

# SOLARMATIC™

Solar Pool Heating Controller

## OWNERS MANUAL

Manufactured in Australia By

**MONARCH**  
**POOL SYSTEMS**

MANUFACTURERS AND DISTRIBUTORS OF  
HIGH QUALITY POOL & SPA EQUIPMENT

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# SOLARMATIC™

Congratulations! You are now the proud owner of the most advanced Solar Pool Heating Controller in the world. Please read all information in this manual carefully before installing or operating your Solarmatic™ Controller.

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## PACKING LIST

Please ensure your Solarmatic™ includes the following components – contact your supplier if unsure:

- 1 x Control Unit
- 1 x 5 metre pool temperature cable with black connector and brass sensor
- 1 x 25 metre roof temperature cable with red connector and plastic sensor
- 1 x Flow sensor blank connector (black)
- 2 x Mounting Screws with wall plugs

1 x Flow sensor and 5 m flow sensor cable (**OPTIONAL** - Purchased Separately).

## IMPORTANT – Re Auto Purge Function

**In cooler months the Auto Purge will operate the solar pump for a few minutes every 24hrs if the solar pump has not operated automatically. If you wish to set this operation to a particular time of the day simply operate the solar pump manually to reset the 24hr timer. The Auto Purge will then operate at approximately the same time each day.**

**You should leave your Solarmatic™ on all year so that the automatic purge function circulates the water daily to prevent build-up of untreated water in the solar collector. Once your swimming season is over we suggest you set the “Set” Temperature to 10 degrees, this will prevent the Solar system running unnecessarily in cold weather.**

**IMPORTANT:** The Power Supply – If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

## SOLARMATIC™ INSTALLATION

1. Please ensure the Solarmatic is mounted a minimum of 3 metres away from the pool water and 1.5 metres above ground level.
2. Cut out mounting template on page 6 for location of drilling points. (If the unit is to be mounted to a brick or concrete wall use a 7mm masonry drill bit). Some walls such as limestone or cement render can damage aluminium, if in doubt seal the wall before mounting the control unit. Drill pilot holes and fit screws provided.
3. Hang unit via top moulding of Solarmatic™ unit. Slot in bottom panel can be used to ensure vertical location and stop accidental movement of unit.
4. Plug 3 Pin Power Plug from control unit into a suitable weatherproof power outlet. Ensure appropriate RCD safety device fitted to mains power.
5. Plug solar pump into power outlet of the Solarmatic™ located at the base of the unit.  
**IMPORTANT: 240VOLT MAINS POWER CONNECTION ONLY!**
6. Select a section of pool pipe-work which **is in the shade and before the pool pump** to attach brass pool temperature sensor. **The sensor should be placed underground to minimize heating by the sun and air.** Drill a hole in the pool pipework using an 11mm drill bit. A clean round hole is essential - clean burrs from hole. Using some silicon grease push rubber grommet into pool pipework and push in brass sensor fitting carefully to lock into place. Push Black connector into correct connector marked black on underside of Solar Controller.
7. Fit Roof Sensor Fitting securely underneath and in direct contact with collector mat on roof, run cable to solar controller and push red connector into connector marked red on underside of Solar controller.
8. Fit FLOW SWITCH blank connector to marked socket.

## FLOW SWITCH CABLE SYSTEM AND CONNECTION (Optional)

Some solar heating installations circulate water in the main pool return (i.e. they do not have a separate inlet/outlet into the pool). These installations require the optional flow switch to ensure water is available to prevent damage to the solar pump.

1. Fit Flow switch at suitable point on pool return. If return does not have enough pressure fit FLOW SWITCH between pump and filter. The flow switch should be tapped into a point where the pipe enters a fitting to allow a good thread length. Tap size is 1/8" NPT. Take care not to damage threaded end.
2. Connect 5 metre flow sensor cable to flow switch and plug into marked socket on underside of Solar controller.
3. PLEASE NOTE: If a FLOW FAULT is detected, which is indicated by the flashing of the red PUMP RUN led, then the solar pump will be switched off. The red PUMP RUN led will continue to flash until the flow fault is rectified. As the solar pump has a minimum RUN time of 10 minutes and a minimum OFF time of ten minutes after it has operated, the solar pump may run immediately following the flow fault being rectified or wait for a maximum of 10 minutes before operating.

## SOLARMATIC OPERATING INSTRUCTIONS

**The ROOF Sensor:** the temperature reading from the ROOF is not really an air temperature or collector reading at all. The ROOF temperature reading is a combination of heating by the sun and heating/cooling by the air/wind. It is essentially a reading that provides an estimate of the amount of power available to heat the pool. If this reading is low there is no point in running the Solar Pump as the amount of heat to be collected is not worth the cost of the power used to run the pump.

It should be noted that the ROOF must be 30°C minimum for the solar pump to activate. Without this minimum value a pool that is 12°C could be "heated" by a ROOF that is under 20°C. This function will help to reduce unnecessary pump operation hence reducing operating costs. If the 'daytime' temperature is 25°C, the roof may vary from 25°C to 50°C.

It is possible for the overnight and early morning ROOF temperature reading to go below 5°C. When this occurs the unit will register a false warning to check the ROOF sensor – wait for the day to warm up before taking any action.

**Tropical Mode** (where available) is for areas where the daytime temperature can heat the water beyond the set point. If the night temperatures are cool the unit can run water over the collector to dissipate the extra heat absorbed during the previous day.

## INSTRUMENT PANEL

<b>POWER</b>	Press for on / off. GREEN LED indicates power on. <b><u>Leave on in winter for daily auto purge.</u></b>
<b>DISPLAY MODE</b>	Press <b>D</b> to display temperature of POOL, ROOF & SET.
<b>TEMP SET</b>	Press <b>D</b> until display shows SET temperature, then press <b>▲</b> to increase desired pool temperature and <b>▼</b> to decrease.
<b>PUMP LED</b>	Indicates solar pump is on. <i>Standard Model:</i> ROOF TEMP greater than POOL TEMP and POOL TEMP below SET TEMP for heating. <i>Tropical Model:</i> as above for heating plus ROOF TEMP less than POOL TEMP and POOL TEMP above SET TEMP for cooling.
<b>SOLAR PUMP</b>	<i>Standard Model:</i> Press for auto or manual. GREEN LED indicates auto and RED LED manual. <i>Tropical Model:</i> Press for Auto Normal, Manual or Auto Tropical.

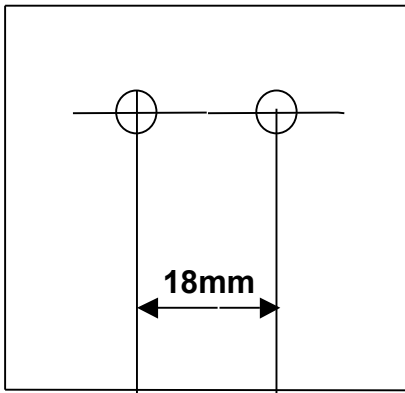
## TROUBLE SHOOTING GUIDE

1. Temperature display is flashing:
  - PP** - Check POOL temperature cables are intact and connectors are properly plugged into unit.
  - rr** - Check ROOF temperature cables are intact and connectors are properly plugged into unit. **Note that cold temperatures can also cause this display – wait for the day to warm up before taking action.**
  - Pr** - Check both POOL & ROOF temperature cables are intact and connectors are properly plugged into unit.
2. No display
  - Main Power Outlet Switched off
  - Solarmatic™ not plugged into main outlet or main outlet power off
  - Solarmatic™ “Power” Button off
3. Pool not heating/not hot enough
  - Roof temperature is below set temperature
  - Pool temperature is above set temperature
  - Insufficient Solar radiation or Solar collectors to adequately heat your pool.
  - Please note that it is possible for the solar pump to continue operating after the sun goes down due to the solar collector utilising roof temperature greater than the pool temperature.
4. Pool trying to heat in Winter
  - It is possible for the Solar Pump to run in Winter if its operating conditions are met i.e. the ROOF reading is 30°C and the pool is very cold. In these cases the SET POINT should be reduced to its minimum value. When the weather begins to warm again (change of season) simply return the set point to its normal value. The AutoPurge will still operate.

## WARRANTY INFORMATION:

During the warranty period, when an authorised technician is requested to service your Unit outside company premises, **a call - out fee will be charged to cover time traveling to and from the site and the cost of operating the vehicle.** This fee will not apply if the Unit is returned to the Distributor in your State for repairs. If an authorised technician is required to service your Unit and it is found that such services are not covered by warranty, labour charges will apply.

Monarch Industries strives to reduce or eliminate any unnecessary expense by producing this Manual. Experience has shown that by following this Manual - approximately 75% of all service calls are unnecessary and the expense and frustration to clients could have been avoided. We therefore strongly suggest that the owner **read and absorb all information thoroughly.** All legitimate warranty claims on your Solarmatic™ (parts and labour where returned to the distributor) are free for the first 12 months from the date of installation.



**Mounting Template**