User Guide

Solar Pool Controller

Model 12060

User Guide Version 1.00

March 2023

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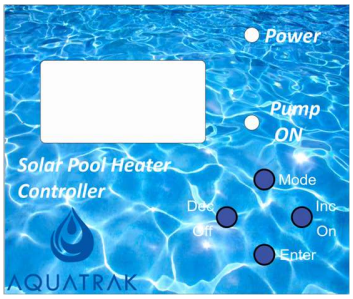
2. Introduction

The Aquatrak solar pool heater pump controller is designed to ensure your pool gets the best out of the installed solar heater. The system monitors the pool temperature and the solar heater water temperature and activates the pump when required. The unit has only one parameter the maximum temp to operate.
The unit has two mode auto mode and manual mode. In auto mode the system will determine when the pump should be turned on. In manual mode the operator can turn the pump on and off.

3. Operator Interface

The 12060 control system has a simple 4 button interface status LEDs and a bright OLED display.



3.1. Status LEDs

There are two status LEDs Power and Pump On. Power indicates the unit is connected to power and is on. The Pump On LED indicates that the pump is currently turned on.

3.2. Buttons

Buttons	
Mode	- this enables selection of Manual mode and Auto mode.
Enter	- this button enables the selection of the system maximum temp of operation
Dec/Off	- this dual purpose button will turn the pump off when in Manual mode and allow decrementing the maximum temp of operation when adjusting this parameter
Inc/On	- this dual purpose button will turn the pump on in manual mode and allow incrementing the maximum temp of operation when adjusting this parameter

3.3. Mode Button

The mode button will toggle the units operational mode between Auto mode and Manual mode. In Auto mode the unit will monitor the water temperature between the roof and the pool and when the roof temperature is 4C higher than the pool the unit will activate the pump.

The unit displays the current mode of operation.

When operated in Manual mode the Off and On buttons will turn the pump off and on. Please note that there is a small de3lay before the pump turns off and on once the button is pressed. This is to ensure the pump is not turned on and off and on too quickly which can cause a current spike and trip a circuit breaker, depending on the type of pump being used.

3.4. Enter Button

The enter button is used to enter the maximum water temperature the unit will operate at. This is to ensure that the pool does not get too hot.

Press the enter button and the unit will display the currently set maximum temperature.

Press the INC button to increase this temperature

Press the DEC button to decrement the temperature

Once the desired temperature is set press the Enter button again. If you do not press the button for 20 seconds than the system will automatically save the current setting and return to the normal menu.

4. Temp Sensors

The 12060 Controller measures the temperature using simple NTC thermistors. The sensors are housed in a durable resin plug and come with a simple resin mounting bracket designed to be placed over the 40mm PVC piping typically used in pool systems. The sensors come with a 2 meter lead this can be shortened or lengthened as required. The use of figure 8 cable similar to the cable used on the sensors is recommended.

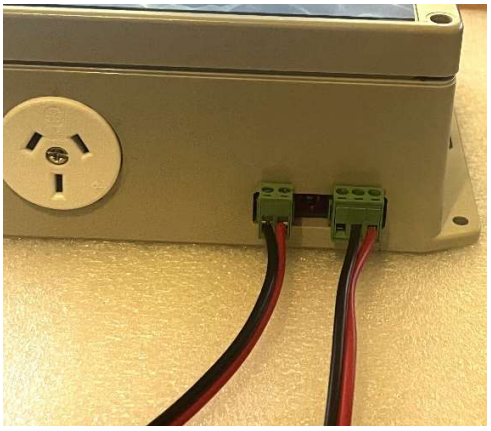
5. Installation

The controller must be installed in a covered area out of the rain. While the unit is sealed the power socket and sensor sockets need to be kept out of the weather. The controller is mounted in a handy flanged box and 2 mounting screws are generally enough.

The temperature sensors are installed using a special bracket. The pool sensor should be mounted on the low pressure side of the solar pump and the roof sensor near the solar heater pipes. A long wire can be added to the roof side sensor if required.

Mounting is very simple a small 16 mm hole is drilled in the PVC pipe at the appropriate position. The underside of the sensor bracket is coated with a line of silicon sealant. The sensor is then pushed into this hole. Then 2 cable ties can be used to secure the bracket onto the PVC pipe. See pictures below.

The temperature sensors are connected to the controller using 2 plugs.



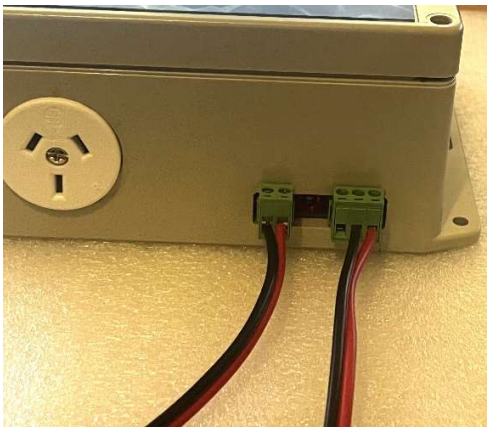
The reason for the two size connectors is to avoid the incorrect sensor being plugged into the wrong position. The 3 pin connector is the roof sensor and the 2 pin connector is the pool sensor. The wires within the plug have no polarity and can be wired up in either terminal.

6. Fault Conditions

The unit monitors the temperature sensors to ensure they are operational. If a sensor is found to be faulty the display will indicate by displaying “Err1” or “Err2” depending on the sensor. In manual mode the pump will remain in the status it was set to. In auto mode the pump will turn off.

Example of a faulty sensor

If the controller shows a faulty or erroring sensor check that the plug is plugged into the controller.



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7. Specifications

Controller Model	12060
Operating Voltages	230-240Vac 50Hz
Current consumption Pump off	7 watts
Maximum Continuous pump Current	10 Amp
Surge current	20 Amp
Dimensions Controller	190x120x75mm
Weight Controller	1Kg
Internal Controller fuse	2A
Pump Fuse	20A