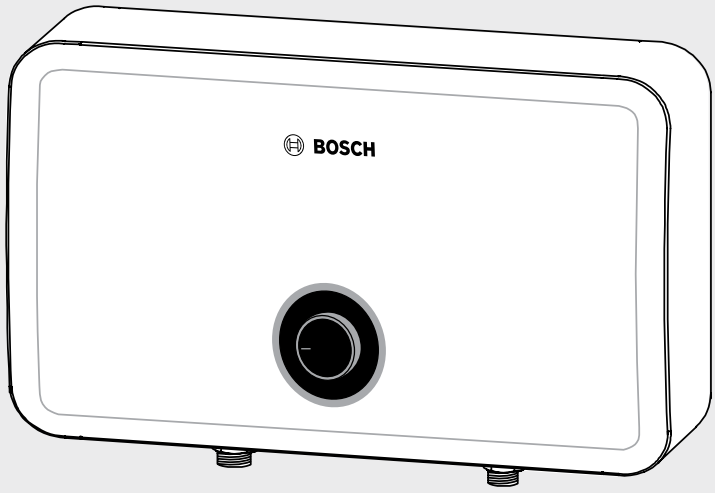
BOSCH

Troubleshooting Guide

Electric Tankless Water Heaters

TRONIC 4000 C

TR4000C-3 | TR4000C-6 | TR4000C-8 | TR4000C-10



⚠ WARNING:
Improper installation, adjustment, alteration, service or maintenance can cause injury, death, or property damage.

NOTICE:
The manufacturer reserves the right to make product changes or updates without notice and will not be held liable for typographical errors in literature.

BTC 722202301 B / 01.2025

UL LISTED

Table of Contents

1 Key to Symbols and Safety Instructions

1.1 Key to Symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.

The following keywords are defined and can be used in this document:

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor to moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

Important information

The info symbol indicates important information where there is no risk to people or property.

1.2 Safety

WARNING

Personal injury, property damage, product damage, improper operation!

This manual must only be used by a qualified installer / service technician.

This water heater should be serviced only by qualified service personnel. Improper installation, adjustment, alteration, service or maintenance can cause injury, death, or property damage.

WARNING

Electrical hazard!

Failure to disconnect the power from the water heater before attempting to repair it will result in property damage, severe personal injury, or death.

2 Key Components

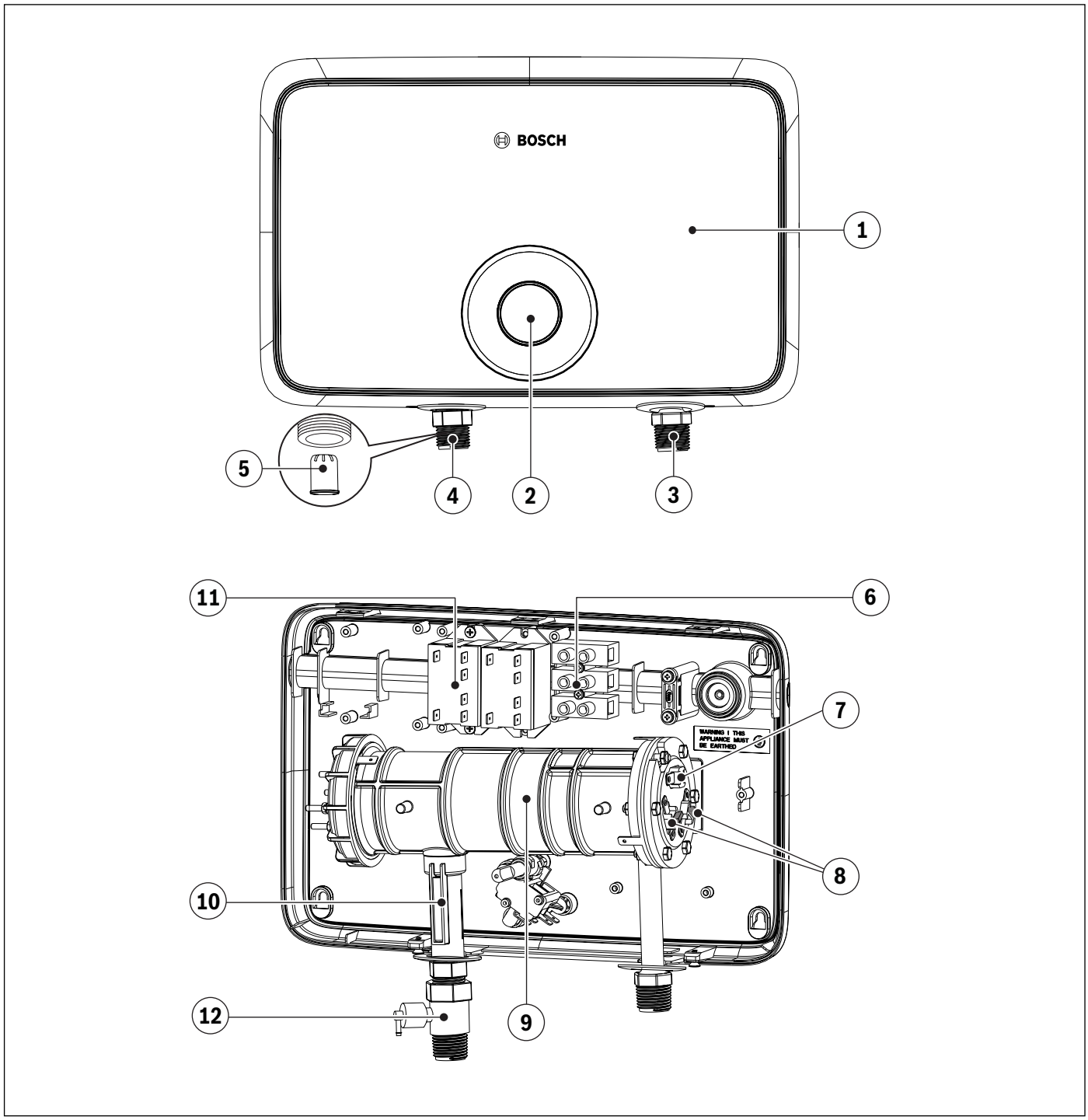


Figure 1 Water Heater Components

1 Front Cover
2 Power Selector
3 Hot Water Outlet
4 Cold Water Inlet
5 Inlet Filter
6 Terminal Block
7 Thermal Cutout (Auto Reset) - TR4000C-10 only
8 Thermal Cutout (Manual Reset)
9 Canister/Heating Element
10 Flow Sensor
11 Relay
12 Check Valve

3 Technical Specifications

Description		TR4000C-3	TR4000C-6	TR4000C-8	TR4000C-10
Wattage*	110V	3.1kW	—	—	—
	120V	3.5kW	—	—	—
	208V	—	4.9kW	6.4kW	7.9kW
	240V	—	6.5kW	8.5kW	10.5kW
Voltage		110/120	208/240	208/240	208/240
Phase		1			
Circuit Breaker Size		1 x 30 Single Pole	1 x 30 Double Pole	1 x 40 Double Pole	1 x 50 Double Pole
Required Wire Size		10 AWG	10 AWG	8 AWG	6 AWG
Minimum Water Flow to Activate		0.25 gpm	0.55 gpm		
Working Pressure		7 - 115 psi (0.5 - 8 bar)			
Tested Pressure		230 psi (16 bar)			
Water Connections		1/2" NPT			
Elements		1			
Weight		3.4 lb (1.54 kg)			

Table 1

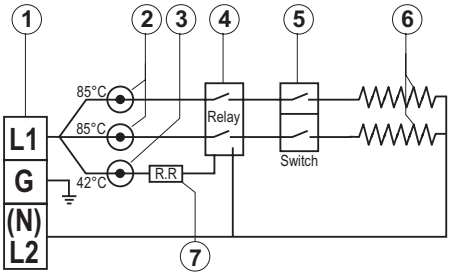
** Wattage based on maximum voltage supply. Output will reduce if voltage reduces.*

Temperature Rise Δt	Maximum Flow Rate (GPM)			
	TR4000C-3	TR4000C-6	TR4000C-8	TR4000C-10
35°F	0.59	1.26	1.65	2.04
45°F	0.50	0.98	1.28	1.59
77°F	0.29	0.57	0.75	0.93

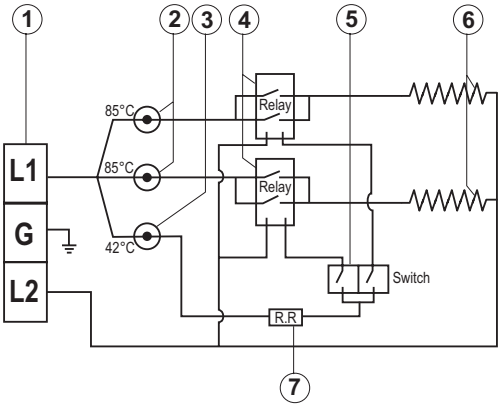
Table 2

4 Wiring Diagram

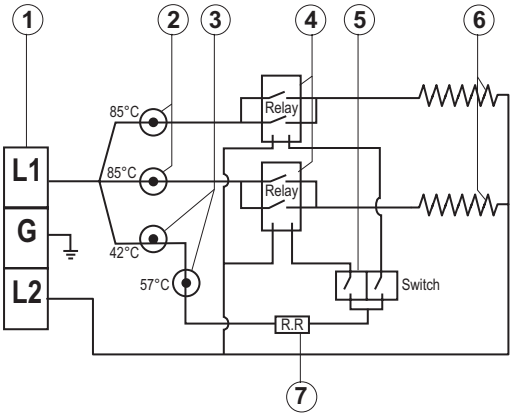
1. TR4000C-3 (120V) - Install Line 1 (L1), Ground (G), Neutral (N)
2. TR4000C-6 (240V) - Install Line 1 (L1), Ground (G), Line 2 (L2)



TR4000C-8 (240V)



TR4000C-10 (240V)



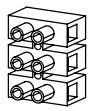
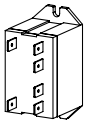
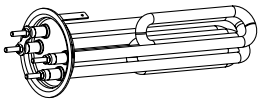
①	Terminal block	
②	Thermal Cutout (Manual Reset)	
③	Thermal Cutout (Auto Reset)	
④	Relay	
⑤	Switch 0- Off 1- Low 2- Medium 3- High	
⑥	Heating element	
⑦	Flow sensor	

Figure 2

5 Troubleshooting

5.1 No Hot Water

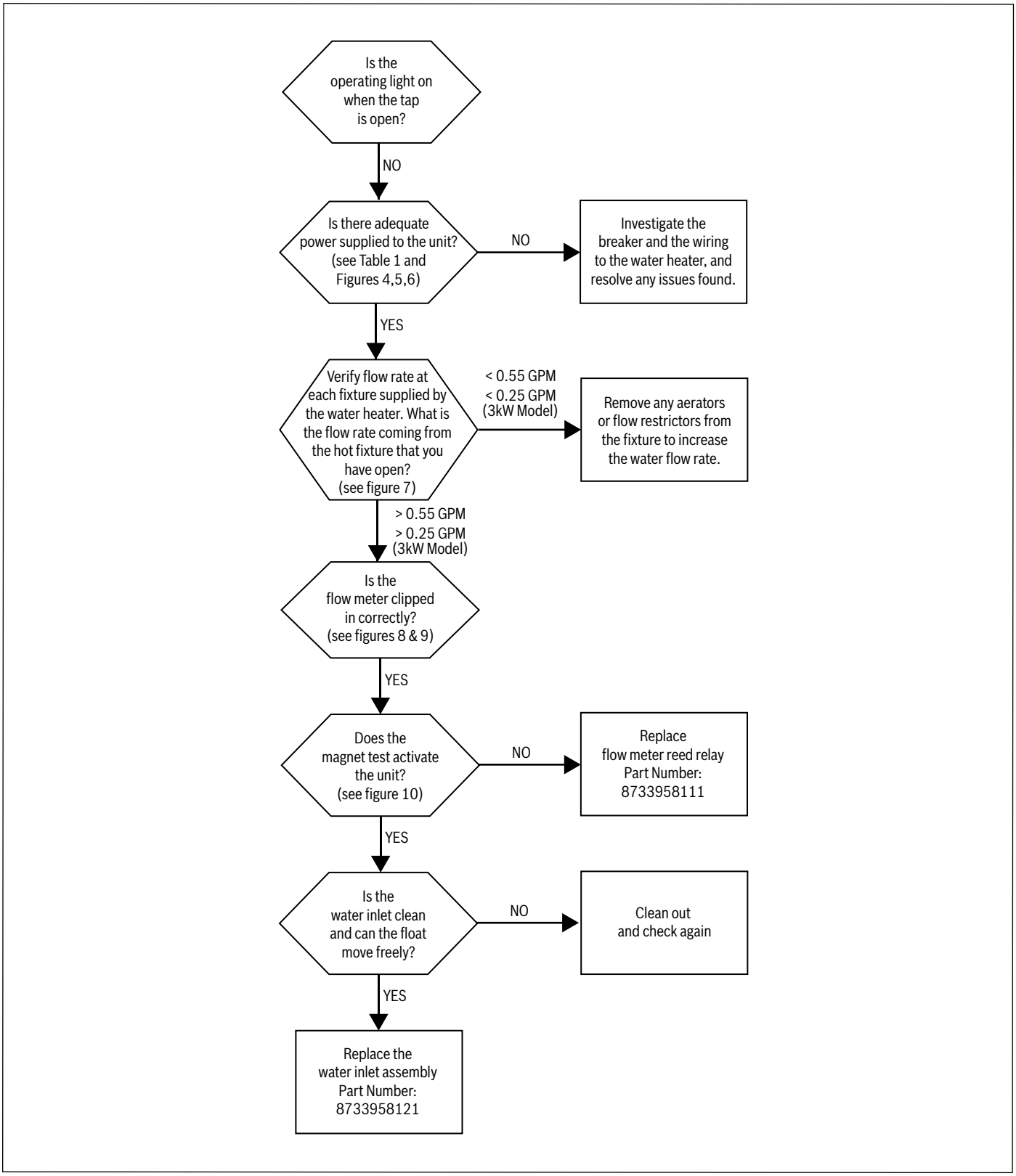


Figure 3

1. Check wire connection on terminal block and ensure the wires are properly connected.
2. Check terminal block is wired correctly.

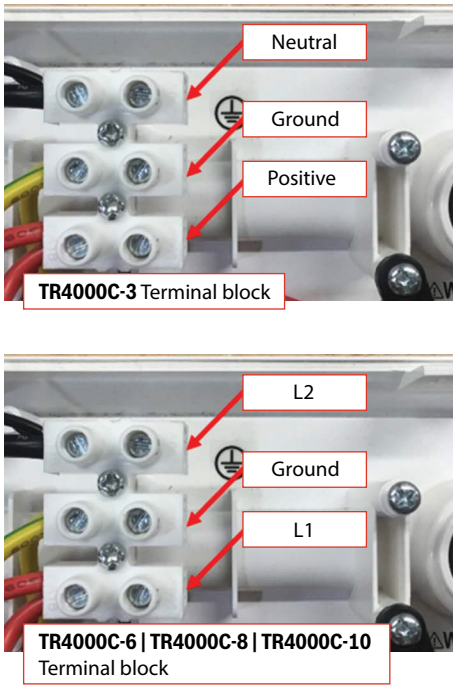
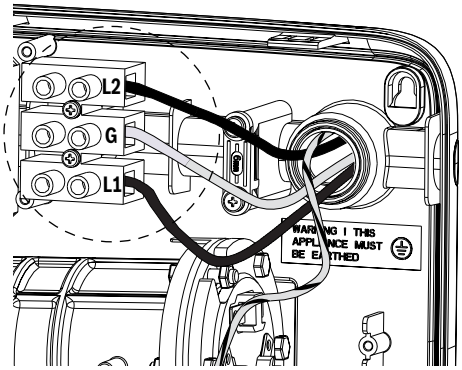
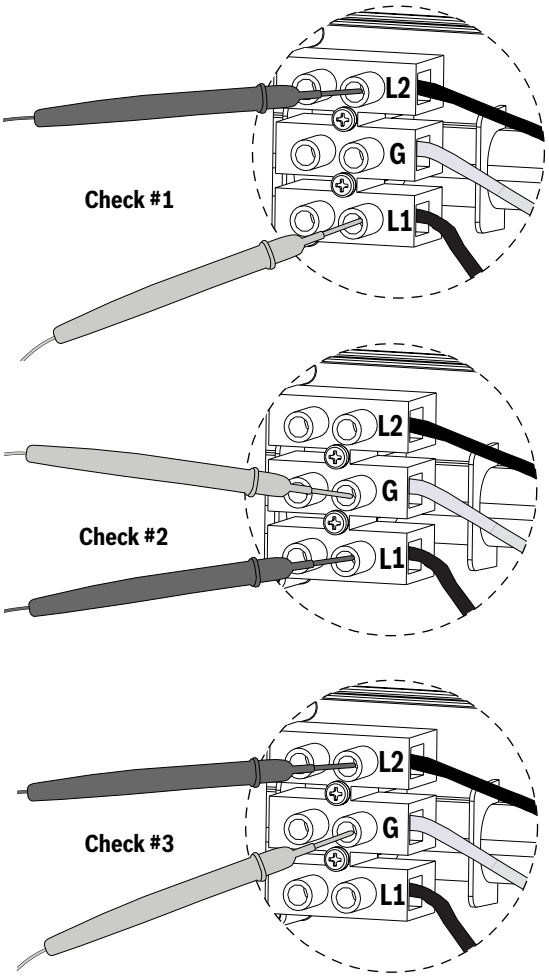


Figure 4

1. Checking voltage across terminal block. Compare test result to the voltage listed for your model in Table 1.



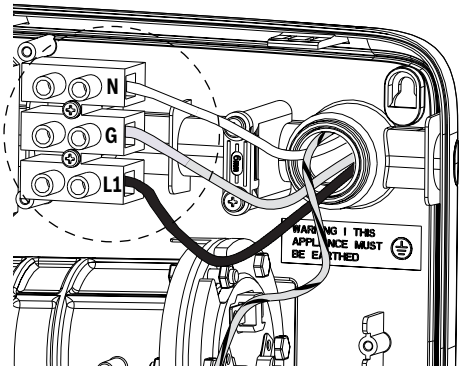
TR4000C-6 | TR4000C-8 | TR4000C-10



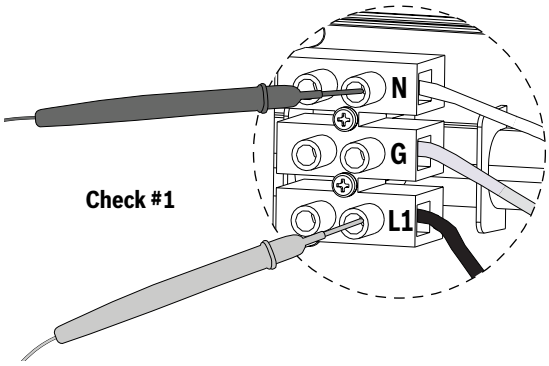
2. If voltage is NOT within range, check your breaker and installation wiring.

Figure 5

1. Checking voltage across terminal block. Compare test result to the voltage listed for your model in Table 1.



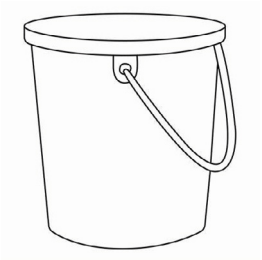
TR4000C-3



2. If voltage is NOT within range, check your breaker and installation wiring.

Figure 6

1. To determine the flow rate (gallons per minute) of water from the fixture, do the following:
   a. Ensure the faucet is closed.
   b. Place a ONE GALLON container under the faucet spout.
   c. Have a timer ready, and start it as soon as you fully open the faucet.



   d. Record how many seconds it took to fill up to exactly one gallon.
   c. Obtain the flow rate with this calculation: (1 divided by number of seconds) x 60
   d. The resulting number is the water flow rate in gallons per minute.

If your measured flow rate is below 0.55 gallons per minute (0.25 gallons per minute for TR40000C-3), the water heater will not activate correctly.

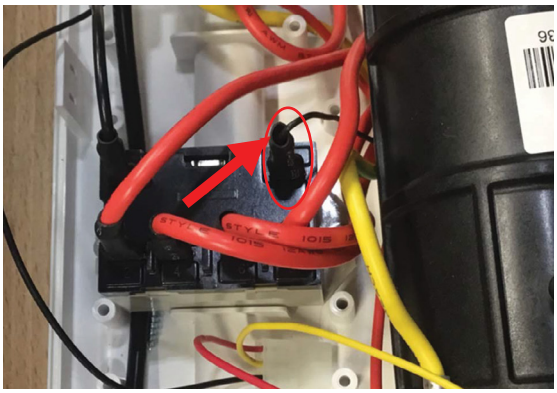
Remove any aerators or flow restrictors from the fixture (if present) and ensure that any shutoff valve between the water heater and the fixture are fully opened.

Figure 7

1. Make sure the flow meter is installed correctly and connected to the cold water supply inlet. Ensure inlet is fully tightened and sensor is securely fastened.

Figure 8

1. Check the flow meter wire connections.
   - Flow meter connection on relay.



   - Flow meter connection on canister.

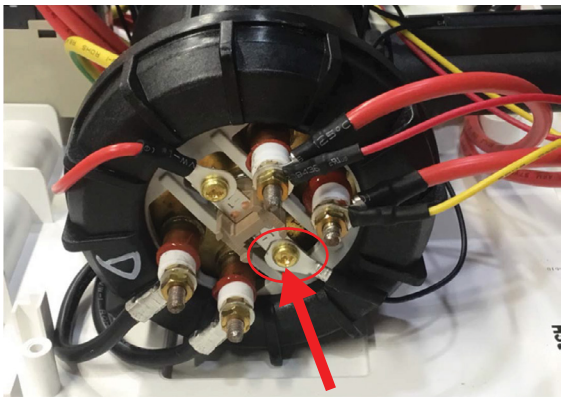


Figure 9

1. Use a magnet and drag along the inlet, listen, and feel for the float moving in the inlet. If the float is stuck, replace the flow meter relay reed.

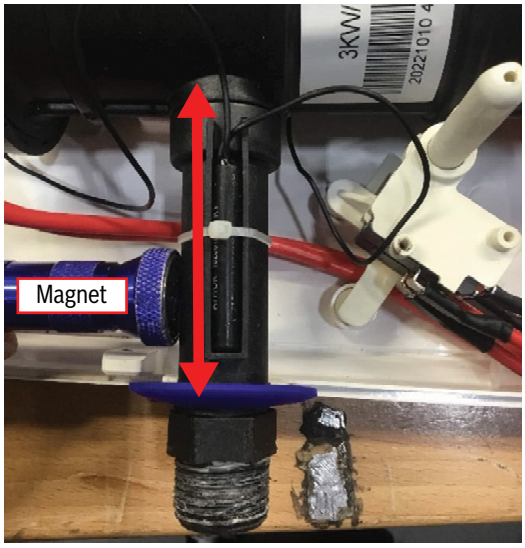


Figure 10

5.2 Water Not Hot Enough

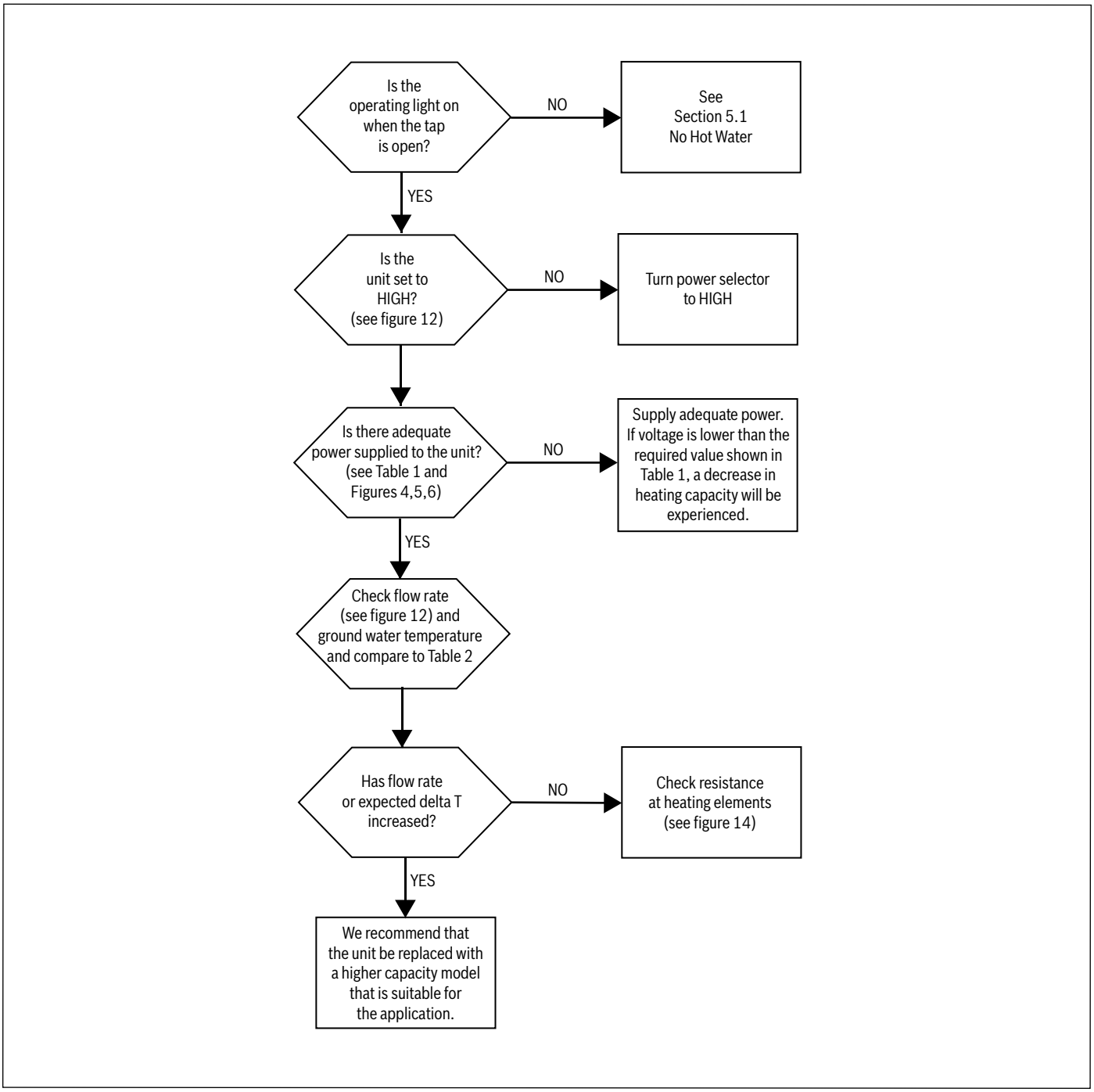


Figure 11

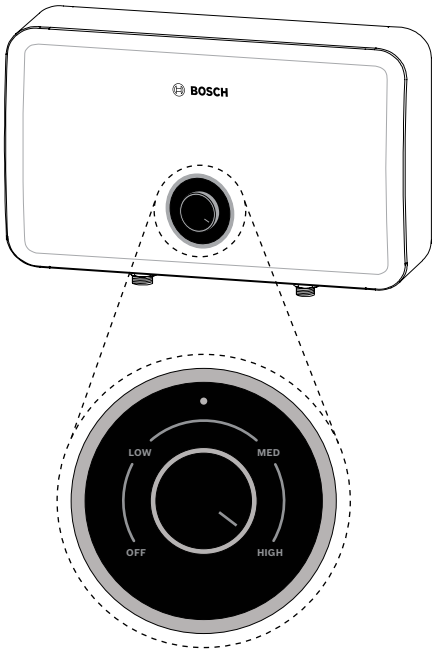
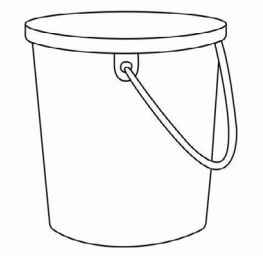


Figure 12

1. To determine the flow rate (gallons per minute) of water from the fixture, do the following:
   a. Ensure the faucet is closed.
   b. Place a ONE GALLON container under the faucet spout.
   c. Have a timer ready, and start it as soon as you fully open the faucet.



   d. Record how many seconds it took to fill up to exactly one gallon.
   c. Obtain the flow rate with this calculation: (1 divided by number of seconds) x 60
   d. The resulting number is the water flow rate in gallons per minute.
2. Calculate delta T rise from the inlet temperature and outlet temperature. Compare the flow rate and delta T to values in table 2.

Figure 13

1. Using a multimeter and with wiring removed, check for continuity across the elements. If either is not showing continuity, replace elements or replace unit.

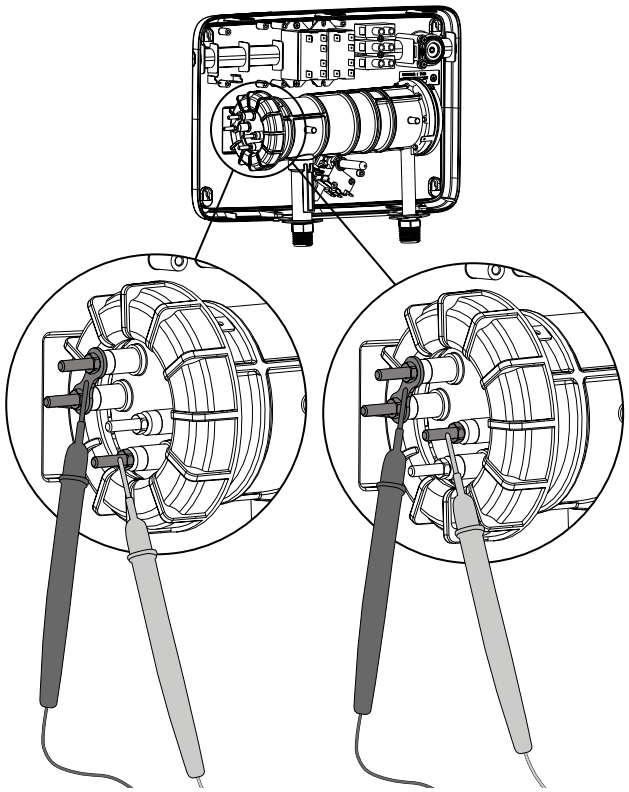


Figure 14

Online Help Resources

Alternatively, please visit our Service & Support webpage to find FAQs, videos, service bulletins, and more; www.bosch-homecomfort.us/service or use your cellphone to scan the code below.

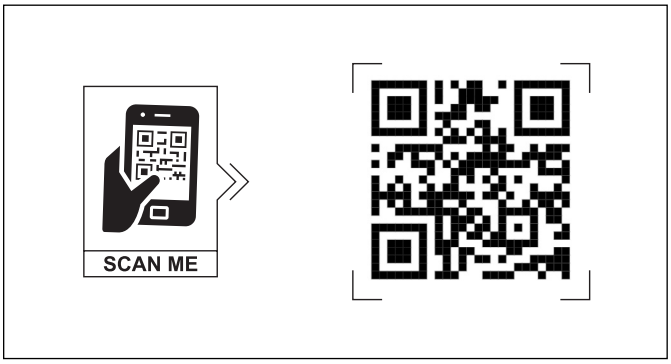


Figure 15

NOTES:

United States and Canada
Bosch Thermotechnology Corp.
65 Grove St.
Watertown, MA 02472

Tel: 800-283-3787
www.bosch-homecomfort.us

BTC 722202301 B / 01.2025