

DESCRIPTION

The ECommand is a controller for the automatic operation of a ECOFLO V3 variable speed pump and automatic valves to perform the following functions; Filtration, High Speed Cleaning, Chlorination, Solar heating and Auxiliary heating. If a spa is used then the spa can also be controlled, if no spa is used the spa function can be re-assigned to drive a water feature. If no solar collector is available the solar function can also be turned off. The In-House Remote can control temperatures, spa start time and a onetime cleaning function.

SETTINGS MENU

To enter the SETTINGS MENU push either the up or down buttons and the following will be displayed;

```
SETTINGS MENU
1) BACKWASH
```

All the flashing items in the menu are selectable or changeable items.

Use the *Up or Down* buttons to scroll to the menu option you wish to change. Press the *Select* button to enter into the selected items sub-menu. Any value that is flashing can be modified by pressing the *Up or Down* buttons, To accept the value press the *Select* button, repeat until all values are accepted and you will return to the settings menu. All menu items are shown below;

```
SETTINGS MENU
1) BACKWASH
2) FILTER CYCLES
3) TEMPERATURES
4) HEAT DEMAND
5) CHLORINATION
6) SPA/AUX
7) SOLAR MODE
8) SYSTEM SETUP
9) OVERRIDE
10) SAVE & EXIT
```

1) BACKWASH MODE

```
BACKWASH MODE
UP=ON DOWN=OFF
```

When entering BACKWASH MODE the pump state is toggled. Pressing the *Up* button will force the pump to speed 3, pressing the *Down* button will force the pump to turn off. Pressing the *Select* button will return you to the settings menu. BACKWASH MODE will automatically turn off the pump after 5 minutes.

NOTE: BACKWASH will never revert to automatic operation.

2) FILTER CYCLES

The Pump & Chlorinator will run for the time(s) set for filtration, the pump will also activate if heat demand is on and heat is required and will always run when in SPA or AUX feature mode.

When FILTER SETUP is selected you will be prompted with the following options;

```
FILTER CYCLE SELECTION:          SINGLE CYCLE SUB MENU'S:
SINGLE CYCLE                     SINGLE CYCLE          SINGLE CYCLE
DUAL CYCLE                      START TIME  HH:MM    END TIME  HH:MM
DUAL CYCLE SUB MENU'S:
FILTER CYCLE                    2nd FILTER CYCLE    2nd FILTER CYCLE
START TIME  HH:MM              END TIME  HH:MM    START TIME  HH:MM    END TIME  HH:MM
```

When you enter the FILTER SETUP menu you will need to select SINGLE CYCLE or DUAL CYCLE:

SINGLE CYCLE will run the filter pump and chlorinator once per day.

DUAL CYCLE will run the filter pump twice per day (care must be taken to ensure the 2nd filter cycle does not overlap the 1st filter cycle).

Once you select the required cycle you will be prompted to set the cycle START TIME and END TIME.

When filter times have been selected you will be prompted to select high speed cleaning times;

```
HISPEED CLEANING
RUN HOURS  HH:MM
```

High speed cleaning time is selectable in 2 hour blocks up to the maximum filtration time, selecting 0:00 hours will disable high speed cleaning.

When single filter cycle is selected the high speed cleaning will run at the start and at the end of the filter cycle.

When dual filter cycles are selected the high speed cleaning will run at the start of each cycle only.

High speed cleaning has priority over solar (i.e. cannot solar heat during high speed cleaning).

If the chlorinator has been on then the pump will run for 3 minutes without the chlorinator to flush the system before stopping the pump.

**Factory Default is SINGLE CYCLE from 09:00 to 21:00 with 2 hours of high speed cleaning

3) TEMPERATURES

```
SET TEMPERATURES
HTR LIMIT    XX.X° / SOLR LIMIT    XX.X° / SPA LIMIT    XX.X°
```

When you enter the TEMPERATURES menu you may change the temperature limit that the pool or spa is heated to (Range OFF, 20°C to 40°C).

HTR LIMIT is the temperature limit for the heat pump when in pool mode.

SOLR LIMIT is the temperature limit for solar heating when in pool mode.

SPA LIMIT is the temperature limit for the heat pump when in spa mode.

NOTE: SPA LIMIT is not shown if AUX is selected in menu item "6) SPA/AUX"

NOTE: SOLR LIMIT is not shown if SOLAR MODE is set to SOLAR OFF.

**Factory defaults are OFF for HTR LIMIT, 37°C for SPA LIMIT. (Solar disabled by default)

4) HEAT DEMAND

```
SET HEAT DEMAND    HIGH OUTPUT GAS?    HEAT DEMAND TIME    HEAT DEMAND TIME    IF LIMIT ACTIVE
ON / FILTER TIME ONLY    ON / OFF    START TIME HH:MM    END TIME    HH:MM    SAMPLE AT    H:MM
```

When you enter the HEAT DEMAND sub-menu you will need to select between "ON" or "FILTER TIME ONLY", if FILTER TIME ONLY is selected heating will only occur during filtration times, if ON is selected you will be prompted for START and END time and then you're are prompted to select a sample time.

After selecting the heat demand on/filter time option you are prompted to select if a high output gas heater is used, if yes is selected then the pump will operate at high speed for gas pool heating functions, solar is disabled until high solar gain is detected and the heater cool-down period is extended to 6 minutes.

At the start time the pump is turned on for 3 minutes to obtain an accurate temperature reading; after the 3 minute period the heater will be switched on until the temperature limit has been exceeded. When the temperature limit has been reached the pump will be switched off (if no filtration time is active) and will not operate for another sample until the limit active sample time has expired, however if solar gain becomes available and the pool was below solar (solr) limit when the sample wait period began then the sample wait will be cancelled for solar heating. The sample wait will also be cancelled during the filtration cycle.

If the heater has been on then the pump will run for 3 minutes* with the heater turned off to flush the system before stopping the pump. (*6 minutes if high output gas was selected)

**Factory default is HEAT DEMAND = FILTER TIME ONLY, NO HIGH OUTPUT GAS HEATER USED.

5) CHLORINATION

```
CHLORINATOR SPA:
0% - 100% (10% STEPS)
```

When you enter the CHLORINATION menu you may change the spa chlorination level.

0% is always off, 100% is always on. For every 10% the chlorinator runs for 1 minute every 10 minutes.

This setting will depend on the type of chlorinator used and the size and temperature of the spa.

In pool mode chlorination always occurs during high speed cleaning & filtration times.

**Factory default is CHLORINATOR FOR SPA AT 30%

6) SPA/AUX

```
SPA OR AUX?
SPA / AUX
```

If using a pool/spa then select SPA, if the system is a pool with a water feature then select AUX.

Selecting AUX will disable the SPA LIMIT in the temperatures menu and the in-house remote panel; it will also rename SPA to AUX on the Select button. If the water feature is left on it will be automatically turned off when the first filter cycle starts. Solar heating and the gas heater/heat pump will be allowed to operate when the water feature is on (Ensure the high pump speed is suitable for solar). If the water feature has been selected it will be indicated by the LCD message "VALVE SET TO AUX OPERATION".

Selecting SPA will prompt the following menu (note that this is also available on the in-house remote panel)

```
START SPA    HH:MM / OFF
FOR AUTO HEATING
```

When you enter the SPA TIMER menu you may change the spa start time.

There is also an option to turn 'OFF' the spa timer by simply scrolling between 11:30 & 12:00 (noon). note: setting the spa start time automatically sets the water valves to the spa and proceeds to heat the spa to the spa temperature limit as set in menu 3) TEMPERATURES, if the spa is left on it will be automatically turned off when the first filter cycle starts. The spa timer is intended for a once only use, meaning it will reset to 'OFF' when the timer has activated spa mode.

**Factory default is AUX (AUTO HEATING set to OFF)

7) SOLAR MODE

SOLAR OPERATION:
SUMMER MODE / WINTER MODE / SOLAR OFF

When you enter the SOLAR MODE menu you will be prompted to change the mode of operation for solar heating. SUMMER MODE: In this mode, the unit will divert water to the solar collector to heat the pool to SOLR LIMIT (if solar gain is available) in cases of high solar gain, the heat pump or gas heater will also be disabled to save energy. Once summer mode is selected you are prompted for a start and end time

SOLAR START SOLAR END
HOUR (24) HH HOUR (24) HH

Solar start and end time sets the lockout period for solar, it has a limit range to ensure the part of the day with maximum gains can never be locked out (start from 06:00 to 12:00, end from 15:00 to 21:00)

WINTER MODE: In this mode the unit will not attempt to heat the pool with solar, it will however perform a 3 minute flush of the collector at 12:00 (noon). Setting the solar limit (SOLR LIMIT) to OFF also activates winter mode. Solar heating will not activate during high speed cleaning cycles and if spa mode is selected.

SOLAR OFF – Select this mode ONLY if solar is *not fitted*, if no heating is required, select WINTER MODE.
**Factory default is SOLAR OFF

8) SYSTEM SETUP

SET SYSTEM CLOCK / FACTORY SETTINGS / EXIT

When you enter the SYSTEM SETUP menu you can set the date & time of day, choose factory settings which will restore all settings as marked by ** in this manual or you can choose EXIT which will take you back to the main menu without changes.

9) OVERRIDE

OVERRIDE SELECT:
HISPEED CLEANING / SOLAR SYSTEM / OVERRIDE TIME / EXIT

When you enter the override menu you will be prompted to select which feature to override. You can override the automatic operation and force high speed cleaning to run with the chlorinator for a default period of 4 hours or you can force the solar system to run for a default period of 1 hour. You can also select the number of hours you want the override feature to run for, if you select 0:00 hours then the above default values are used. Any button returns you to the menu after the valves have turned. Note that the feature to override the solar system is provided for maintenance operations; automatic operation for pool heating is recommended, if there is a problem with the solar system not running in automatic mode then check the LCD screen for sensor fault messages and repair if necessary. Solar can also be locked out at night or if the high speed cleaning is to operate or if in spa mode. You can also choose EXIT which will take you back to the main menu without changes.

Note: solar system override is not available if solar mode is set to solar off.

10) SAVE & EXIT

When this menu is selected, push *Select* to save ALL settings, the unit will return to normal operation automatically. If any of the menu items are left unattended for 3 minutes the menu will time out and automatically save all settings and return to operation. In the event of a power failure, the clock and settings are retained for up to 14 days.

The *Select* button.

POOL OPERATION SPA OPERATION (or AUX OPERATION if AUX is selected in menu item 6)
SELECT OR WAIT SELECT OR WAIT

Pressing the *Select* button once will display the current mode of operation for ~3 seconds. Simply wait and the unit will return to normal operation (Any active delays will be cancelled).

If you wish to change the operation from its current pool or spa mode* simply press *Select* for a second time within a 3 second period, the display will indicate what mode it is switching to, note: it will take about 1 minute for the action to complete until valves have moved and temperatures have settled. (*or AUX mode e.g. water feature.)

IN-HOUSE REMOTE

Operation is similar to the main unit as described above, if left unattended the display shows pool or spa temperature and roof temperature followed by pool heating or spa heating temperature limit settings, after 6 seconds the current time is displayed followed by the spa start time if it is set, followed by the manual cleaning message if manual cleaning has been activated. If the heater is on the degrees symbol (°) will flash at one second intervals.

*Note1: Roof temperature and solar temperature limit are not displayed if solar is switched off at the main unit.

*Note2: Spa features are only displayed if SPA is selected at the main unit (SPA/AUX) feature.

*Note3: On power-up the display will display "WAIT FOR UPDATE!" until an accurate pool temperature reading has been obtained.

One press of the *Up/Down* buttons will light the display for 30 seconds, a second press of the *Up/Down* buttons will select the SETTINGS MENU.

INSTALLATION INSTRUCTIONS**ECOMmand CONTENTS**

The ECOMmand carton will include the following items.

- 1 ECOMmand Power Centre
- 2 ECOMmand In-house Remote
- 3 Temperature Sensor Pool & Rubber Grommet
- 4 Temperature Sensor Roof
- 5 Installation Screwdriver
- 6 Instructions

On the bottom edge of the ECOMmand, you will find 1 Power Lead, 1 x Power Outlet, 1 x Pump Control Connector wire and various Green and White terminal bars.

**Valve Connections**

The four left hand white 3 pin Terminal Bars are for Automatic Valves (e.g. Versa-Valve or JVA's). The ECOMmand can facilitate four automatic valves. (Pool/Spa Suction, Pool/Spa Return, Solar Suction, Solar Collector/Bypass).

Aux. Heat

If connecting to an Astral Genus Heater, a special connection lead will need to be ordered.

Astral Heater

Note that one end of the Astral heater cable has a moulded plastic plug. The plug connects into the heater circuitry. Remove the front heater panel and locate the "Test Loop" plug. This will look like the plug on the heater connection cable with a loop of wire on the plug.

Remove the "Test Loop" plug and plug the heater connection cable plug into the now empty socket.

Run the cable out through the cable holes in the heater and through conduit (where possible) back to the controller's AUX. HEAT socket 2 pin plug. Trim 5 - 10mm of the coloured insulating sheath from each lead and wire according to the label above the terminal bar. Ensuring that none of the sheath is crimped into the screw connector tighten the screws with the supplied screw driver.

Set the both of the Pool and Spa temperatures on the heater to maximum (40 deg. Celsius)

Raypak Heater

Remove the large front heater panel and locate the terminal bar with a "Loop Wire" (Fireman's Switch).

Remove the "Loop Wire" then take a length of figure 8 flex (medium duty speaker cable or similar) and trim 5 - 10mm of the coloured insulating sheath from each lead and wire into terminals where the "Loop Wire" has been removed from. Run the cable out through the cable holes in the heater and through conduit (where possible) back to the controller's AUX. HEAT 2 pin plug. Trim 5 - 10mm of the coloured insulating sheath from each lead and wire according to the label above the terminal bar. Ensuring that none of the sheath is crimped into the screw connector tighten the screws with the supplied screw driver.

Set the both of the Pool and Spa temperatures on the heater to maximum (40 deg. Celsius)

In-House Remote / Data

**** The In-House Remote is ONLY to be installed INDOORS, it is not weather-proof ****

The Data Cable / In-House Remote panel cable is wired into Green 4 pin Terminal Bar. Trim 5 - 10mm of the coloured insulating sheath from each lead and wire according to the label above the terminal bar. (Black to the left contact, White to the second contact, Red to the third contact and Blue to the right Contact). Ensuring that none of the sheath is crimped into the screw connector tighten the screws with the supplied screw driver.

*****WARNING! – THE IN-HOUSE REMOTE PANEL IS NOT TO BE PLUGGED IN WHILE POWER IS APPLIED, DOING SO MAY DAMAGE THE IN-HOUSE REMOTE PANEL AND/OR THE MAIN UNIT *****

Pool Sensor

The Pool Temperature Sensor will be pre wired to a Green 2 pin Terminal Bar. This plugs into the socket marked POOL. Using a 14.5mm drill bit, Drill a hole in the suction line coming from the Pool / Spa suction valve and the pump. Insert the supplied rubber grommet, and then press the temperature sensor into the grommet.

Roof Sensor

Roof sensors must be fitted into a small piece of solar collector or equivalent and attached to the roof. The best location is within arm's length of the gutters edge of the house or shed as long as the sensor end is not shaded and is on a roof of similar aspect of the main collector. It **must not** be fitted on top of the solar collector or fitted to high points on the roof like Ridge Capping as false readings will be detected.

Keep in mind that it is of the utmost importance to keep the roof sensor as short as possible as this will assist in the longevity of the sensor and controller in the event of electrical storm activity and power surges. Sensor cables **must not be run parallel to power cables** and run lengths should be less than 50m. Cable ties should be used to fasten the sensor cable to the cold water inlet pipe making sure that the ties are approximately 10mm from PVC fittings. Cable ties should be tightened only firm, over tightening can cause breaks in the outer PVC if not careful. If the cable is to be run under ground a conduit must be used to protect the wire and there is to be no cable joins within, conduit ends **must** be sealed to prevent water ingress. **Any excess cable should be removed and re-fitted ensuring that the wire ends are tinned with solder.** The sensor plug is to be fitted to the right hand socket marked ROOF.

Notes

All excess cable must be removed; coils of cable are not permitted under any circumstances and **must not** be tied to 240V wiring. If the cable is to be extended with non genuine cable a size of 14/020 should be used. **Any cable joins should be soldered and this includes where the cable enters the terminal block at the case base.** Heat shrink is to be used over soldered joints to eliminate moisture ingress. If the cable end is to be refitted to the plug sockets then the polarity must be observed as incorrect polarity will show an error as stated in Fault Diagnosis. The sensor cable with the thin white trace is the positive and should be fitted to the right hand cable entry when the screws are in a vertical position.

Once cables have been correctly fitted the unit can be turned on.

Pump Setup:

With the pump disconnected from the controller, power up the pump and select speed 1, then turn off the pump for 10 seconds and power on the pump, ensure the pump does not start, press speed 1 and ensure the pump does not run at speed 3, if it runs at speed 3 consult the pump manual and turn off the auto-priming function (push and hold the stop button for 5 seconds, repeat above test).

Set the pump speeds according to requirements;

ECO – Low speed filtration/Chlorination speed.

MED – Medium speed for solar heating and auxiliary heating (Gas/Heat-pump – *ensure that the heaters requirement for water flow rate is achieved). (On the controller you may wish to select OVERRIDE/SOLAR SYSTEM to turn the valves to the roof so the speed can be set accordingly.

HIGH – High Speed Cleaning and SPA mode (Solar heating is locked out)

Connect the pump to the controller, on the controller select **9) OVERRIDE** and select **HISPEED**

CLEANING, verify that all speeds can be controlled then exit the settings menu to return to automatic operation. The pump is now ready for the controller to use.

WARRANTY

This product is covered by a limited 3 year warranty against component failure or faulty workmanship from the date of installation.

A faulty unit should be returned in the first instance to the dealer from which the unit was purchased.

Valves and actuators (if supplied) are covered by a twelve month warranty at the discretion of their manufacturer.

Damage to the unit due to misuse, power surges, lightning strikes or installation that is not in accordance with the manufacturer's instruction may void the warranty.

Warranty does not cover travel costs to or from installation site. Unit must be returned to manufacturer for repairs.

If the power cord is damaged, do not use the controller; return the unit to the supplier for repair.

Customer Record. (To be retained by the customer);

Dealer/Installer Name _____

Serial Number _____

Date Installed _____

For service assistance phone
RELTECH Australia Pty Ltd
03 9459 3838

