BBoil

Full User Guide

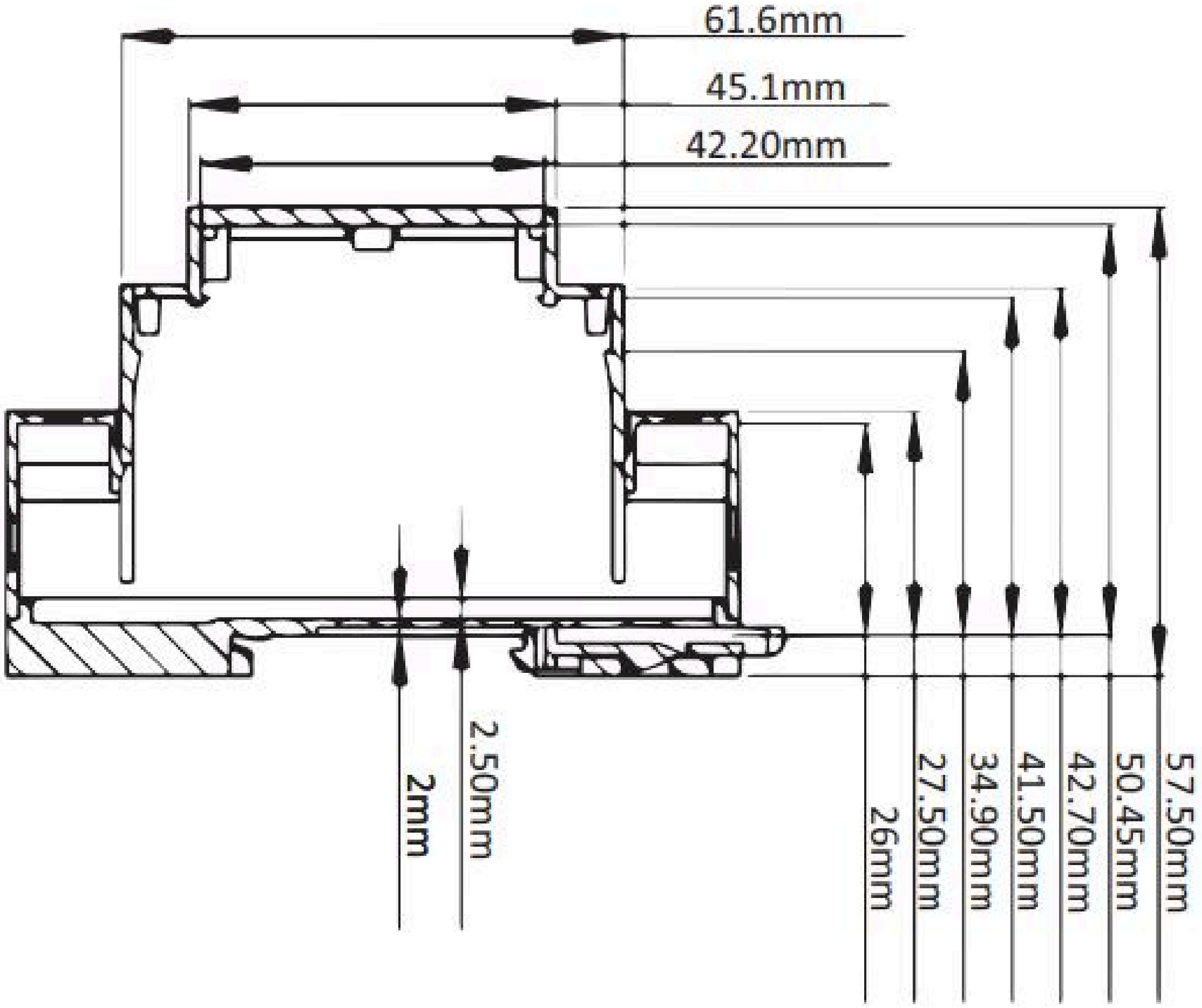
Your Smart Heating Journey Starts Here!

BBoil is a wireless smart thermostat and humidistat system designed to control heating and cooling appliances remotely via the **proSmart** app. The system includes a main Wi-Fi relay and wireless T&H sensor. Here are its main features:

- **Remote App Control:** Control and monitor your system anytime, anywhere via the proSmart App.
- **Multiple Control Modes:** Supports heating, cooling, humidifying, dehumidifying, and simple on/off relay control.
- **Custom Schedules:** Set daily or weekly programs for automatic temperature adjustments.
- **Real-Time Monitoring:** View current temperature, humidity, sensor status, and relay state live.
- **Insightful Chart:** View historical temperature data and relay activity to track system performance over time.
- **Sensor Calibration:** Adjust temperature or humidity readings for improved accuracy.
- **Adjustable Hysteresis:** Set the sensitivity range to prevent frequent switching.
- **Controlling Sensor Selection:** Choose which sensor drives the relay when using multiple sensors.
- **Battery & Signal Indicators:** Check sensor battery level and wireless signal strength in real time.
- **Voice Control:** Works with Alexa and Google Assistant for hands-free operation.

BBoil is compatible with:

- **Gas boilers**
- **Pellet stoves and burners**
- **Heat pumps**
- **Underfloor heating**
- **Electric heaters**
- **Radiant panels**
- **Water heaters**



Temperature measurement range (wired)	**55°C to 125°C (step: 0.1°C)**
Temperature measurement range (wireless)	**-20°C to 45°C**
Temperature accuracy	**±0.5°C (from -10°C to 85°C)**
Work modes	**Thermostat (heating/cooling), Humidistat (humidifying/dehumidifying), On/Off**
Control types	**Off / Weekly Schedule / Manual**
Upper and lower hysteresis range	**0°C to 20°C (step: 0.1°C)**
Clock	**Internet NTP (accuracy up to 100 ms)**
Relay switching capacity	**Max 230V~, 16A (4A inductive load)**
Relay module input voltage	**100–240V~ 50/60Hz, 35mA, T45**
Relay module wireless frequency	**Wi-Fi (2.4 GHz, b/g/n)**
Relay module dimensions (LxWxH)	**90.2 × 53.3 × 56.5 mm**
Wireless sensor frequency	**433 MHz**
Wireless sensor power supply	**3V (2×1.5V AA alkaline LR6 batteries) or 5V via power adapter**
Wireless sensor range	**Minimum 100 m (open space)**
Wireless sensor dimensions (LxWxH)	**105 × 85 × 30 mm**
System expandability	**Supports up to 4 wireless relays and 4 wireless sensors**
Operating temperature	**0°C to 45°C**
Storage temperature	**-20°C to 60°C**
Working humidity	**5% to 90% (non-condensing)**
Protection rating	**IP20 (at installation position)**
Transport temperature range	**-20°C to 60°C**
Transport humidity range	**5% to 90% (non-condensing)**
Main unit fuse	**FF1 T 250mA 250V 35A, 0.1s max**
Wireless sensor fuse	**F1 IH 0.30A IT 0.60A U 30V Imax 10A**
Overvoltage category	**II**
Chain type	**SELV**
Network topology	**Wireless communication**

Safety Instructions

Please read before using the device for the first time.

General Safety

You are responsible for the device's usage and any caused damages.
Handle the device gently and keep it clean, away from dust and open flames.
Do not disassemble the device; only qualified professionals should do so.

Electric Safety

Only use the specific power supply unit as indicated.
Keep the device away from water or other liquids to prevent short circuits.
Damaged power cables are a life threat. Repair by professionals only.

Children Safety

Do not leave children unattended with the device. Keep small components away from children to prevent injuries or choking hazards.

Environment Limitations

Do not use the device in potentially explosive environments like gas stations or chemical plants. Avoid using the device in areas with high humidity or temperature fluctuations.

Maintenance and Repairs

Unplug the device and seek professional help if it gets damaged or exposed to moisture. Do not use the device near heating sources or in humid environments. Wait for moisture to evaporate if the device is exposed to temperature changes.

EU Regulations and Disposal

Dispose of the device according to the European directive on waste electrical and electronic equipment (WEEE). Complies with Directive 2002/95/EC (RoHS) on the restriction of hazardous substances.

The products complies to the requirements of EN 50491-3.

Package content

- 1 pc. relay
- 1 pc. sensor
    - BBoil RF includes a wireless T&H sensor (Fig. 1)
    - BBoil Classic includes a wired sensor (Fig. 2)
- 1 pc. user manual for installation
- 1 pc. mounting bracket
- 2 pcs. dowel nails
- 2 pcs. fasteners

Unpack the device and take the two main elements out of the box. (Fig. 1)
Connect BBoil to a chosen electric device or appliance.

Fig. 1

Fig. 2

Step 1: Powering The Device

Caution! The Relay operates on **220–240V AC**. Ensure all power is turned off during installation.

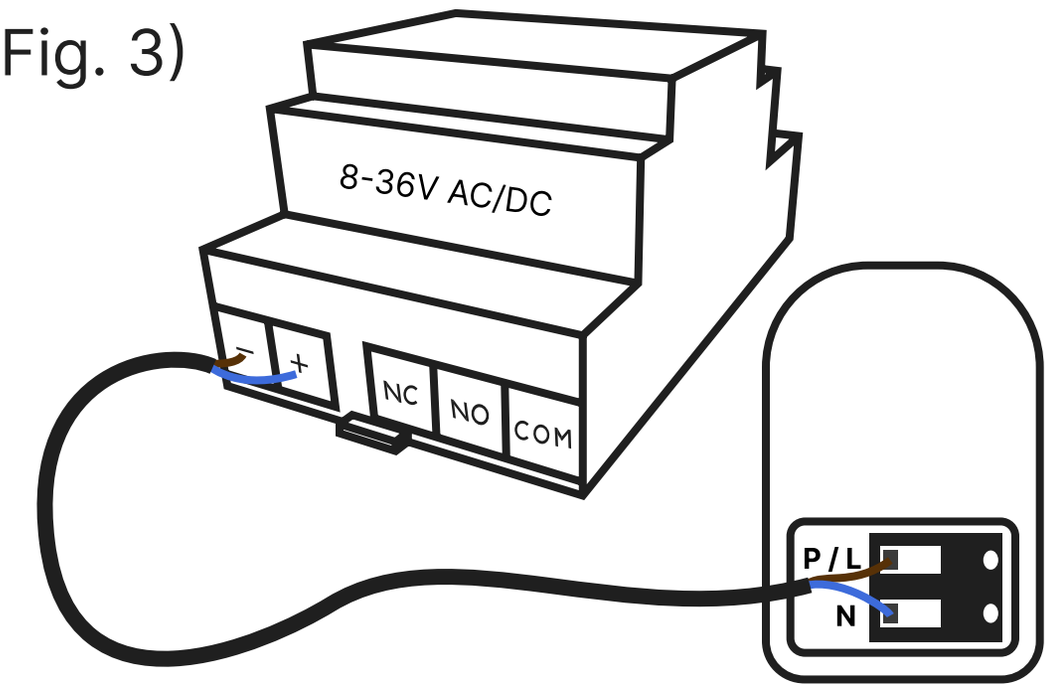
The BBoil Relay can be powered in **two ways**:

1. Power Directly from the Boiler

If your boiler provides a 220–240V AC output, you can power the Relay from the boiler's internal terminals.

Open the boiler cover to access the wiring terminals. **Locate the L (Live)** and **N (Neutral)** power supply terminals. Connect the relay's input terminals as follows (Fig. 3):

(Fig. 3)



"+" terminal on the relay → **L** terminal on boiler

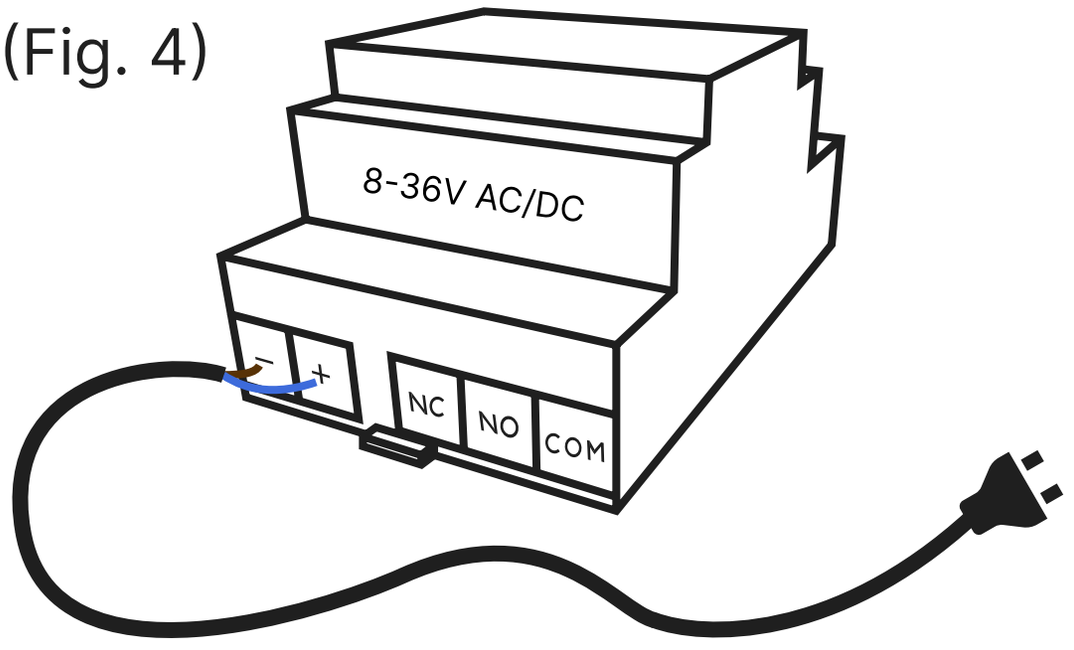
"–" terminal on the relay → **N** terminal on boiler

Note: If other wires are already connected, you can share the terminals or use a terminal block.

2. Power from a Wall Socket

If boiler power is not available or convenient, you can use a standard socket. Use a **power supply cable** with a plug (not included). Connect the exposed ends of the cable to the relay's "**+**" and "**-**" input terminals (Fig. 4):

(Fig. 4)



Brown (Live) → "+" terminal on the relay

Blue (Neutral) → "–" terminal on the relay

Step 2: Wiring the Relay to Your System

Caution

Ensure all power is off before wiring. Always refer to your system's manual or consult a technician if unsure.

The Relay acts as a **dry-contact switch** and can be used to control many types of systems.

1. Locate the Control Terminals

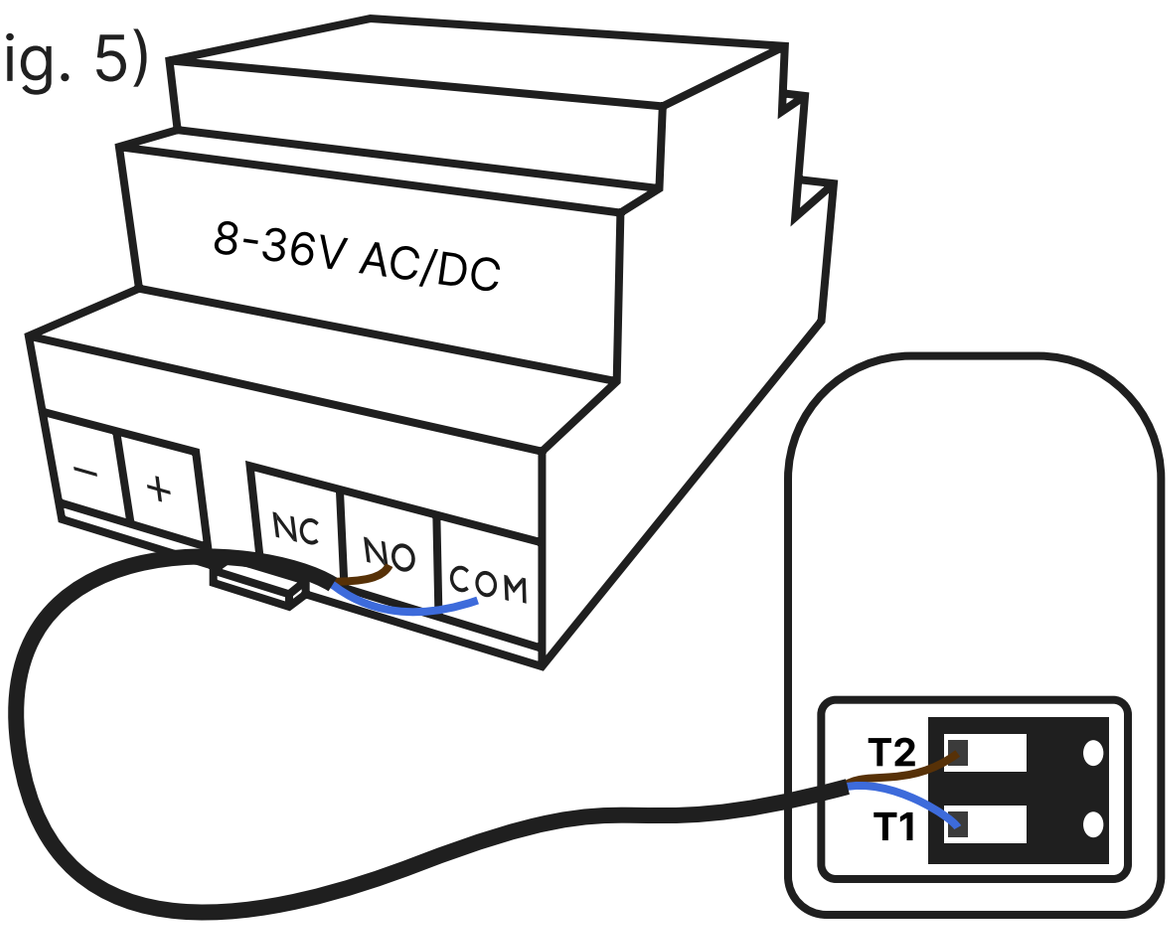
Open your system's access panel. Identify the input terminals used for external thermostat or switch control. These may be labelled **T1/T2, Ls/Lr, TA, RT, EXT, REMOTE, IN**, or similar. If a shunt is installed between the terminals, remove it.

2. Connect the relay Switching Terminals

Use a **2-core cable** to connect the Relay to your system (Fig. 5):

NO (Normally Open) → one control terminal
COM (Common) → the other control terminal

(Fig. 5)



Polarity does not matter for most systems — the relay acts like a switch closing or opening the circuit. Turn your system back on. The relay's LED will blink if powered.

Note: Some advanced systems may use low-voltage or signal-based inputs. Always check the manufacturer's instructions for compatibility.

Step 3: Mounting the Relay on the Wall

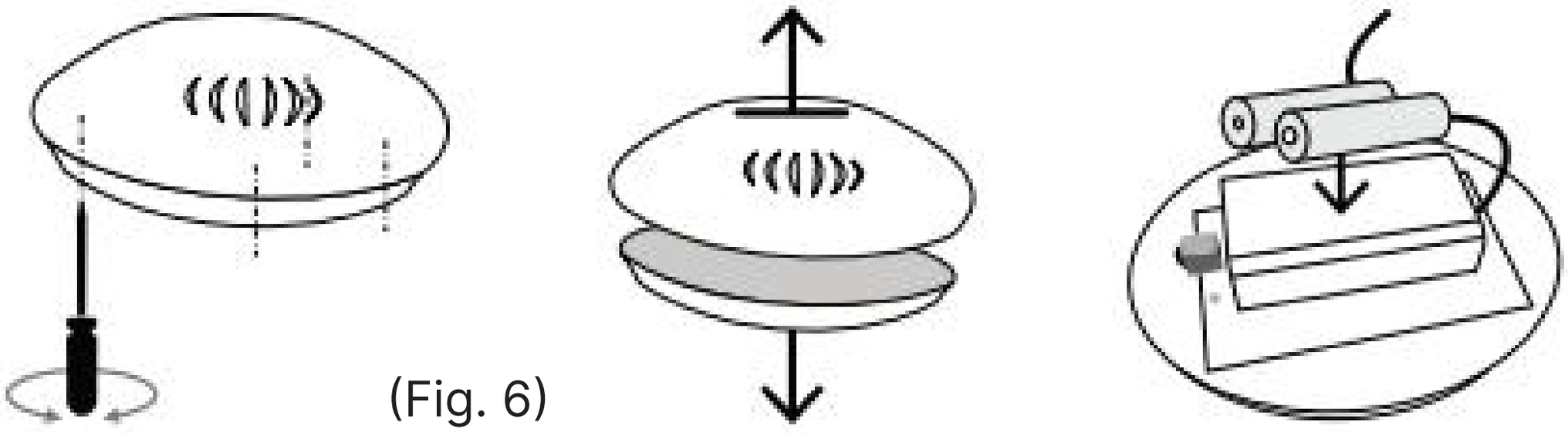
Mount the Relay indoors, in a dry and well-ventilated area. Hold the mounting bracket against the wall at your desired location. Use a drill to make holes for the wall plugs. Insert the plugs, align the bracket, and fasten it using the provided screws. Slide the relay unit onto the mounted bracket until it clicks securely into place. Ensure it's firmly attached.

Note: Avoid placing it near large metal objects, pipes, or electrical panels — these may interfere with the wireless RF signal.

Step 4: Pairing a Temperature Sensor

*If you have **BBoil Classic** proceed to step 4.2 - Connecting a Wired Sensor*

If you have **BBoil RF**, unscrew the four screws from the wireless T&H sensor and remove the boom lid. Insert 2× AA alkaline batteries (LR6 type) into the battery holder to activate the wireless sensor (Fig. 6).



(Fig. 6)

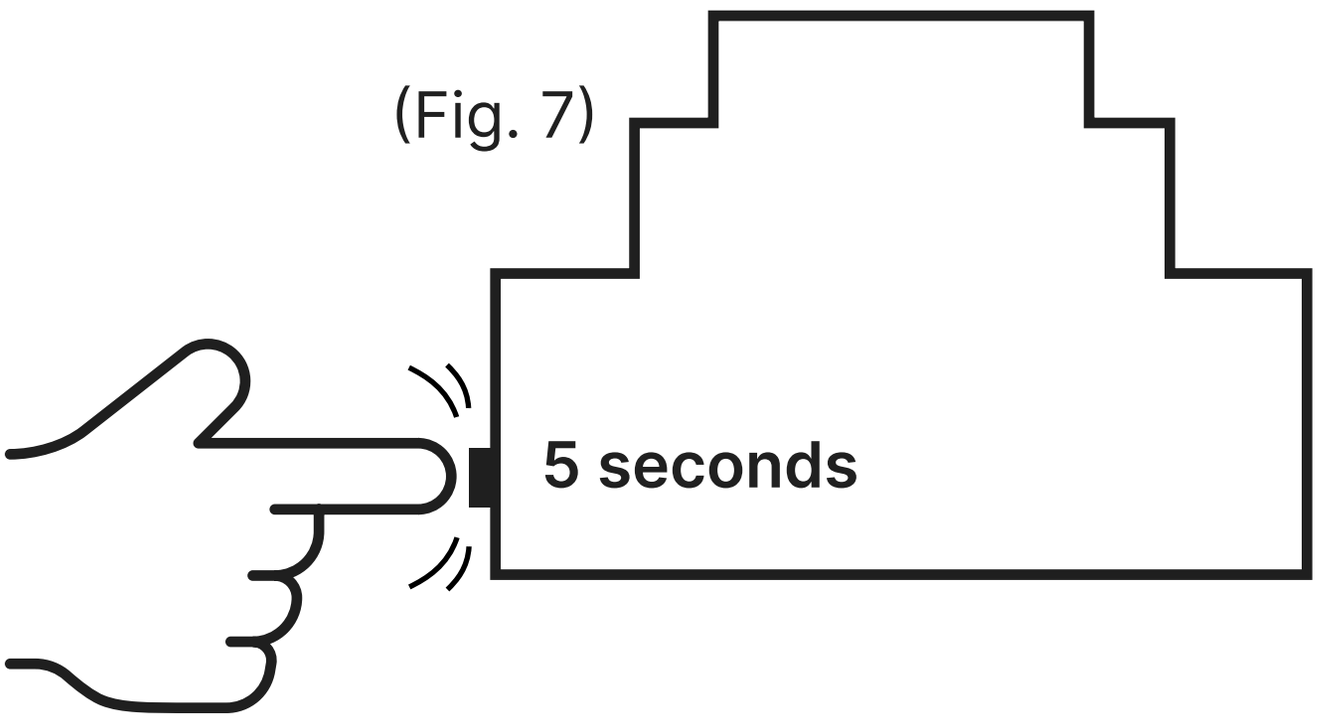
Note: The relay and the wireless sensor are pre-paired. If you do not need to change the sensor or add an additional one, you can proceed to close the sensor's cover and screw it back together.

1. Pairing the Wireless Sensor

Only if you need to pair a new sensor or add one:

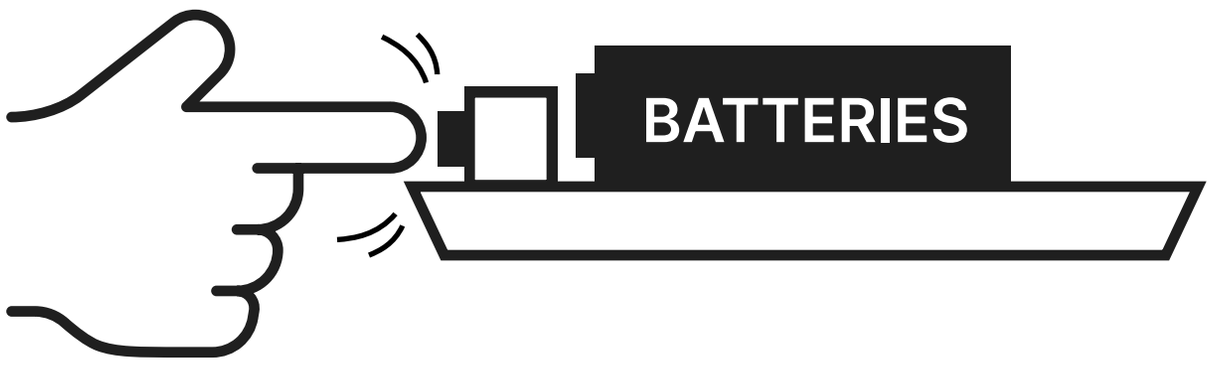
Make sure the relay is installed and powered. Enter ‘Settings’ on the relay by pressing and holding the button for 5 seconds (Fig. 7). The LED light will blink rapidly.

(Fig. 7)



Press the button on the temperature sensor once. This puts the sensor into ‘Settings’ for 30 seconds (Fig. 8). The LED on the sensor will blink every second.

(Fig. 8)



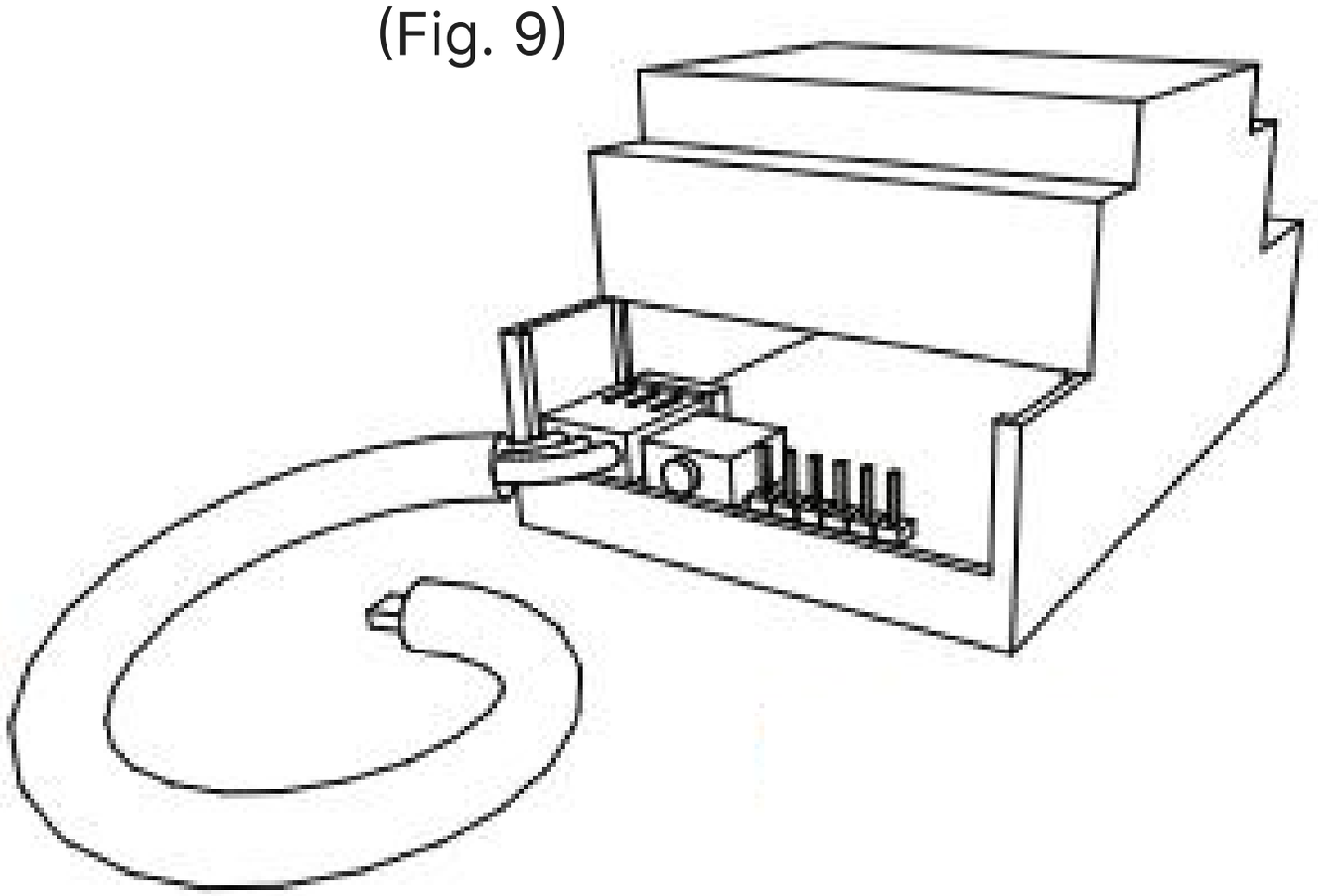
While both the relay and sensor are in ‘Settings’, press the button on the relay once to initiate pairing. The LED on the sensor will blink rapidly for 2-3 seconds and then stop, indicating successful pairing.

Close the sensor’s lid and screw the four screws back in.

2. Connecting a Wired Sensor

In order to connect the wired sensor to the relay, remove the plastic lid from the side of the button. Insert the temperature sensor jack into the device’s connector, then put the lid back on. (Fig. 9)

(Fig. 9)



Step 5: Pairing an additional relay

Enter ‘Settings’ on the main relay by pressing and holding the button for 5 seconds. The LED light will blink rapidly.

Enter “Settings” on the additional relay by pressing and holding the button for 5 seconds. The LED on the additional relay will blink every second.

While both the relays are in ‘Settings’, press the button on the main relay once to initiate pairing. The LED on the additional relay will blink rapidly for 2-3 seconds and then remain on, indicating successful pairing.

Step 6: Install the proSmart App

1. Download and install the proSmart app

Website: my.prosmartsystem.com/en

Mobile App: Search for “proSmart” on Google Play, or the Apple App Store.

2. Creating your account

If you access the website or the app for the first time, select ‘Register’ to create a new account. You can register using an email and password (Fig. 10) or connect your profile using your Google or Facebook account. Once registered, log in to the website or app using your new credentials (Fig. 11). This will allow you to pair and manage your BBoil device in the next steps.

Fig. 10

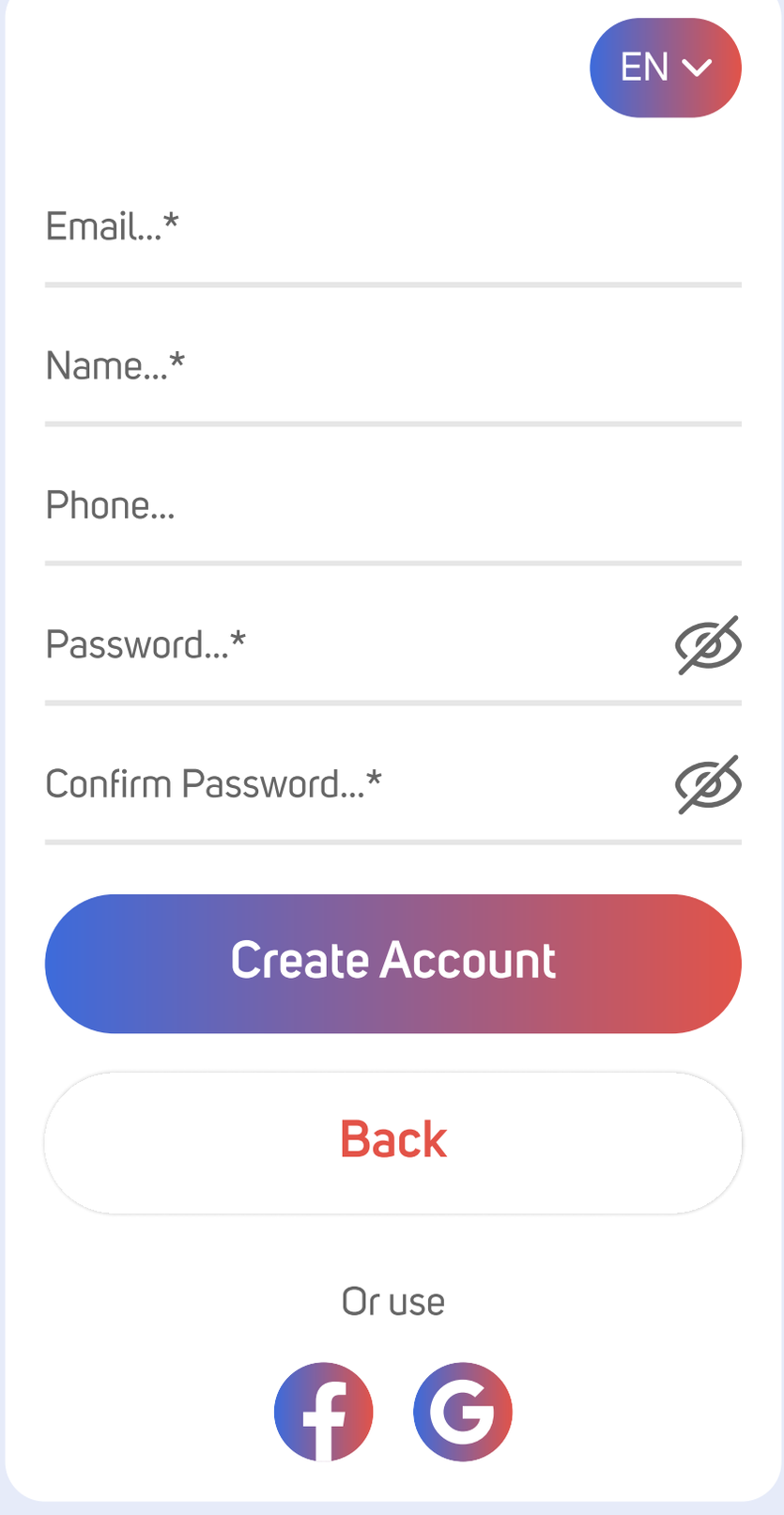
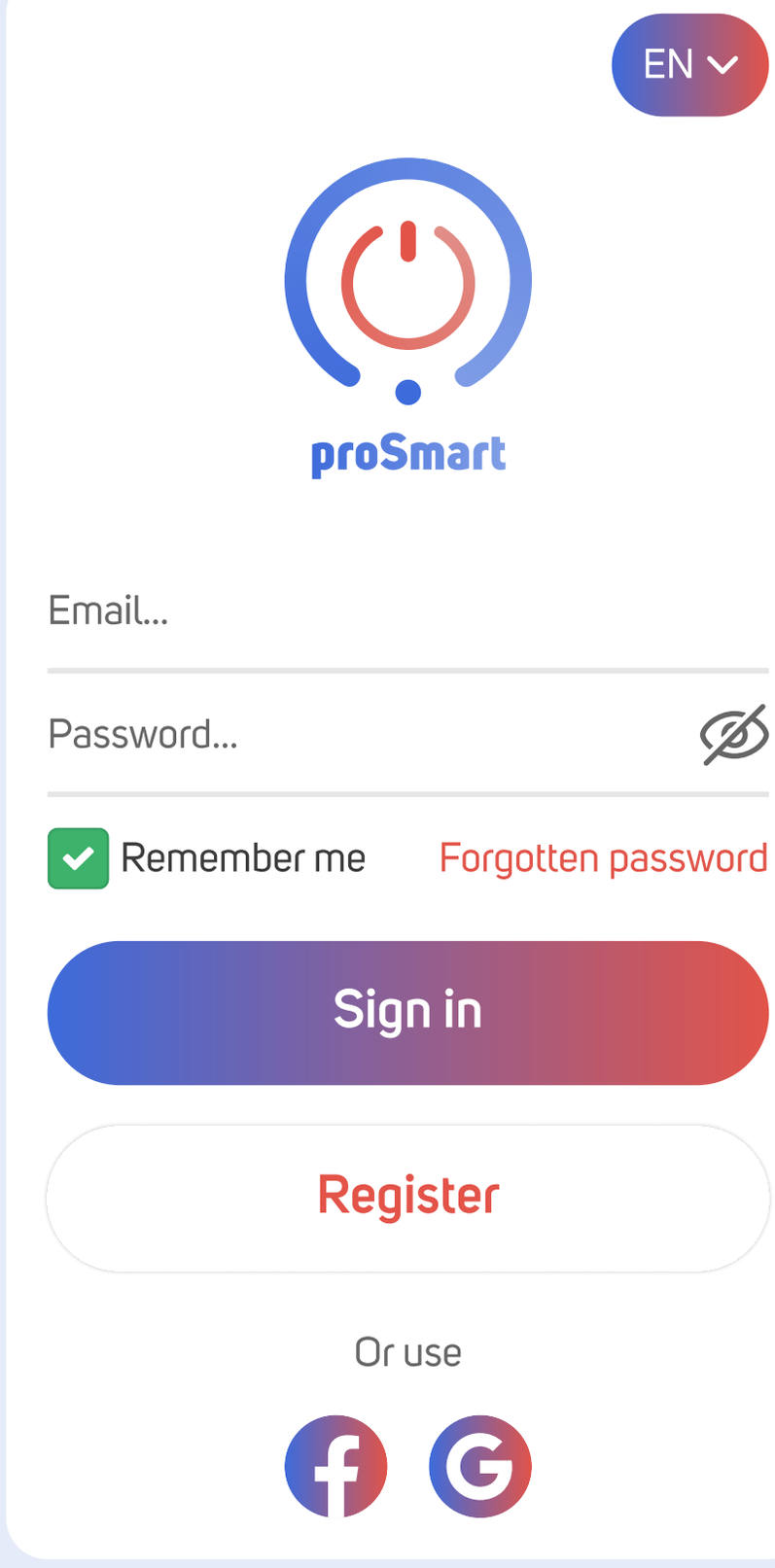


Fig. 11



3. Allow all permissions for the app

To be able to connect your device to the Wi-Fi with the proSmart app and have access to all features, you have to allow all necessary permissions for the app.

Step 7: Connecting your BBoil to Wi-Fi

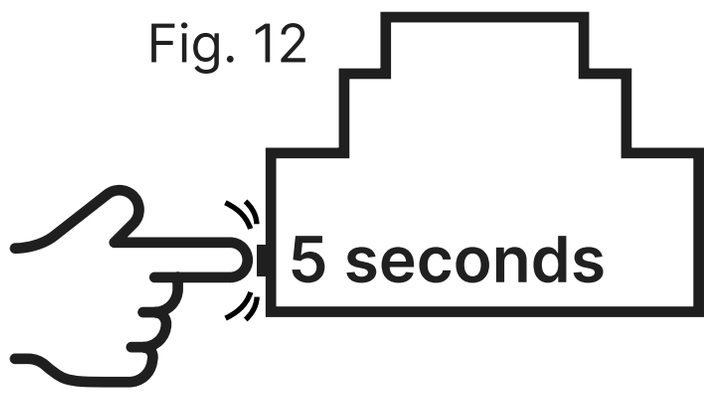
Important

Wi-Fi 2.4 GHz required.

1. Enter Setup

Press and hold the button on the central block for **5 seconds**. (Fig. 12)

Fig. 12



Caution

Pressing the button for 5 seconds after entering setup mode will reset the device to its default settings.

2. Smart Config Mode

Hold the button for 5 seconds. In this mode, the blue LED blinks rapidly. Connect your phone to the desired Wi-Fi network.

Switch off the mobile data. Open the proSmart app. Click “Add Device” and select “Smart Config”. (Fig. 13)

Under the SSID, type in your Wi-Fi password. Click “Search” and wait for confirmation. (Fig 14)

Fig. 13

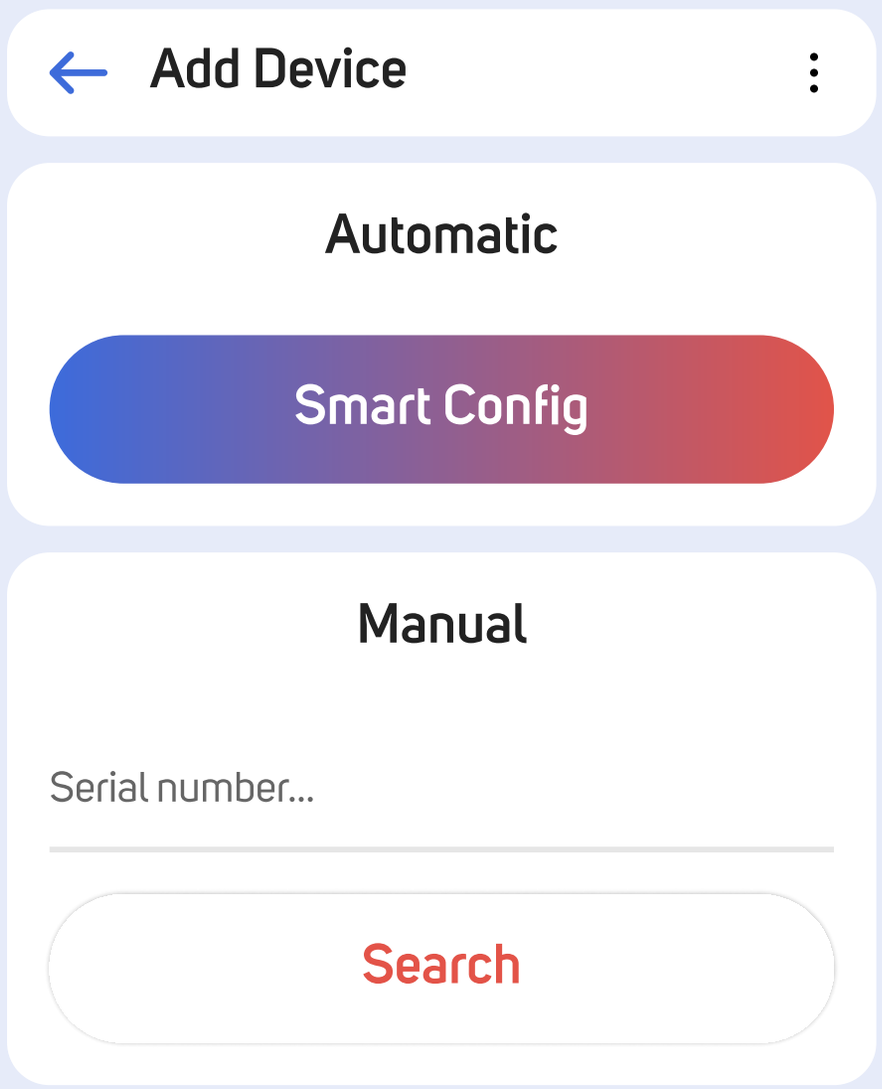
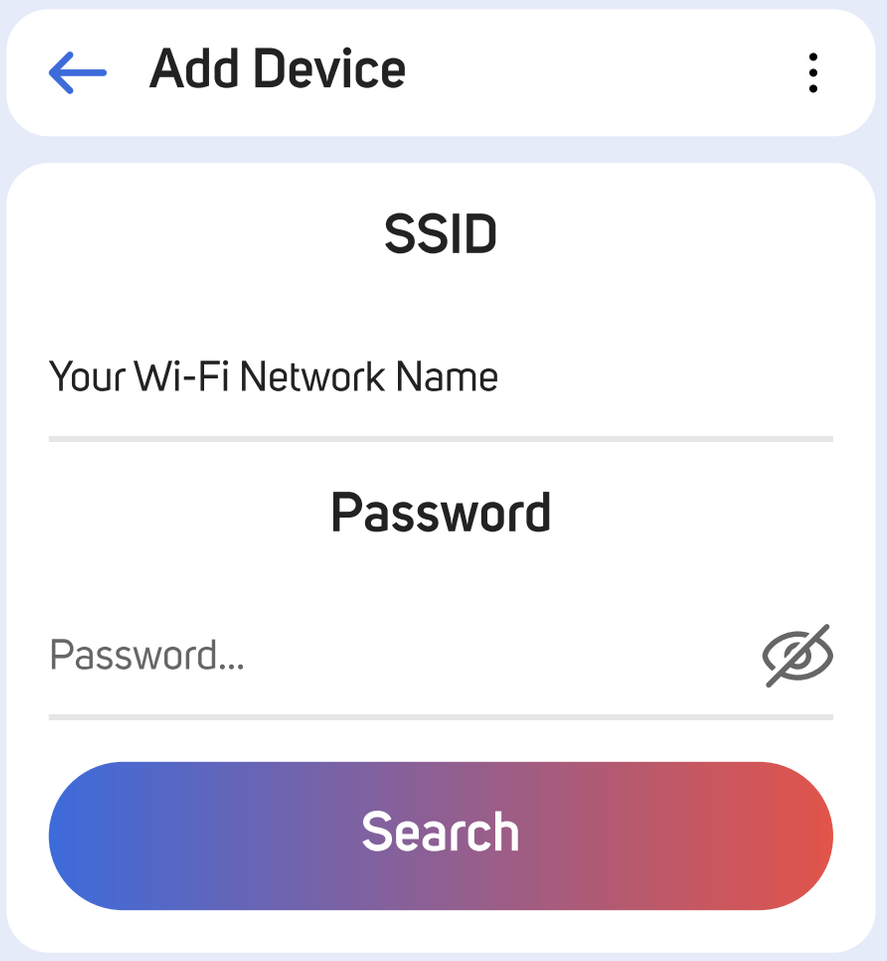


Fig. 14



If Smart Config mode was successful, proceed to **Step 8**.

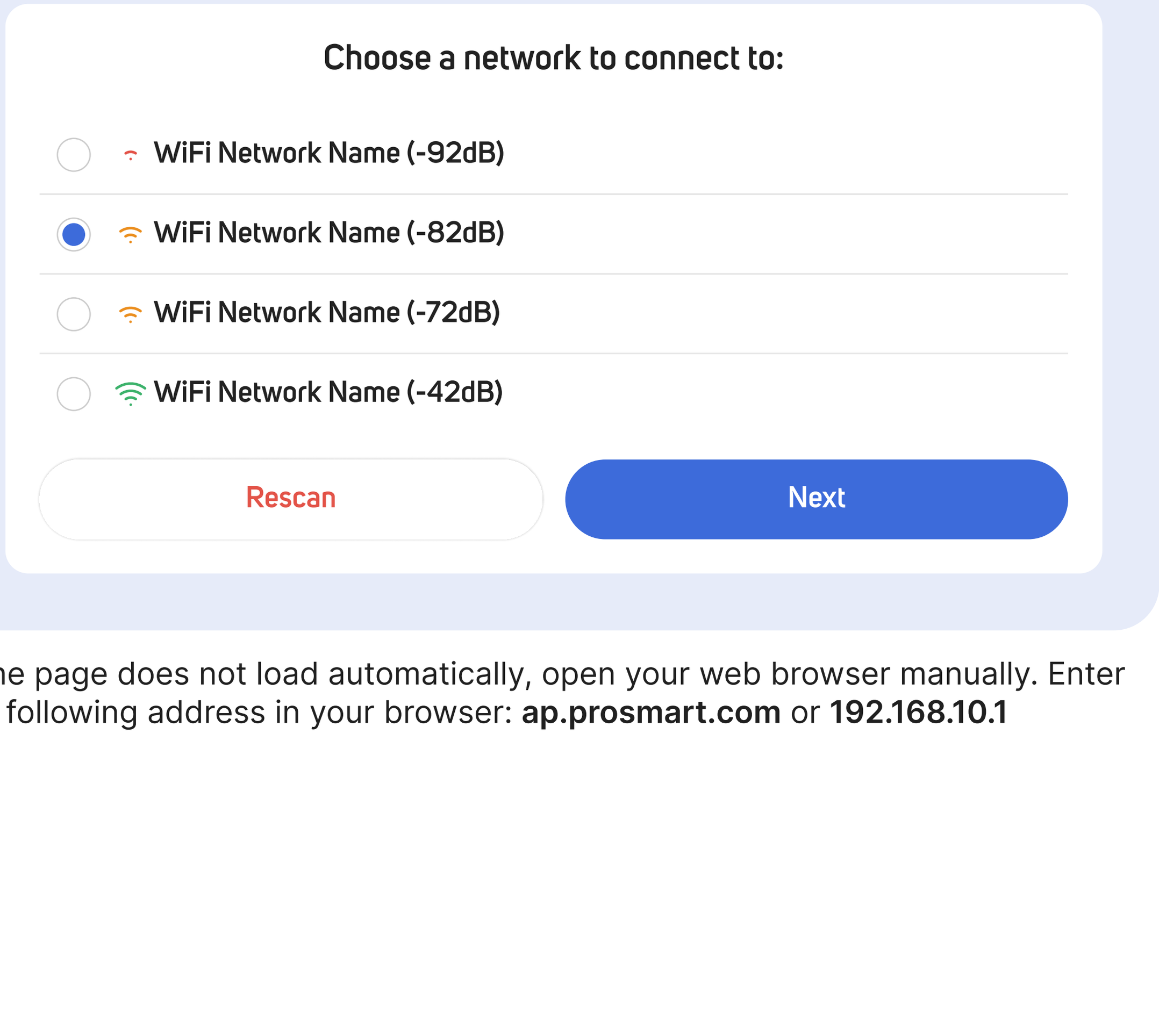
3. AP (Access Point) Mode

Hold the button for 5 seconds to enter setup. In order to activate Access Point, quickly double-click the button on the BBoil device. The blue LED blinks slower than in SmartConfig mode.

From your smartphone, tablet, or laptop, search for available Wi-Fi networks. Look for a network named **proSmart_AP_xxx** followed by a unique combination of letters and numbers (e.g., **proSmart_AP_254**). Connect to this network. No password is required. Switch off the mobile data.

Upon connecting to the proSmart network, your browser should automatically open the configuration page. (Fig. 15)

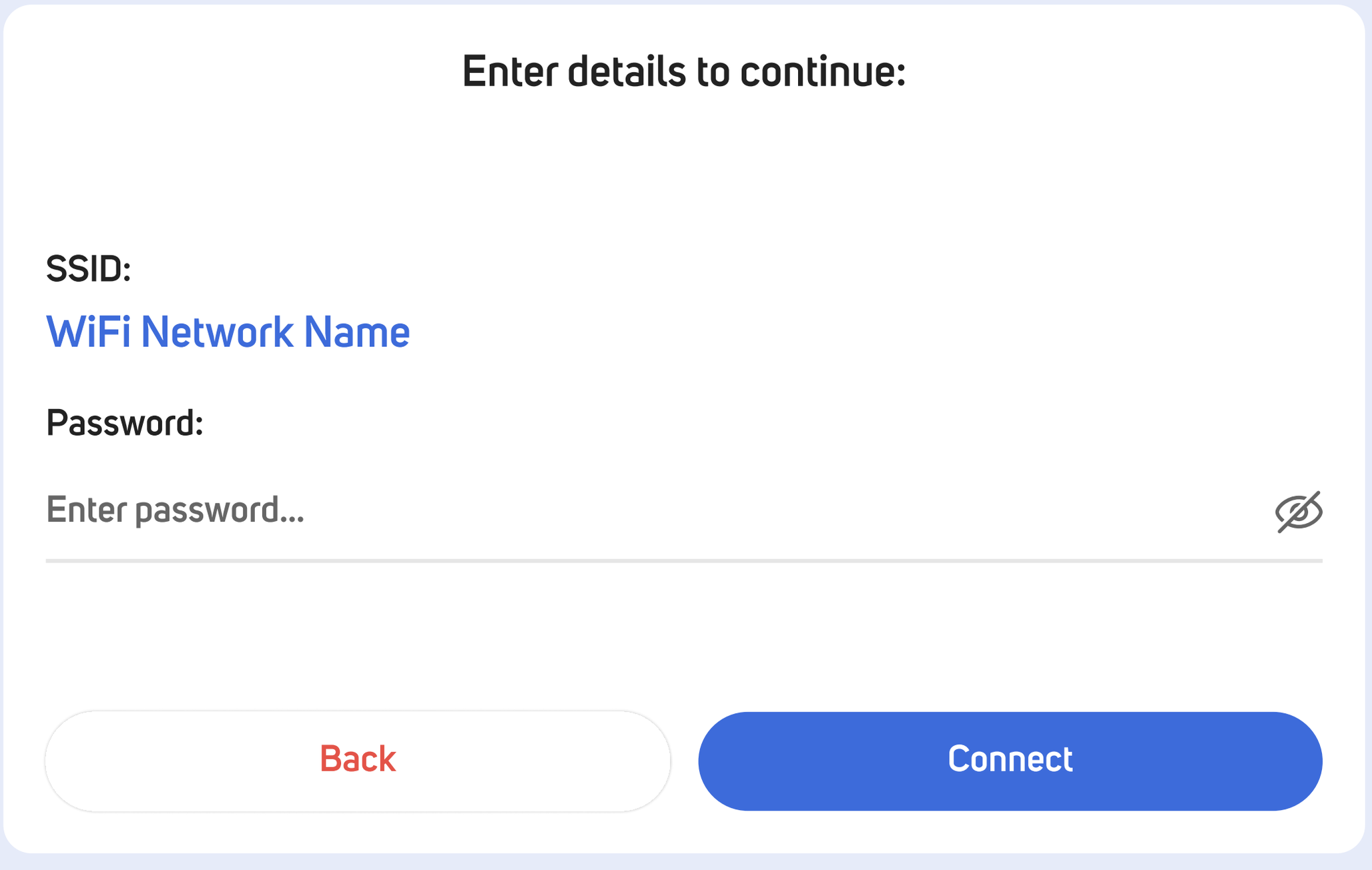
Fig. 15



If the page does not load automatically, open your web browser manually. Enter the following address in your browser: **ap.prosmart.com** or **192.168.10.1**

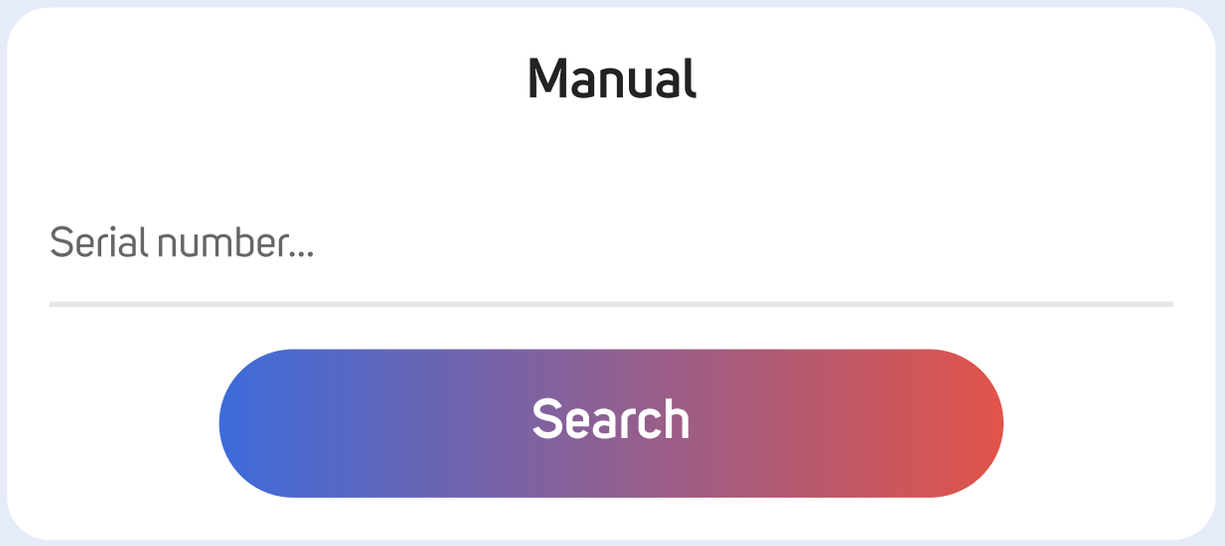
On the configuration page, select your desired Wi-Fi network from the list. Type in the password for your Wi-Fi network. Click the **“Connect”** button (Fig. 16)

Fig. 16



Open the proSmart app, click “Add device” and enter the serial number manually. (Fig. 17)

Fig. 17



Congratulations! You've connected your device to the Wi-Fi. Blue LED blinks every 3 seconds when connected.

Once connected to the Internet, the BBoil device becomes invisible to other devices on the network for security purposes. The only way to control it is through the user profile associated with the device.

Step 8: Connecting additional temperature sensors

1. Wireless T&H sensor

BBoil RF can work with up to four wireless T&H sensors in the same time. In order to add one or more wireless sensors, unscrew the temperature sensor’s four screws and remove the bottom lid. Next to the battery holder, there are two on/off switches.

Following the position shown in Fig. 18, set the switches according to which sensor you are connecting (first, second, third, or fourth). To pair the wireless temperature sensor with the main control unit, follow the steps outlined in section 4.1.

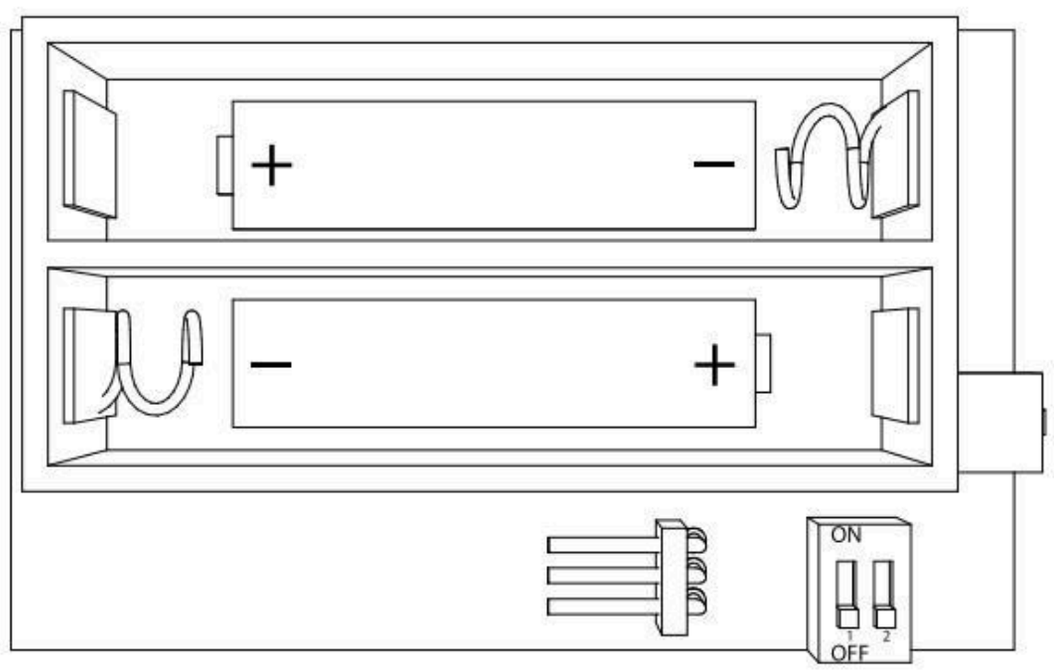
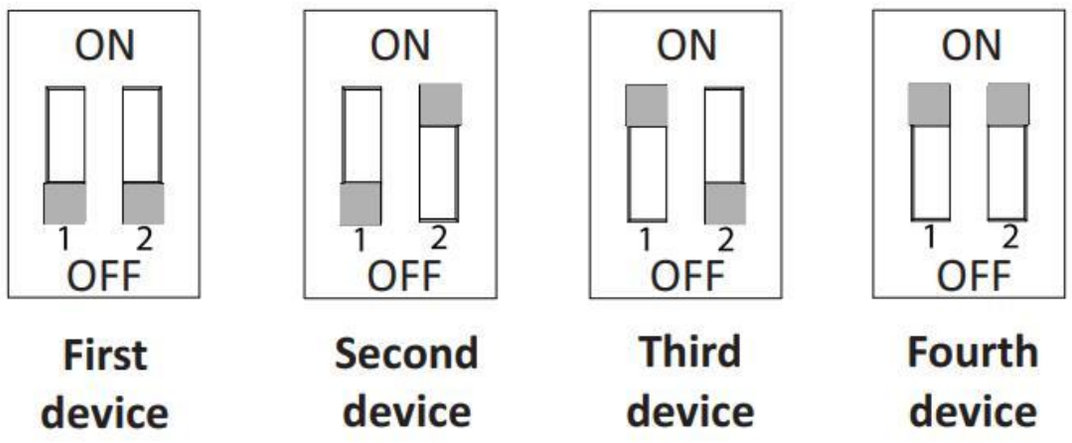


Fig. 18



2. Wired temperature sensor

For a specific model of wireless temperature sensors, a wired one with a ‘probe’ can be added. In order to add a wired sensor, unscrew the temperature sensor’s four screws and remove the boom lid. There is a connector next to the battery holder to which you can connect the wired sensor’s jack. (Fig. 19)

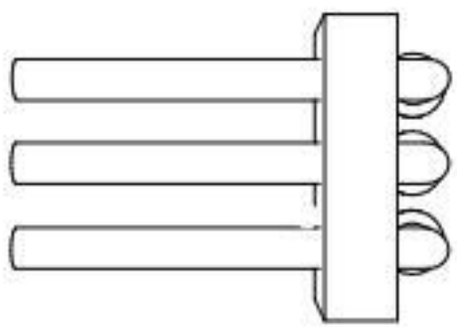


Fig. 19

Step 9: Control and preferences

Controls

Your BBoil device features the following control options:

- **Power Button:** Toggle between **OFF** and **Manual Mod**e. Tap once to turn the system on in manual mode; tap again to turn it off.

- **Manual Mode Icon:** Allows manual control of the temperature. Adjust the **desired temperature** using the **slider**.

- **Schedule Icon:** Activates the **Weekly Schedule Mode**. Temperature changes will follow your pre-set schedule, which you can configure in the **Schedule** tab.

- **Boost Icon:** Temporarily override current settings. **First, choose the duration** using the **time slider**, then **tap the Boost icon** to activate it. The system will return to the previous mode after the boost period ends.

Settings

1. **Device Name:** Assign a custom name to easily identify the device.

2. **Time Zone:** Set your local time zone to ensure accurate scheduling.

3. **Work Mode:** Choose between **Thermostat**, **Humidistat**, or **On/Off** operation.

4. **Function:** Select the specific function based on mode: **Heating/Cooling** or **Humidifying/Dehumidifying**.

5. **Controlling Source:** Choose which device sends the control data: **Wireless T&H Sensor** or **Wired Sensor** (connected to a relay).

6. **Controlling Sensor ID:** Enter the ID corresponding to the chosen sensor or relay (based on internal DIP switch positions).

7. **Controlling Sensor:** If using a Wireless T&H sensor, specify whether to use its built-in sensor or a wired sensor connected to it.

8. **Emergency Setpoint:** Set a backup temperature that activates when pressing the relay’s physical button. The system runs in manual mode until changed via the app.

9. **Humidity Control:** Toggle **Active/Inactive**. Helps reduce dry air in heating mode and prevents condensation in cooling mode.

10. **Group Color:** Assign a color to visually group all relays within the same system.

11. **Temperature Range:** Define the min/max limits for the manual temperature slider.

12. **Hysteresis (High/Low):** Fine-tune response delays with upper and lower hysteresis values using sliders.

13. **Sensor Settings:** Customize sensor name, apply calibration, and set notification limits (Min/Max). Alerts are sent if current values exceed defined limits.

14. **More Options:** View the device's serial number or delete it from your system.

Note: Available settings may vary depending on the model – BBoil Classic or BBoil RF. The RF version supports wireless components and offers more advanced configuration options.

Schedule

Switch to **Work Mode: Schedule** to enable automated temperature control. Create schedules for specific times and days to set desired temperature setpoints automatically.

The system maintains the set temperature during each scheduled period.This allows precise control over temperature based on your daily routine and preferences.

Insightful Chart

View past temperature readings and relay status for the previous week to monitor system performance and trends.
You can also export this data for further analysis or record-keeping.

Share Device

Grant access to others via email. Share access with an unlimited number of people. Choose between full and limited access. Revoke access at any time.

Step 10: Troubleshooting

1. Device doesn’t respond to commands from the app

- Ensure the BBoil is plugged in and has power.
- Check if your Wi-Fi is working properly.
- Restart the BBoil by unplugging it for 30 seconds and plugging it back in.
- Verify that the app is updated to the latest version.

2. Device shows as “Offline” in the app

- Check if the Wi-Fi signal is strong near the device.
- Restart your Wi-Fi router
- Reset the device and try reconfiguring Wi-Fi settings

3. Hard Reset (Factory Reset)

- Press and hold the button on the BBoil for 5 seconds until the device start blinking rapidly.
- Release
- Hold the button again for 5 seconds.

Step 11: Connecting BBoil to Amazon Alexa

First, sign in to the proSmart app and set an easy-to-speak name for your devices. It is best to avoid using similar sounding words/names when choosing a name for each device. Also, avoid appending numbers to your device names. When it comes to choosing names for your different devices, simple names are better.

Next, open your Alexa app and go to the "Skills" section.Search for "proSmart”. Once it is found, tap the proSmart skill to enable it. You will be asked to sign in to your proSmart account. Enter your proSmart account information. Tap “Discover Devices". Alexa will search for your proSmart devices. Alexa will take a few seconds to discover your devices.

Congrats! You should see all your proSmart devices in your Alexa app.

Step 12: Servicing BBoil

BBoil is cleaned with a dry or slightly dampened towel. The use of aggressive or abrasive cleaning liquids is strictly forbidden.

The condition of the terminals, terminal connections, as well as the connection reliability of external wires needs to be checked every six months, and strengthened if needed.

If there are any signs of damage, users should contact the producer or an authorized service center for assistance.

Step 13: Warranty

The warranty of the device is 24 months from the date of purchase.

The serial number of the BBoil device is unique and you need to present it in the event of a problem during the warranty period.

The warranty will not be recognized if any of the following events occur:

- Lost or counterfeited purchase receipt.
- Damages, caused from wrong installation and exploitation.
- Attempted repair from an unauthorized service provider.
- Chemical, electrical or other influence on the product, which is not part of its natural usage.
- Distorted physical integrity of the device

All claims under the warranty are to be directed at the shop the device had been bought from or directly at the manufacturer Pro Smart AD.

Video Instructions

For video installation instructions, please visit:
https://prosmartsystem.com/en/downloads

Technical Support

If you experience any issues during the installation process or controlling your device, contact our support team.

https://prosmartsystem.com/en#contact_page

The Wi-Fi programmable thermostat BBoil complies to all of the following standards and regulations: EU EMC 2014/30/EU, LVD 2014/35/EU, RED 2014/53/EU, WEEE 2012/19/EU and the RoHS 2011/65/EU. BDS EN 55022:2010 (CISPR 22:2008); BDS EN 55024:2010 (CISPR 24:2010); BDS EN 55016-2-3:2010+A1:2010 (CISPR 16-2-3:2010+A1:2010); BDS EN 61000-4-3:2006+A1:2008+A2:2010 (IEC 61000-4-3:2006+A1:2007+A2:2010); BDS EN 61000-3-2:2014 (IEC 61000-3-2:2014); BDS EN 61000-3-3:2013 (IEC 61000-3-3:2013); BDS EN 61000-4-2:2009 (IEC 61000-4-2:2008); BDS EN 61000-4-4:2012 (IEC 61000-4-4:2012); BDS EN 61000-4-5:2014 (IEC 61000-4-5:2014); BDS EN 61000-4-6:2014 (IEC 61000-4-6:2013); BDS EN 61000-4-11:2006 (IEC 61000-4-11:2004); BDS EN 60730-1:2012; BDS EN 60730-2-9:2010; BDS EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 (IEC60950-1:2005+A1:2009+A2:2013); EN 60730-1:2011 (BDS EN 60730-1:2012) EN 60730-2-9:2010 (BDS EN 60730-2-9:2010); EN 50491-1:2014 (BDS EN50491-1:2014); EN 50491-3:2009 (BDS EN 50491-3:2009)

Manufacturer

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