

Integrated Heater

Operating Instructions

Dual Top Evo 7 / 8



GB Content

1	Introduction	3		
2	Maintenance and Safety Information	4		
3	Function description	6		
3.1	Summer mode (hot water only)	6		
3.2	Winter mode (heating without hot water production)	7		
3.3	Winter mode (heating with hot water production)	7		
3.4	Advanced functions	8		
4	Operating Instructions	9		
4.1	General	9		
4.1.1	Control Panel	9		
4.1.2	Interior temperature sensor	11		
4.2	Before you start	11		
4.3	Normal operation	12		
4.3.1	Appliance is switched off	12		
4.3.2	Switching on the heater	12		
4.3.3	Switching off the heater	12		
4.3.4	Setting desired interior temperature	13		
4.3.5	Summer mode (hot water only)	13		
4.3.6	Winter mode (heating without hot water production)	14		
4.3.7	Winter mode (heating with hot water production)	16		
4.3.8	Heating while driving	17		
4.4	Settings setup	17		
4.4.1	Day, date, time	17		
4.4.2	Language, temperature unit, hour format, display contrast	18		
4.5	Programming timer	18		
4.5.1	Program setting	18		
4.5.2	Heating by timer	21		
4.6	Remote control	22		
4.6.1	Show actual mode	22		
4.6.2	Enabling and setting Telestart and Thermo Call	23		
4.6.3	Disabling Telestart and Thermo Call	23		
4.6.4	Start and stop heater operation using Telestart	24		
4.7	Frost	24		
4.7.1	Draining the boiler manually	24		
4.7.2	How to stop draining the boiler	25		
4.7.3	Draining the boiler automatically	26		
4.7.4	Frost protection mode	26		
5	Filling the boiler	28		
6	Fault Message Output	28		
7	Maintenance	29		
7.1	Disinfection	29		
7.2	Descaling	30		
8	Troubleshooting	31		
8.1	Fuses	35		
9	Worldwide warranty	36		

1 Introduction

Dear Customer,

Thank you for choosing the Dual Top Evo integrated air and water heater system from Webasto. We hope that this product brings you years of reliable comfort and enjoyment during your travels.

The Dual Top Evo heater has been designed as an integrated heating system to heat and to provide hot water (drinking water) in motor homes. Please note that the Dual Top Evo is only specified for applications in motor homes or similar vehicles.

However, in order to fully understand all the heater's features, you must read these operating instructions. If you do not understand any information in the manuals or if you misplace any of them, please contact your authorised Webasto dealer immediately.

Please take the time to read this manual carefully. This enables you to use all features and makes you feel comfortable and safe.

To ensure safe use of the Dual Top Evo heater, ALWAYS read and follow all instructions in this manual.

It is very important that an authorised Webasto dealer carries out any repair or maintenance not described in this manual.

2 Maintenance and Safety Information

- 1 The year in which the heater was used for the first time must be permanently displayed on the identification plate by deleting the inapplicable years from the plate.
- 2 The heater is not designed for heating hazardous substance transport compartments.
- 3 The heater/boiler is designed to heat air and drinking water.

WARNING

- 4 To prevent any harm, follow the instructions in chapter 7: "Maintenance".
- 5 In case no water has been taken from the water supply system for a period of a week or more, drain the whole system and rinse it thoroughly before refilling it. See chapter 7: Maintenance.
- 6 To avoid micro-organisms, water should not stay longer than a fortnight in the boiler.
Clean the boiler in a proper way if water was more than a fortnight in the boiler. It must be ensured that no dirt or soiling can get into the water circuit. In order not to restrict the water quality and the heater efficiency, it is advisable to conduct descaling regularly depending on the degree of hardness of the water used.
See chapter 7: "Maintenance".
- 7 Webasto guarantees proper function of the Dual Top Evo up to an altitude of 2,200 m.
In case the Dual Top Evo has to be operated above this altitude, visit a Webasto Service Centre.
- 8 If the vehicle to which the Dual Top Evo is fitted becomes involved in an accident, or if the Dual Top Evo falls to the floor, it must be returned to an authorised Webasto Service Centre for a safety inspection/repair.
- 9 Warranty claims can only be made if it can be verified that the claimant has complied with the servicing and safety instructions.
- 10 The heater must be switched off at filling stations and fuel storage areas as a result of the risk of explosion.

WARNING

- 11 Do not operate the heater in enclosed spaces (such as garages) as a result of the risk of poisoning and asphyxiation.

WARNING

- 12 For safe use the heater needs inspection every two years, especially if used for extended periods and/or extreme environments.
- 13 In the event of persistent heavy smoke development, unusual combustion noises, a smell of fuel or if the heater suffers continuous fault cut-outs accompanied with fault messages, it must be taken out of service by removing the 15 A fuse (red cable) (see Chapter8: "Troubleshooting") and must not be reused until it has been inspected by an authorised Webasto Service Centre.
- 14 The heater may not be operated at locations at which highly flammable gases or dust can form, or at locations at which highly flammable liquids or solid materials are stored (e.g. near fuel, coal and wood dust, grain warehouses, dry grass and leaves, cardboard, paper etc.).
Danger of explosion!

WARNING

Always switch off the heater before refuelling.

- 15 The heat exchanger and water boiler on Dual Top Evo heaters are exposed to very high thermal stress and must be replaced by genuine Webasto spare parts ten years after these are used for the first time.
- 16 The diesel fuel specified by the vehicle manufacturer must be used for the Dual Top Evo 7 / 8 heater. Class EL heating oil, L heating oil and PME (bio-diesel) shall not be used.
We know of no negative influences due to additives.
If fuel is extracted from the vehicle's tank, follow the additive instructions issued by the vehicle manufacturer.
If you change to low-temperature fuel, the heater must be operated for approx. 15 minutes so that the fuel system is filled with the new fuel.

- 17 Operation of the electric heater is permitted only at power supplies, that are in accordance with the requirements of the local power suppliers and guideline IEC 60364.
- 18 The temperature in the area around the heater must not exceed 85 °C (storage temperature).

WARNING

- 19 Operation of the heater is only allowed under ambient temperatures between -30 and 50 °C.
- 20 Failure to follow the installation instructions and the notes contained therein will lead to all liability being refused by Webasto. The same applies if repairs are carried out incorrectly or with the use of parts other than genuine spare parts. This will result in the invalidation of the type approval for the heater and therefore of its homologation/ECE type licence.
- 21 Keep the air inlet and hot air outlet free of dirt and foreign bodies. Contaminated or blocked hot air ducts may cause overheating and thus result in the overheating cut-out activation.
- 22 Do not stand on the heater and do not place any heavy items on the heater or throw items at the heater.

WARNING

- 23 Do not place any items like clothing, textiles or similar materials over the heater or in front of the hot air inlet and the hot air ducts.

WARNING

- 24 The air flow through the heater must not be restricted or blocked by highly inflammable substances or materials such as rags, cleaning wool, etc.
- 25 Any repair or maintenance, which is not described in this manual, shall be carried out by Webasto-trained personnel and certified for 230 V electric systems.
- 26 The Dual Top Evo heater shall be directly connected to the battery. Switching the heater on and off must only be done with the Dual Top Evo control panel. Additional switches are not allowed.

WARNING

- 27 The heater may not be cleaned with a high-pressure cleaner.

- 28 Take good care of the vehicle, empty the content of the boiler and all water lines when there is a risk of frost.
There shall be no warranty claims for damage caused by frost!

3 Function description

The **Dual Top Evo 7 / 8** integrated heater from **Webasto** combines the benefits of an interior heater with a water boiler and contributes to a gas-free motor home.

Due to its outside installation and its operation with diesel fuel, the Dual Top Evo saves valuable stowage space in the cab.

The Dual Top Evo steplessly and precisely modulates the temperature for a consistent feeling of comfort.

The boiler can be drained simply and directly via the control panel.

Two different frost protection functions protect the Dual Top Evo and the vehicle against frost while of winter vacation.

The heater detects the difference between the set temperature and the interior temperature and automatically adjusts the required heating capacity.

A large number of different modes can be set for your comfort with the programmable control panel (see chapter 4, "Operating Instructions").

Depending on which function you wish to have, hot water **in summer mode**, just heat or heat and hot water **in winter mode**, several options are available.

3.1 Summer mode (hot water only)

The heater is used for providing hot drinking water. The water is heated up to and kept at 40 °C or 70 °C.

The heat is produced by a diesel powered burner or an electric heater.

If the combustion burner is selected as heat source, the device automatically selects the burner setting.

Water can also be heated by electricity, 230 V, from an external power supply. Dual Top Evo 7 offers the possibility to choose between low and high power.

Dual Top Evo 7: low power = 600 W, high power = 1,200 W;
Dual Top Evo 8: low power = 1,000 W*

A water temperature sensor controls the water temperature. Due to variable operating and environmental influences, small water temperature deviations are possible.

The hot air fan for heating the interior is not activated.

* The high power with 2,000 W is not possible in the summer mode.

3.2 Winter mode (heating without hot water production)

The heater is used for providing hot air.

Heat is produced by a diesel powered burner, an electric heater, or a combination of both.

The desired interior temperature may be adjusted by pushing button (1) ▲ or button (2) ▼ (5 to 35 °C).

If the combustion burner is selected as heat source, the device automatically selects the burner setting modulating between 1,500 W and 6,000 W depending on the output requirement (calculated from difference between selected temperature and current interior temperature).

The amount of heat is regulated to reach the pre-selected interior temperature quickly. Then only a limited amount of power is needed to hold the interior temperature.

In case electricity is used as source of energy, the electric heater heats the air at low or high power, depending on the selection. Electricity is taken from an external power supply.

If the burner and the electric heater provide the heat, priority is given to the electric heater. This means that the electric heater runs at low or high power (depending on the selection) and the burner provides the rest of the heat if necessary.

Heating the interior is always possible with or without water in the boiler.

3.3 Winter mode (heating with hot water production)

The heater is used for heating the interior and production of hot water.

Heat is produced by a diesel powered burner, an electric heater, or a combination of both.

The desired interior temperature may be adjusted by pushing button (1) ▲ or button (2) ▼ (5 to 35 °C).

The water is heated up to 70 °C.

If the combustion burner is selected as heat source, the device automatically selects the burner setting modulating between 1,500 W and 6,000 W depending on the output requirement (calculated from difference between selected temperature and current interior temperature).

The amount of heat is regulated to reach the pre-selected interior temperature quickly. Then only a limited amount of power is needed to hold the interior temperature.

A water temperature sensor controls the water temperature, while an interior temperature sensor controls the interior temperature.

Due to variable operating and environmental influences, small water temperature deviations are possible.

In case electricity is used as source of energy, the electric heater heats the air and water at low or high power, depending on the selection. Electricity is taken from an external power supply.

If the burner and the electric heater provide the heat, priority is given to the electric heater. This means that the electric heater runs at low or high power (depending on the selection) and the burner provides the rest of the heat if necessary.

3.4 Advanced functions

- Menu driven user guidance in 6 languages.
- Programmable timer: The device offers two free programmable 7 days, 24 hours heating programs.
See paragraph 4.5: "Programming timer".
- Remote control by Webasto Telestart and Thermo Call (optional controls).
See paragraph 4.6: "Remote control".
- Boiler drainage: possibility to drain the boiler manually with the control panel or automatically as frost protection.
See paragraph 4.7: "Frost".
- Frost protection mode: protects the boiler against frost.
See paragraph 4.7.4: "Frost protection mode".
- Textual fault information: when a fault occurs, a fault message is displayed on the control panel. A number and a brief description inform the user about the kind of fault. See chapter 6: "Fault Message Output".

4 Operating Instructions

4.1 General

The operating instructions and the "Maintenance and Safety Information" must always be observed before the start!

The vehicle owner is responsible for the correct operation of the appliance.

Before using for the first time, it is essential to disinfect and rinse the entire water supply system with drinking water (see chapter 7: "Maintenance").

If the heater is not being used, always drain the water contents to avoid frost problems and breeding of micro-organisms!

Also drain the water prior to repair or maintenance work on the vehicle as the electrical safety/drainage valve may open when the appliance is switched off!

NOTE

Due to the fact that the heater is new, there may be a smell during the first couple of operation cycles.

NOTE

During continuous operation at low output levels, it is recommended that the heater be operated approx. once a month for 15 min. at full load to burn possible deposits in the burner.

4.1.1 Control Panel

Changes to the settings on the control panel are implemented after a short delay!

See Fig. 1.



Fig. 1 Control Panel

- 1 = Up - button ▲
- 2 = Down - button ▼
- 3 = START/STOP/OK - button
- 4 = MENU/BACK/CANCEL - button
- 5 = On/off - button ⏻
- 6 = Power indicator/fault indicator (green / red)

During normal operation you will see the status display. See Fig. 2.

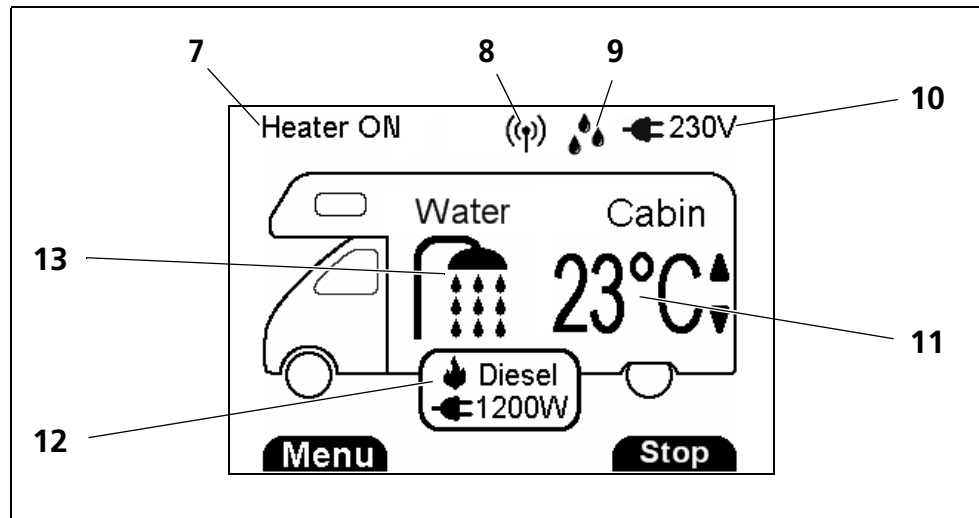


Fig. 2 Status display

- 7 = Indicator Heater ON/Heater OFF
- 8 = Remote indicator (Ⓜ)
- 9 = Drainage indicator (💧)
- 10 = 230 V indicator (⚡ 230 V)
- 11 = Interior heating/temperature indicator
- 12 = Active heat source
- 13 = Water heating/temperature indicator

ad 1 and 2: Press up button (1) ▲ to increase and down button (2) ▼ to decrease desired temperature, set correct time and date, etc., move blinking cursor and to scroll through menu.

ad 6: The power indicator lights up **GREEN** when the Dual Top Evo is switched on and START (3) is pressed. Also Heater ON on display (7). The heater is operating or in the standby mode.

Power indicator is off when STOP (3) is pressed or when Dual Top Evo is switched off. Also Heater OFF on display (7). The heater is not operating or is not in the standby mode.

The indicator flashing pulses **RED** if a fault has occurred.

ad 7: The heater is ON when the Dual Top Evo is switched on and START (3) is pressed. The heater is operating or in the standby mode. The heater is OFF when STOP (3) is pressed or Dual Top Evo is switched off. The heater is not operating or is not in the standby mode.

ad 8: Symbol "Ⓜ" appears when device is ready to accept signals of remote control.

ad 9: The "💧" symbol is shown when the electrical safety/drainage valve is opened.

ad 10: The "⚡ 230 V" symbol is shown when the external 230 V power supply is connected. If it is not connected, the symbol "⚡ 230 V" is shown.

WARNING

The absence of the ⚡ "230 V" symbol does not ensure that no 230 V supply is present!

ad 11: Desired interior temperature is displayed, not actual temperature.

ad 13: Desired water temperature is displayed, not actual temperature.

Background lighting

The background lighting of the display lights up when the Dual Top Evo equipment is switched on, no matter if there is heater operation or not.

It will fade out after some minutes if no button is pressed.

Backlight will light up again after pressing ▲ or ▼.

NOTE

The display may become darker when the temperature of the control panel becomes very high or when it is placed in direct sunlight.

Avoid that the control panel is exposed to high temperatures or direct sunlight.

In case aforementioned conditions could not be avoided, adjust display contrast in " ⚙️ **Setup**" (see paragraph 4.4.2: "Language, temperature unit, hour format, display contrast").

4.1.2 Interior temperature sensor

To measure the room temperature, a remote interior temperature sensor is located in the vehicle. The location of the sensor is determined by the installer, and is depended on the vehicle type and interior layout.

NOTE

The remote interior temperature sensor must be installed at medium height in the interior on vertical surfaces.

Avoid that the interior temperature sensor is:

- in the direct current of hot air (from the vehicle's own heating system or the hot air heater);
- close to heat sources;
- placed in direct sunlight (for example on the dashboard);
- installed inside a locker;
- installed behind curtains or the like.

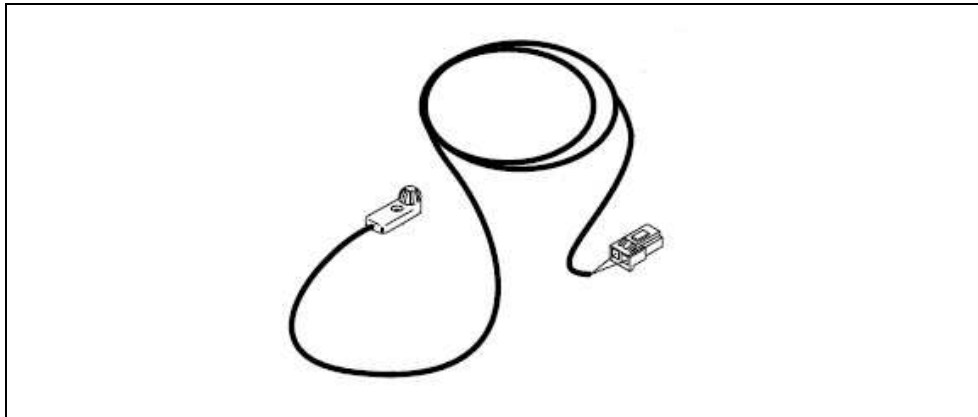


Fig. 3 Interior temperature sensor

4.2 Before you start

After connecting the appliance to the 12 V DC power supply, language, day, date and time have to be set.

- 1 Press **▲** and **▼** to select your preferred language: "Deutsch", "English", "Español", "Français", "Italiano", or "Svenska".
- 2 Press OK.
- 3 Press **▲** and **▼** to select the correct day and date.
- 4 Press OK.
- 5 Press **▲** and **▼** to set the time.
- 6 Press OK.

Standard settings:

- Hour format: 24 h
- Temperature unit: °C
- Interior temperature: 21 °C
- Remote control: Disabled
- Timer programs: OFF for all 7 days
lower interior temperature T1 = 15 °C,
higher interior temperature T2 = 21 °C


4.3 Normal operation

4.3.1 Appliance is switched off

When the appliance is switched off, display shows "**Webasto Dual Top**" as well as actual time, day and date.

1 hour after switching off and touching buttons for the last time, display will go into "sleep" mode and will become dark. When any button is touched, display described above appears again for at least 1 hour.


4.3.2 Switching on the heater

- 1 Press the On/Off button  to switch on the Dual Top Evo. Display shows the last used heating mode.*
- 2 Press START. Then the heater starts up in the indicated operating mode. Power indicator (6) lights green and "**Heater ON**" (7) on display.

* Exception: in case the last used heating mode was initiated by remote control (Telestart or Thermo Call), the last non-remote control heating mode is shown.

4.3.3 Switching off the heater

Proceed as follows to completely switch off the Dual Top Evo:

- 1 Press the On/Off button  to switch off the device. Now the heater will stop heating.
- 2 The fan can continue to run after switching off in order to cool down the heater. "**Shutting down...**" on display.
- 3 After the cooling phase the fan switches off. For 1 hour the display shows text "Webasto Dual Top" as well as actual time, day and date.



Always drain the boiler if there is a risk of frost!
See paragraph 4.7: "Frost".

Stopping heating operation to select another mode:

- 1 Press STOP. Now the heater will stop heating.
- 2 The fan can continue to run after switching off in order to cool down the heater. Display shows stopped heating mode.** Power indicator (6) goes off and "**Heater OFF**" (7) on display.
- 3 Use menu to select another mode. After the cooling phase the fan switches off. When after some minutes no button is touched, the display shows text "Webasto Dual Top" as well as actual time, day and date.

** Exception: in case the last used heating mode was initiated by remote control (Telestart or Thermo Call), the last non-remote control heating mode is shown.

4.3.4 Setting desired interior temperature


When the appliance is switched on (see paragraph 4.3.2) and the status display is visible, you can set the desired interior temperature.*
The status display shows the motor home and the current heating program. See Fig. 2.
Press  to increase or  to decrease the temperature.

NOTE










Desired temperature is displayed, not actual interior temperature.
Selected interior temperature can be changed, no matter if heater is ON or OFF. As soon as heater is switched on (manually, by remote control or timer) in a cabin heating mode, appliance will heat interior and keep it at this temperature.

4.3.5 Summer mode (hot water only)

Make sure that the boiler is filled with water.

If you want the electric heater to provide hot water, make sure to connect the external power supply (230 VAC):  **230 V** (10) on display.

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press  and  to select " **hot water**".
- 3 Press OK.
- 4 Press  and  select " **Eco 40°C**" or " **Comfort 70°C**".
- 5 Press OK.
- 6 Press  and  to select the desired heat source:

Dual Top Evo 7:
"Diesel powered"
"600 W ~ 230 V" *
"1,200 W ~ 230 V" *

Dual Top Evo 8:
"Diesel powered"
"1000 W ~ 230 V" *

* Options: "...W ~ 230 V" shown only when external 230 V power supply is connected.

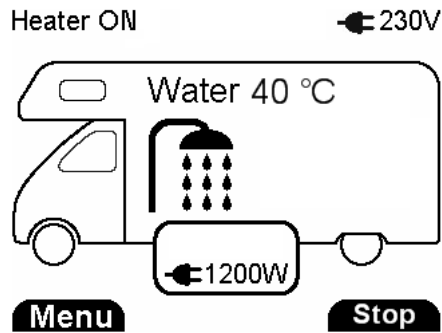
- 7 Press OK.
- 8 **"Selection completed"** on display.

NOTE

When heater is already "ON", text **"Selection completed, press OK to change operation mode"** appears.
Press OK.

* If actual heating mode is initiated by remote control, desired interior temperature cannot be adjusted. The Dual Top Evo will heat up interior and keep the temperature at preset value, selected when setting Thermo Call or Telestart.

9 After 3 seconds power indicator (6) lights green and display changes to:



- "Heater ON"
- "☁ water 40°C" or "☁ water 70°C" (depending on selected water temperature)
- "⬇ diesel", "⚡ 600 W", "⚡ 1000 W", "⚡ 1200 W" (depending on selected heat source).

The power indicator (6) lights green as long as there is a demand for hot water. To end this press STOP.

4.3.6 Winter mode (heating without hot water production)

If you want the electric heater to provide hot air, make sure to connect the external power supply (230 V AC): "⚡ 230 V" (10) on display.

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press ▲ and ▼ to select "☁ Heating Cabin".
- 3 Press OK.
- 4 Press ▲ and ▼ to select the desired heat source:

Dual Top Evo 7:

- "Diesel powered"
- "600 W ~ 230 V" *
- "1200 W ~ 230 V" *
- "Diesel + 600 W ~ 230 V" *
- "Diesel + 1200 W ~ 230 V" *

Dual Top Evo 8:

- "Diesel powered"
- "1000 W ~ 230 V" *
- "2000 W ~ 230 V" *
- "Diesel + 1000 W ~ 230 V" *
- "Diesel + 2000 W ~ 230 V" *

* Options "...W ~ 230 V" shown only when external 230 V power supply is connected.

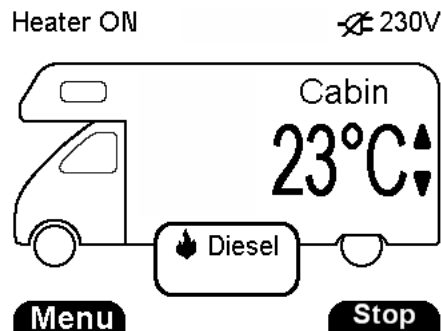
- 5 Press OK.
- 6 "Selection completed" on display.

NOTE

When heater is already "ON", text "Selection completed, press OK to change operation mode" appears.

Press OK.

- 7 After 3 seconds power indicator (6) lights green and display changes to:



- "Heater ON"
 - "Cabin", "... °C"
(value depends on latest selected interior temperature; °C or °F depends on setting)
 - "🔥 diesel", "⚡ 600 W", "⚡ 1000 W", "⚡ 1200 W", "⚡ 2000 W"
(depending on selected heat source).
- 8 Press ▲ or ▼ to adjust desired interior temperature.

NOTE

Please note that, in case the boiler has been filled, the water is automatically heated as well. The water temperature may reach up to 80 °C depending on the power and the duration of the heating.

NOTE

If a combination of the burner and the electric heater provides the heat and the 230 V connection is disconnected, the device automatically switches to diesel powered heating only.

Text "**Mode changed 230 V not connected!**" blinks in a pop-up display.

Reconnect the external 230 V power supply to go back to a combination of the burner and the electric heater.

Alternatively, press STOP to end current mode.

NOTE

At ambient temperatures below 0 °C select heat source

"Diesel powered" or

"Diesel + (chosen watts) W ~ 230 V"

to ensure that the desired interior temperature will be achieved.

4.3.7 Winter mode (heating with hot water production)

If you want the electric heater to provide hot air and hot water, make sure to connect the external power supply (230 V AC): "⚡ 230 V" (10) on display.

Make sure the device is switched on.

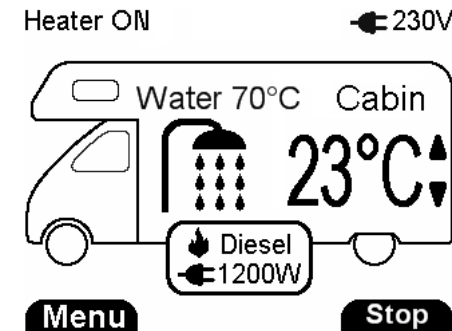
- 1 Press MENU.
- 2 Press ▲ and ▼ to select "🔥 Heating Cabin + Hot Water".
- 3 Press OK.
- 4 Press ▲ and ▼ to select the desired heat source:

Dual Top Evo 7: "Diesel powered" "600 W ~ 230 V" * "1200 W ~ 230 V" * "Diesel + 600 W ~ 230 V" * "Diesel + 1200 W ~ 230 V" *	Dual Top Evo 8: "Diesel powered" "1000 W ~ 230 V" * "2000 W ~ 230 V" * "Diesel + 1000 W ~ 230 V" * "Diesel + 2000 W ~ 230 V" *
---	---
- * Options "...W ~ 230 V" shown only when external 230 V power supply is connected.
- 5 Press OK.
- 6 "Selection completed" on display.

NOTE

When heater is already "ON", text "Selection completed, press OK to change operation mode" appears.
Press OK.

- 7 After 3 seconds power indicator (6) lights green and display changes to:



- "Heater ON"
- "Water 70°C"
- "Cabin", "... °C"
(value depends on latest selected interior temperature; °C or °F depends on setting)
- "🔥 diesel", "⚡ 600 W", "⚡ 1000 W", "⚡ 1200 W", "⚡ 2000 W"
(depending on selected heat source).

- 8 Press ▲ or ▼ to adjust desired interior temperature.

The heater gradually reduces the power until the selected interior temperature is reached. If the interior temperature has been reached, but the water temperature is still too low, the blown air circulation fan switches off and the water continues to be heated to a temperature of 70 °C.

The water temperature may reach up to 80 °C depending on the heating power that is required to achieve the interior temperature.

NO WATER control

When winter mode (heating **with** hot water production) is selected, but the boiler is without water, there will be a warning on the control panel.
Text "Mode changed Low level sanitary water!" blinks in a pop-up display.
The device automatically changes to winter mode, heating **without** hot water production.

Choose one of the following options:

- A. Press STOP to end current mode and select winter mode, heating **without** hot water production. See paragraph 4.3.6.
- B. Fill the boiler with water after changing to winter mode, heating **with** hot water production.

NOTE

If a combination of the burner and the electric heater provides the heat and the 230 V connection is disconnected, the device automatically switches to diesel powered heating only.

Text "**Mode changed 230 V not connected!**" blinks in a pop-up display.

Reconnect the external 230 V power supply to go back to a combination of the burner and the electric heater.

Alternatively, press STOP to end current mode.

NOTE

At ambient temperatures below 0 °C select heat source

"Diesel powered" or

"Diesel + (chosen watts) W ~ 230 V"

to ensure that the desired interior temperature will be achieved.

4.3.8 Heating while driving

Heating the cabin and/or water while driving the vehicle is possible and allowed.

Attention when driving in cold conditions:








Run the Dual Top Evo in winter mode (heating **with** hot water production) to protect the water pipes outside the vehicle against frost.

4.4 Settings setup

This chapter describes how to setup your favourite Dual Top Evo system settings of day, date, time, language, temperature unit, hour format and display contrast correctly.

4.4.1 Day, date, time

Make sure the device is switched on.


- 1 Press MENU.
- 2 Press  and  to select "  Setup".
- 3 Press OK.
- 4 Press  and  to choose "Set Date + Day" or "Set Time".
- 5 Press OK.
- 6 Day and date or time (depends on selection) on display. Active field blinks.
- 7 Press  or  to adjust the value of the flashing field.
- 8 Press OK.
- 9 Now, the next field blinks. Repeat steps 7 and 8 until setting is correct.
- 10 Press BACK to return to main menu, or continue with another setting as described from step 4 to 9.

4.4.2 Language, temperature unit, hour format, display contrast

Choose your favourite settings:

- Language: Deutsch/English/Español/Français/Italiano/Svenska
- Temperature unit: °C/°F
- Hour format: 12 h/24 h
- Display contrast: ... %

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press **▲** and **▼** to select "  **Setup**".
- 3 Press OK.
- 4 Press **▲** and **▼** to select "**Set Language**", "**Set Temperature Unit**", "**Hour Format**" or "**Set Contrast**".
- 5 Press OK.
- 6 Press **▲** or **▼** to select the desired language, temperature unit, hour format or display contrast.
- 7 Press OK.
- 8 Press BACK to return to main menu, or continue with another setting as described from step 4 to 7.





4.5 Programming timer

This allows you to operate the system using a 24 hour 7 day programmable timer. Within this there are 2 programs you can set for each day, hour by hour, whether the interior has to be heated or not (off, lower temperature, higher temperature) and if hot water (70 °C) has to be available or not.

4.5.1 Program setting

Temperature setting

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press **▲** and **▼** to select "  **Programming Timer**".
- 3 Press OK.
- 4 Press **▲** and **▼** to select "  **Timer Program 1**" or "  **Timer Program 2**" (values T1 and T2 depend on program settings).
- 5 Press OK.
- 6 Press **▲** and **▼** to select "  **Set Cabin Temperatures**".
- 7 Press OK.
- 8 Press **▲** or **▼** to set desired T1 (low interior temperature).
- 9 Press OK.
- 10 Press **▲** or **▼** to set desired T2 (high interior temperature).
Note: T2 has to be higher than T1.
- 11 Press OK.
- 12 Press BACK to return to main menu or continue with **Day setting**, step 6.







NOTE

Temperatures T1 and T2 may be programmed to different values in Timer Program 1 and Timer Program 2.

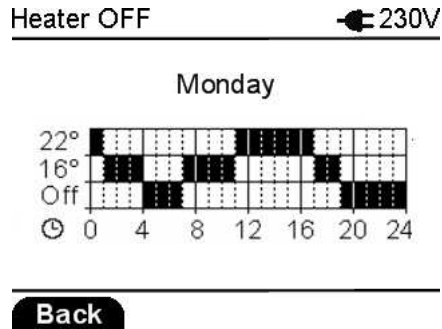
Day setting

In case you want to set the days after setting temperatures T1 and T2, continue with step 6.

Make sure the device is switched on.

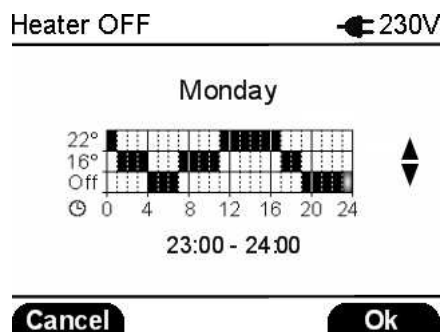
- 1 Press MENU.
- 2 Press  and  to select "⌚ **Programming Timer**".
- 3 Press OK.
- 4 Press  and  to select "🕒 **Timer Program 1**" or "🕒 **Timer Program 2**" (values T1 and T2 depend on program settings).
- 5 Press OK.
- 6 Press  and  to select "**Set Monday**", "**Set Tuesday**", "**Set Wednesday**" etc..
- 7 Press OK.

- 8 Press **▲** and **▼** to:
 - select **“Show 24 h Program”**.
Matrix with day, programmed hours and interior temperatures T1 and T2 appears.



Press BACK to return to main menu.

- or select **“Modify 24 h Program”**.
- 9 Press OK.
- 10 Selected day and hour appear on display.
Matrix with programmable hours and interior temperatures T1 and T2 appears.
Field of actual time and temperature blinks.



- 11 Press **▲** or **▼** to adjust desired temperature for selected day and hour: **OFF**, **T1** or **T2**.
- 12 Press OK.

- 13 Repeat step 11 and 12 until all 24 hours are programmed.
(You will see the hour period displayed at the bottom of the screen.)
- 14 **“Programming 24 h successful”** on display.
After 3 seconds, select another day as described in step 6 and continue to program remaining days.
It's also possible to copy programmed values from one day to another. See **Day copying**, step 6.
When all days have been programmed, press BACK to return to main menu.

Day copying

Instead of programming each day individually, it's also possible to copy programmed values from one day to another.
After copying you can leave the values identical, but it's also possible to make adjustments (see **Day setting**, step 6).

In case you copy days after setting temperatures T1 and T2 or programming and setting a day, continue with step 6.

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press **▲** and **▼** to select **“⌚ Programming Timer”**.
- 3 Press OK.
- 4 Press **▲** and **▼** to select **“⌚ Timer Program 1”** or **“⌚ Timer Program 2”**
(values T1 and T2 depend on program settings).
- 5 Press OK.
- 6 Press **▲** and **▼** to select **“Set Monday”**, **“Set Tuesday”**, **“Set Wednesday”** etc..
- 7 Press OK.
- 8 Press **▲** and **▼** to select **“Copy Tuesday”**, **“Copy Wednesday”** etc.
- 9 Press OK.

- 10 **"Copy of 24 h program successful"** on display.
After 3 seconds, select another day as described in step 6 and continue to program remaining days.
- When all days have been programmed, press BACK to return to main menu.

4.5.2 Heating by timer







This paragraph describes how to select a program to heat the interior and to provide hot water.


You can choose from 2 programs that define 7 days, 24 hours interior and water heating.

To change the programs see paragraph 4.5.1: "Program setting".

If you want the electric heater to provide hot air or hot water, make sure you connect the external power supply (230 V AC): "**230 V**" (10) on display.

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press  and  to select "**Heating by Timer**".
- 3 Press OK.
- 4 Press  and  to select "**Timer Program 1**" or "**Timer Program 2**" (values T1 and T2 depend on program settings).
- 5 Press OK.
- 6 Press  and  to select "**Heating Cabin**" or "**Heating Cabin + Hot Water**".
- 7 Press OK.

- 8 Press  and  to select the desired heat source:

Dual Top Evo 7:
"Diesel powered"
"600 W ~ 230 V" *
"1,200 W ~ 230 V" *

Dual Top Evo 8:
"Diesel powered"
"1,000 W ~ 230 V" *
"2,000 W ~ 230 V" *

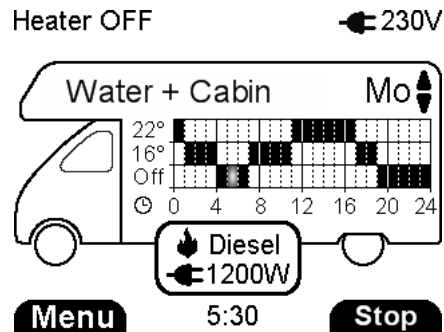
* Options "...W ~ 230 V" shown only when external 230 V power supply is connected.

- 9 Press OK.
- 10 **"Selection completed"** on display.

NOTE

When heater is already "ON", text **"Selection completed, press OK to change operation mode"** appears.
Press OK.

11 After 3 seconds power indicator (6) lights green and display changes to:



- "Heater ON" or "Heater OFF"
- "Water" (if "Hot Water" selected)
- "Cabin"
- "diesel", "600 W", "1000 W", "1200 W", "2000 W" (depending on programmed heat source).
- Day
- Time
- Matrix with programmed hours and interior temperatures. Field of actual time and temperature blinks.

NOTE

Press ▲ and ▼ to view program settings of another day.

4.6 Remote control

Heater can be operated by remote control devices: Webasto Telestart and Thermo Call. These controls are optional.

Signal of remote control over-rides commands of control panel, as long as remote control is enabled.

4.6.1 Show actual mode

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press ▲ and ▼ to select "⌘ Setting ThermoCall/Telestart".
- 3 Press OK.
- 4 Press ▲ and ▼ to select "Show actual Mode".
- 5 Press OK.
- 6 On display appears following message, depending on disabled or enabled remote control function:
 - Disabled: "ThermoCall/Telestart disabled"
 - Enabled: "ThermoCall/Telestart enabled Receiving a signal from ThermoCall/Telestart system heats up cabin to ... °C and provides hot water".

NOTE

... °C or ... °F: value and unit depend on setting and set interior temperature.

NOTE

"and provides hot water" only appears when function "Heating Cabin + Hot Water" is selected.

- 7 Press BACK to return to main menu.

4.6.2 Enabling and setting Telestart and Thermo Call

If you want the electric heater to provide hot air or hot water, make sure you connect the external power supply (230 V AC): "**230 V**" (10) on display.

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press **▲** and **▼** to select "**Setting ThermoCall/Telestart**".
- 3 Press OK.
- 4 Press **▲** and **▼** to select "**ThermoCall/Telestart enabling and setting**".

NOTE

If text "**ThermoCall/Telestart not connected Visit www.webasto-dualtop.com**" appears, remote control device is not connected.

Press BACK to return to main menu.

- 5 Press OK.
- 6 Press **▲** and **▼** to select "**Heating Cabin**" or "**Heating Cabin + Hot Water**".
- 7 Press OK.
- 8 Press **▲** and **▼** to select the desired heat source:

Dual Top Evo 7:
"Diesel powered"
"600 W ~ 230 V" *
"1,200 W ~ 230 V" *

Dual Top Evo 8:
"Diesel powered"
"1,000 W ~ 230 V" *
"2,000 W ~ 230 V" *

* Options "...W ~ 230 V" shown only when external 230 V power supply is connected.

- 9 Press OK.
- 10 Press **▲** and **▼** to set the desired interior temperature.
- 11 Press OK.


- 12 "**Enabling ThermoCall/Telestart successful**" on display.
 After 3 seconds display changes to status of appliance at actual time.
 "(8)" on display.

4.6.3 Disabling Telestart and Thermo Call

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press **▲** and **▼** to select "**Setting ThermoCall/Telestart**".
- 3 Press OK.
- 4 Press **▲** and **▼** to select "**ThermoCall/Telestart disabling**".
- 5 Press OK.
- 6 "**Disabling ThermoCall/Telestart**" on display.
 After 3 seconds display changes to status of appliance at actual time.
 "(8)" disappears from display.

4.6.4 Start and stop heater operation using Telestart

To do this, Telestart must be available and activated. This can be recognised from an indicated symbol “” (8).

Starting heater operation:

- 1 Press ON button of Telestart.
LED of Telestart lights green, showing that signal was transferred successfully.
- 2 The heater starts running in the (in paragraph 4.6.2: "Enabling and setting Telestart and Thermo Call") selected mode, independent from the actual heater status (heater off, heater on, drainage, ...).

Stopping heating operation:

- 1 Press OFF button of Telestart.
LED of Telestart lights red, showing that signal was transferred successfully.
- 2 The heater stops any heating operation and switches off, independent from the actual heater status.
Exception: running drainage will be continued.

NOTE

If LED of Telestart blinks red after pressing ON or OFF button of Telestart, the signal was not transferred successfully.





4.7 Frost

There are several features that protect the water supply system against frost.

- Drain water contents manually when there is risk of frost and when storing the vehicle for a longer period.
See paragraph 4.7.1: "Draining the boiler manually".
- The boiler is drained automatically in case you forgot to drain manually.
See paragraph 4.7.3: "Draining the boiler automatically".
- In case you don't want to drain the water supply system and you don't heat the interior of the vehicle, you can select the frost protection mode.
See paragraph 4.7.4: "Frost protection mode".

4.7.1 Draining the boiler manually

Drain water contents manually when there is risk of frost and when storing the vehicle for a longer period.

- 1 Interrupt power for vehicle system water pump (main switch or pump switch, depending on instructions of the vehicle manufacturer).
- 2 Open hot water taps in kitchen, bathroom, shower, etc. (set pre-selecting mixing taps or single-lever valves to "hot").
- 3 Make sure the device is switched on.
- 4 Press MENU.
- 5 Press  and  to select “ **Draining Boiler**”.
- 6 Press OK.
- 7 “**Press OK to confirm boiler drainage**” on display.
- 8 Press OK.
- 9 “**Draining... Press MENU to select heating operation**” and “**Press STOP to abort drainage**” on display.
“” (9) on display.

NOTE

Any kind of heater operation will be stopped when manually starting boiler drainage.

NOTE

To stop drainage see paragraph 4.7.2: "How to stop draining the boiler".

The boiler content is now discharged to the outside through the electrical safety/ drainage valve.

Place a container beneath the outlet to check whether the water in the boiler has completely drained away (approx. 10 litres!).

After approx. 90 min, text "**Drainage completed**" appears.

10 Press OK to end manual drainage.

NOTE

Any kind of water from the vehicle has to be discharged at a proper disposal facility.

NOTE

Be aware of drainage behaviour when starting a heating operation (by menu guidance) without aborting or completing drainage procedure:

- a) Drainage aborted when one of the following modes is selected:
 - Summer mode (hot water only)
 - Winter mode (heating **with** hot water production)
 - Frost protection mode;
- b) Drainage continued in case of
 - Winter mode (heating **without** hot water production).





NOTE

Avoid the formation of micro-organisms in the lines and in the boiler during storage and make sure that the water supply system is completely drained. To do this, open all water valves, connect an air pressure of approx. 2 bar to the hot water line and leave it connected until the residual water is completely drained off.

4.7.2 How to stop draining the boiler

Boiler drainage can be stopped, if circumstances require this.

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press  and  to select " **Draining Boiler**".
- 3 Press OK.
- 4 "**Press OK to confirm boiler drainage**" on display.
- 5 Press OK.
- 6 "**Drainage... Press MENU to select heating operation**" and "**Press STOP to abort drainage**" appears on the display.
" (9)" on display.
- 7 Press STOP.
"**Drainage aborted**" on display.
- 8 Press OK.

4.7.3 Draining the boiler automatically

The electrical safety/drainage valve is opened electrically.

If the water temperature at the electrical safety/drainage valve is less than 6 °C, the boiler water contents may discharge automatically.

This function is active when:

- the appliance is switched "OFF";
- in winter mode (heating **without** hot water production) during a period when there is no heating action in the heater (e.g.: selected interior temperature is reached, low outside temperature);
- if battery power is too low;
- there is a failure!

NOTE

Note that it only works when a 12 V power supply is available!

During drainage, "❄️" (9) appears on display.

After approx. 90 min, the electrical safety/drainage valve will be closed again.

The drainage outlet of the electrical safety/drainage valve must always be kept clear (free from dirt, ice, leaves etc.)!

To avoid water loss and to protect the heater and boiler against frost, select the frost protection mode (see paragraph 4.7.4: "Frost protection mode").

NOTE

Automatic drainage can not be stopped. However, when you switch mode to manual drainage, it can be aborted. (See paragraph 4.7.2: "How to stop draining the boiler").

NOTE

Draining the boiler as well as the frost protection mode protect the heater and boiler against frost. Not all water lines in the vehicle can be protected against freezing due to installation variations.

When storing the vehicle, either choose a place that is well protected against low temperatures or drain the whole water system, including all lines and tubes (e.g. with air pressure, see note in paragraph 4.7.1: "Draining the boiler manually").

There shall be no warranty claims for damage caused by frost!

4.7.4 Frost protection mode

This mode is a safety feature for the heater only. It does not prevent the water circuits inside and outside the vehicle from freezing.

Store the vehicle at a place that is well protected against frost or drain water contents if there is a risk of frost!

Make sure the device is switched on.

- 1 Press MENU.
- 2 Press **▲** and **▼** to select "**Frost Protection**".
- 3 Press OK.
- 4 Press **▲** and **▼** to select the desired heat source:

Dual Top Evo 7:
"Diesel powered"
"600 W ~ 230 V" *
"1,200 W ~ 230 V" *

Dual Top Evo 8:
"Diesel powered"
"1,000 W ~ 230 V" *
"2,000 W ~ 230 V" *

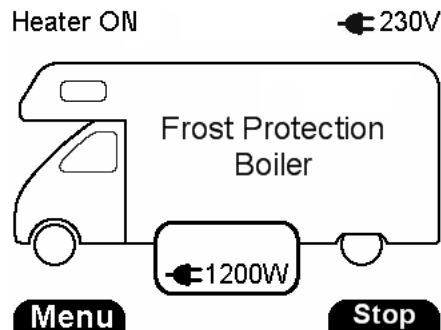
* Options "...W ~ 230 V" shown only when external 230 V power supply is connected.

- 5 Press OK.
- 6 "**Selection completed**" on display.

NOTE

When heater is already "ON", text "**Selection completed, press OK to change operation mode**" appears.
Press OK.

- 7 After 3 seconds power indicator (6) lights green and display changes to:



- "Heater ON"
- "Frost Protection Boiler"
- "⚡ diesel", "⚡ 600 W", "⚡ 1000 W", "⚡ 1200 W", "⚡ 2000 W"
(depending on selected heat source).

The heater functions as in the winter mode, heating **with** hot water production, but with lower values for air and water temperatures.

NOTE

When the frost protection mode is selected in dependence on the selected heat source, diesel and electrical power are used. Therefore, it should be ensured that the battery is charged and there is enough diesel in the tank when "**Diesel mode**" is selected. Check this frequently.

Note:

When ambient temperatures below -20 °C are expected, select heat source "**Diesel powered**" for 100% frost protection of the system.

NOTE

Make sure that the boiler is filled with water when choosing frost protection mode.

NOTE

The frost protection mode enables the user to park the vehicle for a short time without being observed and without having to worry about frost and frost damage. During winter storage or when parking the unused vehicle for a longer time, the entire water system should be drained and the heater disconnected from the battery to avoid unnecessary battery discharging or possible frost damage.

5 Filling the boiler

Fill the vehicle fresh water tank with your own hose, which is kept and stored clean. Before filling the tank rinse the hose thoroughly (approx. 30 seconds).

WARNING

Always fill the tank with drinking water only and prevent dirt from getting into the entire water supply system.

- 1 Fill the boiler with water at an ambient temperature of at least 6 °C, or select
 - summer mode 40°C or 70°C, see paragraph 4.3.5: "Summer mode (hot water only)", or
 - winter mode (heating **with** hot water production), see paragraph 4.3.7: "Winter mode (heating with hot water production)", to make sure the electrical safety/drainage valve does not open!
- 2 Make sure that the boiler is filled with water.
- 3 Open hot water taps in kitchen, bathroom, shower, etc. (set pre-selecting mixing taps or single-lever valves to "hot"). Leave water taps open until water flows out of taps. The air is pressed out of the boiler in the process and it fills with water.

If just the cold water supply system is being operated, without using the boiler, the latter also fills up with water. In order to avoid damage by frost, the water contents must be drained by operating the electrical safety/drainage valve (see paragraph 4.7.1: "Draining the boiler manually"), also when the boiler has not been used.

As an alternative, two shut-off valves, resistant to hot water, can be fitted in front of the cold and hot water connection.

When connecting to a central water supply (rural or city mains) or if using a more powerful water pump, a pressure reduction valve must always be installed to prevent a pressure above 2.5 bar developing in the boiler.

NOTE

Due to pressure differences in the system which result during filling or operation, small water quantities (approximately 30 ml / 24 h) can be drained out of the boiler, however there is no need to be concerned about complete draining.

6 Fault Message Output

When a fault occurs, power indicator/fault indicator (6) blinks RED. Next to that, a fault message is shown on the display of the control panel.

The meaning of the messages is shown in the table in chapter 8: "Troubleshooting".

Depending on the type of fault, you may need to visit a Webasto Service Centre.

7 Maintenance

Correct maintenance of a Webasto Dual Top Evo 7 / 8 integrated heater is important to ensure years of trouble free safe use and enjoyment.

We recommend taking the vehicle to your authorised Webasto dealer for periodic service and inspection.

It is very important that your dealer carries out any repair or maintenance, which is not described in this manual. Consult your dealer for help in determining your maintenance needs.

How much of your vehicle's service and maintenance you can do depends on your skill and experience, and whether you have the special tools required. If you want to learn how to work on your heater ask your dealer for advice.

WARNING

Many heater service and repair tasks require special knowledge and tools. Improper adjustment or service may result in damage to the heater or in an accident, which can cause serious injury.

- For best performance, your authorised Webasto dealer must inspect and service your heating system at least every 2 years, independent of the usage.
- DO NOT use high-pressure washer or compressed air to clean the heater. This can force dirt into areas that may cause damage.
- The heater must be switched "OFF" before cleaning.
- Always disconnect 230 V power supply before any cleaning, maintenance or repair.
- Drain the water system when there is risk of frost or when the vehicle is stored for a longer period.
- Use wine vinegar for descaling the boiler, this being introduced into the appliance via the water supply.
See paragraph 7.2: "Descaling".
- Regularly check all components of the water supply system.

7.1 Disinfection

- In case no water has been taken from the water supply system for a period of a week or more, drain the whole water system and rinse it thoroughly before refilling it.
- To avoid micro-organisms, water should not stay longer than a fortnight in the boiler. Disinfect the water supply system if water was more than a fortnight in the boiler.
- To prevent any harm, operate the heater full power every four weeks (diesel powered operation, not the electric heater):
 - for at least 20 minutes continuously, winter mode, heating cabin **without** hot water production.
This prevents mechanical parts from seizing.
 - followed by operation for at least 30 minutes continuously, "Summer mode 70°C", hot water production only.
Water supply systems below 60 °C may breed micro-organisms.
- Clean and disinfect the water supply system immediately before rental or lending of the vehicle.
- Clean and disinfect the water supply system at least one time per year.

NOTE

Before winter storage, it is advisable to completely drain the water supply system with compressed air of 2 bar. To do this, open all taps, connect the compressed air to the hot water line and wait until the water has completely drained off.

- With suspicion on contamination with pathogens the water supply system has to be disinfected.
- Clean and disinfect the water supply system according to all local regulations (e.g. DVGW W 291).

For disinfection use a solution of Sodium Hypochlorite (NaOCl), dilution 5 %, 30 to 40 °C (e.g. Certisil®, Puriclean).

Other products can harm your health and/or the Dual Top Evo.

- ▶ Carefully follow all instructions of the NaOCl supplier.
- ▶ Carefully follow all instructions of the vehicle manufacturer.

- 1 Drain all water contents. See paragraph 4.7.1: "Draining the boiler manually".
- 2 Close all water taps.
- 3 Fill entire water supply system with NaOCl.
- 4 Select "Summer mode 40°C" to make sure the electrical safety/drainage valve does not open.
- 5 Make sure that the boiler is filled with NaOCl.
- 6 Open water taps in kitchen, bathroom, shower, etc. (set pre-selecting mixing taps or single-lever valves to "hot").
Leave the taps open until the air has been completely forced out of the Dual Top Evo, it is filled with NaOCl and NaOCl flows out of the taps. Then close the taps. Open the taps one by one, not all at the same time.
- 7 Leave it on for 1 to 2 hours.
- 8 Drain all NaOCl contents.
- 9 Repeat the described procedure (step 1 to 8) with drinking water 1 or 2 times. No need to leave it on for 1 to 2 hours.
- 10 Drain all water contents.
- 11 Fill entire water supply system with drinking water. See chapter 5: "Filling the boiler".

7.2 Descaling

Depending on the hardness of the water, used for heating in the Dual Top Evo, scaling and lime deposits can form in the coolant hoses and the boiler. In order not to restrict the water quality and the heater efficiency, it is advisable to conduct descaling regularly depending on the water quality.

Use common household products, such as "Kettle Klear" or a wine vinegar-water mixture with a ratio of 1:2 for descaling.

Other products can harm your health and/or the Dual Top Evo.

- 1 Drain all water contents. See paragraph 4.7.1: "Draining the boiler manually".
- 2 Close all water taps.
- 3 Fill the entire water supply system with wine vinegar-water mixture.
- 4 Select "Summer mode 40°C" to make sure the electrical safety/drainage valve does not open.
- 5 Make sure that the boiler contains the mixture.
- 6 Open water taps in kitchen, bathroom, shower, etc. (set pre-selecting mixing taps or single-lever valves to "hot"). Leave the water taps open until the entire air has been pressed out of the Dual Top Evo, they are filled with the wine vinegar-water mixture and it flows out of the water taps. Then close the taps. Open the taps one by one, not all at the same time.
- 7 Leave it on for 1 to 2 hours and wait for reaction phase.
- 8 Check whether the scale deposits have completely dissolved in the vinegar water. If not, allow the heater to run for another 30 minutes and then completely drain off the wine vinegar-water mixture.
- 9 Flush the water supply system with drinking water until it no longer smells like vinegar.
- 10 Then fill the boiler with fresh drinking water again. See chapter 5: "Filling the boiler".

8 Troubleshooting


If a fault occurs, first check the fuses and plug connections to ensure that they are in perfect condition and connected correctly.

If the action described below does not rectify the fault, have the heater checked by Webasto-trained personnel.

To reset the fault, confirm message by pressing OK (if provided) or switch off the Dual Top Evo for at least 5 seconds.

If serious malfunctions such as overheating or failure to start reoccur, the heater is locked and can be put back into service by deleting the failures.

Do this by disconnecting the power supply:

- 1 Switch off the Dual Top Evo by pressing the On/Off button .
- 2 Ensure that the heater/fan is not running (to be established by the sound of the heater operating).
If necessary wait until fans stop running.
- 3 Remove the 15 A fuse (red cable) for at least 5 seconds and then install it again.

Now the heater is reset.

WARNING

In case you are a person not trained by Webasto for Dual Top Evo 7 / 8, all repair tasks are done at your own risk. To avoid injuries and damage, the device must be switched off, the 230 V power supply interrupted and the battery disconnected before working on the Dual Top Evo 7 / 8.

WARNING

Within the EU, maintenance work on electrical systems with a voltage of 230 V may only be carried out by appropriately qualified experts. Failure to observe these regulations can result in serious injuries.

Residual-current device

In the event of continued 'tripping' of the 230 V RCD (Residual Current Device) when using one of the 230 V modes, please contact an authorised Webasto Service Centre.

WARNING

If black smoke is being emitted from the heater exhaust, the combustion air system and/or the exhaust system may be blocked. Check combustion air and exhaust system for blockages.

A blocked exhaust system or combustion air system can cause unsafe status of the heater!

Fault message output on control panel

Message	Meaning	Remedy
Message 01 No data connection	No communication between control panel and heater, or control panel error	First, remove fuses 15 A (red cable) and 5 A. Then put in fuse 15A (red cable), followed by fuse 5 A. Check connections of control panel. Check fuse 15 A (red cable). Contact a Webasto Service Centre.
Message 02 No start of combustion	No start (after 2 attempts to start)	Check fuel supply (enough fuel, at least 8 ltr.), reset heater (by pressing OK or switching off for at least 30 sec.)
Message 03 Combustion interrupted	Flame failure Restart not successful	See message 02.
Message 04 High battery voltage	Operation voltage is above permitted value	Reset heater (by pressing OK or switching off for at least 5 sec.)
Message 05 Low battery voltage	Operation voltage is below permitted value	Charge battery or connect to main power supply (230 V), reset heater (by pressing OK or switching off for at least 5 sec.)
Message 06 Fuel pump disconnected or system overheated	Fuel pump disconnection/one of the three overheating switches detects too high temperature OR relay box, cable or connection relay box is defective	Check fuel pump cable and connectors, check for overheating (see messages 10, 11, 12, 13 and 14), reset heater (by pressing OK or switching off for at least 5 sec.)
Message 07 Fuel pump short circuit	Fuel pump short circuit to ground OR relay box, cable or connection relay box is defective	Check fuel pump cable and connectors.
Message 08 Failure hot air fan	Hot air motor fault: disconnection/short circuit/fan speed out of range/fan blocked	Ensure that hot air fan can rotate freely, remove possible blocking objects, reset heater (by pressing OK or switching off for at least 5 sec.)
Message 09 Failure fan amplifier	No communication between amplifier of hot air fan and heater control unit	Contact a Webasto Service Centre.
Message 10 High temperature sanitary water	Overheating water temperature sensor	Check water level, reset heater (by pressing OK or switching off for at least 5 sec.) or select winter mode, heating without hot water production
Message 11 High temperature sanitary water	Exceeding gradient water temperature sensor	Check water level, reset heater (by pressing OK or switching off for at least 5 sec.) or select winter mode, heating without hot water production
Message 12 High temperature heating air	Overheating hot air temperature sensor	Ensure that hot air can flow freely, air intake and outlets are not blocked. Reset heater (by pressing OK or switching off for at least 5 sec.)
Message 13 High temperature heating air	Exceeding gradient hot air temperature sensor	Ensure that hot air can flow freely, air intake and outlets are not blocked. Reset heater (by pressing OK or switching off for at least 5 sec.)
Message 14 Failure cooling air ventilation	Overheating of heaters' control unit	Ensure that cooling air can flow freely, reset heater (by pressing OK or switching off for at least 5 sec.)

Fault message output on control panel

Message	Meaning	Remedy
Message 15 Failure combustion air motor	Combustion air motor interrupted	Ensure that cooling fan can freely rotate, remove possible blocking objects. Check fuse 15 A (red cable).
Message 16 Failure combustion air motor	Combustion air motor fault: disconnection/short circuit/overload/blocked	See message 15.
Message 17 Failure control unit	Control unit (heater) fault/heater locked	Put heater back into service (see above this table) and restart heater. Contact a Webasto Service Centre.
Message 18 Failure cabin temperature sensor	Interior temperature sensor disconnection/short circuit	Check routing of cable, avoid that it is pinched or crushed, check the connector behind the control panel. Reset heater (by pressing OK or switching off for at least 5 sec.)
Message 19	n/a	n/a
Message 20 Failure heating air temperature sensor	Hot air temperature sensor disconnection	Reset heater (by pressing OK or switching off for at least 5 sec.) Contact a Webasto Service Centre.
Message 21 Failure heating air temperature sensor	Hot air temperature sensor short circuit	See message 20.
Message 22 Failure sanitary water temperature sensor	Water temperature sensor disconnection	See message 20.
Message 23 Failure sanitary water temperature sensor	Water temperature sensor short circuit	See message 20.
Message 24 Failure glow plug	Glow plug/Flame monitor disconnection	See message 20.
Message 25 Failure glow plug	Glow plug/Flame monitor short circuit	See message 20.
Message 26 Failure flame detection	Premature flame detection	See message 20.
Message 27 Failure relay box	Short circuit of 230 V indication signal from relay box to heater	Contact a Webasto Service Centre.
Message 28 Failure drain valve	Electrical safety/drainage valve disconnection	See message 20.
Message 29 Failure drain valve	Electrical safety/drainage valve short circuit	See message 20.

Fault message output on control panel

Message	Meaning	Remedy
Message 30 Failure relay	230 V high or low power relay circuit interrupted/ short circuit	Contact a Webasto Service Centre.
Message 31, 32, 33	n/a	n/a
Message 34 System overheated or relay circuit disconnected	One of the three overheating switches detects too high temperatures/overheating relay circuit interrupted	Check for overheating (see messages 10, 11, 12, 13 and 14). Reset heater (by pressing OK or switching off for at least 5 sec.) Contact a Webasto Service Centre.
Message 35 Failure relay box	230 V overheating relay short circuit	Contact a Webasto Service Centre.
Message 36, 37, 38, 39, 40, 41	n/a	n/a
Message 42 Failure 230 V heating element	Electric heater (230 V) defect No relevant temperature increase detected.	Check water supply system related for a permanent open hot water tap OR heavy leakages. Contact a Webasto Service Centre.

NOTE

n/a = not available

NOTE

All messages except message 28 and 29: heater shuts off automatically.
Failure of electrical safety/drainage valve (message 28 and 29) will not abort heater
operation and will not be shown during heater operation.

8.1 Fuses

The Dual Top Evo is equipped with 3 fuses: 5 A, 15 A and 15 A.
Each fuse must be connected to the corresponding cable (observe colour).

5 A: red-and-blue cable

15 A: red-and-black cable

15 A: red cable

When you replace a fuse, make sure that the Dual Top Evo is switched off.

WARNING

In case of electrical deviations a fuse other than specified may cause fire.
































9 Worldwide warranty

The following worldwide warranty is extended to cover the integrated Dual Top Evo air and water heater, manufactured or supplied by Webasto and is subject to qualifications indicated. Webasto warrants for the period set forth below that products be free from defects in workmanship and material, provided such products are installed, operated, and maintained in accordance with Webasto Dual Top Evo written instructions. The warranty is for the end-customer whereby it is administered and processed inside the Webasto network of authorized dealers.
































Terms and conditions

- 1 Please note that the Dual Top Evo is only specified for applications in motor homes or similar vehicles.
- 2 The quality and good operation of Webasto Dual Top Evo products are guaranteed by Webasto for a period of two (2) years, starting from the date of installation. OE installed equipment warranties begin with the purchase of the (recreational) vehicle, not from the date of installation. In order to extend the parts warranty period to three (3) years, please contact your Webasto Service Centre.
- 3 Webasto will compensate the costs for the replacement/repair of the defective part or component at the smallest sub-assembly level by using only but genuine components. In the case of labour, installation or other allowances, where accepted these cannot exceed the standard repair times. Any excess of such allowances for example due to poor accessibility or equipment will not be compensated.
- 4 This warranty is limited to repair & replacement only. It does not cover:
 - Damage resulting from defects in the Webasto Dual Top Evo equipment
 - failure of the Dual Top Evo equipment due to frost, normal wear, accident, misuse, abuse, negligence or improper installation, lack of reasonable and necessary maintenance, unauthorized installation or repair, alterations, civil disturbance or act of God.
- 5 All Dual Top Evo products have to be installed by authorized installers or this installation has to be reviewed and approved by an authorized installer.
- 6 The Dual Top Evo should be demonstrated to the Webasto Service Centre for repair/warranty claims. Travelling/transport costs shall be borne by the owner.
- 7 Proof of original purchase with date of installation is required to receive warranty service. Worldwide warranty can only be supported if purchase and installation is centrally registered in the Webasto Warranty System.

Warranty Certificate

<p>Mod.-Type</p> <p>Mod.No</p> <p>U [Volt]</p> <p></p> <p>CO₂ [Vol. %]</p> <p>CO [ppm]</p> <p>I [Ampere]</p>	<p>Installed in vehicle type <input checked="" type="checkbox"/></p> <table border="1"><tr><td></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td></tr><tr><td></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td></td><td><input checked="" type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td></tr></table> <p>Type: <input type="text"/></p> <p>Max. permissible weight <input type="text"/> kg</p>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	<p>Self-adhesive label</p>
	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>													
	<input type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>													
<p>Date of Installation</p>	<p>Validation & Commissioning</p> <p>By (name): <input type="text"/></p> <p>Approved <input type="checkbox"/> Y / N</p> <p>Report available <input type="checkbox"/> Y / N</p> <p>Date: <input type="text"/></p>	<p>Date of initial registration of vehicle</p> <p><input type="text"/></p> <p>Stamp of installing workshop</p>																				

Control Card

<p>Mod.-Type</p> <p>Mod.No</p> <p>U [Volt]</p>  <p>CO₂ [Vol. %]</p> <p>CO [ppm]</p> <p>I [Ampere]</p>	<p>Installed in vehicle type X</p> <table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> <p>Type: <input type="text"/></p> <p>Max. permissible weight <input type="text"/> kg</p>											<p>Self-adhesive label</p> <p>Stamp of installing workshop</p>
												
												
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In multilingual versions the German language is binding.

The telephone number of each country can be found in the Webasto service center leaflet or the website of the respective Webasto representative of your country.

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