hotbot

by plentify

Installation manual

Manual version: 290823

Contents

Welcome to HotBot

HotBot makes geysers intelligent - ensuring that homes have hot water when they need it, while saving the most on electricity.

It achieves this with advanced hardware that connects to your geyser, artificial intelligence which helps decide when to turn geysers on and off, and an app through which users can set their preferences and override the system at any time.

HotBot should be installed by a qualified plumber or electrician. This manual will guide you through the installation of HotBot's hardware - a sophisticated product designed for easy installation.

SPECIFICATIONS

HotBot is designed to control geysers with an element rating of up to 6kW with a 240V AC supply:

Manufacturer: Plentify (Pty) Ltd

Model: OF3000, OF4000 or OF5000

V110-240 AC 50/60HZ or **12VDC**

Maximum load: 30A

Class II device

Operating temperature: -20°C to 70°C

What you'll need

To ensure efficient installation of HotBot, you should pack the following tools before heading to the geyser.

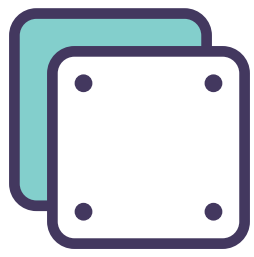
All installations

- Philips screwdriver
- Flat head screwdriver
- Wire cutter and strippers
- Your smartphone
- Ladder

With plumbing

(flow meter or valve is included with installation)

- Pipe cutters
- Spanners for attaching compression fittings to pipe
- Plumber's tape
- Extra pipe, joints, solder and tools if pipe needs to be rerouted



For wall mounting

- Wood: Drill with Phillips bit
- Masonry / concrete: Drill with 8mm masonry bit

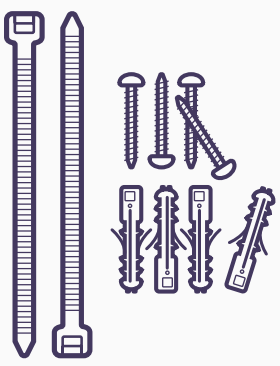
What's in the installation kit

The HotBot installation kit includes key components and spares you need to successfully complete installation. This includes the Controller, Sensors, Spares and Handover Material:

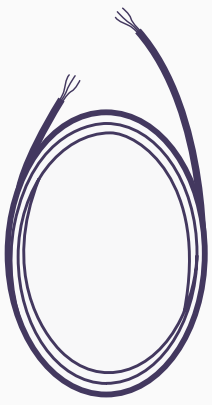
CONTROLLER PARTS

HotBot controller

Spares for controller



Giant cable ties or wall fasteners for mounting



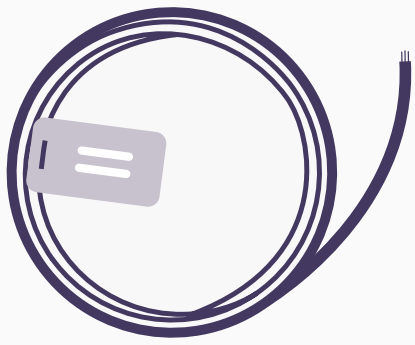
Extra power cable (optional)

Extra screw for lid (just in case)

Installation kit

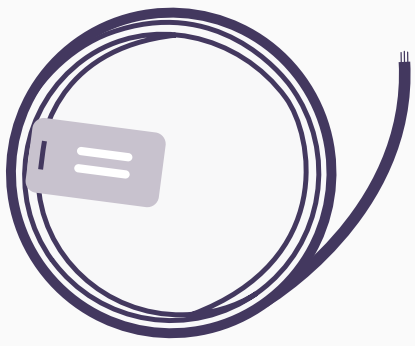
SENSOR PARTS

INLET



THERMOSTAT

OUTLET

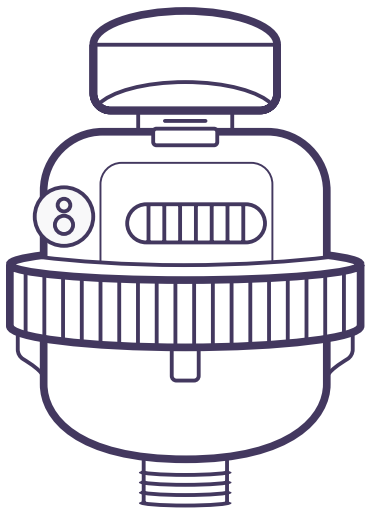


WETNESS

FLOW

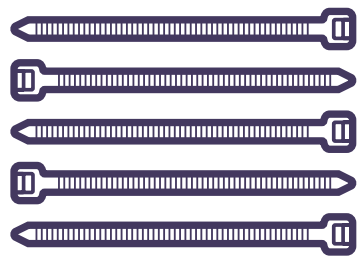
VALVE

Flow meter
(optional)



Spares for sensors

Compression fittings to plumb flow meter and / or valve into 22mm pipe (optional)



Cable ties to organise sensor cables once installed

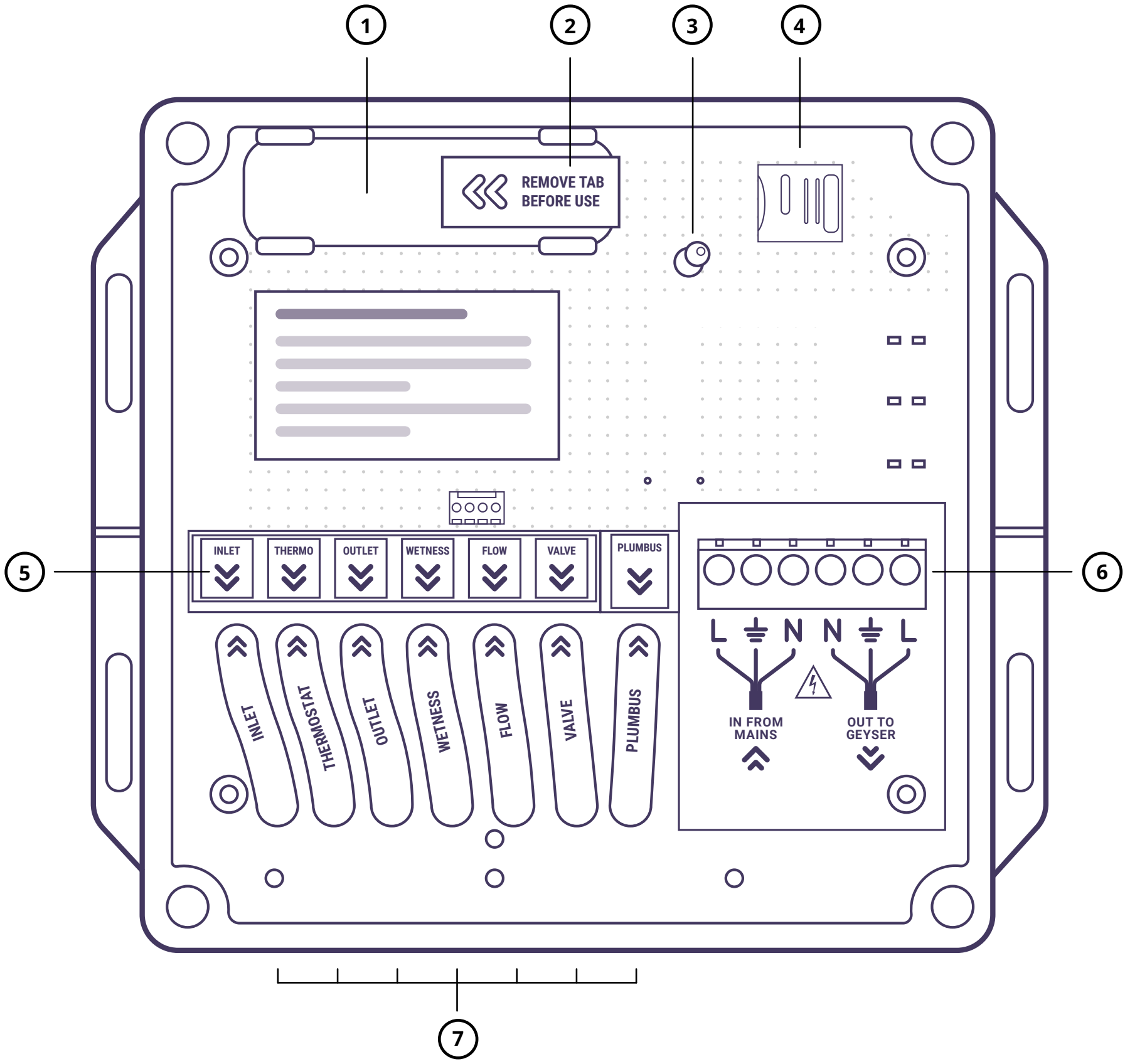
Installation kit

HANDOVER MATERIAL

Starter kit with user registration instructions

Installation kit

What's inside HotBot



1. Battery
2. Battery tab
3. LED
4. SIM holder
5. Colour-coded sensor ports
6. Power terminals
7. Sensor slots

How to install HotBot

HotBot installation involves four simple stages:

Ⓐ **INSTALL SENSORS**

Ⓑ **INSTALL CONTROLLER**

Ⓒ **VALIDATE INSTALLATION**

Ⓓ **HANDOVER**

A. INSTALL SENSORS

Install sensors as per instructions on each cable:

Turn off power at distribution board and isolator

You are working with high voltage AC power. Take all necessary precautions, including using a multimeter to test that power is off before commencing work.

INLET

Clip to cold water inlet pipe as close as possible to the geyser

THERMOSTAT

1. Remove thermostat
2. ***Note current setpoint and set to 65˚C***
3. Insert sensor to end of thermostat pocket
4. Hold sensor in place and carefully reinsert the thermostat

TIP: *If you need to rewire the thermostat, do so at the same time (see Section B.5)*

OUTLET

Clip cable to hot water outlet pipe 0.5m from geyser

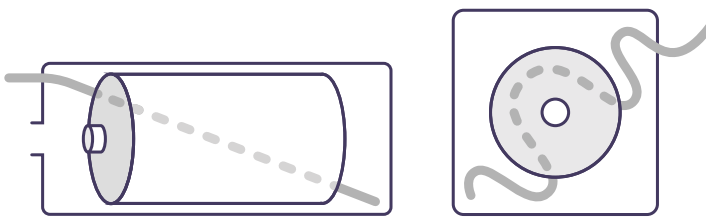
FLOW NOTES:

The arrow on the flow meter should point in the direction of flow. Water supply to the geyser should be shut off before installing. The flow meter allows reverse flow to comply with SANS 10252-1.

VALVE NOTES:

A relief must be present or installed between the valve and geyser. Water supply to the geyser should be shut off before installing.

WETNESS

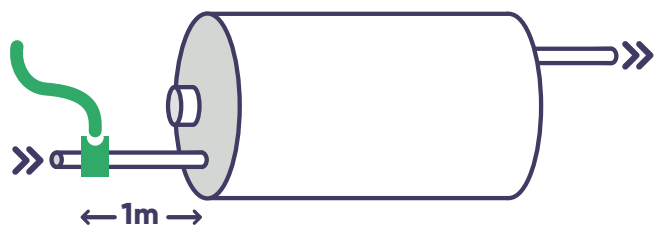


Horizontal geyser
(*top view*)

Vertical geyser
(*top view*)

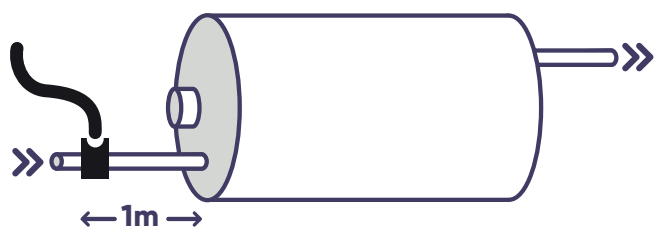
1. Stretch out sensor to fit diagonally in drip tray.
2. Make sure sensor does not coil on itself.
3. Do not place near drip tray's outlet where water is likely to pool.

FLOW



1. Plumb flow meter to inlet pipe at least one meter from geyser
2. Insert probe into flow meter and secure with screw

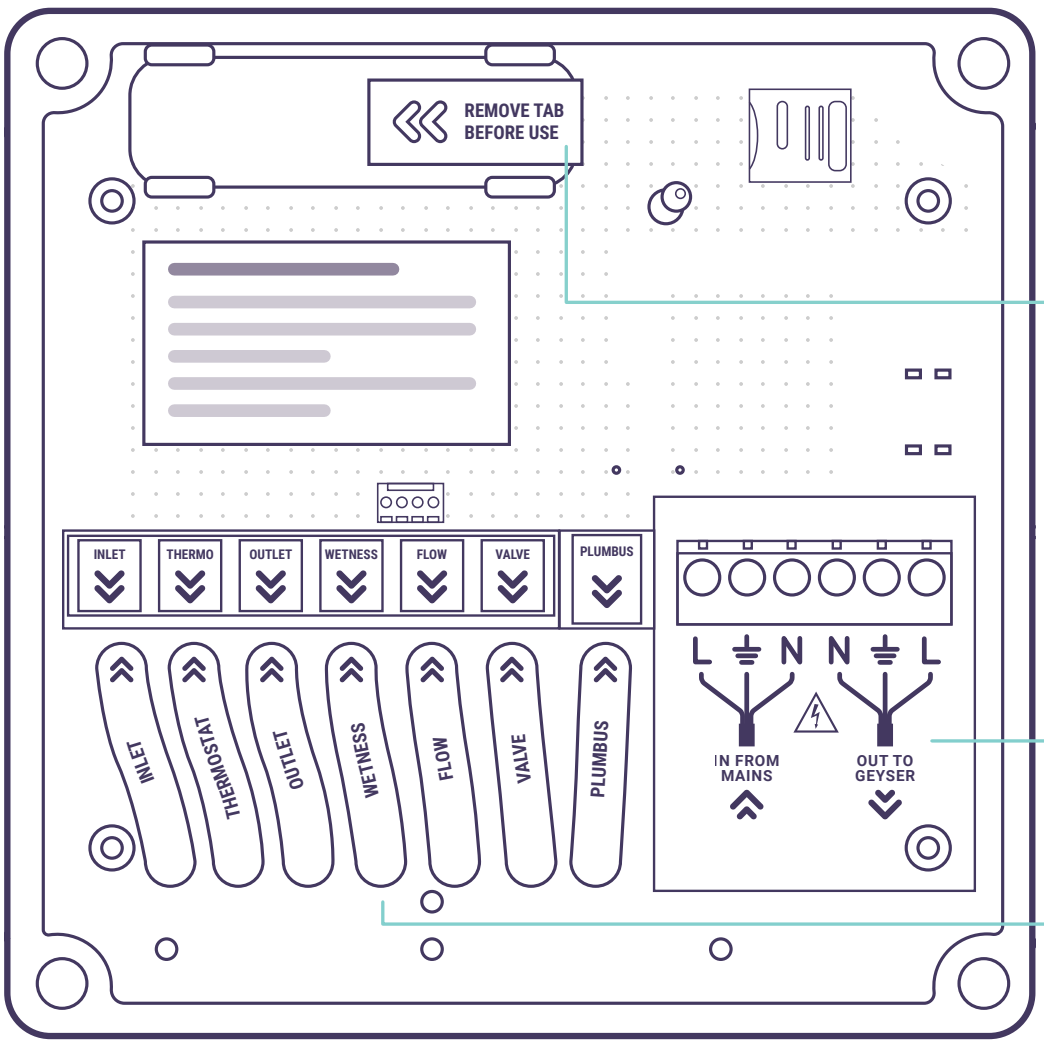
VALVE



Plumb valve inline to inlet pipe at least one meter from geyser

Install sensors

B. INSTALL CONTROLLERS

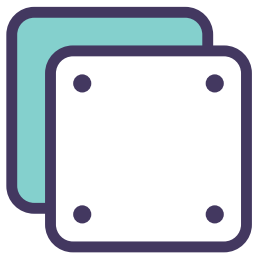


① Turn off power at distribution board and isolator

You are working with high voltage AC power. Take all necessary precautions, including using a multimeter to test that power is off before commencing work.

② Remove tab from battery

LED will light up.



③ Mount box on beam or wall

a) Choose location:

- No more than 2m from each sensor location, with the lid and cable access unobstructed, within reach of the existing power supply cable, less than 1m from the geyser's thermostat.

b) Mount according to surface:

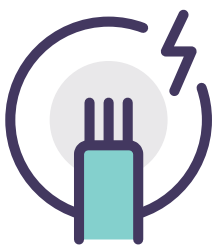
- **On a beam:** use the supplied giant cable ties for rapid mounting.
- **On a wooden wall:** use the supplied fasteners.
- **On a masonry or concrete wall:** drill 8mm holes and use the supplied fasteners and wall plugs.

IMPORTANT: *Ensure that the box is mounted upright (with the cables exiting the bottom of the device).*

④ Plug in sensors

Plug sensors into ports with matching colours, and press the cable into the corresponding slot

NOTE: *these colours are intended only as guides for plugging sensors into correct ports, and have no safety meaning.*



⑤ Wire power

a) Choose wiring method

The easiest way to wire HotBot is to cut the existing power supply cable to the geyser and connect at this point. Do this if there is sufficient slack in the power supply cable to connect HotBot.

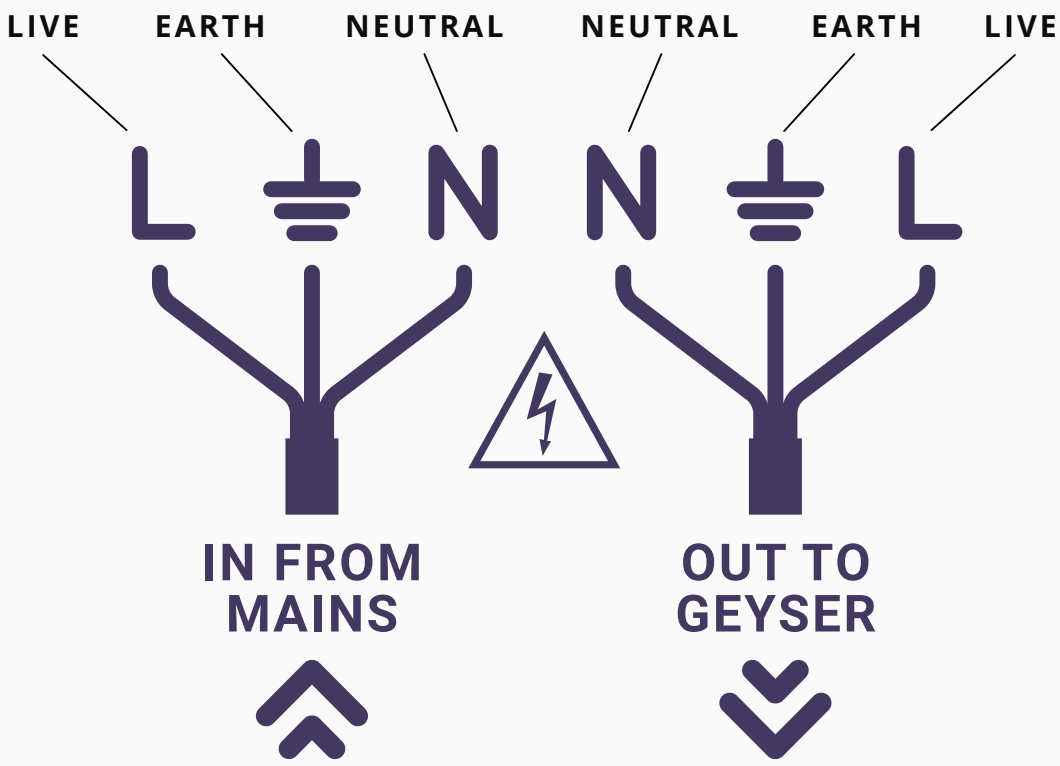
If this is not possible:
Remove the power supply cable from the thermostat and wire into the “In from mains” terminal on HotBot.

Using a new piece of power cable (supplied), connect the “Out to geyser” terminal to the thermostat.

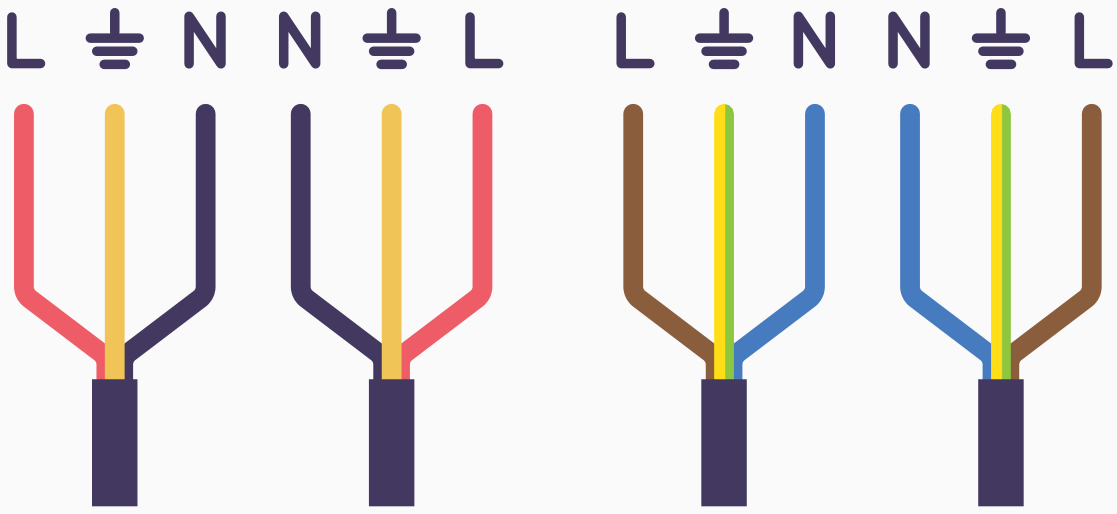
b) Wire

Wire power into and out of HotBot in accordance with markings and as per National Wiring Standards.

NOTE: *the geyser must be earthed*



Example wiring:



⑥ Turn on power at distribution board and isolator

Again take all necessary precautions.
corresponding slot

To finish:

Organise and neaten up the cables with supplied cable ties.

NOTE: *some controllers have a white plug above the sensor ports on the left hand side. This should not be plugged into anything.*

C. VALIDATE INSTALLATION

It’s time to make sure that everything is working as expected and to collect some information about the system. With your help, HotBot will run several digital checks on the system and provide you with feedback.

1. If you installed a flow meter, run hot water for 10 seconds
2. Visit **install.plentify.io** and log in with your email address.

Scan to visit
install.plentify.io

3. Search for the HotBot ID. This ID can be found on the side of HotBot under the QR code.
4. Select “Run validation tests” and enter required details.
5. Select “Capture geyser data” and enter details about the hot water system.

⑥ View results of validation tests, and address any issues as instructed in the app. The LED light on the front panel of the HotBot device will light up - different light colours indicate the following:

Blue	●	No issues with battery or signal
Yellow	●	No signal
Flashing red	◉	No battery - check the battery tab has been removed
Solid red	●	Battery present, but not sufficiently charged

Validate installation

D. HANDOVER

Now that the installation has been completed, it’s time to hand over to the end user and do some final checks:

IMPORTANT:
Ensure that any existing timers have been disabled by either (1) bypassing or (2) setting to always on and (if relevant) setting digital thermostat to full.

Give them the supplied envelope which contains instructions for them to set up the app, schedule when they want hot water, and begin enjoying the full HotBot experience.

Handover

CHECKLIST:

- Ensure that power has been turned on at both the DB board and isolator.
- Ensure that any existing timers have been disabled.
- Ensure the battery tab is removed.
- Ensure the thermostat has been set to 65°C.
- Ensure all sensors are plugged in correctly and to their corresponding color tabs.
- Ensure that all wires are plugged into their proper places.

Troubleshooting

Email Plentify on **support@plentify.co.za** with any questions regarding installation.

⚠ Safety precautions

- Always turn off power to geyser at isolator switch and DB board before opening the device

- Do not attempt to replace the rechargeable battery or the coin cell battery (present in the OF 5000) unless you are a Plentify approved technician instructed to do so by Plentify and have been provided by Plentify with the correct replacement batteries (SKUs: BAT-LIIO-0001 for the rechargeables; BAT-LIIO-0003 for coin cells). Risk of explosion if batteries are replaced by an incorrect type.

- Dispose of used batteries at a battery recycling drop-off location, available for free in many stores (e.g. Woolworths).

- Ensure that the geyser circuit has a circuit breaker with the correct amperage rating to match the kilowatt rating of the geyser (2kW=15A, 3kW=20A, 4kW=25A), not to exceed 30A or the rating of the supply cable.

- None of the sensor ports are ethernet, telephone or Power over Ethernet ports.

- Only connect Plentify-supplied cables in their corresponding ports. Do not attempt to connect any third party cables or devices.

- If anything is unclear or ambiguous, please confirm with Plentify before proceeding.