

Frequently Asked Questions

Chemical Automation Operation

Q. What are the differences between the MiniWarden & PoolWarden?

A. Both controllers are essentially the same except the PoolWarden has the ability to add a second pool to 1 controller and it has the following advanced programming features added:

1. Lock On-Lock Off If controller is in pH lock out mode, it can be programmed to still add chlorine for specific amounts of time until pH is corrected. That way, some chlorine will still be added by time instead of the ORP set point.
2. CYA Offset Calibration When looking at ORP data from an outdoor pool with Cyanuric Acid, you can see when the sun rises and sets. When the sun comes up, the ORP drops and when the sun goes down, the ORP rises. This feature allows for automatically adjusting the ORP so that it will be easier to maintain a more consistent chlorine PPM residual.
3. Energy Management The PoolWarden can control a heater or heat pump and maintain 2 different temperature settings based on time.
4. Auxiliary Relays The PoolWarden has 2-4 relays you can customize for different functions such as heater or backup sanitizer.

Q. What can I do if my total alkalinity goes down?

A. There are a few things you can do to keep your alkalinity from dropping.

Dilute your acid 4 to 1, 4 parts water to 1 parts acid. Always add acid to water when filling your container.

Shorten feed ON times for acid. You may also need to shorten OFF times if you have difficulty lowering pH.

The following program for pH relay has proven to greatly reduce alkalinity from crashing:

On Time 00:00:08

Off Time between 00:00:30 to 00:01:00

Setting pH set point to 7.6 will also help.

Q. My total alkalinity is too high, how can I bring it down without dumping acid in the pool?

A. With chemical automation, this is fairly easy but it may take 1-2 weeks depending on how much you need to lower it.

Change your pH set point in the controller to 7.2 – 7.3. Since alkalinity and pH effect each other, keeping your pH down cause your total alkalinity to slowly come down as well. Check every 2-3 days until the desired alkalinity is reached. If you still have problems with your alkalinity creeping up, try using 7.4 as your pH set point.

Q. The controller keeps feeding chlorine but my chlorine level stays low.

A. Here are the most common reasons this happens.

The chlorine and acid pumps are plugged into the wrong relays and need to be switched.

The chlorine injector is clogged, clean & replace. On a monthly basis, disable feed pumps or shut off controller and switch acid and chlorine lines at the injectors to prevent this from happening.

The chlorine pump is not sized properly to the pool.

The chlorine pump is turned off.

The chlorine drum or feeder is empty.

Insufficient ON time set on relay.

Chlorine relay OVERFEED timer is set too low.

For peristaltic pumps check tube and roller assemblies.

For diaphragm pumps make sure pump is primed and diaphragm is in good condition.

Make sure chemical suction line goes to bottom of tank.

Q. The controller readings are not close to what my test kit says.

A. There are several reasons you can experience this.

Controller needs to be calibrated.

Controller is over-calibrated, clear calibrations and start over.

The pH test is off due to high chlorine or copper levels.

Chlorine test reads clear due to high level of chlorine in the water.

Dirty sensor – Remove and cleanse in solution of water and Dawn dish washing soap & gently clean with soft toothbrush if necessary.

Bad sensor – Replace

Verify that sensor card is securely inserted into connector on front board (PoolWarden) or back board (MiniWarden)

Verify sensor leads are securely fastened with proper polarity. Clear wire is +, black wire is – or ground.

Verify sensor leads are connected to proper sensors. Red = ORP, Blue = pH

Use supplied test strip if you still have problems.

Q. Controller is not registering flow.

A. Circulation pump is turned off

Flow cell valve(s) shut off

Flow cell filter screen is dirty

Flow magnet is missing

Wrong flow switch type activated in software. Select ON/OFF Switch

Flow switch installed in wrong terminals, For a Dual PoolWarden, use flow inputs 1 & 3

If you still have no flow, tighten flow sensor cap 1/4 turn.

Flow sensor cable not securely tightened in connector block in controller

Q. ORP reads high but I have no chlorine

A. Check ORP calibration and clear calibration

Chlorine level is high enough to bleach test.

Q. My total alkalinity is too low, how can I increase it and keep it from dropping?

A. Change your pH set point in the controller to 7.7 to 7.8 and keep it there for 1 – 2 weeks. If you have difficulty keeping your alkalinity from dropping, maintain the pH

Q. The pH keeps rising/chlorine is dropping even though the controller is feeding chemical.

A. Items to check.

Verify that your chlorine and acid pumps are plugged into the proper relays.

Is there acid in container acid pump feeds from?

Are chlorine and acid pumps drawing from the proper supply containers?

For peristaltic pumps check tube and roller assemblies.

For diaphragm pumps make sure pump is primed and diaphragm is in good condition.

Make sure chemical container has chlorine or sufficient acid if feeding diluted acid.

Make sure chemical suction line goes to bottom of tank.

Inspect injectors

In below grade installations make sure injector check valve is functioning and return line PSI is under 25. It is not recommended that a 2 roller peristaltic pump is used. Also consider using a 100 PSI feed pump.

Q. Controller Is Not Responsive/Display Not Showing Values

A. Cycle power on controller.

Check breaker

Check CFGI
Check controller fuses
Add surge protector to outlet.

Q. TrueDPD Not Registering Chlorine Even Though There is Chlorine in The Water

A. Make sure flow is registering on display
Check to verify water is getting to sample cell in TrueDPD
Inspect sample cell to see if it needs cleaning. (Remove top cap and use swab to clean)
Chlorine level may be over 9 ppm
Clear voltage of system is below 3.50, adjust with blue knob at top of board
Loosen screw holding light sensor on left side of sample cell and rotate light sensor to see if clear voltage changes in manual mode. Tighten set screw at point when voltage reads highest. (Press 6 from main screen to perform manual test)
Verify sample pump(s) are spinning and water going into sample cell. Replace feed tube if pump is running but no water is going into cell.

Q. Readings Are Unstable

A. Make sure sensor cable lines are secure in controller.
For PoolWarden controllers before mid 2017, press top of sensor card to ensure sensor card connector is securely in motherboard.
Check electrical ground at plugin. A bad ground will cause sporadic readings.

Q. Controller Doesn't Feed Even Though There is Chemical Demand

A. On main display make sure the word ON is displayed under flow. (On MiniWarden there are 2 flow indicators in advanced mode. Check to see if first one under FLOW reads ON)
On Bottom of main display is RLY if you see underline (_) check set points and adjust. If you see (S or O) this indicates Setpoint or Daily Overfeed has been reached, disabling relay. If you see up arrow, controller is in mixing time. Down arrow indicated feed pump should be on.
When using TrueDPD PPM set points with ORP backup, in Relay command from main menu check "OFF if ORP is > " set point. This turns off relay regardless of PPM measurement.

Q. TrueDPD PPM is not reading correctly or shows 9.8 or 9.9

A. Remember that the TrueDPD is not a real time measurement like ORP or pH. Depending on test frequency, the PPM displayed can be different from your test kit. From Main screen press 6 to get DPD diagnostics and press the number 3 under word "meas" to do a current measurement. (if the word "meas" isn't displayed over the number 3 on keypad, you have an older version of software and will need to press 9 to start a test cycle)
Just like with manual testing, there can be a false test. Re-Test water. The controller will automatically do a re-test if current tested value is noticeable different from previous test.
The TrueDPD will read 9.9 before a test is done after power is cycled this prevents feeding before value is tested. 9.8 will be displayed if clear voltage is less than DPD voltage. This can be caused by a reagent problem. Make sure reagent is not black and line is purged. A purge can be performed by pressing 2 under the word purge on display. Also make sure pick up line on DPD pump goes to bottom of reagent bottle.
Make sure clear voltage reads at least 3.50, if not adjust with blue knob on top of TrueDPD board.
If clear voltage and DPD voltage read similar even though chlorine is high, this indicates the chlorine is so high that it bleaches the sample.
A low clear voltage can also be caused by a dirty sample cell. If it appears to be dirty, remove top cap and gently clean cell with a swab.
The TrueDPD will read a maximum 9.5 PPM FAC

There are videos showing this in video section.

Q. DPD Reagent is Dark Red or Black after 1 or 2 days

A. This is a common problem associated with NOT using distilled water to mix with your reagent powder. It is normal for the reagent to turn a light pink and then a little darker throughout the week. In hot temperature conditions, the reagent will last 8 days before turning black.

Also not that installing the TrueDPD in close proximity to an unsealed chlorine supply will cause reagent failure due to off gassing of chlorine which will contaminate the reagent supply. Store chlorine as far away from TrueDPD as possible. It is also recommended that sealed containers vented to outside reused for all chemicals to protect equipment from premature failure.

Do not use tap, pool or mineralized drinking water to mix reagent solution!