EN

# AUTOTERM

# Touch Control


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v02 – 10.2025

# Table of Contents

Dear Customer!

Thank you for choosing AUTOTERM Touch Control! We are doing everything to ensure that this product meets your requirements. It is essential to us that every customer is satisfied with the quality of our products.

## Introduction

This operating manual contains general information for the user regarding the safe maintenance and operation of the product.

In case of any problems, we strongly recommend contacting certified service centers. The contact information and locations of certified service centers can be found on our website www.autoterm.com.

**Before operating the AUTOTERM Touch Control, read this operating manual and the AUTOTERM heater's operating manual.**

## Warranty and liability

The manufacturer will not be liable for any defects and damage caused by failure to follow the heater's installation and maintenance instructions.

- The control panel can only be used to control the liquid heaters (Flow 5, Flow 6 and Flow 14) and the air heaters (Air 2D, Air 4D and Air 9D).
- Do not connect and disconnect the control panel connector while the liquid or air heater is operating.
- After the product is switched off, it should not be switched on again for at least 5 to 10 seconds.
- For the safe operating of the product, after two consecutive unsuccessful start attempts, contact the service department for troubleshooting information.

The warranty period and conditions for warranty service are specified in the warranty certificate.

## Safety

**Explosion hazard**

**Do not** switch on or operate the liquid or air heater in locations where combustible vapors, gases, or large amounts of dust may form and accumulate (e.g., fueling stations or facilities storing petroleum, fuel, coal, timber, or grain).

**Hazard of poisoning and asphyxiation by exhaust gases**

**Do not** switch on and operate the heater in enclosed or non-ventilated premises (sheds, garages, etc.).

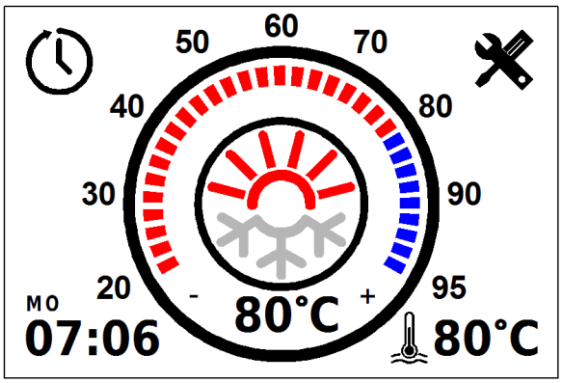
**Fire hazard**

**Do not** switch on and operate the heater if combustible materials or fluids are present in the exhaust gas.

**Injury due to the use of a faulty device**

**Do not** use a faulty heater.

## AUTOTERM Touch Control




**The control panel's interface depends on the product it is connected to**

The control panel is designed for the:

- manual start up and shut down of the liquid and air heaters.
- manual start up and shut down of the pre-heater pump (for liquid heaters Flow 5, Flow 6 and Flow 14).
- manual start up and shut down of the ventilation (for air heaters Air 2D, Air 4D and Air 9D).
- fluid temperature display (for liquid heaters).
- power supply voltage display.
- current time and operating time display.
- setting of the liquid temperature heating limit/set-point (for the heater).
- activation of the product start-up timer.
- display of the software version of the control panel and the heater.
- auxiliary heater operating mode selection (for liquid heaters).
- display of malfunction code in case of heater malfunctions.

**When power is supplied to the control panel, the time must be set**

The control panel features a capacitive touchscreen that responds to light taps. It also includes a physical button beneath the display that can be pressed with slight pressure.

## Control panel operation

Once connected to the heater, the control panel retrieves the operating settings from the product. It is necessary to verify whether the actual settings correspond to the desired settings.

## 1. Main screen

The main screen (Fig. 1) displays the current time in the lower-left corner and the current temperature of the heating medium/air in the center.

A short tap in the bottom-right corner switches between heating medium temperature, air temperature, and power supply voltage.

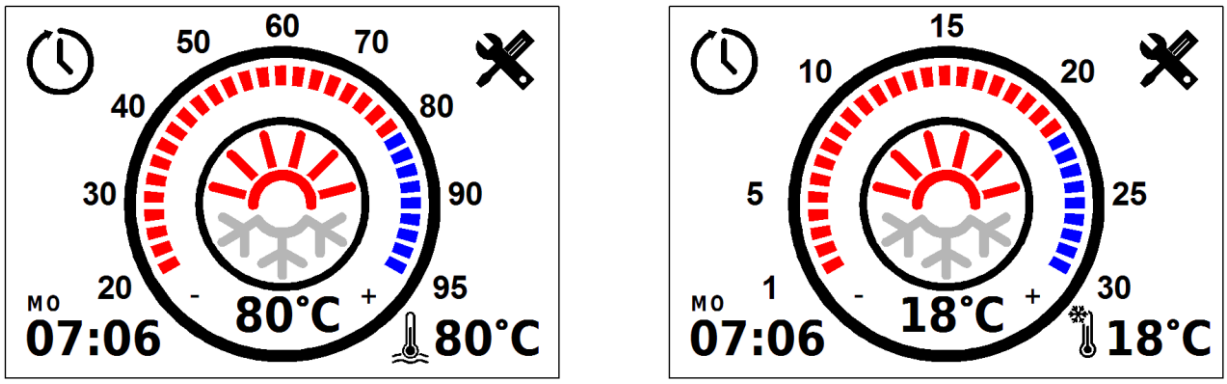



**Fig. 1. The main screen of the control panel**

To start the heater, tap the center of the screen (Fig. 2).

After the heater has started, the countdown of the operating time (in minutes) will begin in the bottom-left corner of the screen (Fig. 2). To switch between operating time and current time, tap the operating time on the screen briefly.

To set the temperature limit (set-point) move the slider along the circumference of the temperature scale or tap the '+' and '-' signs next to the current temperature display (Fig. 3). During adjustment, the set-point value is displayed in the center of the screen.

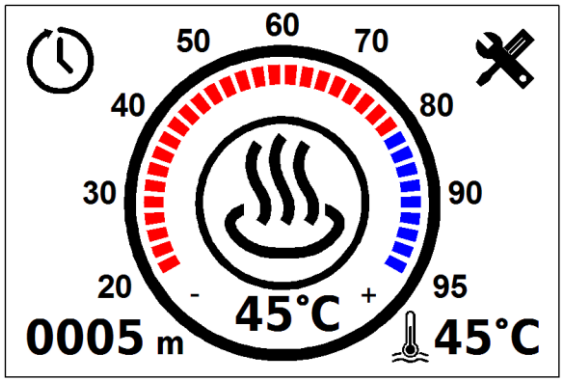



**Fig. 2. Heater start-up**

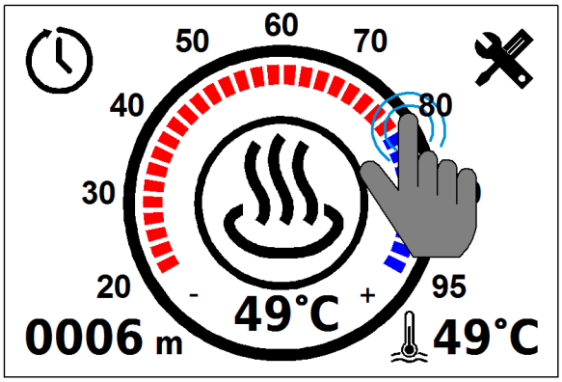



**Fig. 3. Setting the heating temperature limit**

To shut down the heater, tap the center of the screen briefly (Fig. 4). After the shut down, the control panel switches back to the main screen (Fig. 1). When idle, the control panel automatically switches to standby mode to reduce power consumption (Fig. 5).

**Do not disconnect the heater from the power supply until the purge cycle has completed**

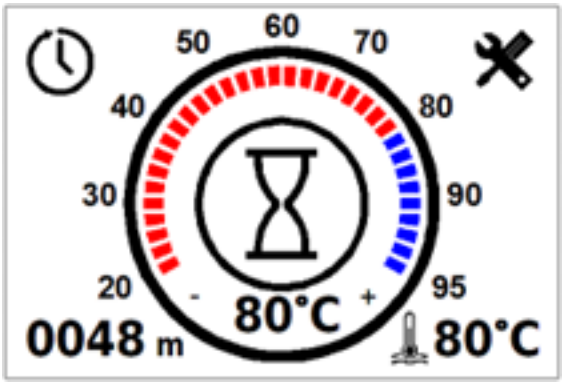



**Fig. 4. Heater shut down**

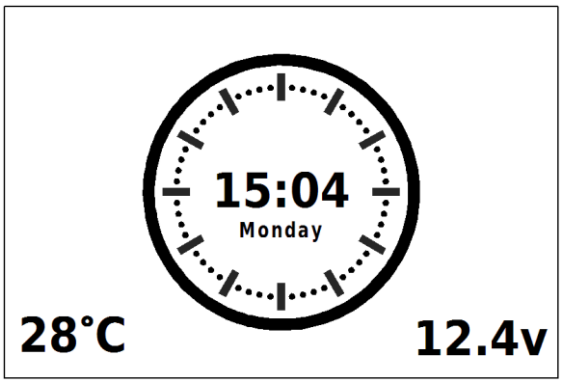



**Fig. 5. Standby mode**

## 2. Operational features

When a Flow 5 or Flow 6 heater is switched off, a long tap (2 seconds) on the center of the screen will force the pump to start (without heating the coolant).

For an air heater, a long tap activates ventilation mode (without heating).

## 3. Timers

Tap the sign briefly to set the timer. The control panel allows you to program up to three start up timers.

Tap the sign to switch between the timers.

**Timer on** - timer activation.

**Do not reset timers** - timer is set for a specific date and time and will not repeat.

The time is set by tapping the '+' and '-' signs.

Tap the sign to exit the timer settings.

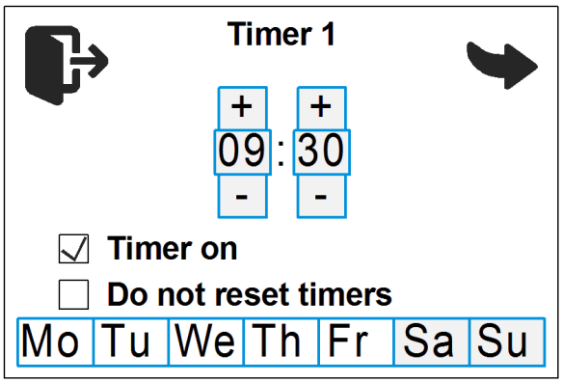



**Fig. 6. Timer settings**

## 4. Control panel screen settings

Tap the ✕ sign on the main screen (Fig. 1) to access the display settings (Fig. 7). To navigate between the menu pages, tap the ➥ sign.

The brightness can be adjusted using the Brightness slider. When the heater is turned off, the display will remain dark.

**Sleep mode when running** – turn the screen off while the heater is operating. To exit sleep mode, tap the screen. If sleep mode is off, the screen will stay on while the heater is running.

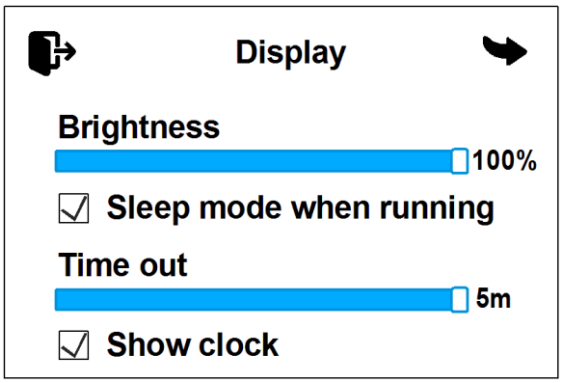



**Fig. 7. Display settings**

**Time out** – set the time after which the control panel will enter sleep mode. The time before the control panel enters sleep mode can be adjusted from 30 seconds to 5 minutes.

**Show clock** – display the current time and day of the week on the screen while in sleep mode (only when the heater is running).

## 5. Liquid heater settings

In auxiliary heater mode, the heater is operated in conjunction with the vehicle's engine.

Pre-heater mode is intended for preheating the vehicle's engine and/or the passenger cabin. The heater can be pre-started using a timer.

Liquid heater operating mode settings (Flow 5 and Flow 6) (Fig. 8):

**Auxiliary heater manual mode** – manual auxiliary heater mode (not available in some software versions). If the heater is switched off, it will not start automatically when the engine is started.

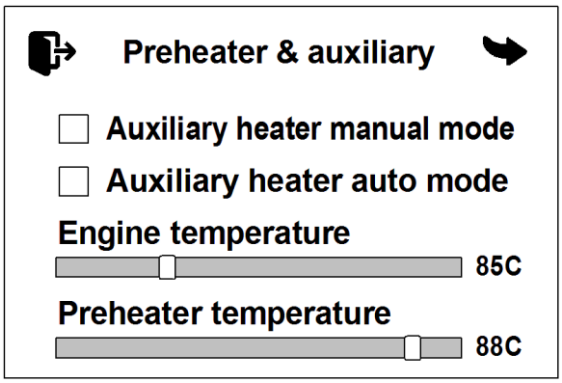



**Fig. 8. Liquid heater settings**

**Auxiliary heater auto mode** – automatic auxiliary heater mode. If the heater is switched off, it will start automatically when the engine is started. When the engine is stopped, the heater will switch off automatically. If the heater is switched on, it will automatically switch to auxiliary heater mode when the engine is started.

**Engine temperature** - auxiliary heater temperature setting. The desired temperature can be set between +75°C and +95 °C. The default setting is +85 °C.

**Preheater temperature** –fluid temperature for standby mode activation (heater's operating stops but the pump continues to run). When the fluid temperature drops to the specified value, the heater exits standby mode and resumes operating. The default standby temperature is +88 °C. The standby temperature can be set between +20°C and+95 °C.

Pump operating mode settings (Flow 5 and Flow 6) (Fig. 9):

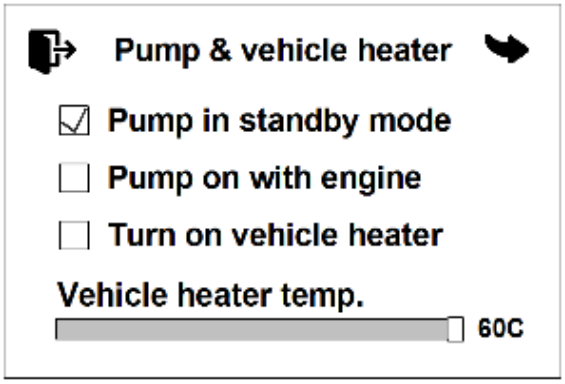



**Fig. 9. Pump operating mode settings**

**Pump in standby mode** –pump operating setting during standby.

In auxiliary heater mode, when the heater enters standby mode, the heater stops operating, but the pump continues to run.

**Pump on with engine** –pump activation setting when the engine starts. The pump supplied with the heater can be used for additional circulation of the coolant while the vehicle's engine is running. The pump starts automatically when the engine is started and switches off when the engine is stopped.

**Turn on vehicle heater** – activates the passenger cabin's heater.

**Vehicle heater temp.** – switch-on temperature setting for the passenger cabin heater. The desired switch-on temperature can be set between +30°C and +60 °C. The default relay switch-on temperature is +40° C.

**Operating** time settings (Fig. 10).

**Hours** – number of hours.

**Minutes** – number of minutes.

**Unlimited** – no time limit.

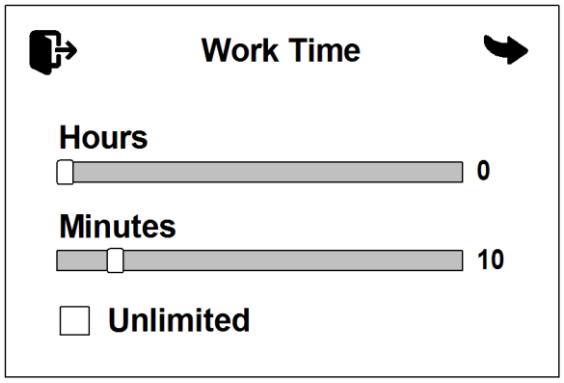



**Fig. 10. Operating time settings**

In the system settings (Fig. 11), units of temperature measurement can be switched between Celsius °C and Fahrenheit °F, and the 12-hour time format can be selected.

**External operating** –heater control via external control channel provided it is properly connected to the heater (Flow 5 and Flow 6 only).

For the Flow 14 heater, this setting is not displayed and is enabled by default.

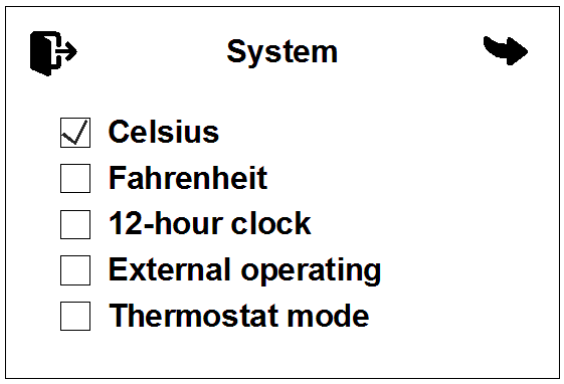



**Fig. 11. System settings**

**Thermostat mode** – room temperature maintenance. The temperature is maintained by a built-in sensor located in the control panel.

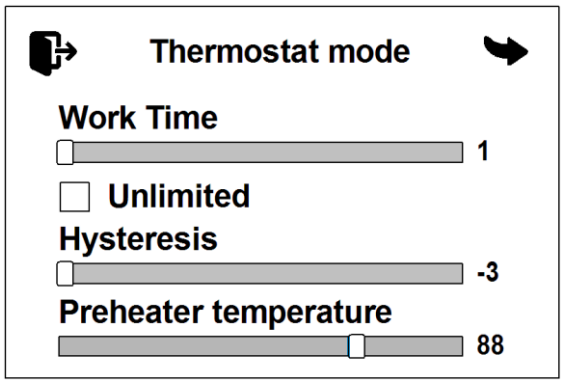



**Fig. 12. Thermostat mode**

**Work Time** – the operating time of the heater ranging from 1 to 24 hours.

**Unlimited** – no time limit.

**Hysteresis** – difference between the set-point temperature and the air temperature measured by the built-in sensor in the control panel (-3 to -10). Standby mode is activated when the temperature rises to 1°C above the set temperature 'Set point'. Standby mode is deactivated when the temperature drops to 3°C below the set temperature 'Set point'.

**Preheater temperature** – set-point for the heating medium temperature (60°C to 95 °C).

The system information window (Fig. 13) displays the software version of both the control panel and the control unit (the total operating hours of the heater are displayed only for the Air series heaters).

The language selection menu appears as shown in Fig. 14.

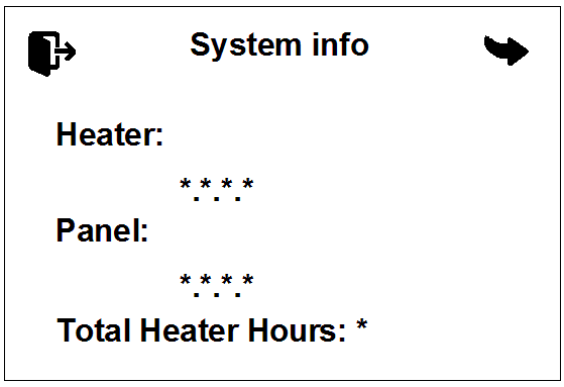



**Fig. 13. System information**

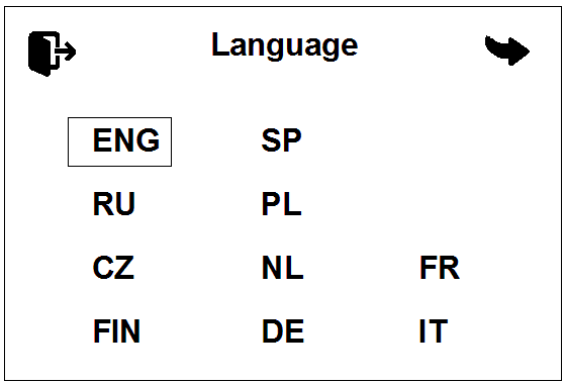



**Fig. 14. Language selection**

## 6. Air heater settings

Air heater operating mode settings (Fig. 15):

**Panel sensor** – the set-point temperature from the temperature sensor located in the control panel is used for operating.

**External sensor** – the set-point temperature from the external temperature sensor is used for operating.

**Power** – the power set-point is used for operating.

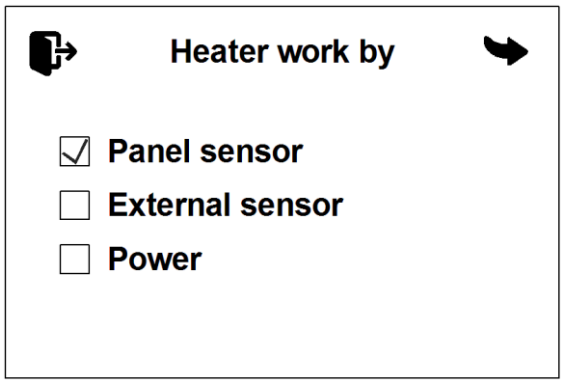



**Fig. 15. Air heater operating mode settings**

Operating time settings (Fig. 16):

**Hours** – number of hours.

**Minutes** – number of minutes.

**Unlimited** – no time limit.

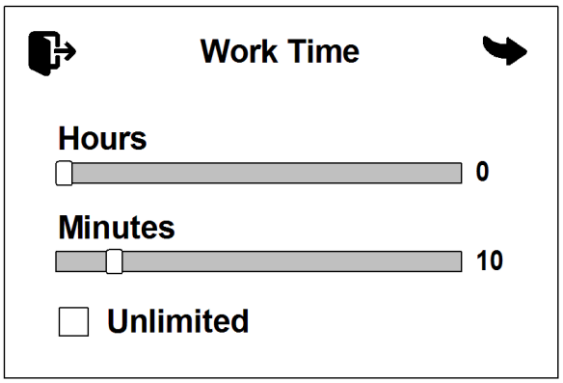



**Fig. 16. Operating time settings**

In the system menu (Fig. 17), units of temperature measurement can be switched between Celsius °C and Fahrenheit °F, and the 12-hour time format can be selected.

**Ventilation on Standby** – when the heater switches to standby mode, the blower continues running in ventilation mode.

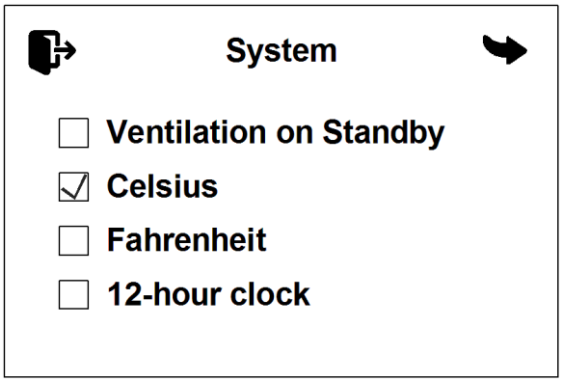



**Fig. 17. System menu**

The system information window (Fig. 18) displays the software version of the control panel and the heater's control unit. It also displays the total operating hours of the Air heater (only when the heater has stopped operating).

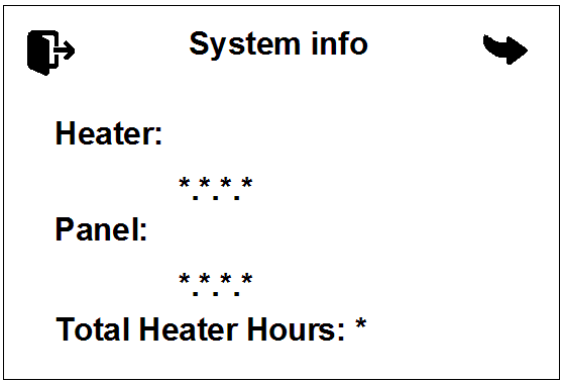



**Fig. 18. System information**

## 7. Date and time settings

To set the current time and day of the week, long tap the current time in the corner of the screen. Tap the “+” and “-” signs to set the time. At the bottom of the screen, the Clock Correction setting is available. Exposure to low temperatures may affect clock accuracy. If needed, a correction value between -720 and +720 seconds per day can be set. The default correction value is 0.

Tap the sign to exit.

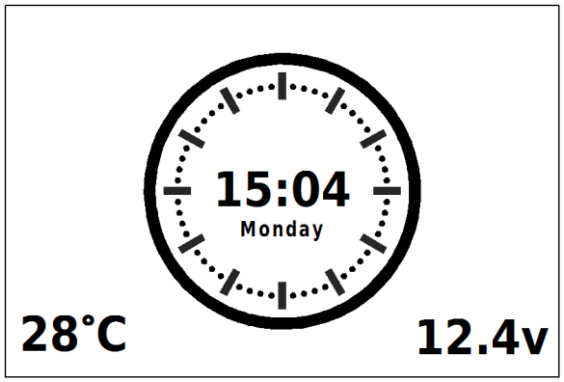



Fig. 19. Clock in standby mode

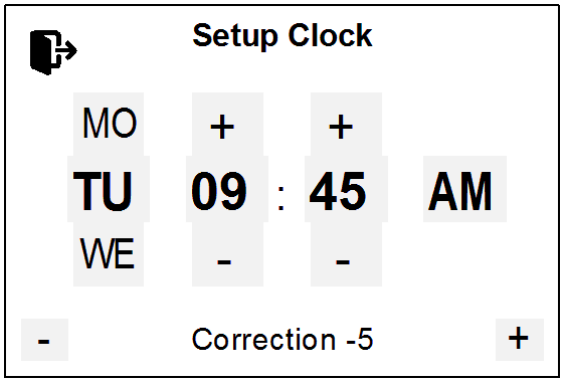



Fig. 20. Clock settings

## 8. Malfunctions

Malfunctions that occur during the heater’s operating time are coded and automatically displayed on the control panels screen (Fig. 21). To reset a malfunction, tap the center of the screen. Heater malfunction codes are given in **Table 1**.

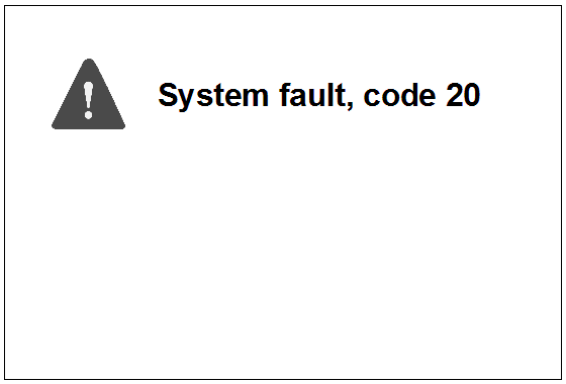



Fig. 21. Malfunction

**ATTENTION!**

**The maintenance and repairs should only be performed by trained and qualified personnel!**

## Malfunction codes

For the interpretation of the malfunction codes for the Flow 5 and Flow 6 liquid heaters, see Table 1.

**Table 1**

| Code | Fault description | Comment. Fault elimination |
|---|---|---|
| 01 | Overheating of the heat exchanger. Check the air pipes for blockage. Check the temperature sensor. | 1. Check the entire fluid circuit.<br>2. Check the pump and replace if necessary.<br>3. Check the temperature sensor and the overheating sensor; replace if necessary.<br>4. Check the quality of the coolant, which must be used depending on the ambient temperature. |
| 02 | Overheating of the heat exchanger. Check the water hoses for blockage. Air in the water circuit. Wrong water flow direction | |
| 03 | Overheating sensor fault. Call service center | Replace the sensor assembly. |
| 04 | Coolant temperature sensor fault. Call service center | |
| 05 | Flame sensor fault. Call service center | Check the connection wires. Check the resistance between the indicator terminals, which should not exceed 10 ohms. Replace the flame indicator in the event of a malfunction. |
| 06 | Intake air temperature sensor fault. Call service center | Replace the heater control unit. |
| 09 | Glow plug failure. Call service center | Check the glow plug and replace if necessary. |
| 10 | Fan motor rpm mismatch. Call service center | Check the wiring of the electric motor. Repair the malfunction and replace the blower, if necessary. |
| 12 | Overvoltage. Check the battery voltage | This defect can occur when the heater is switched on while the car engine is running. The cause may be a faulty voltage regulator in the car. |
| 13 | No ignition 2 times. Check the fuel supply system and glow plug screen | If the permissible number of start attempts has been done, check the fuel amount and supply. Check the air intake, filter, and exhaust pipe. Check the glow plug. |
| 14 | Liquid pump short circuit. Check the liquid pump wiring harness for short/open circuit | Check the circulation pump wiring for short circuits and open circuits, check the pump, and replace if necessary. |
| 15 | Undervoltage. Check the battery, fuses and wiring harness | Check the voltage at the heater connector. Check the battery, vehicle voltage regulator, and power supply wiring. |
| 16 | Ventilation time exceeded. Check the air pipes and exhaust/intake pipes for blockage | The flame sensor has not cooled down sufficiently during purging. Check the air intake, filter, and exhaust pipe. Check the flame sensor and replace if necessary. |
| 17 | Fuel pump short circuit. Check the fuel pump wiring harness for short/open circuit | Check the fuel pump wiring for short circuits and replace if necessary. |
| 20 | No communication between the control unit and the control panel. Check the power supply, connectors and fuses | Check the connection cables and connectors.<br>The control panel is not receiving data from the control unit. |
| 22 | Fuel pump short circuit. Check the fuel pump wiring harness for short/open circuit | Check the fuel pump wiring for open circuits and replace if necessary. |
| 24 | Rapid coolant temperature rise. Check the liquid pump and coolant circulation circuit | Possible overheating in the area of one of the temperature sensors due to poor coolant circulation. |
| 25 | The coolant heats up too quickly. Air in the coolant circle. Check the coolant level, coolant flow direction | Check the entire fluid circuit.<br>In 1 operating cycle, the heater has reached standby mode three times in less than 6 min. |
| 26 | Fan motor overload. Check the fan blades for jamming | Check the blower fan. The blower fan impellers could be rubbing against the heater casing as a result of misalignment of the mounting. |
| 27 | Fan motor doesn`t rotate. Check the fan blades for jamming | Check the wiring, blower, and control unit; replace if necessary. |

| Code | Fault description | Comment.<br>Fault elimination |
|---|---|---|
| 28 | Fan motor rotation itself. Call a service center | Check the wiring, blower, and control unit; replace if necessary. |
| 29 | Repetitive flame interruption. Check the fuel supply system and glow plug screen | Check the fuel system. Check tightness of fuel line clamps, tightness of the fuel line, tightness of the fitting on the fuel pump, and fuel pump capacity. |
| 30 | No communication between the control unit and the control panel. Check the control panel wiring harness | Check the connection cables and connectors.<br>The control unit is not receiving data from the control panel. |
| 37 | Heater is blocked. Call service center* | Contact the service center to unlock the heater. |

*** ATTENTION!** If error #13 is repeated three times in a row during the heater start-up, the heater will be locked out. This lockout is intended to prevent excess fuel from entering the combustion chamber. In the event of lockout, code 37 will be displayed on the control panel.

The malfunction codes for AIR series air heaters are shown in Table 2.

**Table 2**

| Code | Fault description | Comment. Fault elimination |
|---|---|---|
| 1 | Overheating at the upper inlet temperature limit | Check heater inlet and outlet connection for free air intake and exhaust.<br>Check combustion air supply system and gas-escape line.<br>Repeat the start-up to cool down the heater. |
| 2 | Possible overheating (based on standby time) | |
| 5 | Flame sensor fault. Call service center | Check the flame sensor in the heat exchanger; replace if necessary. |
| 6 | Intake air temperature sensor fault. Call service center | Replace the control unit. |
| 7 | Breakdown of the heat exchanger temperature sensor circuit. | Check the temperature sensor circuit for open circuits.<br>*Only for air heaters AIR 4D, AIR 8D* |
| 9 | Glow plug failure. Call service center | Check the glow plug; replace if necessary. |
| 10 | Fan motor rpm mismatch. Call service center | Check the blower motor wiring and replace the blower if necessary. |
| 11 | Breakdown of the input air temperature sensor circuit. | Check the temperature sensor circuit and replace if necessary.<br>*Only for air heaters AIR 8D, AIR 9D* |
| 12 | Overvoltage. Check the battery voltage | Check the battery, voltage regulator, and power supply wiring. The voltage between pins 1 and 2 of the power connector must not exceed 30 V (for a 12 V product, must not exceed 16 V). |
| 13 | No ignition 2 times. Check the fuel supply system and glow plug screen | Check the fuel supply (inspect the fuel line). Check the combustion air supply system and the exhaust line. |
| 15 | Undervoltage. Check the battery, fuses and wiring harness | Check the battery, voltage regulator, and power supply wiring The voltage between pins 1 and 2 of the power connector must be at least 20 V (for a 12 V product, at least 10 V). |
| 16 | The ventilation time is exceeded. | Check the air intake and the exhaust pipe. If clogged, remove any foreign particles. |
| 17 | Fuel pump short circuit. Check the fuel pump wiring harness for short/open circuit | Check the fuel pump wiring for short circuits and open circuits. |
| 20 | No communication between the control unit and the control panel. Check the power supply, connectors and fuses | Check the connection cables and connectors.<br>The control panel is not receiving data from the control unit. |
| 27 | Fan motor doesn`t rotate. Check the fan blades for jamming | Check the connectors and harnesses leading to the motor board and control unit. |
| 28 | Fan motor itself rotation. Call service center | Replace the blower fan. |
| 29 | Repetitive flame interruption. Check the fuel supply system and glow plug screen | Check the fuel supply (inspect the fuel line).<br>Check combustion air supply system and gas-escape line. |
| 31 | Overheating inside the heater in the area of the temperature sensor at the heated air outlet. | Check heater inlet and outlet connection for free air intake and exhaust. |
| 32 | Faulty outlet air sensor. | Check the connection wires. The output signal and voltage are in a linear relationship to the temperature. Check the sensor and replace if necessary. |
| 33 | Heater is blocked. Call service center* | Contact the service centre to unlock the heater.<br>*Only for air heaters AIR 8D.* |
| 34 | Housing sensor incorrect installation | The housing sensor is installed in the wrong position and shows the wrong information.<br>*Only for air heaters AIR 8D, AIR 9D* |

| Code | Fault description | Comment.<br>Fault elimination |
|---|---|---|
| 35 | Flame failure into the combustion chamber due to voltage drop. | Check the battery and wiring. (The voltage drop can be caused by the electric starter engaged for a longer time). |
| 36 | The flame indicator temperature exceeds normal. | Flame indicator malfunction (cracked housing).<br>Stabiliser malfunction in the combustion chamber.<br>Check the inlet and outlet connections.<br>*Only for air heaters AIR 8D, AIR 9D* |
| 37 | Flame detector and outlet air sensors are connected incorrectly. | Check the sensor connections. Connect as shown in the wiring diagram.<br>*Only for air heaters AIR 9D* |
| 78 | Flame interruption during operation. Check the fuel supply system and glow plug screen | *Displayed for user information.*<br>Check tightness of fuel line clamps, tightness of the fuel line, and tightness of the fitting on the fuel pump. |

* **Attention!** If the ‘Overheat’ error is repeated three times in a row during heater start-up or operation, the heater will be locked out. The lockout occurs upon overheating, irrespective of which sensors have registered an error. In the event of lockout, code 33 is displayed on the control panel. Contact the service center to unlock the heater.

For the interpretation of the malfunction codes for the Flow 14 pre-heater, see Table 3.

**Table 3**

| Code | Fault description | Comment.<br>Fault elimination |
|---|---|---|
| 01 | Overheating of the heat exchanger. Check the air pipes for blockage. Check the temperature sensor. | 1 Check the entire fluid circuit.<br>2 Check the pump and replace if necessary.<br>3 Check the temperature sensor and the overheating sensor; replace if necessary.<br>4. Check the quality of the coolant, which must be used depending on the ambient temperature. |
| 02 | Overheating of the heat exchanger. Check the water hoses for blockage. Air in the water circuit. Wrong water flow direction | |
| 03 | Overheating sensor fault. Call service center | Check the connection wires. The output signal and voltage are in a linear relationship to the temperature (0 °C corresponds to 2.73 V, and a rise of 1 °C in temperature increases the output signal by 10 mV accordingly). Check the sensor and replace if necessary. |
| 04 | Coolant temperature sensor fault. Call service center | |
| 05 | Flame sensor fault. Call service center | Check the connection wires. Check the resistance between the indicator terminals, which should not exceed 10 ohms. Replace the flame indicator in the event of a malfunction. |
| 06 | Intake air temperature sensor fault. Call service center | Replace the heater control unit. |
| 09 | Glow plug failure. Call service center | Check the glow plug and replace if necessary. |
| 10 | Fan motor rpm mismatch. Call service center | Check the wiring of the electric motor.<br>Repair the malfunction and replace the blower, if necessary. |
| 12 | Overvoltage. Check the battery voltage | This defect can occur when the heater is switched on while the car engine is running. The cause may be a faulty voltage regulator in the car. Check the voltage at the heater connector. |
| 13 | No ignition 2 times. Check the fuel supply system and glow plug screen | If the permissible number of start attempts has been done, check the fuel amount and supply. Check the air intake and exhaust pipe. Check the glow plug. Check the mesh and the Ø 1.5 mm opening in the combustion chamber plug connector for fouling, clean the Ø 1.5 mm opening if necessary, replace the mesh. |
| 14 | Liquid pump short circuit. Check the liquid pump wiring harness for short/open circuit | Check the pump wiring for short circuits and open circuits, check the pump, and replace if necessary. |
| 15 | Undervoltage. Check the battery, fuses and wiring harness | Check the voltage at the heater connector. Check the battery, vehicle voltage regulator, and power supply wiring. |
| 16 | Ventilation time exceeded. Check the air pipes and exhaust/intake pipes for blockage | The flame sensor has not cooled down sufficiently during purging. Check the air intake and exhaust pipe. Check the flame sensor and replace if necessary. |
| 17 | Fuel pump short circuit. Check the fuel pump wiring harness for short/open circuit | Check the fuel pump wiring for short circuits and replace if necessary. |
| 20 | No communication between the control unit and the control panel. Check the power supply, connectors and fuses | Check the connection cables and connectors. |
| 27 | Fan motor doesn`t rotate. Check the fan blades for jamming | Check the wiring, electric motor, and control unit; replace if necessary. |
| 28 | Fan motor itself rotation. Call service center | Check the wiring, electric motor, and control unit; replace if necessary. |
| 29 | Repetitive flame interruption. Check the fuel supply system and glow plug screen | Check the fuel amount and supply. Check combustion air supply system and gas-escape line. If the heater is able to start, check the fuel pump and replace if necessary. |
| 78 | Flame interruption during operation. Check the fuel supply system and glow plug screen | Check the air intake, exhaust pipe, and fuel supply. Repair the malfunctions; replace the fuel pump and the flame indicator if necessary. |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