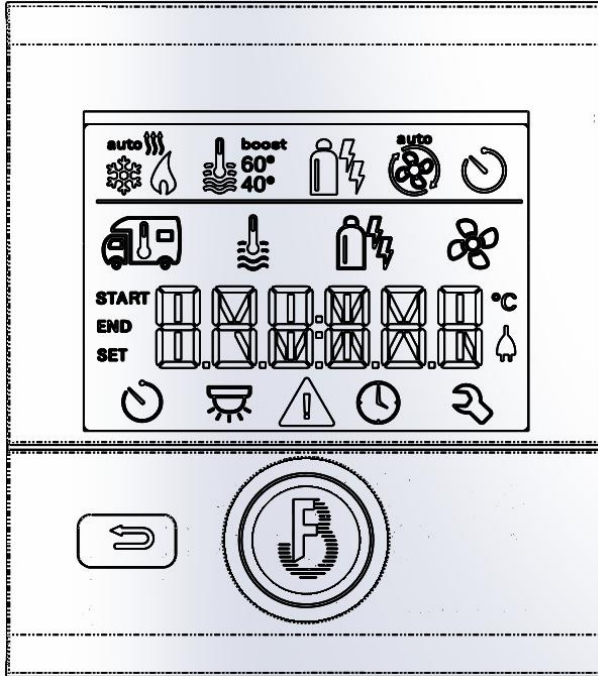
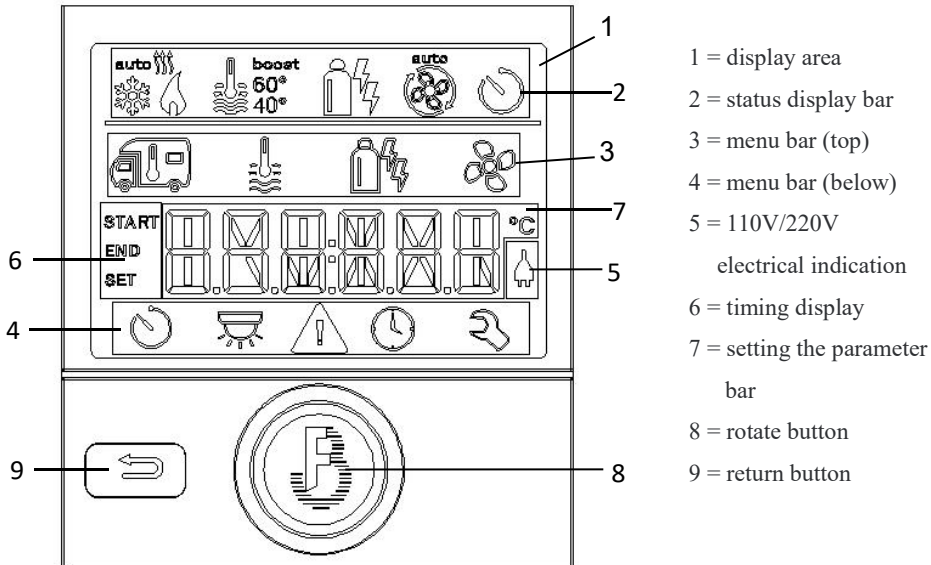


# LCD Switch Instruction Manual



## I. Display and control section



-- Information is displayed on an LCD with backlight.

-- In the menu bar (3, 4), the function of the LCD switch can be arbitrarily selected. The operating parameters are displayed on the status bar (2) and display (5, 6).

-- After the 220V is turned on, the 220V mains power supply indication column (5) displays the power supply sign.

-- During operation, set the parameter bar (7) to display the change between time and set room temperature.

-- Press the return button, the selected parameters are invalid and return to the previous interface.

### Rotary Button

Select, modify and save the icons of menu bars 3 and 4 by rotating the button, and the selected icons flash.

### Clockwise rotation indicates:

--Options scroll from left to right of a menu bar, to the end and to the front of another menu bar.

-- Add one to the value.

### Counterclockwise rotation indicates:

--Options scroll from right to left on one menu bar, to the front end and then to the end of another menu bar.

-- The value is reduced by one.

### Tap the rotary button to indicate:

--Select to confirm saving and return to the main menu.

### Pressing the rotary button for a long time (more than 3s) indicates:

-- The heater heating function or other function is turned off and the LCD switch is turned off to enter the sleep state.

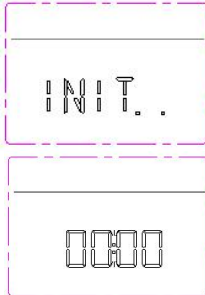
### Return Button

-- Discard the current selection and return to the previous option.

## II. Switch Setting

### 1. Power On

After a few seconds, the time is displayed at 00:00.

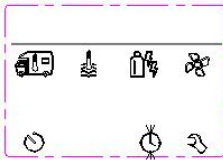


Click the rotary button to display the initial interface options in the display area.



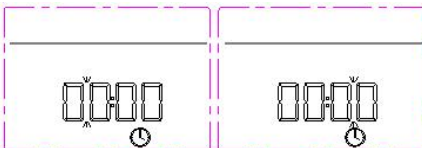
### Clock setting (current time setting)

Click the rotary button to display the icon in the menu bar (3).



-- Use the rotary button to select the "Set Clock" icon in the menu bar (4).

-- Click the rotary button to enter the clock settings.



-- Use the rotary button to set the time. "A--" is displayed in the morning and "P--" is displayed in the afternoon, and it is automatically switched.

-- Click the rotary button again to determine the time, then the minute display flashes.

-- Set the minute with the rotary button.

-- Click the rotary button to confirm the value and exit the clock setting.

### 2. Rotate button to start

-- Press the rotary button for a long time (more than 3s), the LCD will start.

### 3. Shutdown

Press the rotary button for more than 3s at the initial interface to shut down. When the LCD switch is turned off, the heating process and any connected equipment are also automatically turned off. The parameters before shutdown are retained.



### Downtime Process

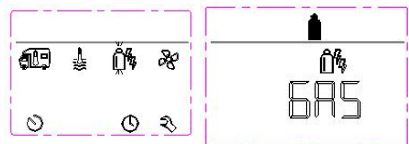
Since the heater has a higher residual heat after heating and a post-cleaning need (combustor after combustion), the fan typically runs for a few minutes for cooling.

## III. Heating Function Setting

The heating function setting should first set the energy, and then select water heating or room heating or simultaneous heating, and finally set the circulating wind speed. The default heating function settings is the energy setting fuel and the circulating wind speed setting eco.

### 1. Energy Setting

Rotate the button to select the energy icon in the menu bar (3).



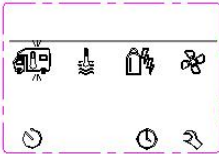
- Click on the selected icon.
- Use the rotary button to select the desired energy mode.
- Click the rotary button to confirm.

Working Mode	Energy Mode
GAS	Diesel
MIX 1	electrical 900 W+GAS
MIX 2	electrical 1800 W+GAS
EL 1	electrical 900 W
EL 2	electrical 1800 W

If the energy type is not selected, once the heater starts to operate (room temperature, hot water icon is activated), the status bar shows the type of energy selected during the previous heating process or the energy type gas set at the factory.

## 2. Adjustment of Indoor Temperature

Click the rotary button to display the icon in the menu bar (3).

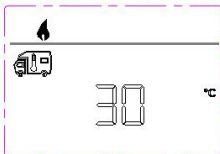
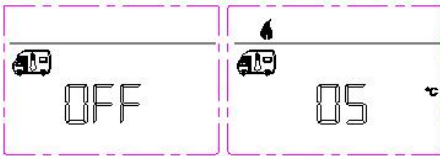


- Select the room temperature heating system with the rotary button according to the connected device.
- Confirm the selection by clicking the rotary button on the selected room temperature icon.
- Use the rotary button to select the desired temperature.
- Click the rotary button to confirm its value.

**Temperature Display:** °C degrees Celsius

**Adjustment Range :** 5~30°C

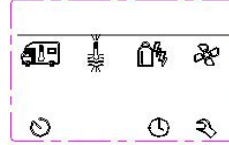
**Stepping:** 1°C



Flame icon = room temperature heating start, this icon will flash until the predetermined room temperature is reached.

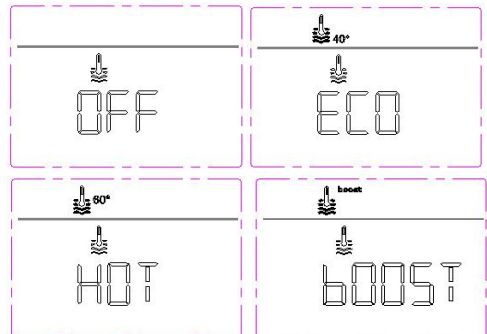
## 3. Adjustment of Water Heating

Click the rotary button to display the icon in the menu bar (3).



- Use the rotary button to select an icon in the menu bar (3).
- Click the rotary button to confirm and enter the setting level.
- Use the rotary button to select the desired water temperature setting level.
- Click the rotary button to confirm the value.

Work Mode	Description
OFF	Water heat is turned off. Water heating icon disappear
ECO	scheduled water temperature target 40°C
HOT	scheduled water temperature target 60°C
BOOST	preferentially heats the water for 40 minutes or the water temperature reaches 60°C.



This icon will flash until the predetermined water temperature is reached.

In the "heating and hot water mode" the water temperature of 40°C can only be stored for a limited time (room heating priority).

#### 4. Choice of Wind Speed

Click the rotary button to display the icon in the menu bar (3).

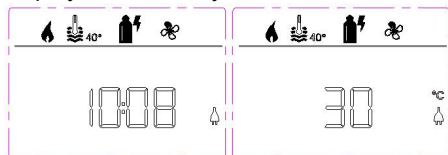


- Rotate the button to select an icon in the menu bar (3).
- Click the rotary button to confirm and enter the setting level.
- Use the rotary button to select the desired fan speed.
- Press the rotary button to confirm and save.



#### 5. Start Heating

After the setting is finished, press the return key or wait for 10s to enter the clock interface, and the heating starts. The clock and set temperature are displayed alternately.

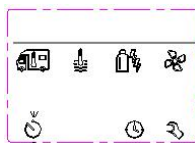


#### 6. End Heating

Press the rotary button for more than 3 seconds to shut down.

#### iv. Timing Heating Settings

Click the rotary button to display the icon in the menu bar (3). Click the rotary button to enter the timing settings.

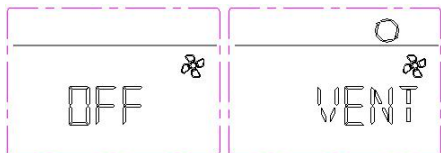


#### Warning: Danger of toxic exhaust gases.

Even if the vehicle is stopped, unmanned, the activated time switch will turn on the heater. Exhaust gases from heaters may be toxic in confined spaces such as garages, workshops, and repair shops.

If the vehicle is parked in a closed room:

Work Mode	Description
OFF	Turn off the fan.
VENT	Circulation ventilation, you can choose 10 levels Wind speed. May increase the abrasion of the motor, depends on how often it is used.
ECO	Low wind speed
LOW	Mid-speed
HIGH	High wind speed results in higher power consumption, higher noise levels and increased motor abrasion.
BOOST	Room heats up quickly



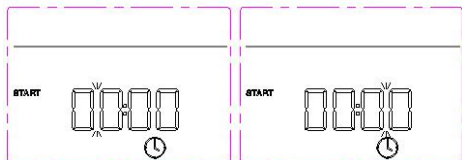
- Turn off the fuel supply to the heater.

-- Turn off the timer switch of the LCD switch.

-- Turn off the heater on the LCD switch. Press the rotary button for 3 seconds to turn it off.

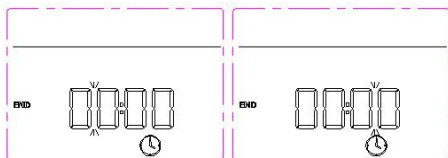
### 1. Enter the Startup Time

Use the rotary button to set the start time. Click the rotary button to confirm and proceed to the next setting.



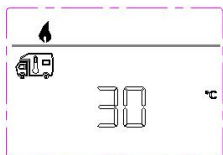
### 2. Enter the End Time

Use the rotary button to set the heating end time. Click the rotary button to confirm and proceed to the next setting.



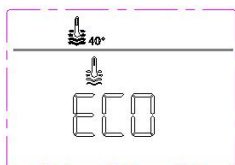
### 3. Set the Room Temperature

Use the rotary button to select the desired room temperature. Click the rotary button to confirm the value.



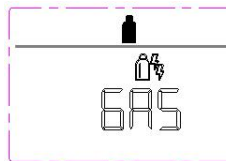
### 4. Set the Water Temperature

Use the rotary buttons to select the desired hot water level. Click the rotary button to confirm.



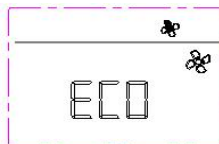
### 5. Energy Mode Selection

Use the rotary buttons to select the desired energy mode. Click the rotary button to confirm the value.



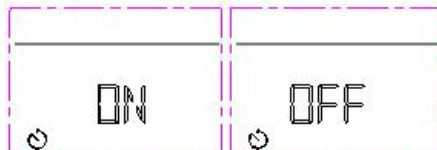
### 6. Select Fan Speed Grade

Use the rotary buttons to select the desired fan speed level. The fan speed rating is selected only after the room temperature heating mode is set. Click the rotary button to confirm.



### 7. Timing Enabled

Use the rotary button to select Enable Timing (ON). If OFF is selected, the timing is canceled, but the settings are saved. Click the rotary button to confirm that the timing is valid.



The time switch is only enabled once until it is disabled (turned off) or powered down. If the time switch is programmed and enabled, the time switch icon is displayed in the status line (2). The timing icon flashes if the time switch is enabled and activated.

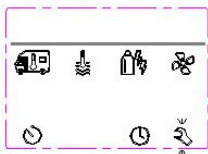
### 8. Cancel Timing

With the timing set, use the rotary button to select the timing setting. Click the rotary button to enter the settings.

Use the rotary button to select the cancel timing (OFF). If you select ON, continue to use timing. Click the rotary button to confirm that the cancellation timing is valid. But the previous settings are still saved.

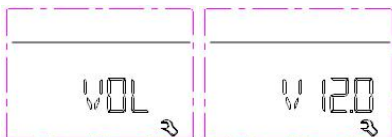
## V. Parameter Settings

The content after the parameter setting is maintained after the power is turned off. Use the rotary button to select the "Settings" icon in the menu bar (4). Click the button to enter the settings.



### 1. Voltage inquiry

Click the rotation button to display the voltage: 12.0V.

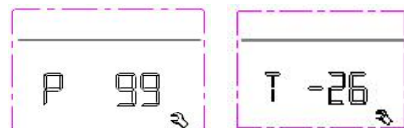


### 2. Air pressure and temperature inquiry

Use the rotate button to select the ATMOS icon.



Click the rotation button to enter the query.



Use the rotary button to switch between atmospheric pressure and ambient temperature.

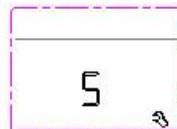
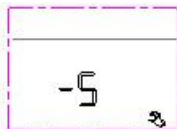
Atmospheric pressure: 99KPa

Ambient temperature: -26 °C

### 3. Offset Setting

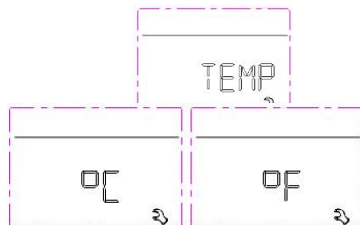
The external temperature sensor of the heater can be adjusted separately depending on the installation of the sensor. The offset setting can be in the range of -5°C to 5°C. The deviation is 1°C. Use the rotary button to select the

OFFSET icon and click the rotary button to enter the settings. Use the rotary button to select the offset value. Click the rotary button to confirm and save.



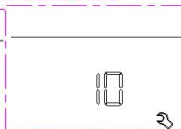
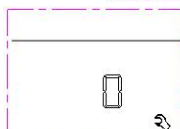
### 4. Switching temperature units

Use the knob to switch between centigrade and Fahrenheit, and click OK.



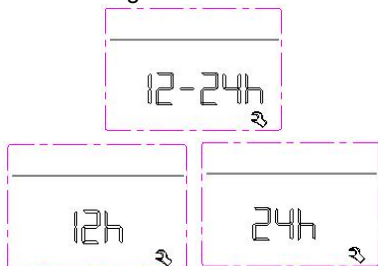
### 5. LCD Backlight Adjustment

The LCD backlight has 10 levels of incremental adjustment. Use the rotary button to select the BRIGHT icon and click the rotate button to enter the settings. The brightness of the LCD changes as the rotary button rotates. After confirming by clicking the rotary button, return to the previous operation. The backlight brightness is set to 6 by default.



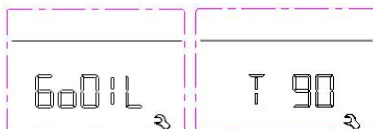
## 6. Set the Time Format

Use the rotary button to select the time format setting icon and click the rotary button to enter the settings. Use the rotary button to select the 12h or 24h icon and click the rotary button to confirm. The default setting is 24h.



## 7. Fast Pump Oil Settings

Select pump oil icon GoOil with rotary button.



Click on the rotary button to enter the fast pump oil. The default fast pump time is 90 seconds. The remaining time can be adjusted with a knob.

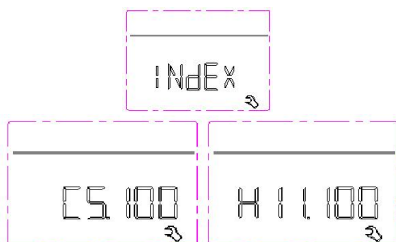
Press the return key or stop the fast pump if the pump oil time exceeds the set value.

Click the rotate button or return key to return to the previous operation.

## 8. Software Version Number

Use the rotary button to select the INdEx icon and click the rotary button to enter the query item. Use the rotary button to view the information of the LCD switch or the information of the main controller.

Click the rotary button or want to go back to return to the previous operation.



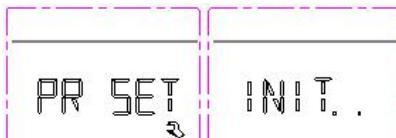
C5.100-- LCD switch version  
H11.100-- master controller version

## 9. Factory Setting

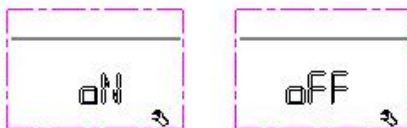
The reset function resets the LCD switch to factory settings. All previous settings will be deleted. All devices used before RESET is installed and powered.

Use the rotary button to select the RESET icon and click the rotary button to display the factory setting PR SET.

After confirming, the initialization "INIT....." is displayed.



## 10. Bluetooth on / off




## 11. Extended functions





## vi. Fault Display

How to Read the Warning Code:

-- Use the rotary button to select the icon  and click the rotary button to display the current warning code (for troubleshooting, please refer to the relevant heater instruction manual).

There are faults in the fault that are automatically recovered and manually recovered after repair.

An automatic recovery fault is a warning fault in which an operating parameter has exceeded a defined normal working range and reached an undefined state. In this case, the device will continue to run and the warning symbol (!) will be displayed in the menu bar (4) without warning code. After the fault is repaired, the warning symbol disappears automatically (it can also be manually restored), and the device continues to work according to the original settings. For example: warning fault code W 120 H.



A manually recovered fault means that the fault code is displayed in the parameter setting field (7) when the fault occurs. The cause of the fault can be determined and remedied by the help of the troubleshooting guide. The fault code disappears after a few seconds, and the warning disappears, and the warning symbol is displayed in the menu bar (4). Select Reheat after the fault is identified and resolved, first remove the fault code. Press the rotary button to display the fault code, then press the rotary button, the displayed fault code disappears and return to the initial time interface. Re-enter the heating parameters to initiate heating. If the fault is removed, the heating will be normal or the fault will occur again. The LCD switch will jump to the "Fault" menu again, the warning symbol will be displayed again, and the affected device will still be in the

warning state. Since the fault has not been eliminated, if you want to return to the set level, press the back button (9). For example: fault code E 31 H. Shutdown and power off can also eliminate faults.



Refer to the instruction - Table 2 for the list of fault codes and troubleshooting methods.

## VII. Technical Parameters

Display: LCD, black and white, with backlight.

Dimensions: 92×103×40mm

Working temperature: -25°C~60°C

Storage temperature: -25°C~70°C

Power supply: DC10.5~16V

Power consumption: Max.65mA (100% backlight)

Standard current: 10mA

Quiescent current: 3mA

The above parameters are subject to change without notice.

## Maintain:

The LCD switch is maintenance-free. To clean the front panel, use a damp cloth or use a neutral soap solution.

## VIII. Installation Instructions

Installation in vehicles must comply with applicable technical and administrative regulations.

### Safety Information:

Installation and services must be performed by an authorized installer, service agent. Improper installation, alteration, repair will result in property damage, personal injury or loss of life and will void the warranty.

Don't try to install it yourself. Do not use high voltage equipment unless the electronic circuit (board) is disconnected. Do not use a battery charger to power the heater, even while testing. If the vehicle requires soldering, do not connect a 12-volt DC power supply to the unit.

Electric welding can cause serious damage to the equipment. Do not shorten the electrical connection cable or remove the label indicating polarity. Turn off the vehicle's onboard power supply during installation and turn off the power when the device is connected.

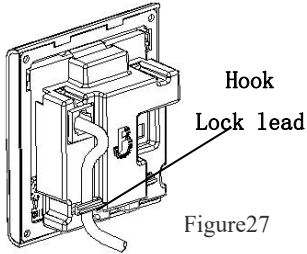


Figure27

**Installation location:**

Install the LCD switch in a waterproof and moisture-proof position. Install the LCD switch at the height of your eyes for easy reading and operation.

Prepare a mounting opening for the LCD switch, as shown in Figure 28.

Route the connector cable connecting the cables in a tension-free circuit. It must be possible to pull the liquid crystal switch out of the mounting hole by 20 cm so that no tensile stress is applied to the plug connection. Never drawing the connector cable when connecting to the LCD switch.

**Assembly:**

Install as shown in Figure 29. Install the LCD switch holder to the wall with 4 M3×10 screws.

- ① Hang the front panel of the LCD switch on the holder

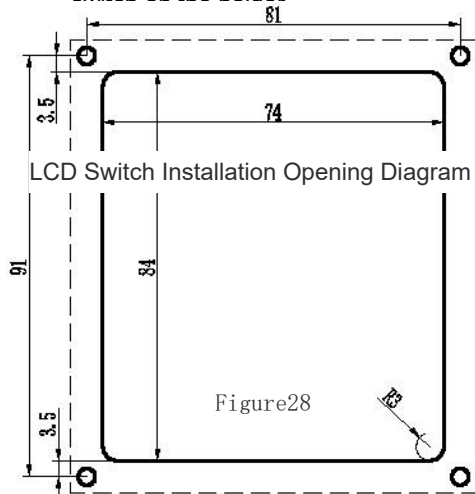


Figure28

**Installation Method of LCD Switch**

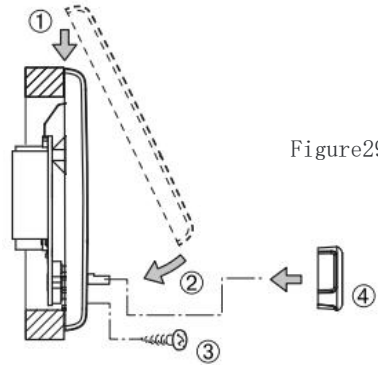
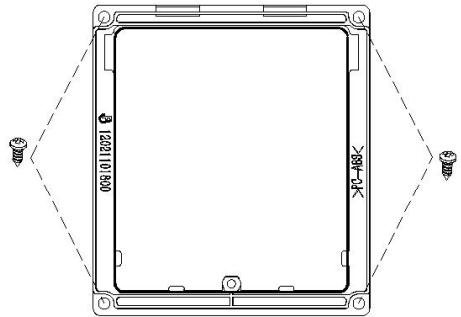


Figure29



**IX. Accessories**

Name	Quantities
·LCD switch	1
·Cross countersunk head flat tail self-tapping nail M3×6	1
(fastening the switch panel)	
·Cross head self-tapping nail M3×10	4
(installed on the wall)	
·Operation and installation instructions	1
·Connecting cable, length 6m	1