Technical specification

Rated supply voltage of the device	—	10V–28V
Current consumed in standby mode	—	4-5mA
Maximum current of the control output LINE	—	50mA
Maximum analogue output current OUT	—	150mA

Connection diagram

— Connect the power wires through the 500 mA fuse to the battery terminals or to the OBD-II connector wires (16pin is +12V, 4pin is common).
— The INPUT is connected to an external control source. Waits for a pulsed GND signal of at least 200 ms duration or a signal with a constant level of GND (fixation after 10 seconds).
— The OUT output commutes GND. The output is designed to control the climate control unit in P0 mode or the coolant circulation pump in modes P1 and P2 using a power relay.

RED	——————	+12V / 24V (via the fuse 500mA)
BLACK	——————	GND (common)
GREEN	——————	INPUT
YELLOW	——————	LINE (digital and analogue signal)
WHITE	——————	OUT
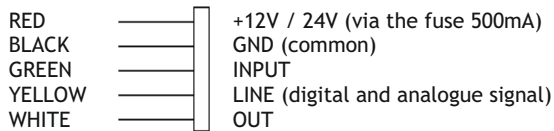
— LINE is connected to the parking heater control input (digital or analog, the type of heater is changed through the settings of the mini-timer)

Attention!
By default, the device is configured to automatically detect the digital type of the heater - setting "A0". To control the heater with an analogue signal, it is necessary to manually set this type of heater - "A1" in the device settings.

Note: The device is fixed at the installation site using double-sided tape or other fasteners.

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Authorized service:
Installation date:

General Information

Dear buyers of ALTOX equipment!

We thank you for purchasing a new ALTOX TIMER-2. This device will provide you with new convenient control options for your autonomous car parking heater.

The time of automatic start of the heater can be set at any time of day with an accuracy of 1 min (from 00:00 to 23:59). The user has three programmable timers for the automatic start of the car parking heater, each of which can be set to work in single-start mode for the day ahead or in the weekly mode for 7 days ahead.

The operating time of the parking heater for each timer can be set in the range from 10 to 99 minutes.

Using the device

ALTOX TIMER-2 is used for programming and controlling the operation of Eberspacher and Webasto Thermo Top car parking heaters, using a digital signal (E-Bus and W-Bus), as well as any other aftermarket car parking heaters with an analogue signal.

ALTOX TIMER-2 has a built-in INPUT, which allows you to connect additional automotive equipment to expand the management capabilities of your heater. For example, for controlling the parking heater using the car alarm control panel.

Switching the device on

After the power is applied, the display shows all the characters or the current operating mode of the device: "P1" or "P2", if it is activated (description of the operating modes below).

To navigate through the sections of the menu, 4 buttons are available to the user.

The switched-on display, regardless of the active menu section, when no buttons are pressed, automatically turns off after 60 seconds, after which the device switches to standby mode after 1min.

Brightness adjustment

In the standby mode (the display is off), you must press the "<" or ">" button to enter the current time display menu, then press and hold the ">" button and then press "P".

The display shows the current brightness value of the display from 10 to 99 "L: XX", the customizable symbol flashes.

Set the desired value by pressing the "<" and ">" buttons.

The entered value is stored after pressing the "P" button.

Operating modes of the device

The user has three modes of operation depending on the type of installation of the car parking heater.

Changing the modes of the mini-timer is done by the slide switch, which is located in the upper part of the device case.

After changing the position of the switch, the name of the selected mode is displayed:

P0 — the control mode of a factory-installed parking heater. In this mode, the OUT output is switched on with a delay of 1/2 from the running time of the heater or when the heater temperature reaches 50°C and switches off with the heater (used to start and stop the climate control of the car).

P1 — the control mode of the aftermarket parking heater when the vehicle is retrofitted with this equipment. In this mode, the OUT output is switched on together with the heater, and turns off with a delay of 1 minute after the heater is turned off to control the coolant circulation pump using a power relay.

P2 — the "pre-heater" mode for controlling the parking heater after the vehicle is retrofitted with this equipment. In this mode, the mini-timer turns on the heater automatically at each start-up of the vehicle, according to the supply voltage (above 13.2 V for 10 seconds). Switching off the heater occurs after the car engine has stopped to reduce the voltage (below 13.2V for 10sec). In this mode, the OUT output operates as in P1 mode and is designed to control the coolant circulation pump using a power relay.

Additional functions

Optionally, the mini-timer supports working together with other Eberspacher and Webasto Thermo Top parking heaters controls units via a digital bus (E-Bus or W-Bus). This function allows you to turn the car parking heater on from one device and turn it off from another device. After the digital signal of the other control unit has been determined, "TELE" appears on the mini-timer display.

Optionally, the mini-timer supports the unlocking function of the factory installed Webasto Thermo Top parking heater on Volkswagen Transporter T5 and T5 GP cars without the use of diagnostic equipment. To clarify the presence of this function in your device, you need to contact the service center.

Note: the unlocking function is used only in the heaters installed by the manufacturer in the previously mentioned car brands, in all other heaters, the unlocking is done by removing errors.

Description of errors

If errors occur during the data exchange on the digital control bus (E-Bus or W-Bus) of the car parking heater, the device displays the text "Err.X", where X is the error number:

Err.A - Error in auto-detecting the type of digital heater (type A0)
 Check the connection of the digital control bus
 Specify the type of heater manually in the settings

Err.1 - No connection to the Eberspacher heater
 Check the type of heater in the settings and connect the digital bus

Err.2 - No connection to the Eberspacher heater (the heater was started)
 Check the connection of the digital control bus

Err.3 - The Eberspacher heater does not respond to requests
 Check the heater type in the device settings

Err.4 - The Eberspacher heater does not respond correctly to requests
 Check the heater type in the device settings

Err.5 - Many errors during the operation of the Eberspacher heater
 Make a digital diagnosis of the heater

Err.7 - Webasto Thermo Top can not start up
 Make a digital diagnosis of the heater

Err.8 - Webasto Thermo Top heater does not respond correctly to requests
 Check the heater type in the device settings

Err.9 - Webasto Thermo Top heater does not respond to requests
 Check the connection of the digital control bus

If errors occur during the operation of the mini-timer, "rN: XX" appears on the screen, where N is the error cell number, XX is the error number. To switch between cells with error codes, press the "<" or ">" button. To turn off the display, press "P".

rN:64 - Short circuit of the digital bus to "+" or "-" during heater operation
 Check the connection of the digital control bus

rN:67 - Output OUT is defective
 It is necessary to transfer the device to the service center

rN:68 - Exceeding the LINE output current in the analogue control mode
 Check the control bus connection

rN:69 - Exceeding the output current OUT
 Check the connection and load resistance of the OUT

rN:6B - Overvoltage at the input of the digital bus
 It is necessary to transfer the device to the service center

rN:6C - Short circuit of the digital bus to "-" during data exchange

rN:6D - Short circuit of the digital bus to "+" during data exchange
 Check the connection of the digital control bus

Note: If there are other error numbers, switch off the appliance and contact the service center.

Setting the current time

In the standby mode (the display is off), press the "<" or ">" button to enter the current time display menu, then press and hold the "<" button and then press the "P" button.
The display shows the current time and the custom symbol flashes.
Set the current time by pressing the "<" and ">" buttons.
The set time is stored in memory after pressing the "P" button.
Note: To quickly change the input values to the higher or lower side, press and hold the "<" or ">" button, respectively.

Adjusting the clock

In the current time display mode, you need to press the "<" or ">" button once to display the seconds, then press and hold the "<" or ">" button and press "P" in addition.
The display shows "C 00" - the value of the adjustment of the clock.
A positive number accelerates the clock, and a negative slows down.
One division (unit) is 1 second per day.
Set the desired value by pressing the "<" and ">" buttons.
The entered value is stored after pressing the "P" button.
Note: for example, if the clock rushes for 6 seconds per day, you must enter the value "-06".

Starting the heater

Manually: by pressing the direct switch ♨.
Using INPUT: using an external signal at the INPUT.
By timer: by presetting the on time.
After starting the car parking heater, the display shows "On:XX", where XX is the remaining operating time.
To change the remaining operation time, press and / or hold down the "<" or ">" button, the configurable symbol flashes.
To save the entered value, press the "P" button.
Note: When controlling an external signal with a constant level at the INPUT input or when the heater is automatically started in the "P2-preheater" mode (described below), "On:--" is displayed.

Stop the heater

Manually: by pressing the direct switch ♨.
Using INPUT: using an external signal at the INPUT.
Automatically: at the end of the heater operating time.
After turning the heater off, "OFF" is displayed.

Display of time, voltage and temperature

The heater is started: To display the remaining operating time of the heater, press the "<" or ">" button.
Then, to display the current time, press the "P" button.
The heater is stopped: To display the current time, press the "<" or ">" button. In this section of the menu, pressing the "<" or ">" buttons will display the seconds value of the current time.
Subsequent pressings of the "P" button switch to the voltage display section, and then to the car parking heater temperature display section. In the last section, to turn off the display, press the "P" button.
Примечание: The value of the car parking heater temperature is only available on the part of the Eberspacher and Webasto digital heaters. If the temperature value is not available, the menu section will be skipped.

Programming the timer

Three programmable timers are available to the user.
Each of the timers has two modes of operation:
— Single mode for switching on day ahead;
— Weekly mode of daily switching on for 7 days ahead.
Note: After 6 starts, the weekly mode automatically goes into single-turn mode.
To view the status of the timer (activated or deactivated), in the standby mode (the display is off), you must press the "P" button one, two or three times, the display will show the timer number "-1t-"
"-2t-" or "-3t-", respectively.
The status of the timer is determined by the number of points in the right corner:
— No points: the timer is deactivated
— One point: the timer is activated in the single-turn mode
— Two points: the timer is activated in a weekly mode
Activate / deactivate the timer and change the timer mode in the current menu with the ♨ button.
To change the timer settings, press the "<" or ">" button, the display will show the start time of the heater.
Press the "<", ">" and "P" buttons to set the desired start time of the heater, then set the operating time of the heater "t:30" from 10 to 99 minutes.
After pressing "P", the settings will be saved and the timer will be activated in the single-turn-on mode for the day ahead.
Note: in the timer "-1t-" setting menu, the stored operating time of the heater "t:30" is the default start time from the direct-on button ♨ , and from the external pulse signal at the INPUT input.

Diagnostics of the heater

The menu is only available when controlling digital types of heaters.
In standby mode (the display is off), press and hold the ">" button and additionally press the ♨ button. The display will show "-Hd-", to enter the diagnostics mode of the heater, press "P" in addition.
The display will show "FX:YY", where X is the number of the cell with the error code, YY is the error code.
If there are no errors, YY takes the value "-".
To switch between the available cells with error codes, use the "<" and ">" buttons. To delete all errors, press and hold the ♨ button for 3 seconds.
If the Eberspacher heater is diagnosed, then pressing the "P" button will move the current fault menu to the saved section from the menu and display "EX:YY" with the same parameters.
To turn off the display, press "P" in addition.
Note: description of error codes by the link https://altox.ru/en/docs/

Select heater type

In standby mode (the display is off), press and hold the "<" button and additionally press ">". The display will show "H:XY", where X and Y are the type of heater and digital protocol (default type is A0).
Set the required type of heater and digital protocol by pressing the "<" and ">" buttons, following the description:
Automatic/Analogue:
A0 - automatic detection of the digital type of heater
A1 - heater with analogue signal control
Eberspacher:
E1 - Aftermarket + Hydronic II
E2 - Factory-installed Hydronic II (Toyota, VW)
E3 - Factory-installed Hydronic II (Audi, Land Rover, VW)
E7 - Ventilation (Aftermarket)
Webasto Thermo Top:
t1 – Thermo Top C/Z/V/EVO/VEVO
t2 – Thermo Top V/VEVO
t3 – Emulation WTT
t4 – Emulation Timer 1533
t5 – Emulation Telestart (ver.1)
t6 – Emulation Telestart (ver.2)
t7 – Ventilation (summer mode)
The selected type of heater is stored in memory after pressing "P".
Note: automatic determination of the type Eberspacher and Webasto digital heater (mode A0) occurs at the first start.