

**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 that the MS3D 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 MS3D 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.

MS3D 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.



# Solar Controller

## Model MS3D

The sun always shines with Ascon Pool

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## SOLAR CONTROLLER MS3D

MS3D is designed to give you year round automatic control of your swimming pool solar heating system. By following these simple installation and operating instructions you will enjoy trouble free operation for many years.

This unit is covered for a period of 2 years from the date of purchase for all parts defective in workmanship or materials.

## CAUTION

**DO NOT OPEN THE CASE OF YOUR MS3D. 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 THAT THE MS3D AND SURROUNDING AREA IS FREE FROM VERMIN INFESTATION.**

## INSTALLATION

MS3D 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 MS3D 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 MS3D from the one power outlet. Power for the solar pump comes from the socket on the bottom of the MS3D  
**Maximum Pump rating – 1.5HP**

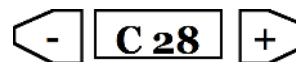
**ONLY THE SOLAR PUMP IS TO BE CONNECTED TO THE CONTROLLER OUTLET .  
MORE THAN THIS WILL DAMAGE THE ELECTRONICS AND VOID YOUR WARRANTY.**

## OPERATION

**AUTOMATIC MODE.** For full automatic operation, simply plug it in and switch on. When the MS3D 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.

<b>P28</b>	<b>L28</b>	<b>C30</b>	<b>r48</b>
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 Comfort Setting 30°	Shows roof temp 48°C
<b>PPP</b> Flashing. Faulty pool sensor, or Pool outside [ 1° – 50° ]	<b>rrr</b> 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 .

MS3D 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.