



Installation Guide

Air Wi-Fi & Bluetooth



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www.nord-kapp.com/pages/documents



ECE 122R - 000056
ECE 10R - 025849

Welcome to the Nordkapp® Air diesel air heater. This guide will walk you through the safe and proper installation and operation of your unit.

Please read all instructions carefully before beginning installation or use.

Important Safety Instructions

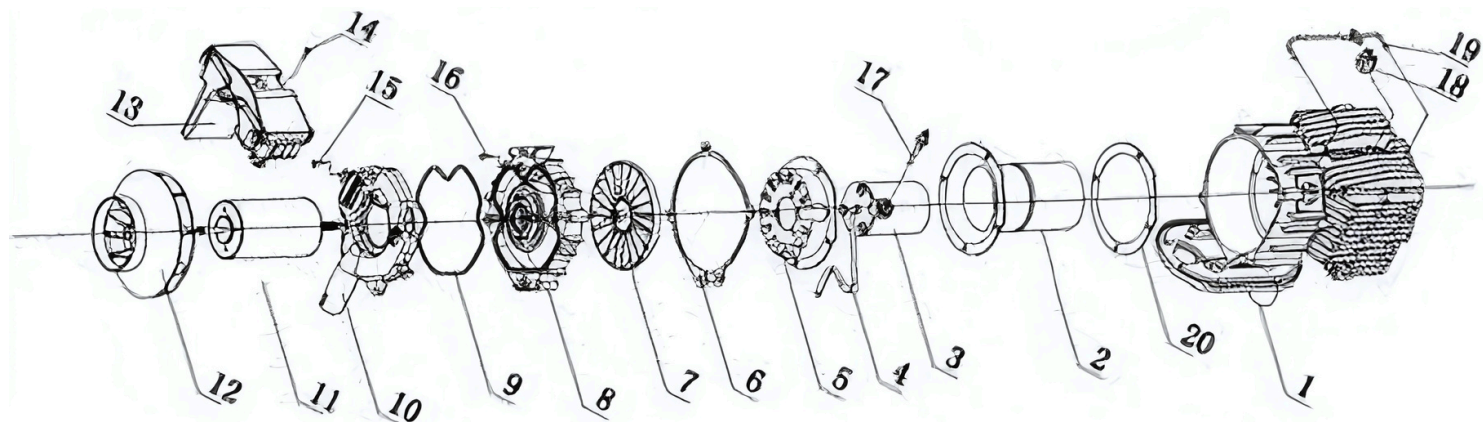
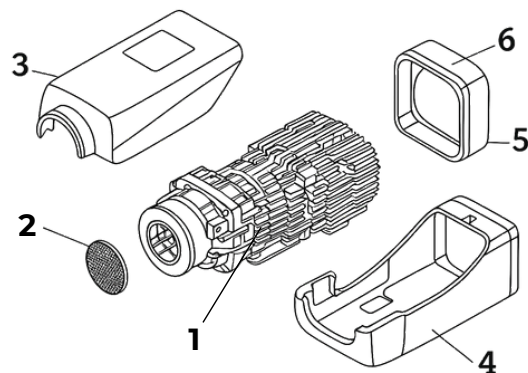
Follow these precautions to avoid injury or damage

- Do not use biofuels. Use only EN590 standard diesel.
- Do not use the heater to dry people or animals.
- Do not cover the heater, air intake, or air outlet.
- Exhaust pipe gets hot. Do not install near flammable materials or fuel system components.
- Turn off the heater before refueling or maintenance.
- Do not use the heater in areas with flammable vapors or materials (e.g gas stations, storage sheds).
- Ensure proper ventilation at the installation site.
- A fire extinguisher must be present in the vehicle.
- Disconnect the heater from the battery before repairs or welding.
- Never connect or disconnect plugs while the device is operating.
- Use only parts and accessories approved by the manufacturer.
- This heater is not intended for uninterrupted, continuous use.

NORDKAPP™ Air-Heater Installation

Structure Overview

- 1.Engine
- 2.Air intake
- 3.Upper protective cover
- 4.Lower protective cover
- 5.Air outlet
- 6.Rear protection cover



- 1.Exhaust pipe
- 2.Combustion chamber pipe
- 3.Combustion chamber
- 4.Fuel line
- 5.Air intake guide
- 6.Gasket

7. Fan blades
8. Fan housing
9. Gasket
10. Combustion chamber air intake pipe
11. Fan motor
12. Hot air fan
13. Control panel

14. Adjustment screws
15. Adjustment screws
16. Adjustment screws
17. Igniter
18. Temperature sensor
19. Sensor bracket

Installation 1.

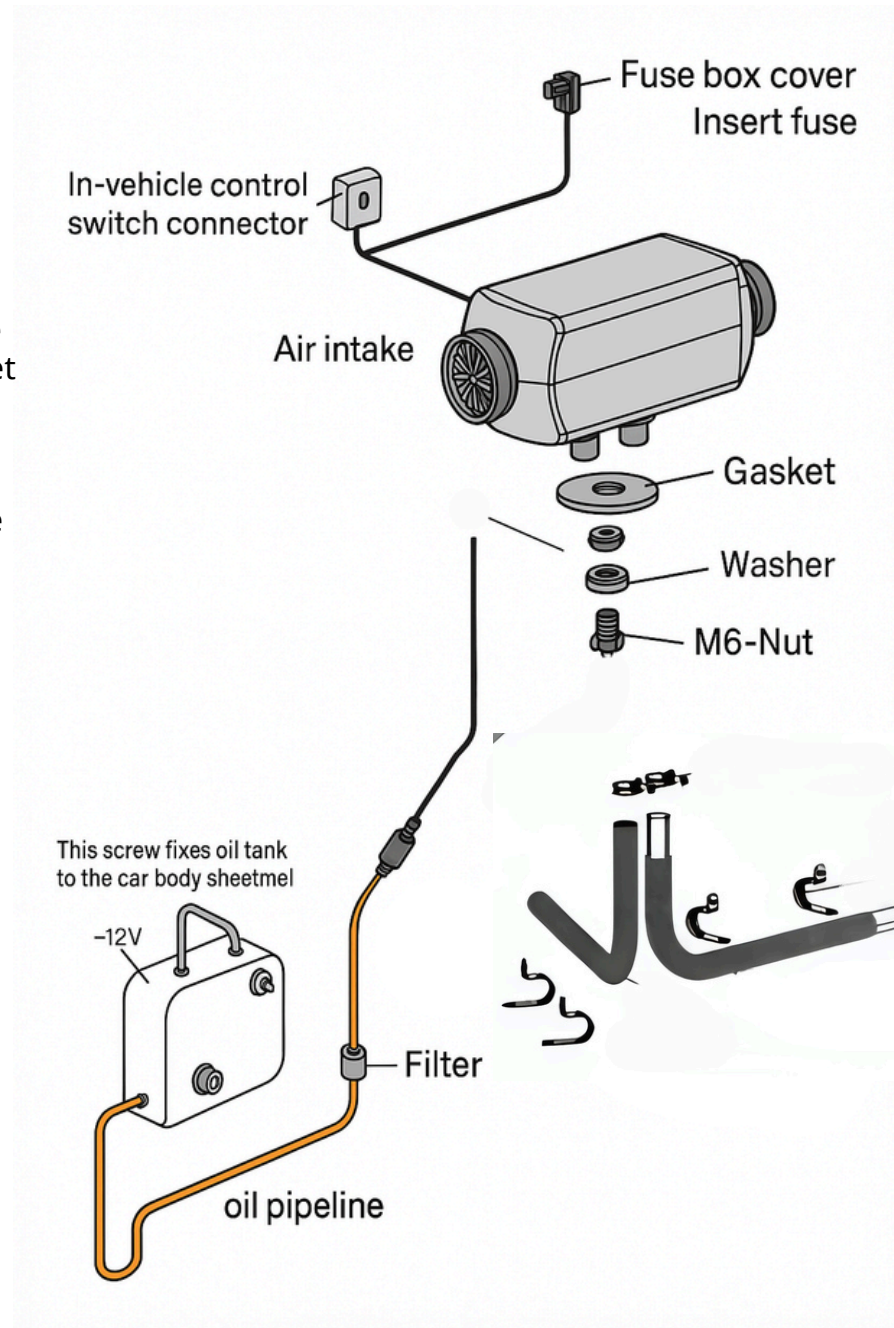
Site Selection

Choose an installation location with:

- At least 50 mm clearance for air intake
- At least 150 mm clearance for air outlet
- Protection from water, impact, and excessive heat
- Splash protection if installed outside
- Unobstructed airflow if installed inside
- Proper exhaust placement in boats to avoid water ingress during tilt

Required Tools and Materials

- Drill and M6 drill bit
- Screwdriver or socket wrench for M6 screws
- Wire cutters
- Fire extinguisher (mandatory in vehicles)



Installation 2.

Mounting the Heater

1. Choose the Location

- Flat, dry, unobstructed
- Not exposed to luggage or the elements
- Flat mounting surface (max deviation 1 mm)

Inside heater can be installed only horizontal with the pipes pointing downwards.

Outside heater can be installed laterally with external mouting case

Note: External mounting case is sold separately!

2: Prepare the Surface

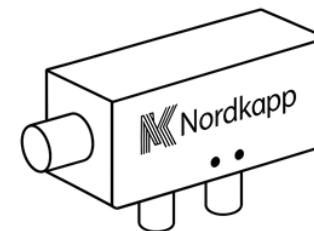
- Clean of grease and dust
- Place the included gasket between the mounting surface and heater

3: Drill Mounting Holes

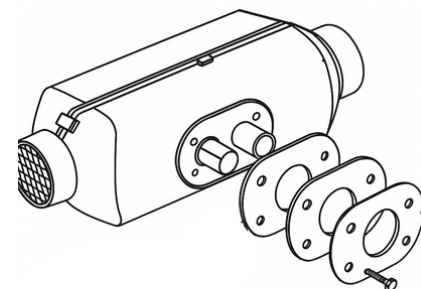
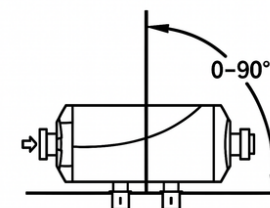
- Place the supplied base plate on the mounting surface and mark the screw locations.
- Use the supplied base plate to mark hole positions
- Drill four holes for M6 screws or use existing holes

4: Secure the Heater:

- Place heater on the base plate
- Tighten screws evenly
- Ensure fan blades spin freely (test manually)



Recommended
installation position



Fuel System Installation 1.

1: Select Fuel Tank

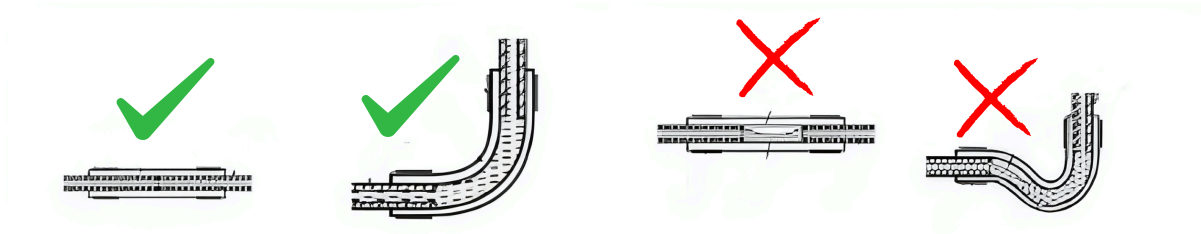
- Use the included intake pipe to connect to the vehicle's fuel tank (preferred method)
- If using a separate tank (not included, sold separately), install it outside or in a protected, non-cabin area

2: Install Suction Pipe

- Insert pipe into tank, 30–40 mm from bottom to avoid sediment
- Seal connection properly

3: Route Fuel Line

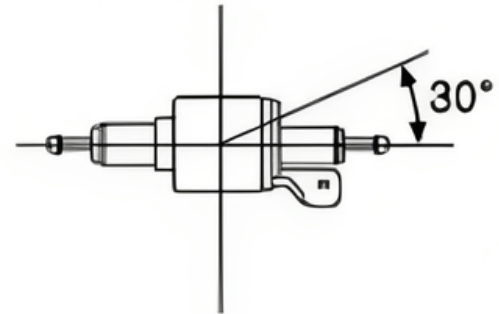
- Use included fuel-resistant tubing
- Max 1 m from tank to pump, 4 m from pump to heater
- Avoid sharp bends and air pockets



Fuel System Installation 2.

4: Install Fuel Pump

- Mount at 15–35° angle (arrow indicates flow direction)
- Use vibration-damping bracket
- Place fuel filter on pump's inlet side
- Keep away from heat and water

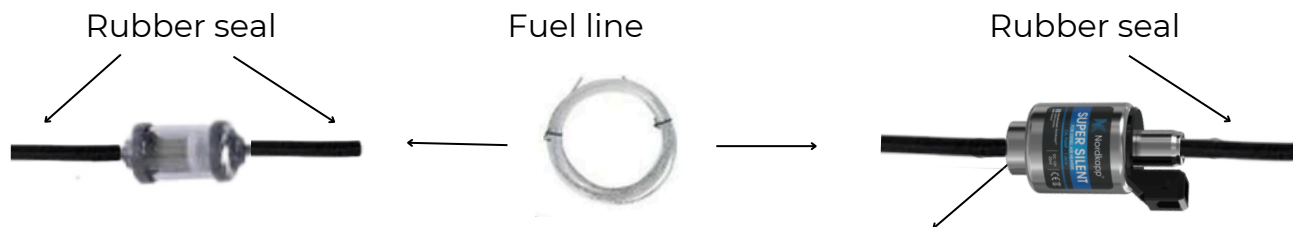


5: Connect and Secure Lines

Use rubber seals and clamps at all joints:

- Tank → Line
- Line → Filter
- Filter → Pump
- Pump → Heater

Insert line deep into connectors and tighten clamps



Air Intake and Exhaust Installation 1.

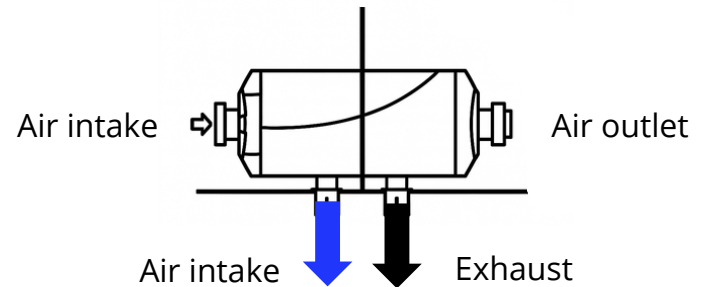
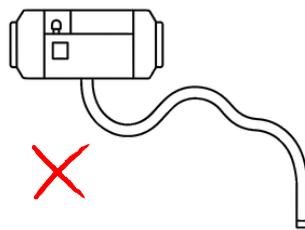
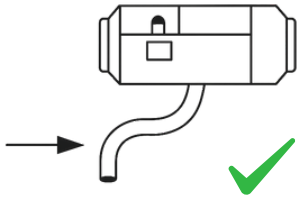
1: General Guidelines

Air Intake & Exhaust must exit the vehicle!

Ensure no blockages or low ground clearance

2: Air Intake Hose

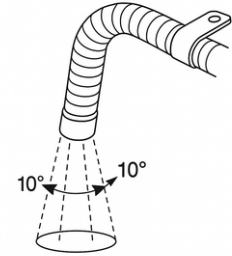
- Made of aluminum, connects to heater intake
- Avoid exposure to water, dirt, direct rain
- Route downward or horizontally, secure with clamps



Air Intake and Exhaust Installation 2.

3: Exhaust Pipe

- Stainless steel, gets very hot during use
- Route against driving direction at 90° downward angle
- Keep intake and exhaust ends at least 20 cm apart
- Direct both ends downward to avoid water ingress
- Minimum bend radius: 50 mm
- Optional 4 mm drain holes for condensation
- Use heat shields if exposed or accessible

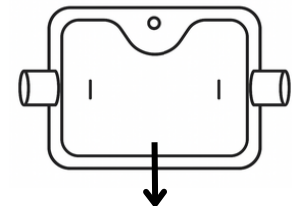


4: Safety Notes

- Do not allow exhaust pipe to touch fuel lines, wiring, or vehicle body
- Use only fireproof insulation through walls/doors
- Avoid flammable materials (e.g., foam, plastic)
- Consult a professional installer if you are unsure

5: Install Muffler (exhaust pipe)

- Reduces external noise
- Install near exhaust outlet
- Ensure condensation drain faces downward
- Optional: pre-drill condensation hole before muffler
- Use clamps or hose clips to secure



Air Duct Instalation 1.

1: Overview

- Ducts direct heated air to desired areas
- Connect to heater's warm air outlet
- Use included duct or purchase splitter for multiple areas

2: Routing the Duct

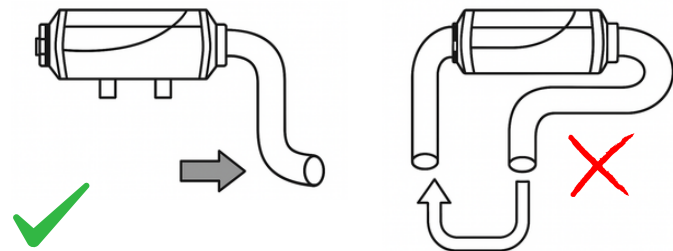
- First 1 meter should be straight
- Avoid sharp bends or crushing
- Do not step on ducts
- Avoid 90° angles

3: Outlet Placement

- Avoid blowing hot air directly at people or sensitive surfaces
- Use grilles or adjustable nozzles to direct airflow

4: Safety

- Never recycle hot air into heater intake
- Do not connect to vehicle HVAC system
- Use heat-resistant ducts (min. 130°C)



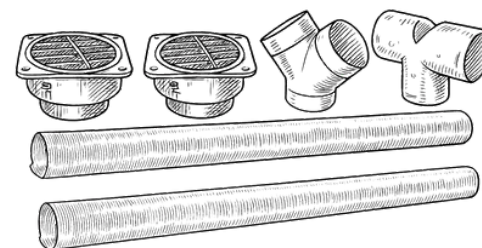
Accessories - Optional

Nordkapp™ Air Share Kit (optional, sold separately)

If necessary, you can install an air distribution kit on the heater to distribute the heat to multiple separate spaces. You can find the Air Share Kit in the Nordkapp online store.

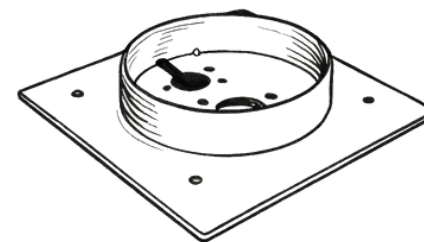
Note

- Use only simple configurations to avoid airflow restriction
- Excessive complexity can cause overheating and loss of efficiency
- Keep first meter of duct straight
- Do not use 90° bends in the first meter



Heat-Resistant Mounting Base Plate

Heat-resistant mounting base plate enables safe installation of a diesel air heater on wood, plastic, or other heat-sensitive floors. It creates a durable, fire-safe barrier that protects the vehicle floor from heat, exhaust, and fuel lines while ensuring an airtight and secure seal. Compatible with 2 kW, 5 kW, and 8 kW heaters, suitable for vans, campervans, motorhomes, and trucks.



Nordkapp External Mounting Case

Stainless steel external mount box enables safe, weather-protected installation of a diesel air heater under the vehicle. It shields the heater from water, mud, and debris, ensuring reliable operation and longer service life. Precision-cut ports support fast installation for air inlet, exhaust, and fuel lines. Compatible with 2 kW, 5 kW, and 8 kW heaters, ideal for campervans, motorhomes, trucks, and marine use.



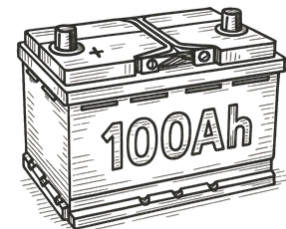
Electrical Wiring 1.

1: General Notes

- Compatible with 12V or 24V systems
- Power from vehicle battery or external AC-DC adapter (230V/220V → 12V/24V)
- Always use correct polarity and fuse (15A)

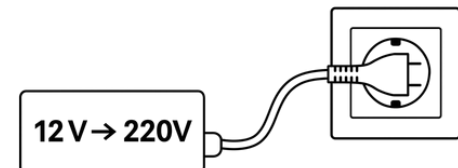
2: Battery Connection

- Red wire to positive, black to negative terminal
- Use 15A fuse close to battery on positive wire
- Never connect/disconnect while heater is on
- Avoid routing wires near metal without protection



3: AC Operation (Optional)

- Use Nordkapp™ AC adapter in dry, protected area
- Check all wires and connections before starting
- UPS (uninterruptible power supply) recommended for outages



Electrical Wiring 2.

If operating on AC without UPS

If the heater is used via a mains power adapter without a UPS device, the power supply will be suddenly interrupted in the event of a power outage.

This may lead to the following issues:

- Fuel remaining in the combustion chamber can cause sooting or malfunction during the next start-up
- The heater does not have time to complete the automatic cooling process
- The control unit may lose settings or remain in an error state
- The heater must always be turned off from the control panel and the power must only be disconnected when the fan has stopped.

It is the user's responsibility to ensure that the heater is turned off as instructed.

Do not leave the heater on unattended when connected to the mains if the UPS is not in use.

4: Wire Protection and Finishing

- Route wires neatly and secure with clips
- Keep away from moving or hot parts
- Check all connections are tight and safe from being pulled

Startup and Shutdown

1: First Startup

- Ensure all installations are correctly and securely completed.
- Check fuel lines for leaks or air bubbles.
- Initial use may produce smoke and strong odor (normal).
- Odors typically fade after a few hours at full power.
- Ensure good ventilation during initial operation.
- Heater begins with a glow plug preheating cycle (up to 2 minutes, no visible signs).

2: Shutdown

- Always turn off using the control panel or power switch.
- **Never disconnect power during operation.**
- Heater performs an automatic cooling cycle with low-speed fan.
- Wait until the fan fully stops before cutting power.

3: Restarting the Heater

- If the heater fails to start, wait 5–10 seconds before retrying.
- Check for error codes on the display (refer to control panel manual).

Maintenance and Service

Warranty is void if the following maintenance is neglected.

Regular maintenance improves the reliability of the heater, prevents sooting and extends its service life. Below are instructions that will keep the device in good condition.

Monthly Maintenance:

Run the heater at full power for 20 minutes monthly!

This burns off potential deposits and ensures fuel circulation.

Annual Inspection:

- Check all fuel line and connector seals.
- Inspect electrical wiring and signs of corrosion.
- Clean and inspect air intake and exhaust systems.
- Remove debris or soot from exhaust outlet.

Fuel System Maintenance:

- If unused for long periods, drain tank and lines (for separate tanks).
- Flush with clean diesel (never use gasoline).
- If using kerosene, ensure system is completely dry before switching back to diesel.

Storage

- Disconnect from battery or power supply.
- Store in a dry, clean location.

WiFi & Bluetooth Control Panel Manual



1. Ventilation button
2. Gear position key/strong heat key
3. Temperature control/constant temperature button
4. Up button
5. Down button
6. Power off button
7. Display window
8. Air vent of the environmental temperature sensor
9. Speaker

Overview

The WiFi control panel operates all heater functions, including ventilation, gear heating, strong heating, temperature control, and constant temperature modes.

It provides startup/shutdown control, temperature and gear adjustments, and access to all system settings.

The panel includes functions for:

- Powering the heater on and off
- Adjusting temperature or gear levels
- Selecting operating modes (ventilation, gear, strong heating, temperature control, constant temperature)
- Accessing the full settings menu (F0–FF)
- Timer settings (start time, duration, on/off)
- Voice broadcast language selection
- Temperature compensation
- Temperature unit and altitude unit selection
- Backlight brightness adjustment
- Sub-device networking
- Ambient temperature source selection
- WiFi on/off control
- WiFi configuration, OTA upgrades, and unbinding from the app
- Viewing engineering information (firmware version, voltage, fault codes, etc.)
- Manual fuel priming for initial installation

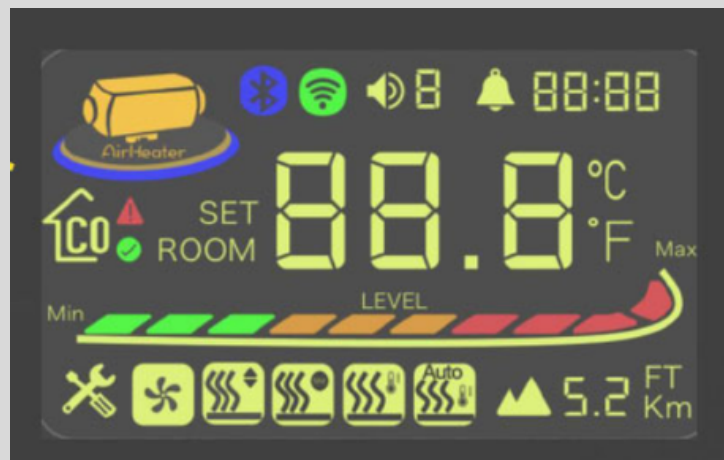
The control panel supports WiFi connectivity for network setup, app binding, firmware updates, and communication with ThermoLink controller.

Display

In normal operation, the display shows the heater's current operating status and data, including:

- Operating mode (ventilation, gear, strong heating, temperature control, constant temperature)
- Set or current gear level
- Set or operating temperature (depending on mode)
- Real-time ambient temperature
- Altitude (if enabled)
- Voltage level
- WiFi icon showing connection status
- Fault code when a malfunction occurs
- Additional mode-specific indicators (e.g., airflow, heating, timer, sensor status)

When the heater is turned on, the LCD lights up to show active status and system data. After shutdown, the display turns off automatically when the process completes.



Buttons 1.

Below are all button functions exactly as used in the heater. Each action notes when it works (OFF, running, or settings mode), so the user can operate the device correctly.

Power Button

- Short press (OFF → ON): Turns the heater ON
- Short press (running): Turns the heater OFF and performs safe shutdown
- Long press ~3 sec (running): Enters the settings menu (F0–FF)

Used in:

- Exiting sub-device networking
- Confirming some WiFi/OTA steps
- WiFi on/off configuration (FE)

Up Button

- Running: Increase gear or temperature
- Settings menu (F0–FF): Scroll up through items and adjust values
- WiFi setup: Used when entering WiFi pairing steps
- Timer functions: Adjust hours/minutes in F0–F3
- Special: Part of button combinations shown in the manual (e.g., networking, OTA)

Down Button

- Running: Decrease gear or temperature
- Settings menu: Scroll down through items and adjust values
- Long press ~3 sec (after power cycle): Activates forced fuel priming (300-second pump mode)
- Sub-device networking: Hold to clear networking data (CLr)

Buttons 2.

Ventilation Button

- Short press (running): Switch to ventilation mode
- Settings menu: Confirm a selected menu item or value

Gear / Strong Heating Button

- Short press: Select gear heating
- Long press ~3 sec (running): Switch between gear mode and strong heating mode

Used in mode switching sequences shown in the manual

Temperature Control / Constant Temperature Button

- Short press: Switch between temperature control mode and constant temperature mode
- Settings menu: Confirms selections for certain items

Switching Modes

The heater supports several operating modes. Modes are changed using the dedicated mode buttons shown on the display (ventilation, gear, strong heat, temperature control, constant temperature). Mode switching depends on short or long presses, as indicated below.

Ventilation Mode

- Short press the Ventilation button while the heater is running
 - Fan operates without heating
 - Wind speed adjustable (levels 1–10)

Gear Heating Mode

- Short press the Gear button
 - Heater runs according to the selected gear level (1–10)

Strong Heating Mode

- Long press the Gear button (~3 sec)
 - Switches between normal gear mode and maximum output strong heating mode
 - Strong heating runs up to 2 hours continuously



Temperature Control Mode

- Short press the Temperature Control button
 - Heater automatically adjusts gear level based on the difference between set temperature and ambient temperature
 - Heater does not stop in this mode; lowest gear is always used when temp is reached

Constant Temperature Mode

- Short press the Constant Temperature button
 - Heater maintains the target temperature
 - Heater stops when ambient temperature is 2°C above the set point
 - Heater restarts when ambient temperature is 2°C below the set point
- (These on/off temperature differences can be adjusted in settings F C and F d)

Switching Between Temperature Control and Constant Temperature

- Short press the same temperature mode button
 - Toggles between these two modes

Usage Instructions 1.

Powering On

- Press any mode button (Ventilation / Gear / Temperature Control / Constant Temperature) to turn the heater on.
- The LCD lights up and shows the current operating status and data.

Powering Off

- While the heater is running, press the Power/Shutdown button.
- The heater performs a safe shutdown.
→ The LCD screen turns off automatically once shutdown is complete.

Adjusting Gear or Temperature

- Press the Up or Down button to adjust:
 - Gear level (1–10) in Gear Heating mode
 - Temperature (8–36°C) in Temperature Control or Constant Temperature mode

Adjustments take effect immediately.

Switching Operating Modes

Modes can be switched at any time while the heater is running:

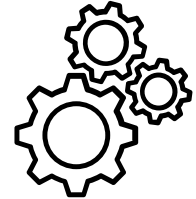
- Ventilation Mode: Short press the Ventilation button
- Gear Heating Mode: Short press the Gear button
- Strong Heating: Long press the Gear button (~3 sec)
- Temperature Control: Short press the Temperature Control button
- Constant Temperature: Short press the Constant Temperature button

Mode behavior is described in the “Switching Modes” section.

Usage Instructions 2.

Entering the Settings Menu (F0–FF)

- While the heater is running, long press the Power/Shutdown button for ~3 seconds.
→ The screen displays F0, the first settings item.
- Use Up/Down to move through items F0–FF.
- Press the Ventilation button to enter a selected item.
- Adjust values with Up/Down.
- Press the Ventilation button again to confirm.



Adjusting Timers (F0–F3)

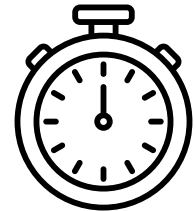
Timers are set inside the settings menu:

F0: Current time

F1: Timed start time

F2: Run duration after timed startup

F3: Timer on/off



Operation in all timer items:

Enter the item with the **Ventilation button**

Adjust values using **Up/Down button**

Confirm with the **Ventilation button**

00:00 = unlimited operation.

Time format is 24-hour HH:MM, and run duration can be set between 00:00 and 10:00 (30-minute steps).

Usage Instructions 3.

Using Fuel Priming (First-Time Installation)

Fuel priming is used **ONLY** when the fuel line is empty!

1. Turn off power to the control panel for 10 seconds
2. Turn power on
3. As soon as the LCD turns off, hold the Down button for ~3 seconds
 - The heater enters forced fuel priming mode
 - The screen shows a 300-second countdown
4. Exit priming by pressing the Power/Shutdown button

ThermoLink – Quick Connection Guide (Optional accessory)

This is a quick guide for setup. See ThermoLink manual for full instructions.

To add a ThermoLink

- When ThermoLink is **OFF**, press and hold the **Add** button (+) for 8–10 seconds.
- The Bluetooth icon starts flashing, meaning the controller is ready to pair.
- When the heater is **OFF**, press and hold **Power + Up** for 3 seconds
 - Screen shows **ADD**
 - When pairing succeeds, screen shows **SUC**
 - Press Power to exit



Usage Instructions 4.

Download the mobile app

Download an app called **Booyood**. The app is available on both the App Store and Google Play.

Using Wi-Fi and App Functions (Video guide on our website under Documents)

- Turn Wi-Fi ON/OFF in settings item FE
- Full Wi-Fi configuration, OTA updates, and unbinding are done through FF menu
- Wi-Fi setup steps are shown in the “Wi-Fi Connection and App Binding” section of this manual

Language, Units, and Other Adjustments

All user-adjustable preferences are inside the settings menu:

F4: Voice broadcast language

F5: Temperature compensation

F6: Constant temperature mode setting

F7: Temperature unit (°C/°F)

F8: Altitude unit (Km / Kft)

F9: Backlight brightness

Fb: Ambient temperature source (panel or sub-device)

FC/Fd: Temperature difference for constant temperature mode

All adjustments follow the same logic:

Select item → Enter → Adjust with Up/Down → Confirm.

When a Fault Occurs

- The LCD shows a fault code (E01–E11)
- See the **Error Code section** for troubleshooting steps



Wi-Fi Connection & App Binding 1.

1. Prepare for Wi-Fi Setup

Before starting, make sure that:

- Your phone is connected to a valid Wi-Fi network
- The heater is powered on
- The app is open and ready to add the device via Wi-Fi

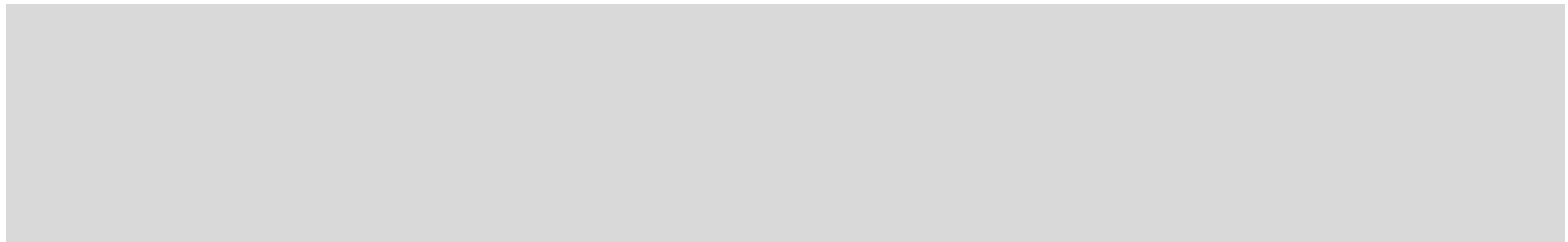


The Wi-Fi function itself can be turned ON/OFF in settings item FE.

2. Select the Wi-Fi Network in the App

- Open the app and choose “Add device via Wi-Fi”
- Select the Wi-Fi network you want the heater to connect to
- Enter the Wi-Fi password and proceed

This step only selects the network for the heater – the heater is not yet connected.



Wi-Fi Connection & App Binding 2.

3. Switch the Heater to Wi-Fi Network Mode

Follow the app's instructions:

1. Turn the heater off
2. After the LCD screen turns off,
3. Press and hold the Up button while the heater is off
4. When the screen lights up, the device name appears in the top-right corner
5. A network countdown starts

→ Complete the setup before the countdown ends.

This puts the heater into pairing mode so your phone can link with it.

4. Connect Your Phone to the Heater's Temporary Wi-Fi

During the countdown:

- Open your phone's Wi-Fi settings
- Connect to the Wi-Fi network broadcast by the heater display (Example shown in PDF: BYD-XXXX)

Important:

This is not your home Wi-Fi.

This temporary network only allows the phone to communicate with the heater during setup.

After connection, return to the app and continue.

Wi-Fi Connection & App Binding 3.

5. Complete Binding

- Tap Next in the app
- The heater will now automatically connect to the selected Wi-Fi network
- After successful connection, the heater can be bound to the app

Wi-Fi icon behavior:

- Solid = connection successful
- Flashing = not connected → repeat setup

Once bound, the heater can be controlled from the mobile app.

6. Unbinding the Heater from the App

To remove the heater from the app:

1. Enter the settings menu (long press Power → F0)
2. Use Up to navigate to FF (Wi-Fi configuration)
3. Press the Ventilation button to enter
4. Press Up to switch to the CLr interface
5. Press the Ventilation button → the value begins flashing
6. Press Up again to confirm unbinding

→ The display shows S U C when unbinding is complete.

Wi-Fi Connection & App Binding 4.

7. OTA Firmware Update

OTA updates are also performed in FF:

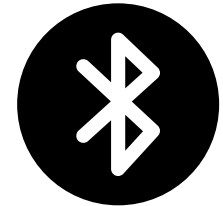
1. Follow the app instructions during upgrade
2. After the app reports completion,
3. Disconnect power for 10 seconds and reconnect
4. The update is now complete



8. Bluetooth App Binding (Optional)

PDF also mentions Bluetooth:

- Turn heater on
- Long-press Up + Down to enter engineering mode
- Navigate to bLE interface
- The Bluetooth ID is shown
- Select the matching ID in the app to pair



This is only needed if the user chooses Bluetooth instead of Wi-Fi.

Engineering Mode

Engineering Mode provides technical information about the heater's internal operating status.

It does not allow parameter changes — it only displays system data.

To enter Engineering Mode:

- Turn the heater ON
 - Press and hold the Up + Down buttons for ~3 seconds
- The screen enters the engineering interface
- Use Up/Down to navigate through each item

Engineering Mode Display Items

The following information screens are available inside Engineering Mode:

Firmware Version → Shows the current software version of the heater

Fault Code → Displays the most recent error code stored by the controller

Furnace Temperature → Shows the internal furnace temperature in real time

Power Supply Voltage → Displays the current input voltage (battery/vehicle power level)

Operating Gear → Shows the current heating or ventilation gear step

Panel Ambient Temperature → Displays the temperature measured by the control panel's internal sensor

Altitude → Shows the altitude value used for operation (based on the system's settings)

Bluetooth ID → Displays the Bluetooth identifier used for app pairing when Bluetooth mode is selected

To exit Engineering Mode, press the Power button once.

Error Codes and Descriptions

E01 – Turn on failed

Check if the oil pump is functioning properly.
Inspect all oil circuit connections for wax buildup or blockage.

E02 – Engine stalled due to low fuel

Fuel tank low on oil

E03 – Voltage abnormal

Verify the heater's power supply voltage matches the vehicle's actual voltage.
24V models: check if voltage is above 32V or below 18V.
12V models: check if voltage is above 18V or below 9V.
Inspect the main harness connector for looseness or poor connections.

E04 – Air outlet sensor error

Check whether the air outlet temperature sensor connector is loose or faulty. Replace the air outlet sensor

E05 – Air intake sensor error

Motherboard failure, replace the motherboard

E06 – Oil pump error

Check if the oil pump plug is loose or has a loose connections.
Check if the main harness has a broken circuit.
Replace the oil pump if it is faulty.

E07 – Fan error

Check if the fan impeller is jammed. Is the fan plug is loose or improperly connected.
Check if the fan's induction magnet is missing or has incorrect polarity. Replace the fan.

E08 – Glow plug malfunction

1. Check if the glow plug socket is loose. Replace the glow plug or motherboard if faulty.

E09 – Overheating protecton

Check whether the air intake or the air outlet of the heater is blocked.

E10 – Overheat sensor error

Check if the temperature sensor connector is loose.
Check for the faulty sensor or the motherboard.

E11 – Carbon monoxide exceeds the limit

When CO concentra'on exceeds safety limits, immediately open windows for ventlalon and evacuate personnel from the area.

Important safety and manufacturer information

Common Mistakes to Avoid

- Cutting power before cooling fan finishes
- Passing exhaust through wall without fireproof insulation
- Intake and exhaust too close together
- Installing muffler upside-down
- Leaving heater unattended on AC without UPS
- Overcomplicated or blocked air ducts

Safety Reminder

- Always follow this guide
- Never use heater if fuel leaks, electrical faults, or abnormal noises occur
- Do not use continuously without breaks
- For concerns, consult the control panel troubleshooting guide or contact support
- Ignoring the instructions can lead to damage to the heater or a safety risk.

Note!

We reserve the right to change the manuals. The latest and updated versions can always be found on our website: www.nord-kapp.com/pages/documents

Manufacturer



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