

Overview

Thank you for buying an S3 Static RO Controller. This is an advanced pump controller solution for your system and it should give you complete control over your water production.

Follow this manual carefully. It explains in detail how to connect and operate this pump controller. Most connections are shown on the System Diagram, however further details are provided throughout the rest of this manual. Complete ALL wiring connections BEFORE connecting the unit to the mains supply. Ensure the controller, sensors and cables are firmly fixed in place before using your controller.

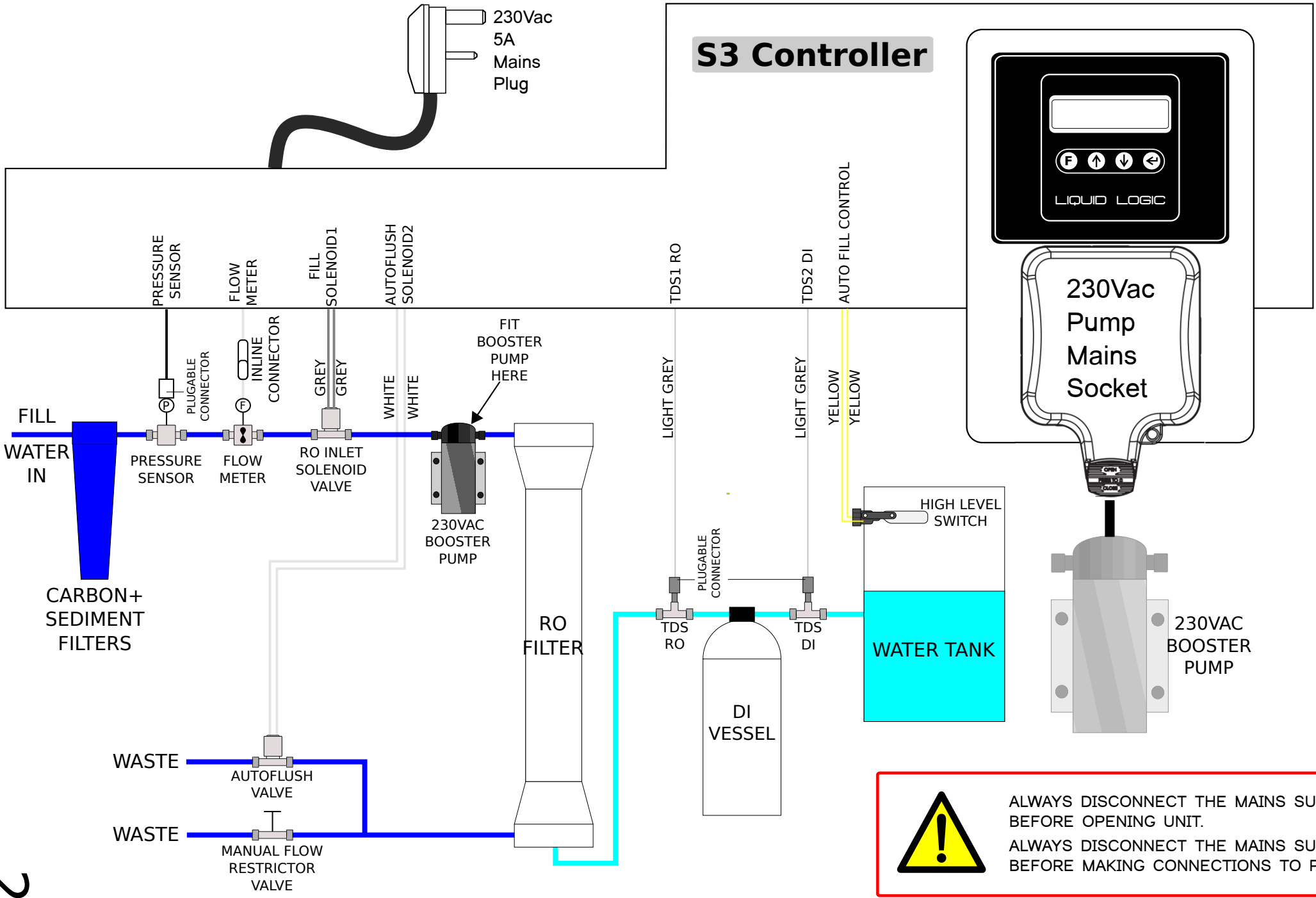
The controller controls the filling side of your water tank (inlet and pure water production). The controller has a number of other advanced features to increase ease of use and report on the operational status of your system.


The controller opens the solenoid valve to fill the water tank up to the level of the high level float switch. This is a one time operation until the tank is full. The controller will automatically flush your RO membrane on a regular basis to keep it at optimum performance and to increase its service life.

The controller can be configured to stop filling if the TDS is too high, either after the RO membrane (due to an RO failure) or after the DI vessel (if resin is spent). It will also shutdown the fill if the mains water pressure is too low.

The controller has a flowmeter to measure the amount of water used and so can also indicate the filter life.

The controller also incorporates a pressure sensor which allows the controller to report on the state of your carbon and sediment filters. The addition of a pressure sensor also allows the controller to shut down your pump in the event of a mains water failure.



 ALWAYS DISCONNECT THE MAINS SUPPLY BEFORE OPENING UNIT.
ALWAYS DISCONNECT THE MAINS SUPPLY BEFORE MAKING CONNECTIONS TO PUMP



Operating Warnings

Set up your system carefully. Follow these instructions very closely and pay close attention to the warnings and diagrams.

The S3 is fused at 5A. Always fit the correct 5A quick blow mains fuse. The S3 can control pumps up to 1000VA (1000W). DO NOT USE THE S3 WITH PUMPS GREATER THAN 1000VA.

Although the S3 and the Pump Mains Socket are supplied in a waterproof enclosure, the mains plug IS NOT WATERPROOF. Do not plug the mains plug into a socket that could become wet during pumping as this will prove extremely hazardous.

CLOSE 230Vac PUMP MAINS SOCKET BEFORE TURNING ON S3 IF CONNECTION --CAN GET SPLASHED OR WET IN USE.

KEEP 230Vac 5A MAINS PLUG DRY AND WELL AWAY FROM ANY WATER OR MOISTURE.

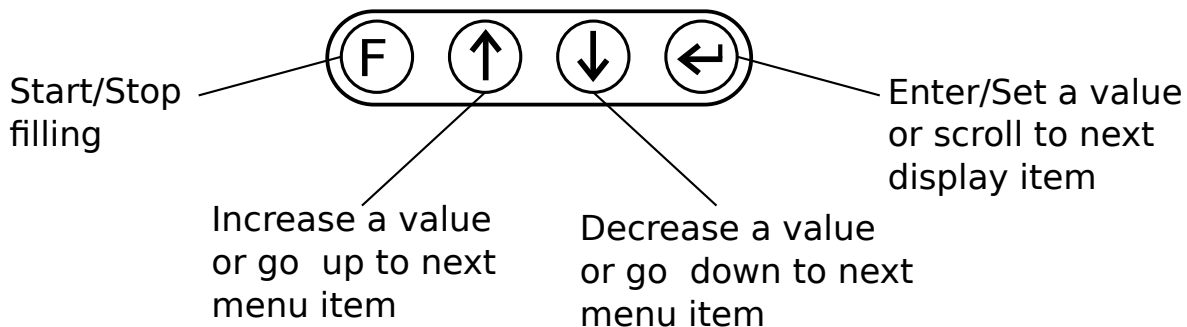
Specification	Value
Mains Supply Voltage	90 - 260 Vac
Pump Voltage	90 - 260 Vac
Fuse Rating	5A Quick Blow
Maximum Pump Power	1000VA
Enclosure Material	ABS
Water Resistance	IP65
Dimensions - S3	240 x 160 x 90mm
Working Temperature	0 to 40 Deg C

DISCLAIMER

THE MANUFACTURER RESERVES THE RIGHT TO MAKE CHANGES TO ANY PRODUCT HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. THE MANUFACTURER DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN.

Operator Controls

The controller is equipped with the following controls.



Step 1. Fitting Instructions

This S3 unit is supplied already wired. There is no need to disconnect any wires. Follow these instructions carefully and refer to the wiring diagram.

IT IS RECOMMENDED THAT YOUR S3 IS FITTED AGAINST A WALL OR SIMILAR VERTICAL SURFACE.

1. Ensure the S3 is NOT PLUGGED into the MAINS SUPPLY.
2. Remove the top cover by loosening the four corner screws.
3. Carefully remove the top cover, folding to the right.
4. Screw unit to the wall or vertical surface through the four ready drilled holes in the corners of the back box.
5. Carefully replace the top cover and tighten the four corner screws.

You are now ready to control your pump.

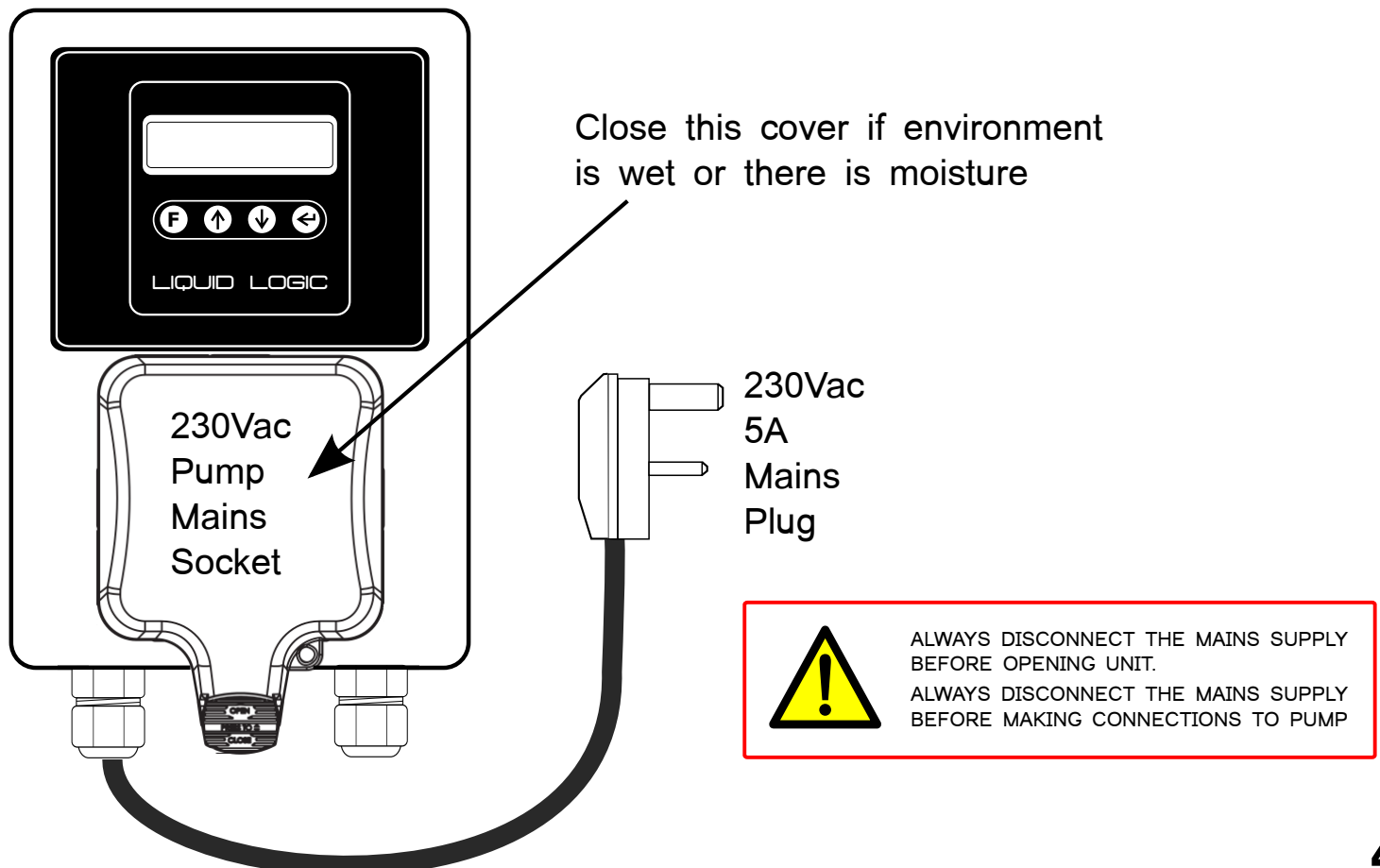
NOTE: Only switch on MAINS SUPPLY to the 230Vac 5A Mains Plug once front cover has been re-fitted.

DISCLAIMER

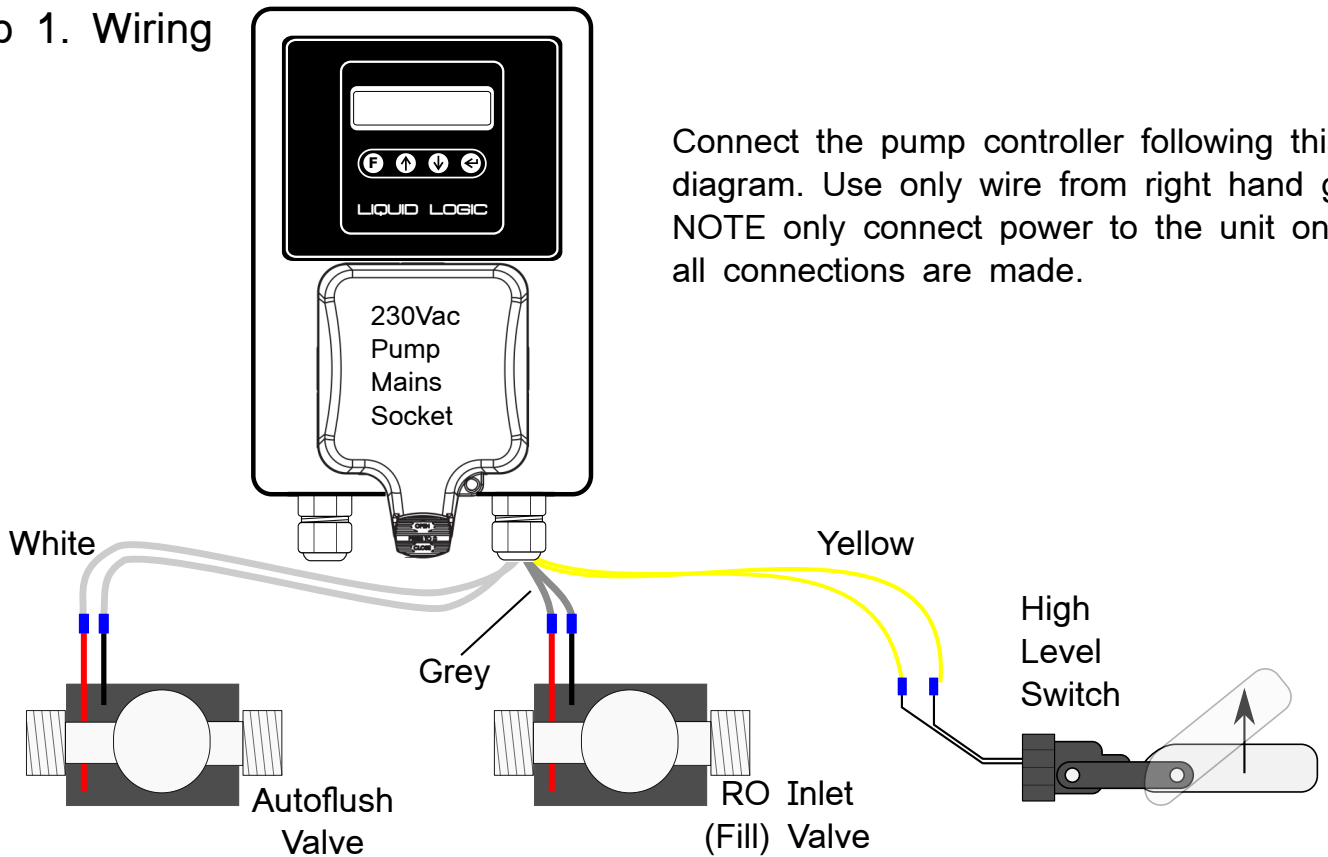
Unit must be installed by a competent electrician or electrical engineer. Failure to comply with these instructions could invalidate your warranty.

Wiring Diagram

Connect the pump controller following this diagram and the Fitting Instructions.



Step 1. Wiring



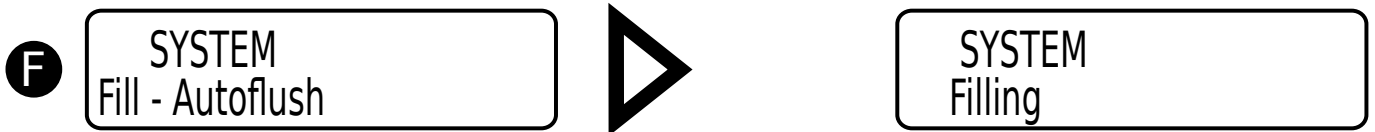
Connect the pump controller following this diagram. Use only wire from right hand gland. NOTE only connect power to the unit once all connections are made.

Step 2. Filling

To start filling the tank simply press the 'F' (Fill) button briefly. This will activate the RO inlet solenoid valve, allowing water to fill the tank, until the float switch detects that the tank is full.

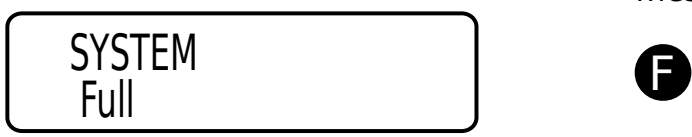
Press 'F' (Fill) button to start filling. System will open Autoflush valve for 5 mins (in every hour) to clean RO. (For 'On Demand' filling this is once in every 12 hours. Otherwise Autoflush is 1 in 4 fills).

The Autoflush valve will then close when flushing has finished and controller will continue to fill via the RO Inlet valve. The mains socket will now turn on the 230Vac booster pump.



When the tank water level rises sufficiently to activate the level switch, filling is stopped. All valves are closed.

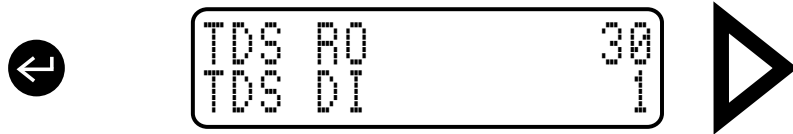
To manually stop the tank filling, (if 'On Demand' is 'Off') press the 'F' (Fill) button briefly. The display will remove the 'Fill' message.



Note 1: The solenoid valve will be turned off if the unit detects a loss of mains water pressure (below 10 PSI).

Use

Press enter to display the current TDS purity after the RO and after the DI.

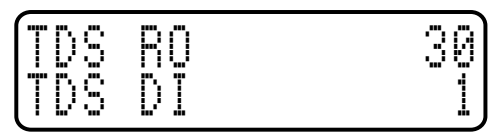
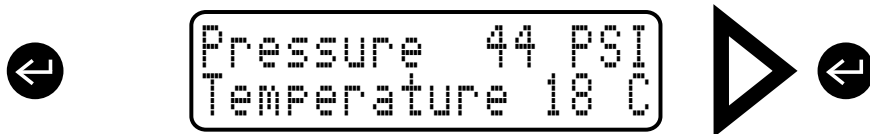


Press enter again to display:
Total water used since last pre-filter change and zeroing of counter.
Overall is the amount of water used since install.



Press enter again to display:
Pressure of mains water in PSI.
Temperature of water to hose (degrees C).

Press enter again to go back to TDS values



Warning Messages

The S3 controller has a number of warning message for when something goes wrong in your system, these are designed to help in any trouble shooting.

The following message during a fill suggests that the mains water has been disconnected (pressure below 10 PSI)



The following message indicates that the pressure sensor has been disconnected or has failed.



The following message is displayed when the amount of water that has flowed goes over the Total Flow Threshold. Check the RO membrane.



The pressure has dropped below the value set in Pressure Threshold, indicating a blocked carbon or sediment filter.

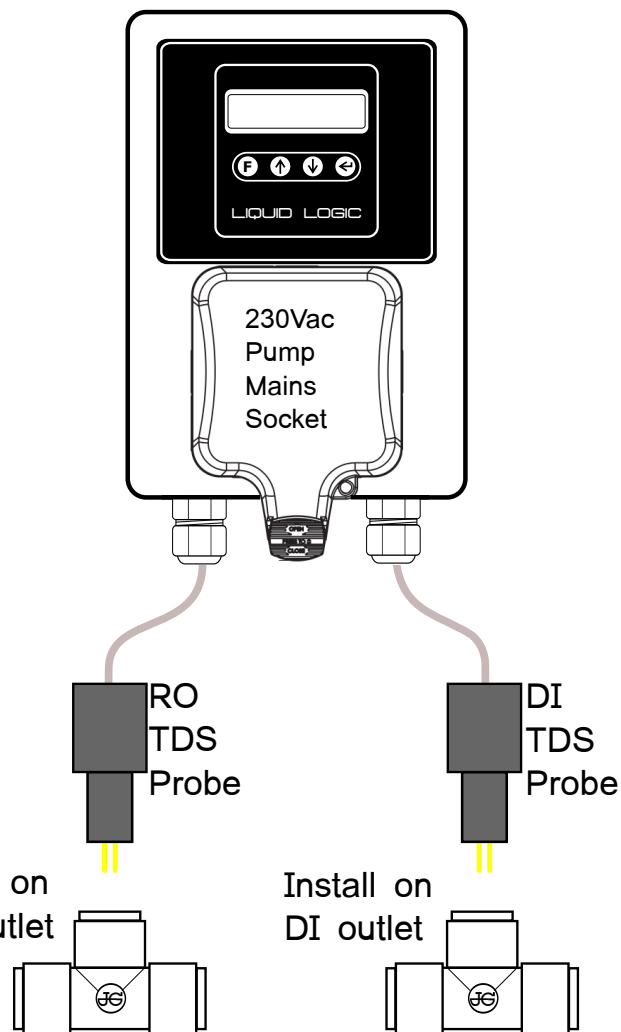


Additional Wiring

Fit the TDS probes in John Guest 1/2" equal tee (not supplied) as shown on the diagram.



Take care when handling TDS probes. Do not damage gold plated contacts as this will affect TDS accuracy. Ensure gold plated contacts are clean before use. Clean with ISOPROPANOL alcohol (IPA) and a soft cloth. Dirty contacts will affect TDS accuracy, clean with IPA if readings appear to deviate over time.



We recommend RO TDS probe be fitted after the RO (reverse osmosis) filter. You can then check the RO is working correctly. If you see these values rising over time it could indicate a problem with your RO

We recommend DI TDS probe be fitted after the DI (de-ionising) vessels. You can then check DI vessels are working (and that resin is not depleted).

For good cleaning a TDS of value below 5ppm after the DI is recommended.

Set Up - TDS (Total Dissolved Solids)

The TDS function provides an indication of the water purity. The TDS values displayed are in ppm (impurities in parts per million). The TDS meter is intended to check pure water and has a max reading of 50ppm.

To monitor the current TDS reading press enter repeatedly until it displays the TDS screen.



TDS RO	30
TDS DI	1

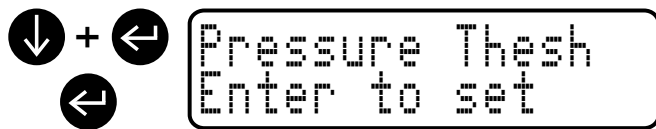
Settings Menu

The settings menu allows you to change all of the settings that configure your Static RO system.

The controller can monitor a pressure sensor. If placed after the carbon/sediment filters this gives an indication of when the filters need changing. However the 'Pressure Threshold' must be set when the filters are new/replaced as explained in this manual.

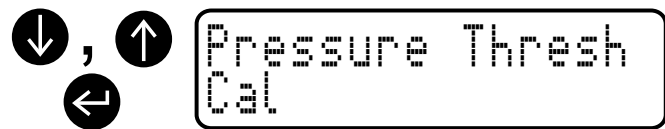
Press down and enter together to go into the Settings menu.

Press up/down to scroll through the Settings menu until you reach the menu item 'Pressure Threshold'. Press enter to change the Pressure Threshold.

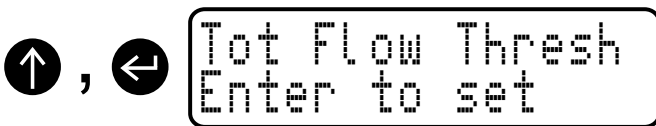


Use up/down to change.

'Off' Disables pressure sensor warnings
'Cal' calibrates for a new filter, press enter to start calibration. Note: you can adjust this value manually with up/down. Press enter again to go back to the settings menu. (Min value is 30 PSI)



Press up to display the next settings menu item, 'Total Flow Threshold'. This sets the water life warning for the RO. Press enter to set this value. eg. 600KL



Use up/down to set the total water use which will give a warning when reached. Then press enter again to go back to the settings menu.



Press up to display the next settings menu item, 'TDS RO Limit'. TDS readings over this value from the RO will stop filling. Press enter to change the 'TDS RO Limit'.



Use up/down to set.

'Off' disables TDS control.
Set from 1-50 TDS. Then press enter again to go back to the settings menu.



Press up to display the next settings menu item, 'TDS DI Limit'. TDS readings over this value from the DI will stop filling. Press enter to change the 'TDS DI Limit'.



Use up/down to set.

'Off' disables TDS control.
Set from 1-10 TDS. Then press enter again to go back to the settings menu.



PRESS AND HOLD ENTER
TO EXIT SETTINGS MENU