

Ecocycle Heat Pumps



User Interface (HMI) Manual

Type: POL895.51/STD

 /ecocycleheatpumps

 /ecocycle_heatpumps

www.ecocycleheatpumps.com



1.Buttons and Functions:



Info: Pressing this button from any screen gives you access to all current values of the heat pump.

Alarms: When pressing the alarm button (the red LED flashes if an alarm is active), the alarm management menu is displayed.

Escape: Returns to the previous level in the menu tree. Pressing this button during modification invalidates the change being made and returns the user to the previous menu. This function is very important if a setting is inadvertently modified.

And if this button is held down, the HMI settings and the Controller List are accessed.

OK / Roll: The scroll wheel has six functions:

1. In a menu, it is used to move up and down the list of possible options.
2. It can change the value of a setting when it has been selected.
3. It is used to access a submenu.
4. Activate the modification of a setting.
5. Validate the modification of a setting.
6. If logging in with one user level, press and hold key **ROLL** to activate the log in/off page.

If not, press and hold key **ROLL** to redirect to the password entering page.

Notes:



⚠ CAUTION

National safety regulations

Failure to comply with national safety regulations may result in personal injury and property damage.

- Observe national provisions and comply with the appropriate safety regulations.



The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

2.Main Menu:

▶ HEATING

▶ COOLING

▶ DHW

▶ SOLAR

▶ FUNCTIONS

▶ INFO

▶ PARAMETERS

▶ LANGUAGE

When the heat pump user interface is first opened, the main menu welcomes you. From this menu you can easily access all modes and setting menus.

You can move up and down with the Roll button and enter the desired menu by pressing on it.

3. Heating Mode Menu:

You can access the settings for this mode by selecting heating mode from the main menu.

1	Heating Mod	Off
2	Heating Setpoint	28.0°C
3	Differential	2.0 °C
4	Setting Mod	Constant
	Setpoint at -10C	28.0°C
	Setpoint at -5C	28.0°C
	Setpoint at 0C	28.0°C
	Setpoint at +5	28.0°C
	Setpoint at +10	28.0°C
5	Smart Grid dT Heating	0.0°C
6	Heating Time Program	
7	Night Mode	Off
	Night Mode Start	*
	Night Mode End	*

1) Heating Mode:

- **Open:** The heat pump is switched on.
- **Off:** The heat pump turns off.
- **Auto:** The heat pump operates according to the time program.

2) Heating Setpoint:

It is the setting value of the heat pump water outlet temperature.

3) Differential:

The heat pump starts to reduce speed when the water outlet temperature reaches the setpoint value. If there is no need for heat, the water outlet temperature continues to rise. When half of the differential value + set value, the heat pump shuts off. When the set value - half of the differential value, the heat pump starts to work again.

For example:

Set value : 50°C

Differential: 6°C

Heat pump off : $50 + (6/2) = 53.1^{\circ}\text{C}$

Heat pump restart: $50 - (6/2) = 46.9^{\circ}\text{C}$

4) Setting Mode:

- **Constant:** The heat pump operates constant according to the setpoint value entered in the on position.
- **Curve:** If you put the heat pump in curve mode, you need to enter the outlet water temperature according to the different outdoor temperatures under setting mode. Thus, the heat pump automatically creates a curve according to the entered setpoint values and operates.

5) **Smart Grid dT Heating:** If you have a solar panel and an inverter panel, your Ecocycle heat pump can be integrated into your solar panel. In this case, the solar panel inverter sends information to the heat pump in case of free energy. If you activate this setting, your heat pump will heat for free with the heating setpoint + smartgrid (°C). For example, let the setpoint be 50°C. If you enter this setting as 5°C, the heat pump will heat the water 5°C more in case of free energy. The new water temperature will be 55°C.

6) **Heating Time Program:**

▶ Monday
▶ Tuesday
▶ Wednesday
▶ Thursday
▶ Friday
▶ Saturday
▶ Sunday

If you want to run your Ecocycle heat pump in Auto mode, you can set your time program from this menu. On different days, you can specify which hours it will turn on and off.

7) **Night Mode:** You can make the heat pump run quieter at night by setting the night mode. For this, enter the start and end times of the night and turn it on.

3.Cooling Mode Menu:

1	Cooling Mod	On
2	Cooling Setpoint	7.00 °C
3	Smart Grid dT Cooling	0.000 °C

- 1) **Cooling Mode:** You can set the cooling mode on or off.
- 2) **Cooling Setpoint:** Water outlet temperature setting value when the heat pump cooling mode is on.
- 3) **Smart Grid dT Cooling:** As in heating mode, if you have solar panels and an inverter, your heat pump will provide extra cooling up to the set value in case of free energy.

4.DHW Mode Menu:

1	DHW Mod	Off
2	DHW Setpoint	40.0 °C
3	DHW Differential	5.00 °C
4	DHW Recharge	Off
5	Legionella Function	Off
6	Legionella Setpoint	70.0 °C
7	Legionella Time	240.0 min
8	Legionella Interval	5.00 Days
9	Smart Grid dT DHW	0.000 °C

- 1) DHW Mode:** You can switch the hot water mode of your Ecocycle heat pump on or off.
- 2) DHW Setpoint:** You can set the temperature of the hot water tank here.
- 3) DHW Differential:** The set differential value indicates when the heat pump will be activated. For example, if the DHW setpoint is 40°C and the differential value is 5°C. If the hot water tank is 40-5=35°C, the heat pump will restart.
- 4) DHW Recharge:** If you have an urgent need for hot water, you can activate the re-charge option. Your heat pump will then start heating your hot water tank directly.
- 5) Legionella Function:** You can activate this function to prevent legionella bacteria in your hot water tank. Requires additional heater.
- 6) Legionella Setpoint:** It is the desired setpoint. In order to reach the setpoint, the heat pump heats up to the maximum temperature. As there will be a need for more temperature, it activates the additional heater and reaches the desired setpoint.
- 7) Legionella Time:** The legionella function is active for the set time.
- 8) Legionella Interval:** You can set how often you want the Legionella function to be activated.
- 9) Smart Grid dT DHW:** If your solar panel has free energy, the heat pump will heat your hot water tank above the setpoint.

5.Solar Menu:

1 Solar On Dif.	8.00 °C
2 Solar Off Dif.	4.00 °C
3 Max DHW Temp.	70.0 °C

- 1) Solar On Dif.:** Indicates when the collector circulation pump will be activated. For example, let your hot water tank be 45°C, if you set the differential value to 8°C, when the collector is $45+8 = 53^{\circ}\text{C}$, the collector pump is activated and heats your hot water tank.
- 2) Solar Off Dif.:** The collector indicates when the circulation pump will turn off. For example, let your hot water tank be 45°C, if you set the differential value as 4°C, when the collector is $45+4 = 49^{\circ}\text{C}$, the collector pump is deactivated and does not heat your hot water tank.
- 3) Max DHW Temp.:** You can heat your hot water tank with the help of the collector up to the set value. You cannot heat with the collector above this value.

6.Functions: (only for services)

1 Cooling Circuit	On
2 DHW Circuit	On
3 Solar Circuit	On
4 DHPC	On
5 BACnetIP	Passive
6 Activate	Off
7 Vacuum Operation	Off

- 1) Cooling Circuit:** You can switch the Cooling function on or off. After changing the setting, the setting must be activated. The heat pump will restart.
- 2) DHW Circuit:** You can switch the DHW function on or off. After changing the setting, the setting must be activated. The heat pump will restart.
- 3) Solar Circuit:** You can switch the Solar function on or off. After changing the setting, the setting must be activated. The heat pump will restart.
- 4) DHPC:** If DHPC mode is on your heat pump can connect to the cloud system, if it is off it cannot.

- 5) **BACnetIP:** You can operate your Ecocycle heat pump integrated into your smart home automation via Bacnet interface. Passive mode means off.
- 6) **Activate:** To memorize the 1st, 2nd, 3rd and 4th settings, you need to turn the activate button on. The heat pump will restart.
- 7) **Vacuum Operation:** To completely vacuum the remaining gas inside the heat pump during service intervention, the vacuum mode must be activated. EEV will be switched on at 100%. When the process is finished, it must be turned off again, otherwise your heat pump will not work properly.

7.Info Menu:

From the Info menu, you can access all the data of your Ecocycle heat pump.

Comp. Off Time	20.0min	Heat pump restart countdown. The compressor can be restarted up to 3 times in 1 hour. Temperature Sensor Values
Flow Temperature	13.82°C	
Return Temperature	13.65°C	
Max. Flow Temperature	58.0°C	
DHW Temperature	12.93°C	
Solar Temperature	0.0°C	
Source Temperature	17.69°C	
Evap. Temperature	19.33°C	
Discharge Gas Temperature	55.69°C	
Suction Gas Temp	23.62°C	
High Pressure	13.19bar	Refrigerant Pressure Values
Low Pressure	11.88bar	
Condensation Temp	20.65°C	
Evaporation Temp	15.12°C	

Pressure Ratio	1.86	Compressor Pressure Ratio = High Pressure / Low Pressure
EEV Control Type	SH	Electronic expansion valve control method: SH, Protect SH and DSH.
Reel Valve OD	60.0%	Electronic expansion valve opening percentage
Reel Suction SH	4.37K	
DSH Setpoint	32.0K	
Reel DSH	25.57K	
State Compressor	On	Compressor and Fan informations
Compressor Modulation	36.0%	
State Fan	On	
Reel Fan Modulation	50.0%	
Coil Evap Dif.	10.09°C	
Coil Cond. Dif.	10.12°C	
State Pump	On	Circulation Pump status
State Four Way Valve	On	4-way valve status. If cooling mode or defrost is active, it is open, otherwise it is closed.
State DHW Valve	Off	If there is a 3-way valve, it turns on when you switch to hot water mode.
State Heating Circuit	Off	Status of modes
State Cooling Circuit	On	
State DHW	Off	

IP DHW	65.0 °C	DHW memorized value
DHW Heater	Off	Hot Water Tank heating element
Extra Heater	Off	If there is an extra heater, it shows its status.
Solar Pump	Off	Solar energy (collector) circulation pump
Crank Heater	Off	Compressor crank heater for oil.
Freeze Protection	Off	Freeze protection mode; water circulation continues even if the heat pump is switched off at low temperatures.
Defrost State	Off	Defrost status informations
Forced Defrost Time	120.0min	
Defrost Setpoint	20.0°C	
Defrost Differantial	-2.11°C	
State Compressor	13	Compressor status, speed information, inverter driver temperature, power consumption and error information if available.
Compressor Speed Feedback	41Hz	
Compressor Driver Temp.	47°C	
Compressor Power Consumption	0kW	
Comp.Driver Error 1	0	
Comp.Driver Error 2	0	
Last Driver Error 1	32768.0	
Last Driver Error 2	0.0	

8.Parameters:

This menu contains and changes some settings of the heat pump. The Parameters menu is not accessible to the end user. Access to this menu is only available for service and factory. A user password is required to enter.

9.Language:

LANGUAGE

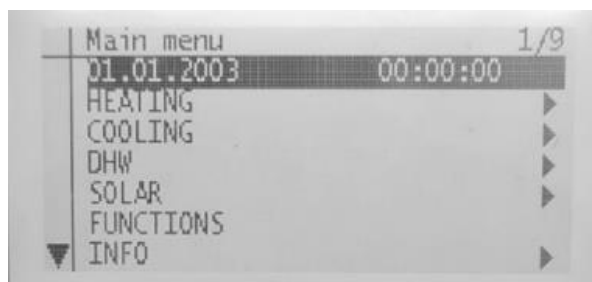
English

You can choose from the available languages to control your heat pump.

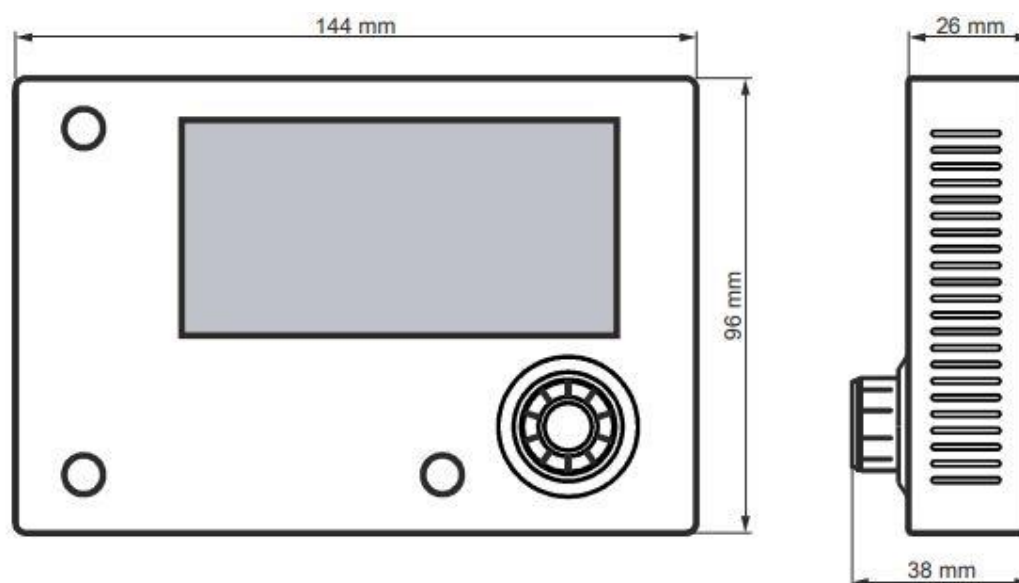
- Turkish
- English
- Deutsch
- Netherlands

10.Date and Time:

You can edit the date and time information by using the Roll button at the top of the main menu. You can press the OK button and roll to edit.

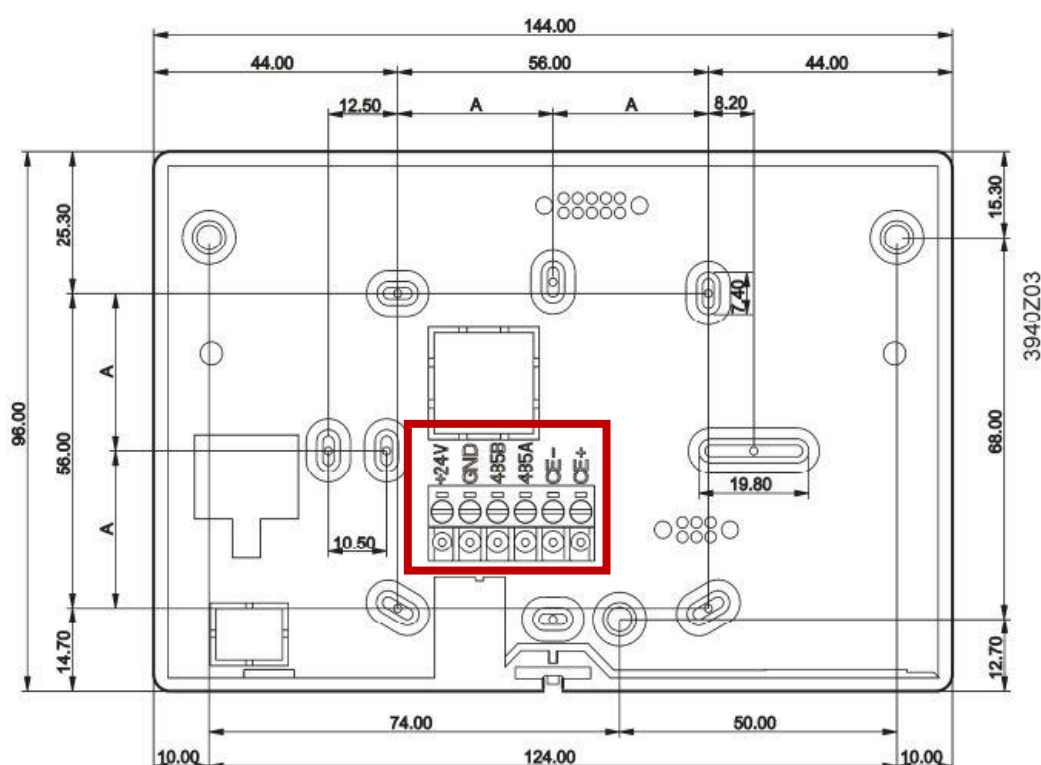
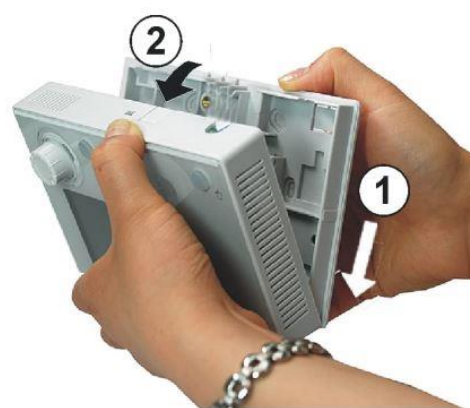


11.Dimensions:



Dimensions in mm

12. Mounting Instructions:



Ecocycle heat pump and HMI connection:

First remove the back cover of the control unit as shown in the first picture.

Then, the cables coming from the heat pump should be connected to the part marked in red in the second picture on the removed back cover as in the table on the side.

Heat Pump Terminals	HMI Terminals
12	R485A
13	GND
14	485B
15	+24V