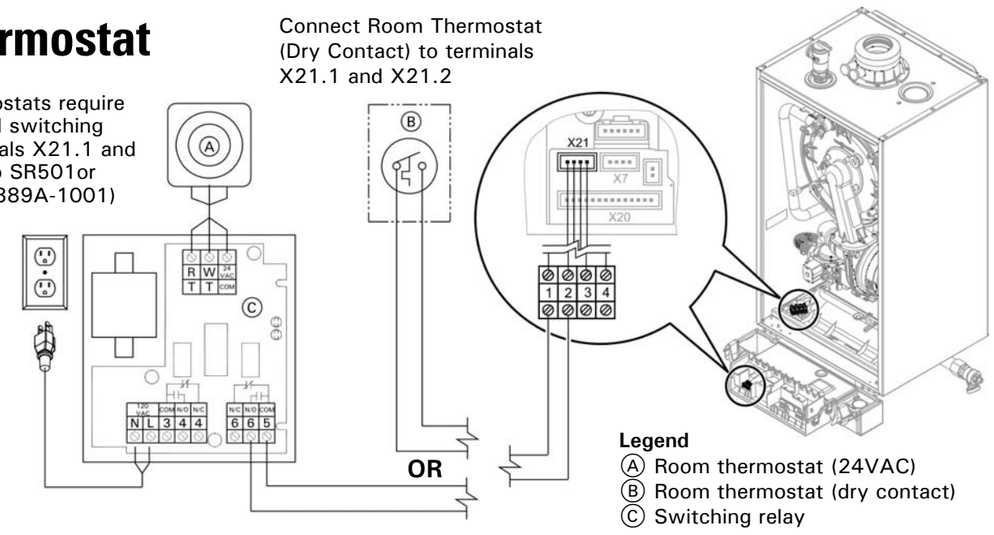
④ Thermostat

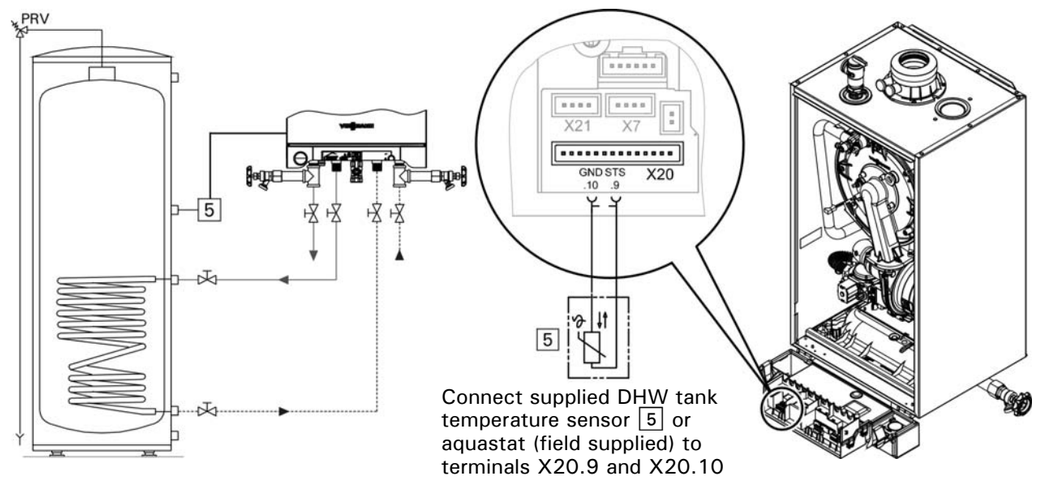
24VAC thermostats require a field supplied switching relay to terminals X21.1 and X21.2 (ie Taco SR501or Honeywell RA889A-1001)

Connect Room Thermostat (Dry Contact) to terminals X21.1 and X21.2



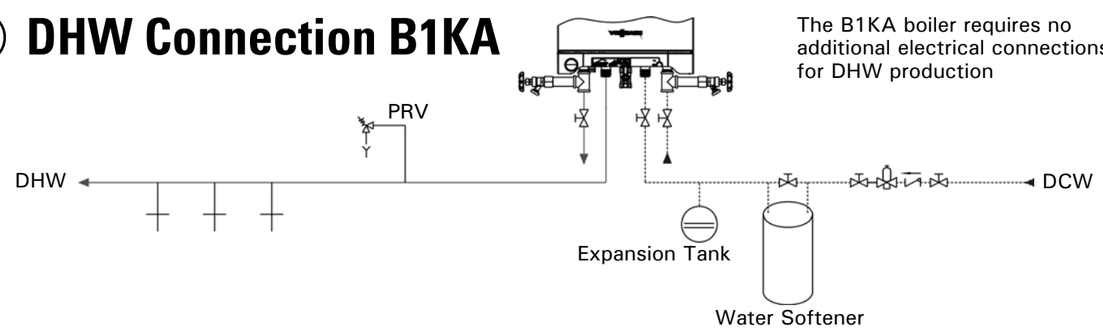
Legend
- (A) Room thermostat (24VAC)
- (B) Room thermostat (dry contact)
- (C) Switching relay

⑤ DHW Tank Connection B1HA



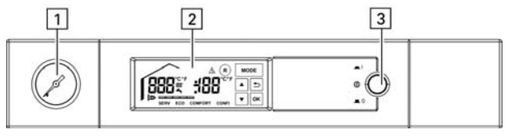
Connect supplied DHW tank temperature sensor [5] or aquastat (field supplied) to terminals X20.9 and X20.10

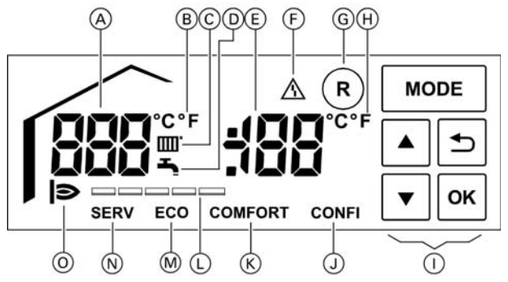
⑥ DHW Connection B1KA



The B1KA boiler requires no additional electrical connections for DHW production

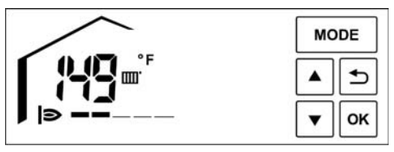
⑦ Starting the Boiler





Legend
- [1] Pressure gage
- [2] LCD display unit
- [3] Power switch ON/OFF

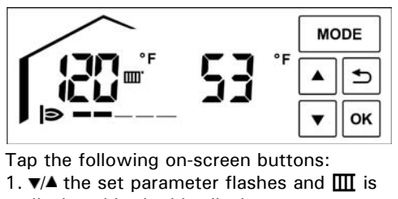
Legend
- (A) Display value or fault code
- (B) Temperature in °F/°C (with the display value)
- (C) Heating mode
- (D) DHW heating
- (E) Display value or fault code
- (F) Fault indicator
- (G) Burner fault reset
- (H) Temperature in °F/°C (with the display value)
- (I) On-screen buttons
- (J) Commissioning setting active (only for contractors)
- (K) DHW comfort function active (only for B1KA)
- (L) Current burner output (each bar = 20%)
- (M) DHW comfort function not active (only for B1KA)
- (N) Service setting active (only for B1HA)
- (O) Burner in operation



Tap the following on-screen buttons:
1. ▼/▲ the set boiler water temperature flashes and is displayed.
2. ▼/▲ until the required boiler water temperature is displayed.
3. OK to confirm.

Operation without room thermostat - setting the heating water temperature
If no outside temperature sensor and no room temperature controller is connected, jumper must be installed on OT terminals.
The room temperature is influenced by the heating water temperature. In the delivered condition, the heating water temperature is set to 158°F (70°C).

Operation with room thermostat - setting the boiler water temperature
If no outside temperature sensor is connected, but a room temperature controller is. If the required room temperature is not achieved, ensure the boiler water temperature setting is sufficiently high. In the delivered condition, the boiler water temperature is set to 158°F (70°C).



Tap the following on-screen buttons:
1. ▼/▲ the set parameter flashes and is displayed in the l.h. display area.
2. ▼/▲ until the required room temperature is achieved.
3. OK to confirm.

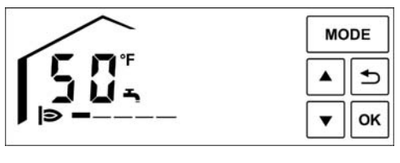
Weather-compensated operation without room temperature thermostat
Setting the room temperature

An outside temperature sensor must be connected for weather-compensated operation and a jumper must be installed on OT terminals (see the installation instructions). In the delivered condition, a parameter value of 20 is set for central heating. Should you wish to set a higher room temperature, increase the parameter value; reduce it for a lower room temperature.

Weather-compensated operation with room temperature thermostat
Setting the room temperature

In the delivered condition, a parameter value of 20 is set for central heating. Should you wish to set a higher room temperature, increase the parameter value; reduce it for a lower room temperature.

Call for heat on the room thermostat will activate the boiler. The boiler will operate based on the selected outdoor reset curve. When room thermostat is satisfied the boiler will shut down until the next call by the room thermostat.



DHW temperature
Tap the following on-screen buttons:
1. MODE
2. ▼/▲ until flashes.
3. OK to confirm. The set DHW temperature flashes.
4. ▼/▲ to set the required DHW temperature.
5. OK to confirm.

Configuring DHW Tank Sensor Input
1. Press the Mode. Tap ▼/▲ until flashes CONFI
2. Confirm with OK. In the left hand display P appears.
3. The right hand display flashes. Select ▼/▲ until 12 appears and confirm with OK.
4. 1 appears in the left hand display and flashing. Select using ▼/▲ 14 and confirm with OK.
5. The right hand display flashes
   Here, the input X20: to configure 9/10 (refer to section 5 for connection).
   0 = Sensor (NTC 10k)
   1 = Aquastat
   Change ▼/▲. (The factory setting is 0)
   Confirm tap OK. Settings have been applied.