RAINFLO®

PC115A
Pump Controller

USER MANUAL

A Guide to Your PC115A Pump Controller

The RainFlo PC115A provides automatic multifunction control for your water pump. The PC115A electronic controller commands the starting and stopping of single-phase electric water pumps whenever a tap or valve connected to the installation is opened or closed, respectively. When the pump is started, it keeps running as long as any connected tap remains open, supplying the network with the required flow at the related pressure.

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1. PC115A CONTROLLER DIAGRAM

It is the installer's responsibility to read, understand, and comply with these instructions.

2. PHYSICAL CHARACTERISTICS

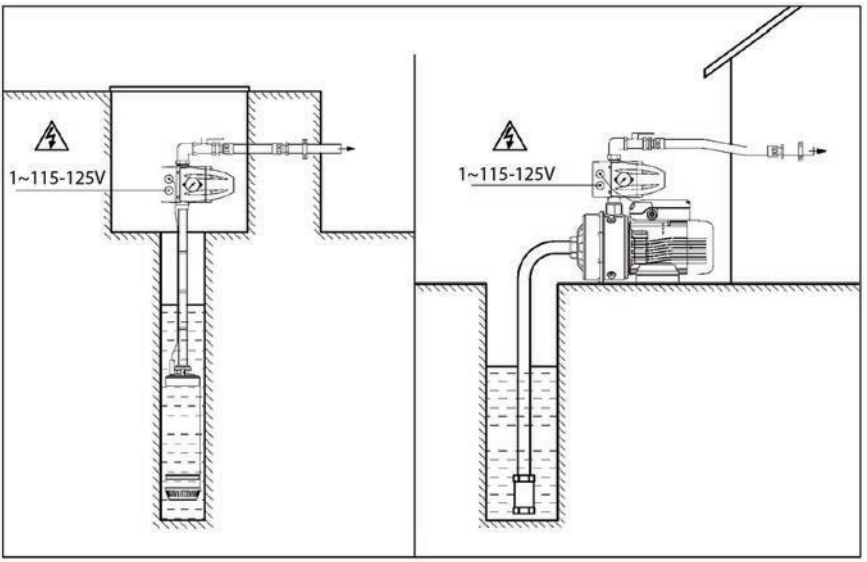
- Inlet connection: 1”
- Outlet connection: 1”
- Water hammer check valve
- Dry-running protection system
- Pressure gauge
- Manual start button (Reset)
- Power supply LED (Power)
- Pump switch-on LED (On)
- Safety system activation LED (Failure)

3. INSTALLATION

Note: This device must be assembled and installed by a qualified electrician in accordance with local laws. Install a GFCI grounded circuit. Handle with care. Impact can damage the product. Before installation, make sure the unit shows no visible signs of damage.

Water Connection

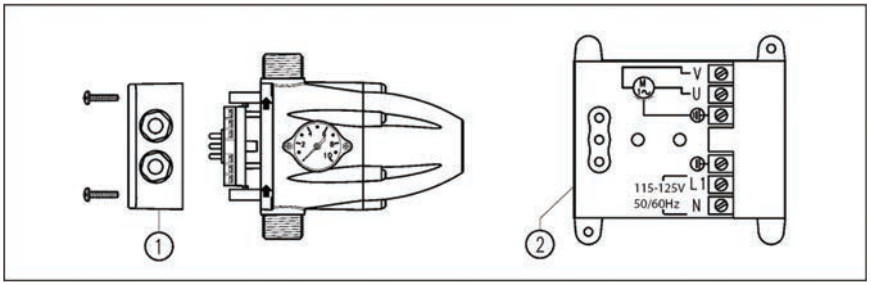
The PC115A features an internal check valve and must be installed with the arrows pointing upward, connecting the 1” threaded inlet to the pump’s outlet and the 1” threaded outlet to the point of use with the water inlet facing downward and the output above.



Before starting up the unit, fill the suction inlet with water as specified in the pump’s manual.

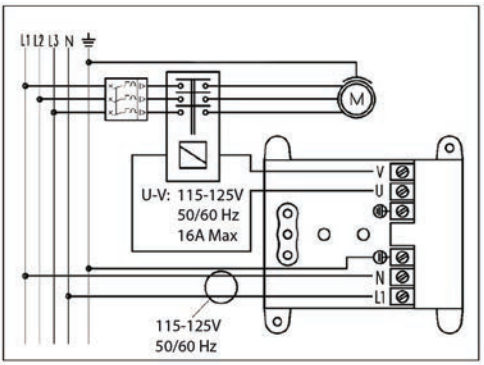
Electrical Connection

Ensure the voltage supply corresponds to the rated voltage. Remove the cover (faceplate) from the electronic board and make the electrical connection according to the instructions shown inside. This controller can also be used with a single-phase pump with electrical demand greater than 16A, or a three-phase pump, using an auxiliary remote control switch (115V coil). In this case, the electrical connections must be made as shown in the diagram.



WARNING: Power supply voltages other than those specified or improper connections can permanently damage the electronic components and will void the warranty.

SOOW or H07RN-F type cables (.35-0.5in/ 9-12mm O.D.) must be used in order to ensure IP65 protection.

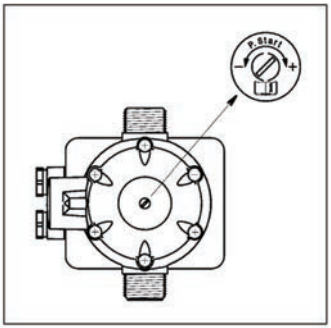


4. STARTING AND OPERATING

Start Up

1. Check that the pump is primed properly, then partially open a faucet or valve in the user circuit.
2. Turn on power to the controller; the power LED will light up (Power).
3. While the pump is running, the corresponding LED (On) will remain illuminated.
4. Close the open faucet or valve. After 10- 12 seconds the pump will stop running, but the power supply LED (Power) will remain lit. Improper priming will cause malfunctions to occur.

Starting Pressure Adjustment (P. Start):



Starting Pressure is the pressure at which the pump will re-start from the idle condition. When the water pressure drops to this setting, the pump will start. This adjustment has no effect on the maximum system pressure which is determined solely by your pump's maximum output pressure. The pump controller is factory set to start with a minimum pressure of 28 PSI (1.9 bar). This pressure can be increased up to 36.25 PSI (2.5 bar) by rotating the screw found at the back of the cone-shaped end of the device.

To Set the Pump Start Pressure:

1. Read the pressure indicated by the gauge when the pump is started.
2. Disconnect the power supply.
3. Open a faucet or valve to discharge the pressure.
4. Adjust the screw clockwise to increase (or counter-clockwise to decrease) the start pressure.
5. Supply power to the controller; if you are not satisfied with the adjustment, repeat the operations described above until you obtain the desired pressure value.

Operating Pressure

The maximum pressure of the pump (closing contact pressure) and the minimum start pressure must comply with the values shown in the table otherwise the controller will go into Failure mode. The maximum pressure of your pump must exceed the start pressure setting. The maximum operating height between the pump and the highest point in the system will depend on the pump start pressure setting. These limits are specified in the table below.

Start Pressure	Max. Operating Height	Max. Pump Pressure Greater Than
22 PSI	33 ft	44 PSI
29 PSI	49 ft	51 PSI
36 PSI	66 ft	58 PSI

Pressure Gauge

The PC115A pump controller features a built-in pressure gauge located on the right side of the unit. This gauge features measurement units in both PSI and bar. One bar is approximately equal to atmospheric pressure at sea level. In terms of water pressure, 1 bar = 14.5037 PSI.

Pressure Gauge (bar)	Pressure (psig)	Pressure Gauge (bar)	Pressure (psig)
2.0	29.0 PSI	5.0	72.5 PSI
3.0	43.5 PSI	6.0	87.0 PSI
4.0	58.0 PSI	7.0	101.5 PSI

Automatic Reset Function

1. When a failure is experienced, the pump will run for 20 seconds, pause for 7 seconds, and then run for another 20 seconds. At the end of this stage, the pump turns off. The Power LED remains solid and the Failure LED flashes once every 3 seconds until the next stage.
2. After 1 hour of standby, the pump will make another attempt to obtain water and follow the same 20 sec. - 7 sec. - 20 sec. sequence in step-1 above. During this run sequence, the Power LED remains solid, the Failure LED flashes once every 3 seconds, and the Run LED remains solid. At the end of this stage, the pump turns off. The Power LED remains solid and the Failure LED flashes twice every 3 seconds until the next stage.
3. Approximately 24 hours after the last run sequence, another attempt to obtain water is made. The run sequence is the same 20 sec. - 7 sec. - 20 sec. as in the previous stages. During this run sequence, the Power LED remains solid, the Failure LED flashes twice every 3 seconds, and the Run LED remains solid. At the end of this stage, the pump turns off. The Power LED remains solid and the Failure LED flashes 3 times every 3 seconds.

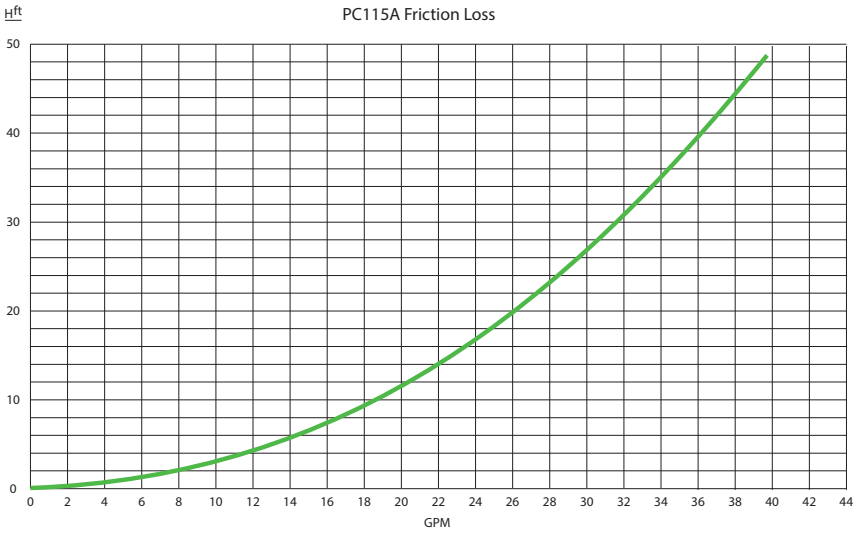
The process in step 3 will repeat every 24 hours until water is detected, and the pump returns to normal operation.

5. PERFORMANCE SPECIFICATIONS

- Power supply voltage: (1) 115-125V
- Maximum current: 16A
- Max pump power: 1100W (1½ HP) at (1) 115-125V
- Max flow rate: 44 GPM
- Adjustable starting pressure: 22-36 PSI
- Max operating pressure: 145 PSI

- Frequency: 50/60Hz
- Protection class: IP65
- Ambient temperature: 0 /+140°F
- Liquid temperature: 0 /+140°F

6. CONTROLLER FRICTION LOSS



7. TROUBLESHOOTING

Issue	Solution
The pump does not start	• Try pressing the manual reset button. • Check the power supply. The Power LED must be illuminated. • Electronic board malfunction: disconnect the pump from the electrical mains and reconnect it; the pump should start, if it does not replace the controller board.
The pump keeps stopping and starting	• There is a small leak in the delivery pipeline: check for any leaking taps or running toilets.
The pump does not stop	• Water loss exceeding 0.8 GPM. Make sure that all the taps along the pipeline are closed and that there are no leaks. • The electrical connection is incorrect: refer to the instructions, page 3. • Electronic board malfunction: replace the electronic board.

RainHarvest Systems