

VITOCROSSAL 300 CA3B CONNECTION QUICK START GUIDE

This Quick Start Guide is designed to provide an overview to an experienced licensed professional heating contractor with the a general connection, wiring and operational knowledge of the Vitocrossal 300 CA3B boiler. It is NOT a substitute for the technical support literature supplied with the Vitocrossal 300 CA3B 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 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 manufacturers 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 Vitocrossal 300 CA3B boiler refer to the appropriate documentation.
- Refer to boiler wiring diagram for electrical requirements of boiler.
- The boiler can only be connected to the power supplies specified (see Power Supply ④).
- Proper polarity must be maintained for wiring.
- The control unit requires an earth ground for proper operation.
- Use shielded wire for sensor wiring to prevent electromagnetic interference.

① Preparing the Boiler

Positioning boiler
The boiler must be placed on a foundation. A minimum height of 4 in. (100 mm) is required in order to allow for the condensate siphon connection.

CA3B Model	2.5	3.0	3.5	4.0	5.0	6.0
a in. (mm)	74¾ (1900)	74¾ (1900)	82¾ (2100)	82¾ (2100)	114¼ (2900)	114¼ (2900)
b in. (mm)	34 (860)	34 (860)	39½ (1000)	39½ (1000)	39½ (1000)	39½ (1000)

1. Boiler lifting location for the forks of a lift truck or forklift when lifting the boiler from the right or left side.

2. Boiler lifting location for the forks of the lift truck or forklift when lifting the boiler from the front.

IMPORTANT

When lifting the boiler from the side ensure the forks of the lift truck or forklift are centered. Refer to the crosshair mark located on the side of the boiler ①.

Condensate siphon connection

≥4 in. (≥100 mm)

Note: Remove the packaging and raise the boiler from the packaging platform with a lift truck or forklift.

② Boiler Connections

1. Remove screws from right side of the top panel (looking at the boiler from the front) then remove top right side panels. Remove lower left side panels.

2. Locate and remove drain plug for each boiler section and install drain valve assembly for each boiler section as shown.

3. Locate safety header on the main supply header and install installation fittings.

Max. water pressure: 160 psi (11 bar)
Min. water pressure: 8 psi (0.5 bar)

Note: The minimum water pressure is necessary for safe operation.

Note: All boilers must have a pressure relief valve.

Note: Make all connections free of load and torque stresses.

③ Electrical Connections

1. Tilt forward, lift and remove lower front panel.

2. Remove the screws from the lower front cover plate and remove plate.

3. Lift and remove the top front panel (for CA3B 5.0 and 6.0 only).

4. Remove the screws from the top front cover plate and remove plate (for CA3B 5.0 and 6.0 only).

5. Route cables and make connections as required.

Boiler models 2.5 to 4.0

Boiler models 5.0 and 6.0

System and Lead Boiler Section Control

Main Programming Unit

Lag 1 Boiler Section Control

Lag 2 Boiler Section Control (for 5.0/6.0 models only)

Power Supply Connections

Accessory Connections for Heating Circuits, DHW and LWCO Connections

Legend

① Upper cable tray for power supply cables (e.g. boiler power supply)

② Lower cable tray for low voltage cables (e.g. sensor cables)

④ Power Supply

Leave bridge in place

To 120VAC/1Ph/60Hz L/N/G 20A for CA3B models 2.5 to 4.0

Remove bridge

To 240VAC/1Ph/60Hz L/N/G 20A for CA3B models 2.5 to 4.0

To Wye connection 208Y/120VAC/3Ph/60Hz 20A 120VAC nominal between Neutral and L1, L2 and L3

The boiler power supply must be equipped with the appropriate disconnect & protection. Refer to power supply wiring diagram for specific requirements.

For CA3B models 5.0 and 6.0 only

⑤ Heating Circuit Connection

Note: Wiring is simplified and does not show relays, contactors or motor starters which may be required.

System and Lead Boiler Section Control

OTS

⑥ DHW Connection

Note: Wiring is simplified and does not show relays, contactors or motor starters which may be required.

System and Lead Boiler Section Control

DHW recirculation

Boiler supply

Boiler return

⑦ LWCO Connection

1. Remove jumper between terminals 15(L) and 16(L).

2. Make connection for (LWCO) switching contact at terminals 15(L) and 16(L).

3. Power supply for low water cut-off device made at an available (L, N, G) terminals 12, 13 or 14.

⑧ System Fill

1. Before filling, push the actuator release button and open each isolation valve (located near the return header of each boiler section).

2. When fill is complete push the actuator release button and close each isolation valve (located near the return header of each boiler section).

⑨ Starting the Boiler (using Graphical User Interface HI932)

1. Turn ON switch ① (indicator ② is on).

2. From the home screen tap:

- Service
- Enter “viservice” password
- System configuration
- Coding level 2
- Enter “viexpert” password
- Select group

General Group

- Using , Select the system layout address 00: _ _ and press .
- Using , Select the system layout coding and press then press again to confirm
- Using , Verify address 4c:0 for output A1: Heating circuit pump
- Using , Adjust address 4d: 1 for output 29: Shunt pump. Depending on application change to either:
 - 4d: 0 System pump
 - 4d: 2 Boiler pump
- Tap to return to the coding groups

Heating Circuit Group

From the home screen tap:

- Select desired circuit
 - ‘Heating circuit 2’
 - Adjust mixing valve runtime to match circuit mixing valve actuator operating time. Adjustable from c3:10 (10 sec) to c3:255 (255 sec)
 - to return to coding level 2 groups
 - ‘Heating circuit 3’
 - Adjust mixing valve runtime to match circuit mixing valve actuator operating time. Adjustable from c3:10 (10 sec) to c3:255 (255 sec)
- Return to the home screen

DHW

To adjust DHW temperature from home screen select:

- , ‘DHW temperature setpoint’
- Adjust to desired setting
- Return to the home screen

Legend

① ON/OFF switch

② ON indicator (green)

③ Fault indicator (red)

Heating Circuit (each circuit must be adjusted separately)

To adjust room temperature from home screen select:

- , ‘Heating circuit 1’, ‘Room temp setpoint’
- Adjust to desired setting
- Tap to return to the main menu and repeat for heating circuits 2 and 3 as required
- Tap to return to the main menu to adjust the heating curve select:
- , ‘Heating circuit 1’, ‘Heating curve’
- Adjust to desired setting
- Tap to return to the main menu and repeat for heating circuits 2 and 3 as required
- Return to the home screen

Legend

① Header

② Actual common supply temperature (boiler)

③ Boiler section number in the sequence

④ Details of the boiler section operating status

⑤ Footer