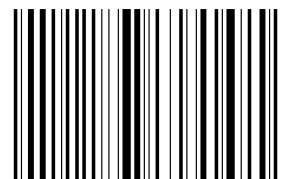


# Operating Manual



**Heat pump**  
**EASYPELL EPA 09 / 12**

ENGLISH



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# 1 Dear Customer

- This manual is intended to help you operate the product safely, properly and economically.
- Please read this manual right through and take note of the safety warnings.
- Keep all documentation supplied with this unit in a safe place for future reference. Please pass on the documentation to the new user if you decide to part with the unit at a later date.
- Please contact your authorised dealer if you have any questions.

## 2 Types of safety warning sign

The warning signs use the following symbols and texts.

### Types of safety warning sign

1. Risk of injury
2. Consequences of risk
3. Avoiding risk

#### DANGER

Danger - indicates a situation that could lead to death or lifethreatening injury.

- ▶ Observe the instructions for eliminating this hazard!

#### WARNING

Warning - indicates a situation that could lead life-threatening or serious injury.

#### CAUTION

Caution - indicates a situation that could lead to injury.

#### NOTICE

- ▶ indicates a situation that could lead to property damage.

## 3 Product Description

The heat pumps transfer heat from the ambient air to the heating water. The heat pump is often used for heating houses and hot water.

It can also be used to cool the walls and ceilings in summer, as well as being connected to fan coils. Be aware to avoid pipe condensation during cooling operation.

### **General features:**

1. Low operating costs and high efficiency
2. Low investment costs
3. High comfort level
4. Digital control panel for temperature control.
5. Durable and corrosion-resistant composite housing that can withstand harsh weather conditions.
6. The high-quality compressor ensures high performance, maximum energy efficiency, durability and quiet operation.
7. The control panel monitors the operation of the heat pump to ensure safe operation.
8. User friendly digital touch control panel.
9. Insulated terminal compartment prevents internal corrosion and extends the service life of the heat pump.
10. The heat pump can be used down to an outside air temperature of -20° C.

## 4 Important safety precautions



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This manual contains installation and operating instructions for the air source heat pump. Please keep it for future reference.

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Read and observe all warnings and enclosed instructions before installing this product. Failure to observe the safety information and instructions may result in injury or damage to property.

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### 4.1 Guidelines and standards

The heat pump must be installed in accordance with local building regulations. The installation regulations of the responsible utility company or the responsible authority must be observed.

All local regulations take precedence over national regulations.

#### **DANGER**

##### Electric shock

The electrical supply for this product must be installed by a licensed or certified specialist.

- ▶ Improper installation poses a risk to users and technicians. Read and follow the specific instructions in this document.
- 



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To reduce the risk of injury, children must not use this product.

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## 5 Rights and obligations

1. Only certified technicians may install and repair the device in order to make a warranty claim and provide service.
2. After receiving the product, check the entire scope of delivery for any damage.

### 5.1 Inspection by the operator

We recommend checking the heat pumps regularly.

**Observe the following points:**

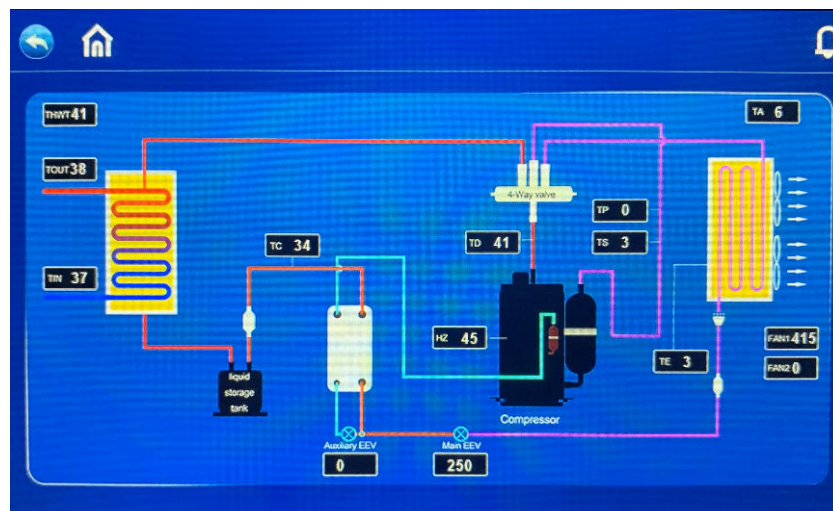
1. Ensure that all sides of the heat pump are freely accessible.
2. Check the heat exchanger and the condensate drain for dirt and keep it free of leaves or other blockages.
3. Keep the top and surroundings of the heat pump free of dirt.
4. Trim all plants and shrubs in the area of the heat pump and ensure that the necessary minimum distances are maintained.
5. Make sure that the protective earth conductor is connected correctly.
6. The filter must be serviced regularly so that clean water protects the heat pump from damage.
7. Check the wiring of the electrical components for any wear or damage to ensure proper operation.
8. All safety devices are set up. Please do not change these settings. If changes are required, please contact an authorized installer/technician.
9. If the heat pump is installed under a roof edge without a rain gutter, ensure that all measures are taken to prevent excessive ingress of spray water, especially during heavy rainfall.
10. Do not use the heat pump if electrical parts have come into contact with water. Please contact an authorized installer/technician.
11. If the increase in power consumption is not due to colder weather, contact an authorized installer/technician.


















## 6 Operating the heat pump








1. All necessary safety devices for the water circuit must be installed in accordance with the installation instructions.
2. The appliance has sufficient refrigerant and lubricant. If refilling is required due to a leak, the information on the rating plate must be observed.
3. The water pump must remain connected to the control unit so that any faults are detected and functional safety and freeze protection are guaranteed.
4. Have regular maintenance carried out on the appliance and the system.
5. Make sure you have frost protection at very low temperatures.
6. The appliance must always be connected to the power supply to ensure safety and to protect the water from freezing.
7. In the event of prolonged power failures or power cuts at ambient temperatures below 5°C, the water must be drained outside.

### 6.1 User controls and their function






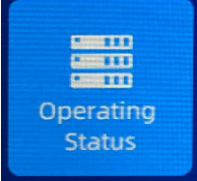
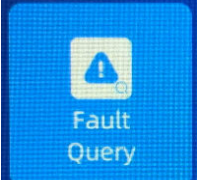





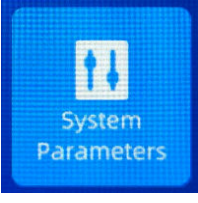
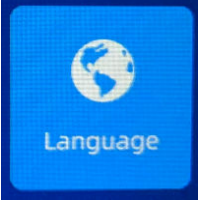
Click on the Home button to display the system measured values of the heat pump.

Symbol	Bedeutung
	Heating mode
	Hot water mode
	Cooling mode
	Heating and hot water mode (hot water function has priority)
	Cooling and hot water mode (hot water function has priority)
	Smart mode
	Performance mode
	Night mode
	Vacation mode
	Compressor active
	Water pump active
	Fan active
	Electric heating active
	Defrost
	Freeze protection

Symbol	Bedeutung
	Hot water preparation
	Heating
	Home screen or system display
	Back
	Current alarm
	Fault history
	Delete

## 6.2 Description of the buttons

Button	Description	Function
	On/Off	Switching the heat pump on or off
	Mode	Setting the operating mode
	Time program	Time program settings
	Settings	Check and set system parameters, error code records, WLAN connection, etc.
	Temperature setting 1	Temperature setting for heating and cooling mode
	Temperature setting 2	Temperature setting for heating/cooling and hot water
	Status	Checking the operating parameters of the heat pump or all devices in a cascade connection
	Defect	Recording of the error codes
	WLAN	WLAN settings for APP configuration

Button	Description	Function
	User parameters	Checking and setting the user parameters
	Factory settings	Loading the factory settings (only for technical customer service with access code)
	Power curve	View the performance curves of the heat pump graphically.
	System parameters	Check the software version of the controller
	Language	Language selection

### 6.3 Activation of the heat pump

In the start menu, press and hold the ON / OFF button for 1 second to confirm the pop-up window that appears.



### 6.4 Setting the target water temperature

In individual mode (cooling only, heating only, hot water only), click on "+" or "-" to set the desired temperature.

The flow and return temperatures are displayed in the menu and only one temperature setting is visible.

In dual mode, click on "+" and "-" in the start menu (heating + hot water, cooling and hot water mode) to set the desired heating and cooling temperature and the desired hot water temperature.



## 6.5 Setting the operating mode

In the start menu, press and hold the "MODE button" for 1 second to switch to the mode selection and set the desired operating mode and the function mode of the device in vacation mode.



- Click "MODE" on the settings interface to open the operating mode selection interface
- Description of the operating mode: In function mode, the heat pump has the Smart, Power and Night mode functions to choose from. In Power mode, the compressor runs at full power, in smart mode it modulates, and in night mode the compressor power is limited to reduce the noise level. We recommend the Smart mode setting for everyday use.
- Description of vacation mode: When this mode is activated, the heat pump runs in heating mode and the setback temperature can be set separately.

## 6.6 Date and time settings

- Press Time and date in the start menu to set these.
- Set the date (year/month/day) or the time (hour:minute).
- Confirm the entry to save and exit or select CANCEL to exit without saving.

## 6.7 Timer setting

Select the Timer function in the Start menu.

In the WEEK menu item, you can select the days of the week on which the time program should be activated.

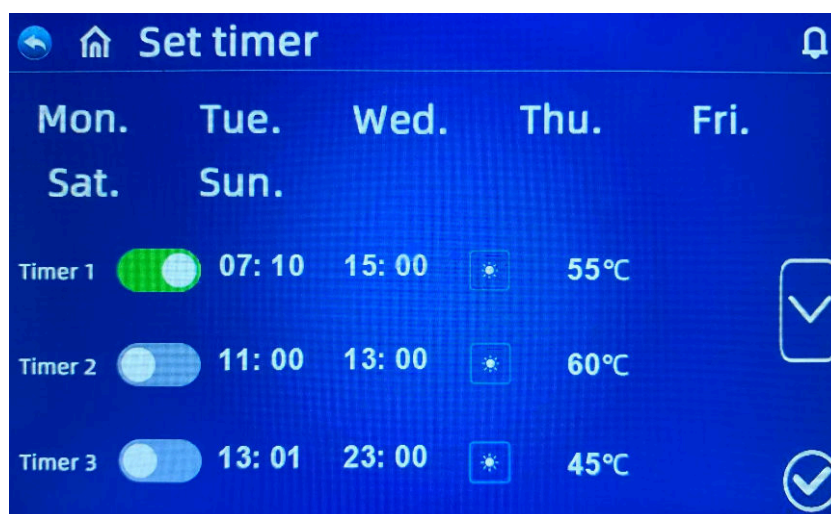
The time program is executed on days marked in white.

The time program is not executed on days marked in grey.

You can set a maximum of 3 time programs on the display. Additional times can be set via the APP function.

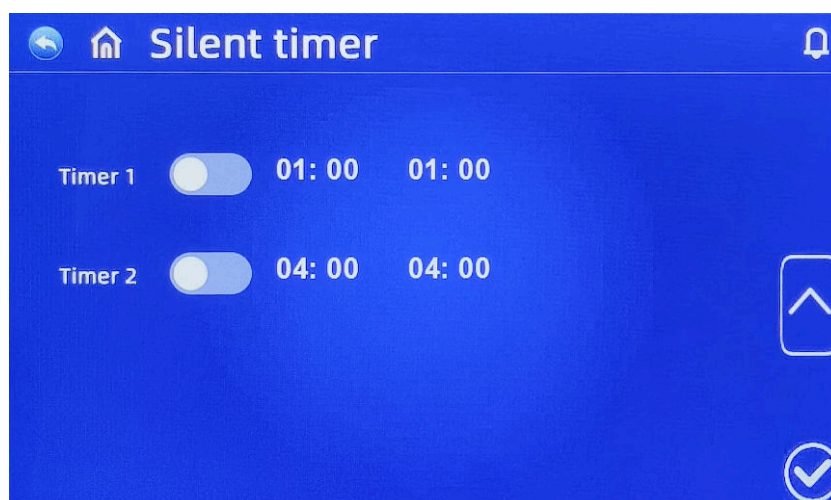
The start and end time, operating mode and temperature can be selected.

The time program function is invalid if the switch-on time is the same as the switch-off time.



### 6.7.1 Night mode

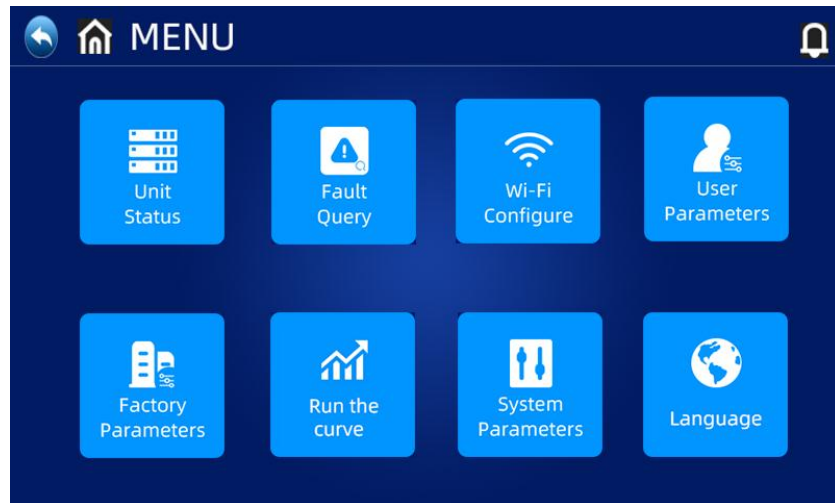
In the Timer settings menu, select  During the set time, the heat pump runs daily in night mode.





## 6.8 Main Menu

Select the "SETTINGS" function in the start menu to call up the main menu.



### 6.8.1 Device status

Select "STATUS" to call up the interface to the device list.

Select the relevant device to call up the "Status query" and check the operating status of the heat pump.

The status table is as follows:

<p><b>Status</b></p> <table border="1"> <tbody> <tr> <td>01 Water return temperature</td> <td>26.6°C</td> <td>05 Return gas temperature</td> <td>1.0°C</td> </tr> <tr> <td>02 Water flow temperature</td> <td>31.9°C</td> <td>06 Evaporator temperature</td> <td>-2.5°C</td> </tr> <tr> <td>03 Outside temperature</td> <td>6.5°C</td> <td>07 Inlet temperature of economizer</td> <td>0.0°C</td> </tr> <tr> <td>04 Flow Gas Temperature</td> <td>56.0°C</td> <td>08 Outlet temperature of economizer</td> <td>0.0°C</td> </tr> </tbody> </table>	01 Water return temperature	26.6°C	05 Return gas temperature	1.0°C	02 Water flow temperature	31.9°C	06 Evaporator temperature	-2.5°C	03 Outside temperature	6.5°C	07 Inlet temperature of economizer	0.0°C	04 Flow Gas Temperature	56.0°C	08 Outlet temperature of economizer	0.0°C	<p><b>Status</b></p> <table border="1"> <tbody> <tr> <td>09 Heatexchanger liquid temp</td> <td>25.0°C</td> <td>13 Compressor current</td> <td>8 A</td> </tr> <tr> <td>10 DHW temperature</td> <td>18.7°C</td> <td>14 Board heat sink temp</td> <td>40.0°C</td> </tr> <tr> <td>11 Opening main expansion valve</td> <td>158 P</td> <td>15 Target compressor frequency</td> <td>75 Hz</td> </tr> <tr> <td>12 Opening assistant expansion valve</td> <td>0 P</td> <td>16 Actual compressor frequency</td> <td>74 Hz</td> </tr> </tbody> </table>	09 Heatexchanger liquid temp	25.0°C	13 Compressor current	8 A	10 DHW temperature	18.7°C	14 Board heat sink temp	40.0°C	11 Opening main expansion valve	158 P	15 Target compressor frequency	75 Hz	12 Opening assistant expansion valve	0 P	16 Actual compressor frequency	74 Hz
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Code	Description	Remark
01	Water return temperature	-30 ~ 99° C
02	Water flow temperature	-30 ~ 99° C
03	Outside temperature	-30 ~ 99° C
04	Flow Gas Temperature	0 ~ 125° C
05	Return gas temperature	-30 ~ 99° C
06	Evaporator temperature	-30 ~ 99° C
07	Inlet temperature of economizer	-30 ~ 99° C
08	Outlet temperature of economizer	-30 ~ 99° C
09	Heatexchanger liquid temp	-30 ~ 99° C
10	DHW temperature	-30 ~ 99° C
11	Opening main expansion valve	
12	Opening assistant expansion valve	
13	Compressor current	
14	Board heat sink temp	
15	Target compress or frequency	
16	Actual compress or frequency	
17	Low pressure sensor value	Real-time data
18	Low pressure value conversion temp	
19	Speed fan 1	
20	Speed fan 2	
21	EVU signal	
22	Smart Grid/PV Signal	
24	DC bus voltage	
25	Heating capacity/Cooling capacity	
26	Actual water flow rate	
27	Current device	
28	Voltage of the entire machine	
29	Electrical power	
30	COP (EER)	
31	Target water pump speed	
32	Actual water pump speed	

### 6.8.2 User parameter settings

Press "USER PARAMETERS" in the main menu to enter the parameter query and settings.  
 The following list shows the code, description, adjustable range and default value.

Display of the operating parameters:

 <p><b>User parameters</b></p> <table border="1"> <tr> <td>P01 Hysteresis (+/- return)cooling/heating target temp</td> <td>2°C</td> <td>P05 Heating setting temperature</td> <td>55°C</td> </tr> <tr> <td>P02 Hysteresis (+/- return) DHW target temp</td> <td>5°C</td> <td>P06 Setting temp of low gas too high protection (TP4)</td> <td>120°C</td> </tr> <tr> <td>P03 Domestic hot water set temp.</td> <td>28°C</td> <td>P07 Setting temp of low gas too high recover (TP0)</td> <td>93°C</td> </tr> <tr> <td>P04 Cooling setting temperature</td> <td>12°C</td> <td>P08 Water temp. sensor compensation</td> <td>1°C</td> </tr> </table>	P01 Hysteresis (+/- return)cooling/heating target temp	2°C	P05 Heating setting temperature	55°C	P02 Hysteresis (+/- return) DHW target temp	5°C	P06 Setting temp of low gas too high protection (TP4)	120°C	P03 Domestic hot water set temp.	28°C	P07 Setting temp of low gas too high recover (TP0)	93°C	P04 Cooling setting temperature	12°C	P08 Water temp. sensor compensation	1°C	 <p><b>User parameters</b></p> <table border="1"> <tr> <td>P09 Defrosting compressor frequ.</td> <td>70Hz</td> <td>P13 Defrost exit temperature</td> <td>15°C</td> </tr> <tr> <td>P10 Min period between defrosting</td> <td>45min</td> <td>P14 Outside and evaporator coil temperature difference defrosting 1</td> <td>5°C</td> </tr> <tr> <td>P11 Defrosting start evaporator temp.</td> <td>-3°C</td> <td>P15 Outside and evaporator coil temperature difference defrosting 2</td> <td>5°C</td> </tr> <tr> <td>P12 Defrosting time</td> <td>8min</td> <td>P16 Outside temperature for defrosting</td> <td>17°C</td> </tr> </table>	P09 Defrosting compressor frequ.	70Hz	P13 Defrost exit temperature	15°C	P10 Min period between defrosting	45min	P14 Outside and evaporator coil temperature difference defrosting 1	5°C	P11 Defrosting start evaporator temp.	-3°C	P15 Outside and evaporator coil temperature difference defrosting 2	5°C	P12 Defrosting time	8min	P16 Outside temperature for defrosting	17°C
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 <p><b>User parameters</b></p> <table border="1"> <tr> <td>F05 Circulation pump adjustment cycle</td> <td>60S</td> <td>P29 Control address</td> <td>1</td> </tr> <tr> <td>F06 Circulation pump manual speed</td> <td>50%</td> <td>S01 Smart grid/PV enable</td> <td>0</td> </tr> <tr> <td>F08 Circulation pump min speed</td> <td>60%</td> <td>S02 SG/PV operating time</td> <td>180 min</td> </tr> <tr> <td>P28 Number of on-line units</td> <td>1</td> <td></td> <td></td> </tr> </table>	F05 Circulation pump adjustment cycle	60S	P29 Control address	1	F06 Circulation pump manual speed	50%	S01 Smart grid/PV enable	0	F08 Circulation pump min speed	60%	S02 SG/PV operating time	180 min	P28 Number of on-line units	1			Empty screenshot area																
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Code	Description	Adjustable range	Default value
P01	Hysteresis (+/- return) cooling/heating target temp	2° C to + 18° C	2° C
P02	Hysteresis (+/- return) DHW target temp	2° C to + 18° C	5° C
P03	Domestic hot water set temp.	28° C to + 70° C	50° C
P04	Cooling setting temperature	7° C to + 30° C	12° C
P05	Heating setting temperature	15° C to + 70° C	35° C
P06	Setting temp of flow gas too high protection (TP4)	50° C to + 125° C	120° C
P07	Setting temp of flow gas too high recover (TP0)	50° C to + 125° C	95° C
P08	Water temp. sensor compensation	-5° C to + 15° C	-1° C
P09	Defrosting compressor frequ.	30 - 120 Hz	60 Hz
P10	Min period between defrosting	20 - 90 min	45 min
P11	Defrosting start evaporator temp.	-15° C to -1° C	-3° C
P12	Defrosting time	5 - 20 min	10 min
P13	Defrost exit temperature	1° C to + 40° C	20° C
P14	Outside and evaporator coil temperature difference defrosting 1	0° C to + 15° C	5° C
P15	Outside and evaporator coil temperature difference defrosting 2	0° C to + 15° C	5° C
P16	Outside temperature for defrosting	0° C to + 20° C	17° C
P17	Days Legionella protection	0 -30 days If 0 is selected, no disinfection function is performed.	7
P18	Start time Legionella protection	0 - 23:00	23
P19	Duration Legionella protection	0 - 90 min	30
P20	Temperature Legionella protection	0 to + 90° C	70° C
P21	Heat pump's setting temperature for Legionella protection	40 to + 70° C	53° C
	Fahrenheit/Celsius	0° C	0
P22	Heating target Temp. automatic adjustment enable	0 - 1 0= inactive 1= active	0
P23	Basepoint Heatcurve	0 - 40	20

Code	Description	Adjustable range	Default value
P24	Heatcurve coefficient	1 - 30 1 corresponds to real0,1	1
P25	Frequ. modulating mode after reaching temperature	0= Reduction in frequency after constant temperature 1= No decrease in frequency after constant temperature	0
P26	Outside temperature for starting electric heating	-20° C to + 20° C	0
P27	Start time for electric heating of DHW tank	0 - 60 min	30
F01	Heat Pump Function	1= Heating 2= Heating + cooling 3= Heating + hot water 4= Heating + cooling + hot water	4
F02	Circulation pump status after reaching target Temp.	0= Interval 1= permanent 2= Constant pump stop	1
F03	Circ. pump OFF cycle time after reaching set temp.	1 - 120 min ON always 3 min.	30 (On= 3 min)
F04	Circulation pump mode	0=No start 1= Automatic 2= Manual	1
F05	Circulation pump adjustment cycle	10-100 sek	60
F06	Circulation pump manual speed	10 - 100%	50
F08	Circulation pump min speed	10 - 100%	40
P28	Numbers of online units	1 - 8	1
P29	Control address	1 - 255	1
S01	SmartGrid/PV enable	no, yes	no
S02	SG/PV operating time	0 - 600 min	180 min

### 6.8.3 WLAN and APP connection

#### Download of the smartphone app

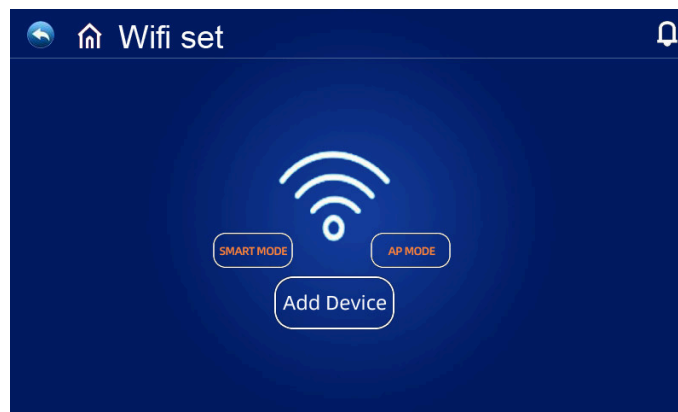
Please go to the Google Play Store or the Apple App Store and download the app Smart Life or Tuya Smart.

Smart Life	Tuya Smart
	

#### WIFI connection method Bluetooth mode

1

- By default, a connection can be established within 10 seconds of the first start.
- Manual connection with WLAN and APP. Select Smart mode or AP mode on the WIFI interface of the wired controller. Click on "Add device". You can then start configuring the network.
- If you want to configure the network again, you must click on the Add device button on the WIFI interface again.



2

- Activate Bluetooth on your smartphone.
- Activate the WIFI function on your smartphone to connect to the WIFI hotspot. The WIFI hotspot (2,4 GHz) must be able to connect to the Internet. The unit and the smartphone must be in the same network.

3

- Open the smartphone app. Click on "Add" to enter the interface for the device and confirm the correct WIFI password.

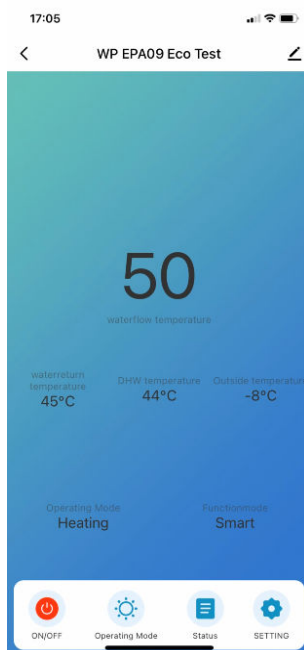
4

- The network configuration is successful if the connection could be established and the device is displayed in the app. The device symbol is a heat pump and the device name is Easypell.

### 6.8.3.1 Integration and use

#### Introduction to the interface

- After successfully connecting the device, you can customize the name of your Easypell heat pump.
- Click on "Easypell heat pump" in the main menu.

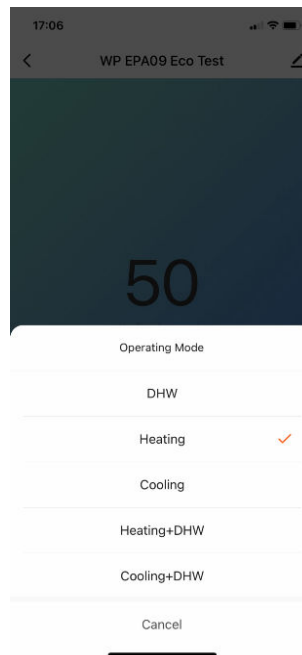


#### ON/OFF

Switch the device on and off directly using the button.

### Operating mode

- Select Menu Operating mode to change the mode.



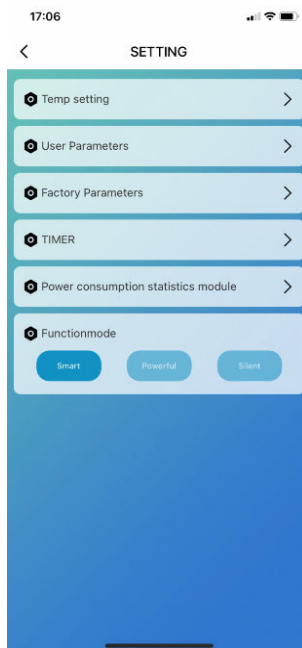
### Status

- View the current measured values and function settings in the Status menu.



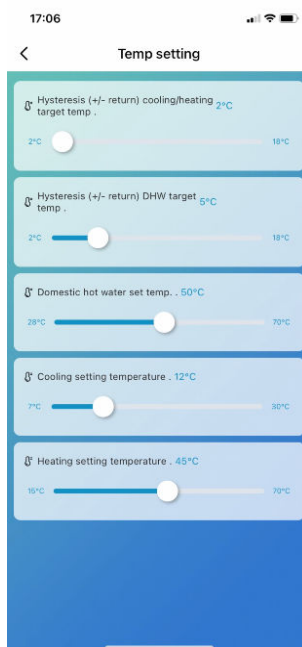
### Setting the hot water temperature

- Select the desired water temperatures and hysteresis values in the "Temperature setting" menu.



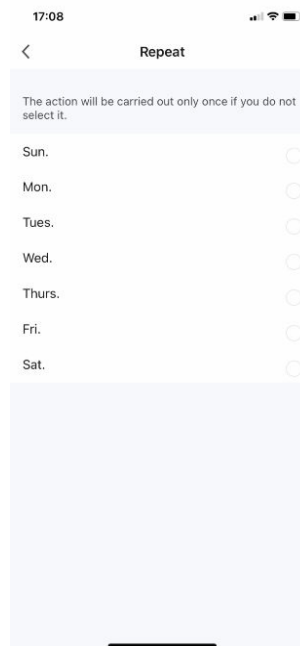
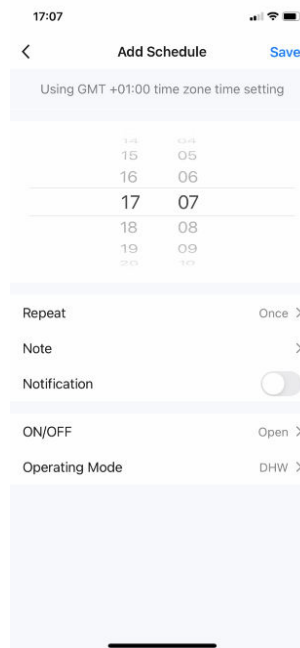
### User settings

- Select the user settings as specified in menu item 6.10.3.



## Timer settings

- Select "Add timer" and configure the desired time program.



**Power statistics module**

- Power consumption module for displaying daily, monthly and annual power consumption.
- Function mode: Selection of smart power and night mode

**Removal of the device**

- Select the connected device in the top right-hand corner of the main menu.
- Select "Remove device" to remove the connected device from the app.

**6.8.4 Operating graphics**

Press Operating graphics in the main menu to access the various graphics.

- Water temperature flow/return
- Electrical power consumption
- COP (EER)
- Heating/cooling capacity
- Power consumption (day/month/year)

**6.8.5 System data**

Press System data in the main menu to obtain the current software version of the main board and control panel.

**6.8.6 Language**

Press Language in the main menu to select your desired language. Confirm the selection so that the language is applied.

**6.9 Forced defrost**

Forced defrost: Press Settings in the start menu, and then press and hold the corresponding device number in the device selection interface of the query status to enter the forced defrost selection interface of the corresponding device. Select YES to defrost the heat pump.

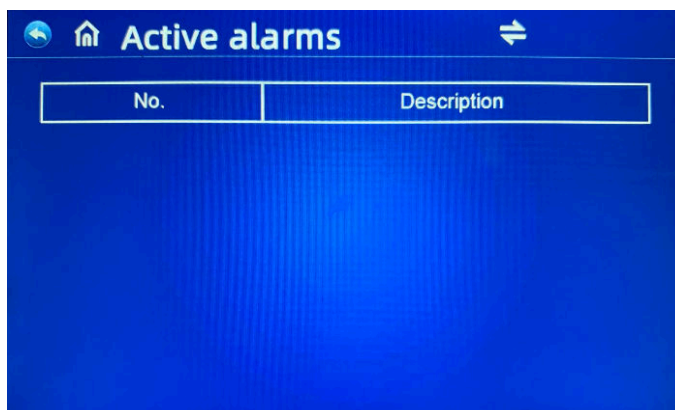
## 7 Maintenance and servicing

### 7.1 Fault texts

#### 7.1.1 Error codes

If an error occurs on the heat pump, either press the alarm bell or the error query in the main menu.

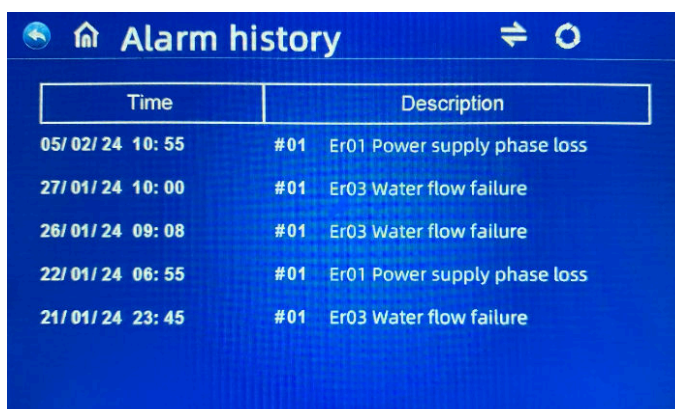
The control panel displays the error code and the error description and saves the corresponding data record.



No.	Description
-----	-------------



Press the right/left arrow button to display all stored fault messages. The fault messages are deleted when the arrow circle button is pressed.



Time	Description
05/02/24 10:55	#01 Er01 Power supply phase loss
27/01/24 10:00	#01 Er03 Water flow failure
26/01/24 09:08	#01 Er03 Water flow failure
22/01/24 06:55	#01 Er01 Power supply phase loss
21/01/24 23:45	#01 Er03 Water flow failure

**The following common error codes are displayed in the controller panel**

Error code	Description
Er 01	Power phase loss
Er 03	Water circuit fault
Er 05	High pressure disorder
Er 06	Low pressure malfunction
Er 09	Communication disorder
Er 10	Communication fault of the frequency converter
Er 12	Refrigerant high temperature protection
Er 14	Hot water sensor fault
Er 15	Return temperature sensor fault
Er 16	Evaporator sensor fault
Er 18	Refrigerant sensor flow fault
Er 20-xxx	Frequency conversion module error, see error list below.
Er 21	Outdoor temperature sensor fault
Er 23	Cooling flow low temperature protection
Er 27	Flow temperature sensor fault
Er 29	Return temperature sensor fault
Er 32	Heating flow overtemperature protection
Er 33	Overtemperature evaporator
Er 42	Fault WT coolant temperature sensor
Er 64	Error fan 1
Er 65	Overcurrent protection
Er 66	Error fan 2
Er 67	Low pressure switch failure
Er 69	Negative pressure protection
Er 72	Communication error fan board
Er 99	Communication error (all)




---

If an Er 20 error occurs in the system, a detailed error code from 1 to 384 is displayed below.

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## 7.1.2 Troubleshooting and warning causes

### Detailed list of error codes for Er 20

Code	Designation	Description	Remedy
1	Overvoltage of the inverter module	Problems with inverter module	Replacing the inverter module
2	Abnormal synchronization process of the compressor	Compressor failure	Replacing the compressor
4	Reserved	-	-
8	Phase loss at the output of the compressor	Compressor wiring disconnected or poor connection	Check the connection
16	DC bus voltage too low	Failure of the power factor module with too low input voltage	Check the input voltage on the inverter module.
32	DC bus voltage too high	Failure of the power factor module if the input voltage is too high	Replacing the inverter module
64	Heat sink temp control too high	Fan motor error Blocked air ducts	Check the fan motor and the air duct.
128	Heat sink temperature control error	Heat sink sensor Short circuit or open circuit	Replacing the inverter module
257	Disruption of communication	The inverter module has no connection to the control unit	Check the communication wiring between the controller and the inverter module
258	AC input phase loss	Three-phase module with missing input phase	Measure the voltage
260	Overcurrent at AC input	Input three-phase unbalanced three-phase network	Detecting the input three-phase voltage
264	AC input voltage too low	Input voltage too low	Check the input voltage
272	High pressure disorder	High pressure compressor	
288	Inverter temperature too high	Main fan motor defective Air duct blocked	Inspection of fan motors and air ducts
320	Current peaks of the compressor too high	The current of the compressor line is too high	Replacing the inverter module
384	Temperature of the power factor correction module too high	Power factor module temperature too high	

## 7.2 Common errors

If the appliance malfunctions during operation, the user must call in certified maintenance personnel to repair it.

Error	Possible causes	Troubleshooting
The heat pump is not working	<ul style="list-style-type: none"> <li>• Power failure</li> <li>• Loose wiring</li> <li>• Thermal overload protection has triggered</li> <li>• Refrigeration circuit low pressure too low</li> </ul>	<ul style="list-style-type: none"> <li>• Turn off the power switch to check the power supply</li> <li>• Replace the fuse</li> <li>• Voltage and current testing</li> </ul>
The water pump works without recirculation but the water pump generates a lot of noise	<ul style="list-style-type: none"> <li>• Water shortage in the system</li> <li>• Air in the water system</li> <li>• Valves are not fully open</li> <li>• The filter is dirty or clogged</li> </ul>	<ul style="list-style-type: none"> <li>• Check the water pump</li> <li>• Exhaust air from the water system</li> <li>• Open the valve of the water system</li> <li>• Clean the water filter</li> </ul>
Low heat capacity	<ul style="list-style-type: none"> <li>• Insufficient refrigerant</li> <li>• Poor thermal insulation performance of the water system</li> <li>• Clogging of the dry filter</li> <li>• Poor heat dissipation of the air heat exchanger</li> <li>• Insufficient flow</li> </ul>	<ul style="list-style-type: none"> <li>• Leak detection and refrigerant supply</li> <li>• Strengthening the thermal insulation of the water system</li> <li>• Replacing the dry filter</li> <li>• Clean the air heat exchanger</li> <li>• Clean the water filter</li> </ul>
Compressor is not working	<ul style="list-style-type: none"> <li>• Damage to the compressor</li> <li>• Loose wiring</li> <li>• Water temperature too high at outlet</li> <li>• Insufficient flow rate</li> <li>• Triggering of the compressor overload protection</li> </ul>	<ul style="list-style-type: none"> <li>• Replacing the compressor contactor</li> <li>• Checking the appliance pressure and exhaust gas temperature</li> <li>• Reset the water temperature at the outlet</li> <li>• Clean the water filter and empty the air from the system</li> <li>• Check the wiring and the overload protection for damage</li> </ul>

Error	Possible causes	Troubleshooting
Compressor operating noise is too high	<ul style="list-style-type: none"> <li>Refrigerant leaks into the compressor</li> <li>Damage to the internal parts of the compressor</li> <li>Voltage is too low</li> </ul>	<ul style="list-style-type: none"> <li>Check whether the expansion valve has failed</li> <li>Replacing the compressor</li> <li>Check the supply voltage</li> </ul>
The fan does not work or generates noise	<ul style="list-style-type: none"> <li>Fan mounting screws are loose</li> <li>Damage to the fan motor</li> <li>Faulty motor contactor</li> </ul>	<ul style="list-style-type: none"> <li>Tighten screws</li> <li>Replacing the fan motor</li> <li>Replacement of the contactor</li> </ul>
Compressor operation heat pump without heating	<ul style="list-style-type: none"> <li>The refrigerant has leaked</li> <li>Compressor failure</li> <li>Incorrect running direction</li> </ul>	<ul style="list-style-type: none"> <li>Check for leaks and refill with refrigerant</li> <li>Replacing the compressor</li> <li>Change the phase sequence of the compressor</li> </ul>
Water circulation protection	<ul style="list-style-type: none"> <li>Not enough flow in the system</li> <li>Failure of the pressure switch</li> </ul>	<ul style="list-style-type: none"> <li>Clean the water filter and empty the air from the system</li> <li>Check and replace the water switch</li> </ul>

## 7.3 Cleaning and maintenance

### 7.3.1 Cleaning

- The heat pump does not require extensive cleaning.
- Keep the outer cladding clean.
- Any ice or snow deposits on the appliance must be removed in good time.

#### CAUTION

Do not use any harsh or corrosive cleaning agents.

#### CAUTION

Cleaning the heat pump with a high-pressure cleaner is prohibited

Do not use a high-pressure cleaner to clean the heat pump.

- ▶ This may damage the paintwork on the cladding and could damage the air heat exchanger.

#### Cleaning activities by the customer (regular)

- Keep the airways clear
  - To ensure that the heat pump functions efficiently, the air ducts must be kept free of obstructions at all times.
- Clean the vaporizer
- Check the system pressure
- Remove dirt, leaves and snow
- Clean the cladding
- Check the condensate water drain for safe drainage and clear or clean it if it is contaminated or blocked.



### 7.3.2 Maintenance

#### NOTICE

Maintenance may only be carried out by authorized personnel (specialist partners or customer service).

The mandatory annual maintenance must be carried out in accordance with our specifications and must be recorded.

Observe the current commissioning and maintenance documentation.

- ▶ All work on the heat pump must be recorded in the system logbook.

#### NOTICE

If the system has to be shut down, the power supply must be disconnected to prevent it from starting up unattended.

The water-side supply and return lines must be drained down to the frost-proof area to prevent frost damage to the heat pump and the supply lines.

#### WARNING

Before working on the heat pump, the outdoor unit must always be completely disconnected from the supply voltage.

Ensure that there is no voltage and wait at least 5 minutes until all components have discharged.

#### Refrigeration circuit

The refrigeration circuit of the heat pump is basically maintenance-free.

However, it is advisable to have an annual inspection and check carried out by a specialist company.

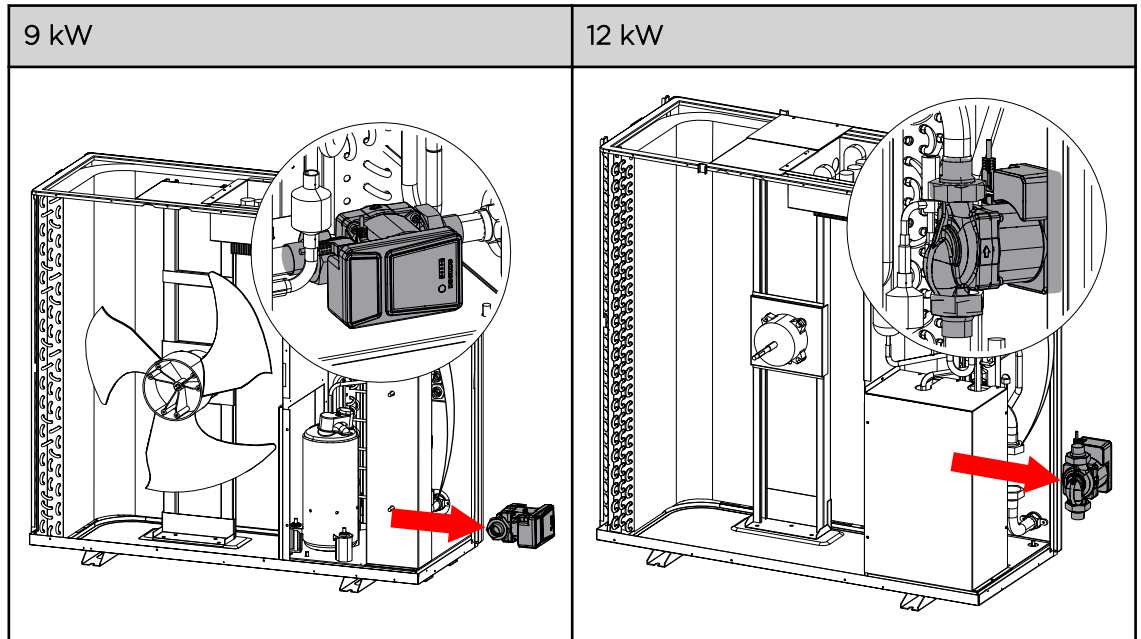
#### NOTICE

The leakage checks may only be carried out by a certified specialist company.

#### Maintenance activities by the contractual partner (once a year)

- Annual maintenance and inspection
- Cleaning the dirt and sludge separator
- Obligation to test refrigerants

### 7.3.2.1 Disassembly of the pump



## 7.4 Troubleshooting and warning causes

Use the following information to troubleshoot the heat pump.

### NOTICE

Make sure that all circuits are de-energized before you start installing the heat pump. An electric shock can lead to injuries or damage to property

- Do not switch on any part of the heat pump as this may result in an electric shock.
- Keep your hands and hair away from the fan to avoid injury
- Do not attempt to adjust or repair the appliance without consulting an authorized installer/technician.
- Read the installation and/or operating instructions before attempting to repair or adjust the heater.



Switch off the main power supply to the heat pump before carrying out repairs.



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