plentify

INSTALLATION GUIDE

Manual version: v3_24042025

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Welcome to HotBot

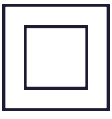
HotBot makes geysers intelligent - ensuring that homes have hot water when they need it, while saving the most on electricity.

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: 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

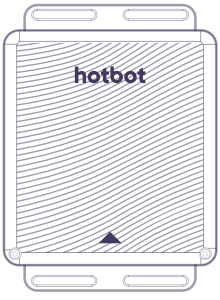
- Wood: Drill with Phillips bit
- Masonry / concrete: Drill with 6mm masonry bit

What's in the installation kit

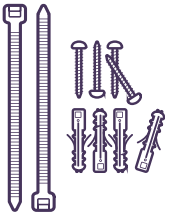
The HotBot installation kit includes key components and spares you need to successfully complete installation. This includes the Controller, Sensors, Spares and Handover Material:

CONTROLLER PARTS

HotBot Controller



Spares for controller

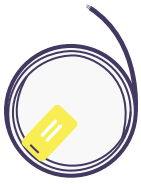


Giant cable ties or wall fasteners for mounting

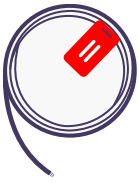
Extra power cable (optional)

SENSOR PARTS

Thermostat

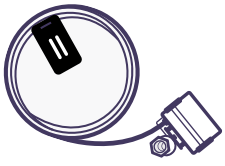


Outlet



Wetness
(if included)

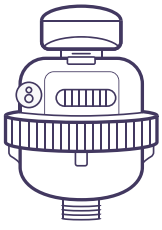
Valve
(if included)



Flow
(if included)

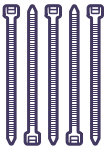
Inlet
(if included)

Flow meter
(if included)



Spares for sensors

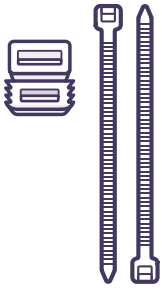
Compression fittings to plumb flow meter and / or valve into 22mm pipe (optional)



Cable ties to organise sensor cables once installed

Strain relief attachment and cable ties for power cable

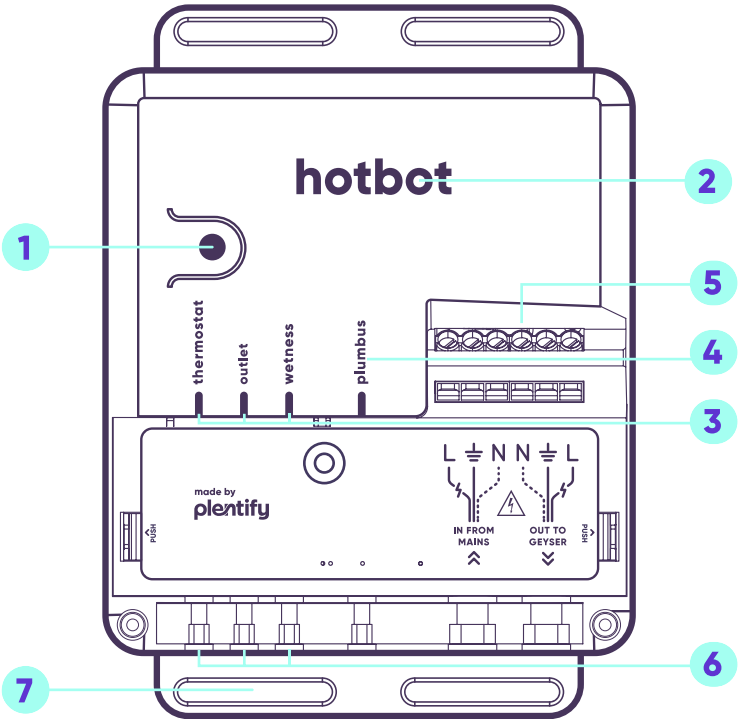
(optional)



HANDOVER MATERIAL

Starter kit with user registration instructions

What's inside HotBot



1. Function button
2. Status LED
3. Colour-coded sensor ports
4. Plumbus port
5. Power terminals
6. Sensor slots
7. Mounting wings for screws
   (slots for cable ties on reverse)

How to install HotBot

HotBot installation involves five simple steps:

Step 1 **Install sensors**

Step 2 **Install controller**

Step 3 **Validate installation**

Step 4 **Perform final checks**

Step 5 **Handover**

How to install HotBot

Step 1: Install sensors

> ⚠ **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.**

Follow the instructions on each cable:

Thermostat:

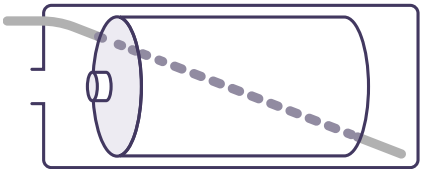
TIP: *If you need to rewire the thermostat, do it during this step.*

1. Remove thermostat from pocket.
2. Note current setpoint.
3. **Turn thermostat to 0˚C then to 65˚C**
4. Insert sensor to end of thermostat pocket.
5. Hold sensor in place and carefully reinsert the thermostat.

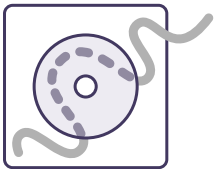
Outlet:

Strap cable to hot water outlet pipe 0.5m from geyser.

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.

Valve:

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

Inlet:

Strap to cold water inlet pipe as close as possible to the geyser.

Flow:

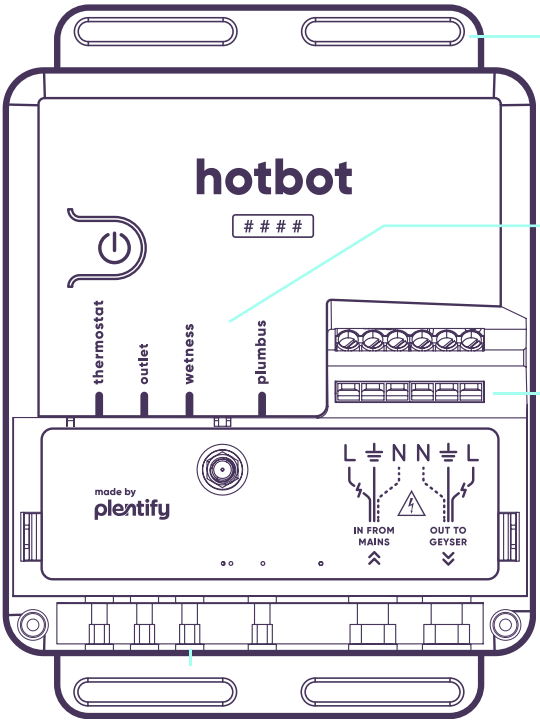
1. Plumb flow meter to inlet pipe at least one meter from geyser.
2. Insert probe into flow meter and secure with screw.

⚠ **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.

Step 2: Install controller

1 Turn off power at distribution board and isolator



2 Mount box on beam or wall

3 Plug in sensors

4 Wire power

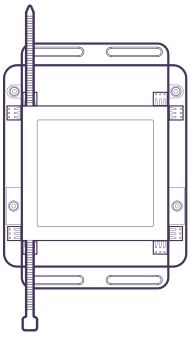
5 Turn on power at DB board and isolator

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 Mount enclosure on beam or wall

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



Mount according to surface:

On a beam: thread the supplied giant cable ties through the vertical or horizontal slots on HotBot's back and mount rapidly.

On a wooden wall: use the supplied fasteners.

On a a masonry or concrete wall: drill 6mm holes and use the supplied fasteners and wall plugs.

Ensure that HotBot is mounted upright (with the cables exiting the bottom of the device).

3 Plug in sensors

1. Plug sensors into ports with matching colours.
2. 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.

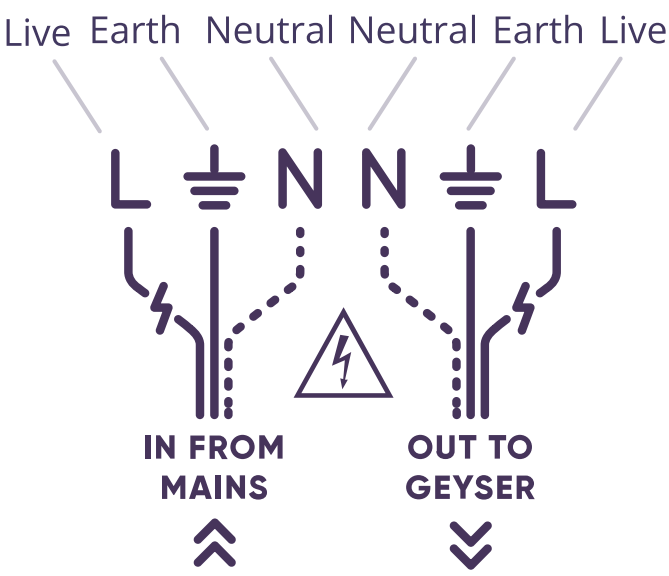
4 Wire power

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.

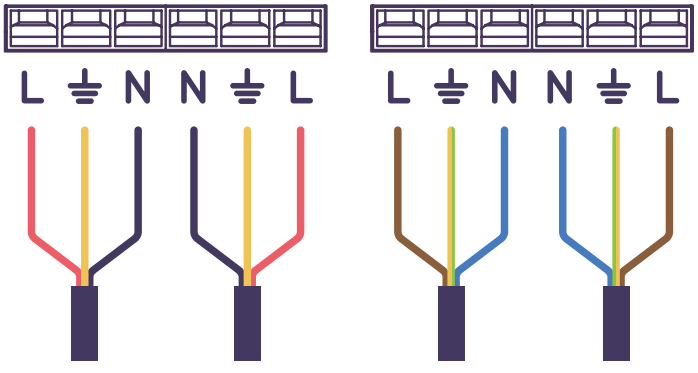
Wire power into and out of HotBot in accordance with markings and as per National Wiring Standards.

> Note: the geyser must be earthed



⚠ **Important wiring note:** Wire the In and Out cables into separate terminals. Each Neutral and each Live wire must be in its own gate.

Example wiring:



5 Turn on power at distribution board and isolator

HotBot will automatically turn on when supplied with power. HotBot's light will start yellow and then transition to purple.

- Booting up
- Installer Mode

If flashing additional colours, this indicates that there may be installation issues which you will address while validating the installation.

6 To finish

Organise and neaten up the cables with supplied cable ties.

Step 3: 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. Run hot water for 30 seconds.

2. Visit the installer App at **install.plentify.io**

3. Select **‘Install a Bot’** and search for the HotBot ID. This is the QR code on the side of HotBot.

4. Select ‘**Validate Installation’** and follow the prompts.

5 HotBot's Status LED will indicate if issues are present. Some common error codes include:

LED off ⚫

No power to device

1. Ensure mains power has been turned back on at distribution board and isolator, and that all timers have been disabled.
2. Use a multimeter to check that power is entering HotBot.
3. Check wires properly connected to HotBot's power terminals (with DB and isolator off).

1 blue flash 

Poor Wi-Fi signal

1. If using a Plentify Wi-Fi Gateway:
   - Ensure a nearby Wi-Fi Gateway has a flashing blue LED.
   - Install a Wi-Fi Gateway closer to HotBot.
2. If using home network:
   - Move router closer to HotBot.
   - Install a Wi-Fi extender.

2 blue flashes

Failed to connect to internet with Wi-Fi

1. If using a Plentify Wi-Fi Gateway:
   - Ensure a nearby Wi-Fi Gateway has a flashing blue LED.
   - Power cycle the Wi-Fi Gateway.
   - Power cycle the HotBot.
   - Try installing a new Wi-Fi Gateway.

2. If using home network:
   - Confirm that the internet can be accessed via Wi-Fi on a phone or another device.
   - Reset the Wi-Fi router.
   - Power cycle the HotBot.
   - If the HotBot previously connected to Wi-Fi, confirm that no settings have recently changed with the router or ISP.
   - Confirm that the Wi-Fi router communicates on the 2.4GHz band.
   - Try connecting the HotBot to a Wi-Fi hotspot on your phone to check whether it works on another network.

1 white flash

Heatwave radio (how HotBot talks to other Bots) not working

1. Power cycle the HotBot.
2. Try moving a second HotBot or SolarBot closer to this HotBot to deduce if it is a range problem.

1 red flash

Either the wiring to HotBot is incorrect or the thermostat is not accepting power

1. Check that power in and out are wired to the correct HotBot terminals.
2. Check that neutral and live are not switched on either HotBot terminal.
3. Ensure that the thermostat is wired correctly and has been turned up to 65˚C.

3 red flashes 	**Element not drawing power** 1. Ensure that the thermostat is wired correctly and has been turned up to 65˚C. 2. Ensure the geyser is below setpoint by running a hot tap for 1 minute. 3. Double check the wiring connections at HotBot's "Out" terminal and at the thermostat. 4. Check if the thermostat or element are faulty.
1 yellow flash 	**Thermostat sensor disconnected** 1. Unplug and replug sensor into HotBot to ensure that is properly connected. 2. If that does not work, remove sensor from thermostat pocket and ensure that it has not broken. If it has, replace it.

2 yellow flashes 	**Outlet sensor disconnected** 1. Unplug and replug sensor into HotBot to ensure that is properly connected. 2. If that does not work, try replacing sensor.
3 yellow flashes 	**Wetness sensor disconnected** 1. Unplug and replug sensor into HotBot to ensure that is properly connected. 2. If that does not work, try replacing sensor.
solid purple 	**When you are finished fixing issues, the LED should settle on solid purple.**

Step 3: Validate installation (continued)

6 Push and hold HotBot's function button for 5 seconds until it flashes yellow, and then release.

It should change to solid blue.

solid blue ●	**Normal Operation Mode** If it is flashing additional colours, installation issues may remain.

Step 4: Perform final checks

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

- Ensure each wire is in a separate gate in the terminal.
- Ensure wires are secured by gently tugging on them and checking the connections.
- Ensure that power has been turned on at both the DB board and isolator.
- Ensure that any existing timers have been disabled.
- Ensure the thermostat has been set to 65°C.
- Ensure all sensors are plugged in correctly and to their corresponding colour tabs.
- Ensure that all sensors are attached in their proper places.

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.

Step 5: Handover

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

Checking if thermostat or element is faulty

If the geyser is not drawing power, a common cause is a faulty geyser thermostat or element. Use the guidance below to check for faults:

Thermostat

Use a multimeter to test for continuity. Adjust the thermostat to its maximum setting and check for continuity again. If there is no continuity, the thermostat may need replacing.

Element

Use a multimeter to check resistance. Set multimeter to the resistance setting, touch its probes to each terminal of the heating element (with the thermostat removed). You can also use a current clamp to see if the heating element is still in good condition. The reading should be around:

- 2kW: 24 Ohm / 15A +/- 20%
- 3kW: 20 Ohm / 20A +/- 20%
- 4kW: 12 Ohm / 25A +/- 20%

Safety precautions

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

- Do not attempt to replace the coin cell battery unless you are a Plentify approved technician instructed to do so by Plentify and have been provided by Plentify with the correct replacement batteries (SKU: BAT-LIIO-0003). 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 power rating of the geyser (2kW=15A, 3kW=20A, 4kW=25A), not to exceed 30A or the rating of the supply cable.

Safety precautions

- 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.

Support hours available
Monday - Friday 9am - 5pm

support@plentify.io