

Smart Solar Controller

Installation and Operation Manual



WARNING

This equipment must be installed and serviced by a qualified technician. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.



Notice to Installer

This manual contains important information about the installation, operation and safe use of this product. Once the product has been installed **this manual must be given to the owner / operator of this equipment.**

IMPORTANT SAFETY INSTRUCTIONS

When using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

- ! WARNING: Disconnect all AC power during installation.
- ! WARNING: In order to avoid the possibility of hyperthermia (heat stress) occurring it is recommended that the average temperature of the pool - spa water does not exceed 40°C.
- ! WARNING: Smart Solar Controller is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been provided supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure they do not play with the appliance.
- In certain situations unexpected start up may occur when the appliance is in automatic mode.

The installer should assess the risk associated with unexpected start-up of any connected device which, in any circumstance should have no hazardous effect.

- Smart Solar Controller is not meant to provide safety protection for connected devices. All connected devices should have their own protection for safe operation.
- Smart Solar Controller should be deactivated if the pool or spa has been drained.
- Waterco Automation products operate with 240 volts and must be installed by a suitably qualified person in accordance with current Australian Standards, the Australian Wiring Rules (AS3000) and local statutory authority regulations.
- Parts containing live parts, except parts supplied with safety extra-low voltage not exceeding 12V, must be inaccessible to a person in the pool - spa.
- Parts incorporating electrical components, except remote control devices, must be located or fixed so that they cannot fall into the pool - spa.
- The appliance should be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.
- SAVE THESE INSTRUCTIONS.

SMART SOLAR CONTROLLER

The Smart Solar Controller is designed to provide year round automatic control of your swimming pool solar heating system.

This unit is warranted for a period of 3 years from the date of purchase for all parts defective in workmanship or materials.

CAUTION

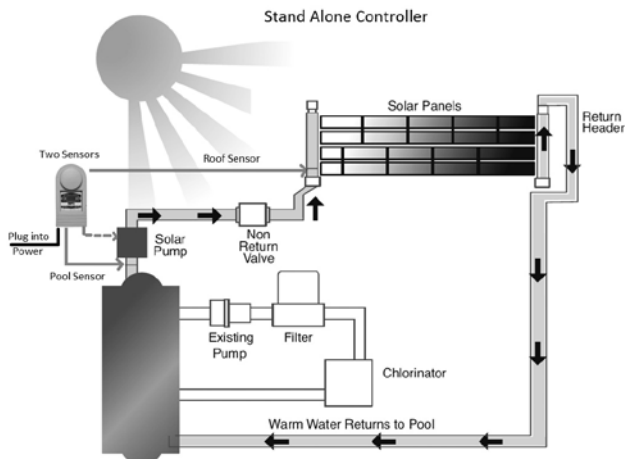
DO NOT OPEN THE CASE OF YOUR SMART SOLAR CONTROLLER. IT IS NOT USER SERVICEABLE. IF THE POWER CORD IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR AN AUTHORISED AGENT. OPENING THE CASE WILL VOID YOUR WARRANTY. ENSURE THE SMART SOLAR CONTROLLER AND SURROUNDING AREA IS FREE FROM VERMIN INFESTATION.

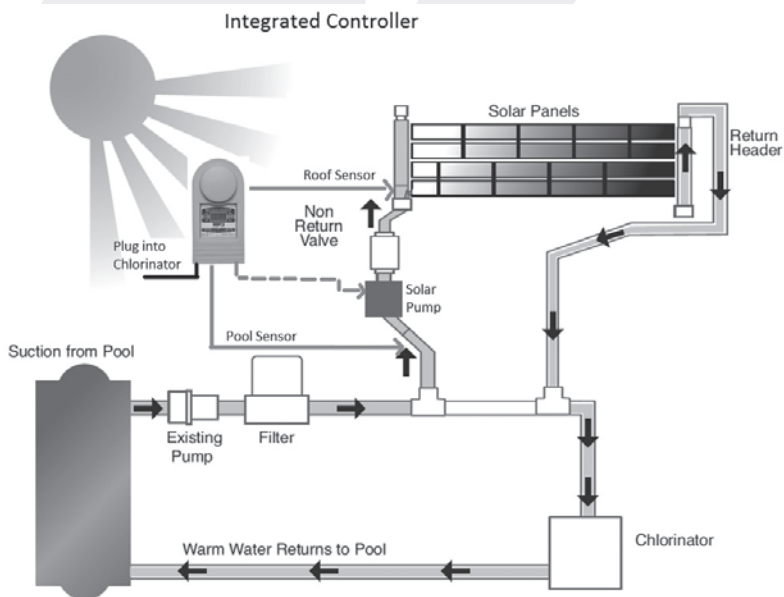
INSTALLATION

Smart Solar Controller is weather resistant, however it should be mounted in a sheltered position where it is not exposed to direct weather, splashing or spray from the pool or filtration equipment. **Electrical building regulations specify that Smart Solar Controller must not be mounted within 3.5 metres of the pool.**

Fix the unit to a wall or post, within 1.5 metres of a 240 volt outlet and within 2 metres of the solar pump. Mounting points are provided on the back. Two sets of temperature sensor cables are supplied. One short (3m) for the pool and one long (24m) for the roof. This Solar Control unit must be installed in the upright position. The hole size required for the pool sensor grommet is 12.5mm (1/2 inch) diameter.

Avoid cutting the sensor lead (excess can be neatly coiled). If the cable is cut, it must be reconnected with the POSITIVE (stripe) to the POSITIVE, and the NEGATIVE (no stripe) to the NEGATIVE. Do not place any wire joins under ground.





POWER CONNECTION

Power is supplied through a standard 240 volt lead. A piggyback socket is provided on the lead if you need to run the filter pump and this Smart Solar Controller from the one power outlet. Power for the solar pump comes from the socket on the bottom of the Smart Solar Controller
Maximum Pump rating – 1.5HP.

**ONLY THE SOLAR PUMP IS TO BE CONNECTED TO THE CONTROLLER OUTLET.
 MORE THAN THIS WILL DAMAGE THE ELECTRONICS AND VOID YOUR WARRANTY.**

OPERATION

AUTOMATIC MODE. For full automatic operation, simply plug it in and switch on. When the Smart Solar Controller senses the sun's heat it compares it to the pool's temperature and your preset "comfort" temperature and decides when to heat the pool. Whenever the unit is powered up, there will be a delay of 2 minutes before the solar pump is activated. The unit will then run for at least 6 minutes to reset the pool temperature sensor.

Comfort Temperature Adjustment

Adjustment of the comfort level is achieved by pressing either the "+" or "-" buttons. The first operation will simply display the present comfort temperature. Any further operation of the buttons will increase or decrease the setting. The setting will automatically change if either button is pressed and held down.



This temperature will be stored permanently in memory, even with power off.

DISPLAY MODE. To read roof, pool and comfort temperature settings, press the "DISPLAY" button. The display will cycle through the three settings showing an "r" for roof, a "P" for pool or "L" for Last and a "C" for comfort.

DISPLAY MEANING.

P28	L28	C30	r48
Pool temp when pump is on Pool is 28°C	Last pool temp when pump is off Pool was 28 when pump turned off	Shows roof Comfort Setting 30°	Shows roof temp 48°C
PPP	rrr		
Flashing. Faulty pool sensor, or Pool outside [1° – 50°]	Flashing. Faulty roof sensor, or Roof outside [1° – 100°]		

NOTE: When pump is off controller shows the L temperature as the pool sensor is no longer reading a valid temperature.

WINTER MODE.

Smart Solar Controller is equipped with a unique “winter mode” facility which allows the user to operate the solar system daily throughout the colder months. By using this facility you will extend the life of your solar heating by preventing pump seizure and drying of chemical build up in the collector.

To select winter mode, press the “WINTER” button. The display will show “W” and the controller will turn the pump on for a short time each day.

To resume normal operation, press the “WINTER” button and the unit will begin automatic operation

TROPICAL MODE.

NOTE: This mode is used to cool your pool at night if it overheats in VERY hot weather. Most people do not need to use this function.

To select tropical mode, press the “WINTER” and “DISPLAY” buttons together. The “Tropical” LED will come on and the unit will then turn on for a short time every 4 hours to check the pool temperature and heat or cool as required.

To resume normal operation, press the “WINTER” and “DISPLAY” buttons together.

OVERRIDE MODE.

Before selecting this mode, remember the Smart Solar Controller is designed to work automatically. Overriding the automatic operation can result in overheating of your pool or spa or even cooling if the solar system continues to run when the sun is not shining.

To select override on, press the “+” and “-” buttons together. The display will flash between “ON1” and the current Pool temperature. The “Override” LED will flash and the pump will operate until these buttons are operated again or power is removed from the WSC unit. This mode will time out after 1 hour. To select 4 hour override on, press and hold the “+” and “-” buttons down for 5 seconds, the display will show “ON 4”.

To resume normal operation, press the “+” and “-” buttons together.

To select override off, press the “+” and “DISPLAY” buttons together. The display will flash between “OFF” and the current Pool temperature. The “Override” LED will flash and the pump will turn off and stay off until the buttons are operated again. This mode will time out after 1 hour.

To resume normal operation, press the “+” and “DISPLAY” buttons together.

ERROR INDICATION

NOTE: In extremes of temperature, the fault displays may show although the unit is not faulty. Remember the pool temperature is sensed from the inlet pipe which can be much colder or hotter than the pool if the system has been off for some time.

Smart Solar Controller will sense a fault in roof or pool sensors, and indicate it by flashing “PPP” or “rrr” .

In this state the unit will not work properly until serviced.

OFFICES - AUSTRALIA

NSW - SYDNEY
(HEAD OFFICE)
Tel: +61 2 9898 8600

QLD - BRISBANE
Tel: +61 7 3299 9900

VIC/TAS - MELBOURNE
Tel: +61 3 9764 1211

WA - PERTH
Tel: +61 8 9273 1900

SA/NT - ADELAIDE
Tel: +61 8 8244 6000

ACT DISTRIBUTION
Tel: +61 2 6280 6476

OFFICES - OVERSEAS

WATERCO (EUROPE) LIMITED
Sittingbourne, Kent, UK
Tel: +44 (0) 1795 521 733

WATERCO FRANCE
Saint Priest, France
Tel: +33 4 72 79 33 30

WATERCO (USA) INC
Augusta, Georgia, USA
Tel: +1 706 793 7291

WATERCO CANADA
Longueuil, Quebec, Canada
Tel: +1 450 748 1421

WATERCO (NZ) LIMITED
Auckland, New Zealand
Tel: +64 9 525 7570

WATERCO © LIMITED
Guangzhou, China
Tel: +86 20 3222 2180

WATERCO (FAR EAST) SDN BHD
Selangor, Malaysia
Tel: +60 3 6145 6000

PT WATERCO INDONESIA
Jakarta, Indonesia
Tel: +62 21 4585 1481

WATERCO SINGAPORE INTL PTE LTD
Nehsons Building, Singapore
Tel: +65 6344 2378

WATERCO

Waterco Limited ABN 62 002 070 733

Member
**WATER
QUALITY
ASSOCIATION** ®

