PRIZMA®
Automated Swimming Pool Monitor and Controller

Technician Guide CE

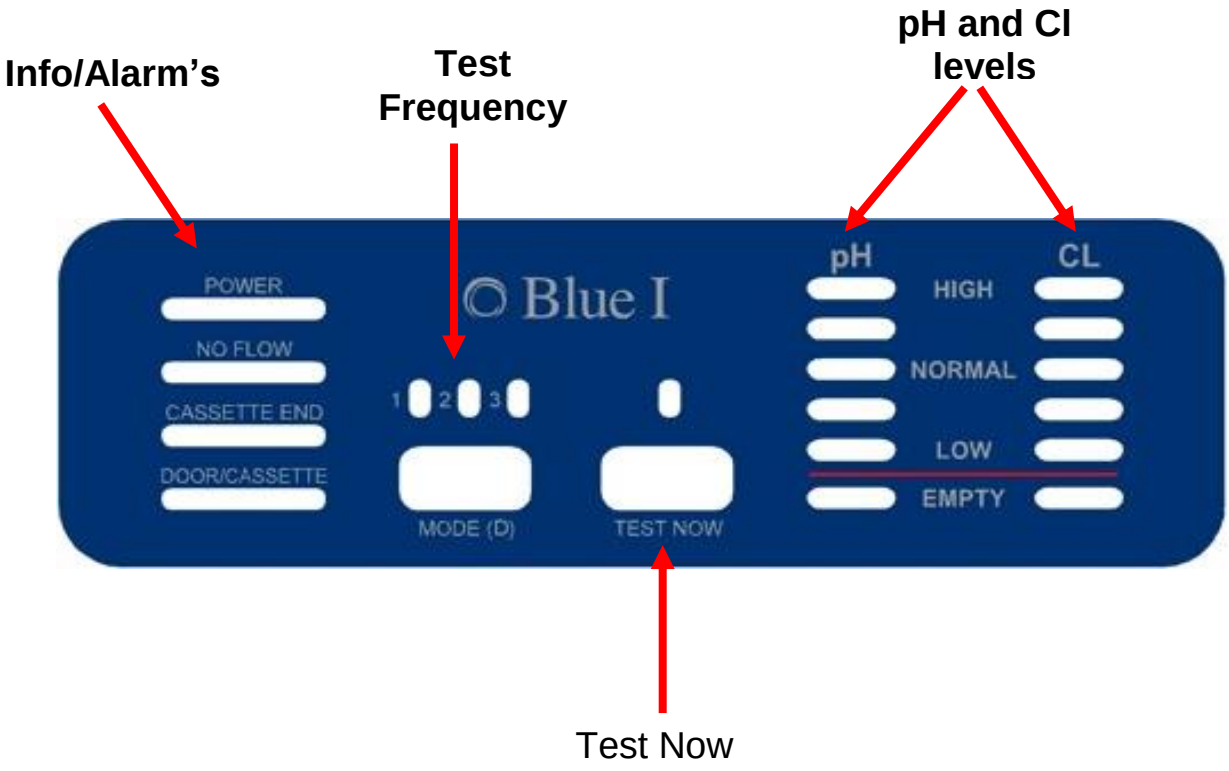
Version 2.10

SW Version 5.65
TDU Version 1.59

Table of Contents

1. General Overview

The PRIZMA® automatic swimming pool controller performs tests for chlorine and pH. The test results are displayed in a scale of low, normal or high on the front panel. The PRIZMA® automatically controls chlorine and pH dosing in order to optimize the pool's chemicals and to maintain personal and environmental safety.



2. Safety Information

2.1. Intended Use

This manual is for qualified and trained pool service technicians who will install and service the PRIZMA® Controller. It provides instructions on how to install the controller, how to integrate it with external pool chemical dosing systems, as well as how to calibrate, operate, and maintain the system. Included in this document is some general information on how pool water quality is monitored and maintained, but it does not teach how to operate swimming pools or administer chemicals.

2.2. Safety Precautions

Warning: Only properly trained and licensed electricians should attempt to wire or service the electronic components of the controller. There is an Electrical Shock Hazard when servicing this system. Always verify that all electrical power source(s) are off before opening the controller unit or attempting to service electronic components or wiring.

Caution: Extreme caution should be used when installing, operating, and maintaining the PRIZMA® Controller. Only properly trained technicians are authorized to install and maintain the controller. Only properly trained and licensed electricians should attempt any change to the system's electrical components. Only properly trained and licensed swimming pool operators should attempt to make any changes to chemical dosing levels.

Always follow local health and safety regulations when performing any service on the controller or changing chemical dosing settings.

Note: The protection provided by the equipment may be impaired if the product is used in a manner not specified in the Manual

Note: Blue I Technologies Ltd. does not accept any responsibility for any damage caused to its products by unauthorized personnel.

USE OF NON-BLUE I TECHNOLOGIES' REPLACEMENT PARTS WILL VOID ALL WARRANTIES.

Note: PRIZMA® Mains power plug is a disconnected device. Mains power connection should be accessed easily:

- Connect to an appropriate power inlet with comfortable access
- Connect to a connection box with appropriate circuit breaker
- Only a safety certified plug shall be connected to the cord during the unit installation according to national standard

Note: Mains power fuse rating:

Supplied Voltage	Fuse Type	Manufacture Name	Manufacture P/N
120VAC	0.25 slow blow	"Littelfuse"	218.250XP
230VAC	0.15 slow blow	"Littelfuse"	218.125XP

Replace a fuse with the same type and rating.

Note: PRIZMA® meets installation category II **–** Overvoltage categories

Note: PRIZMA® is intended for pollution degree 2

3. Installation

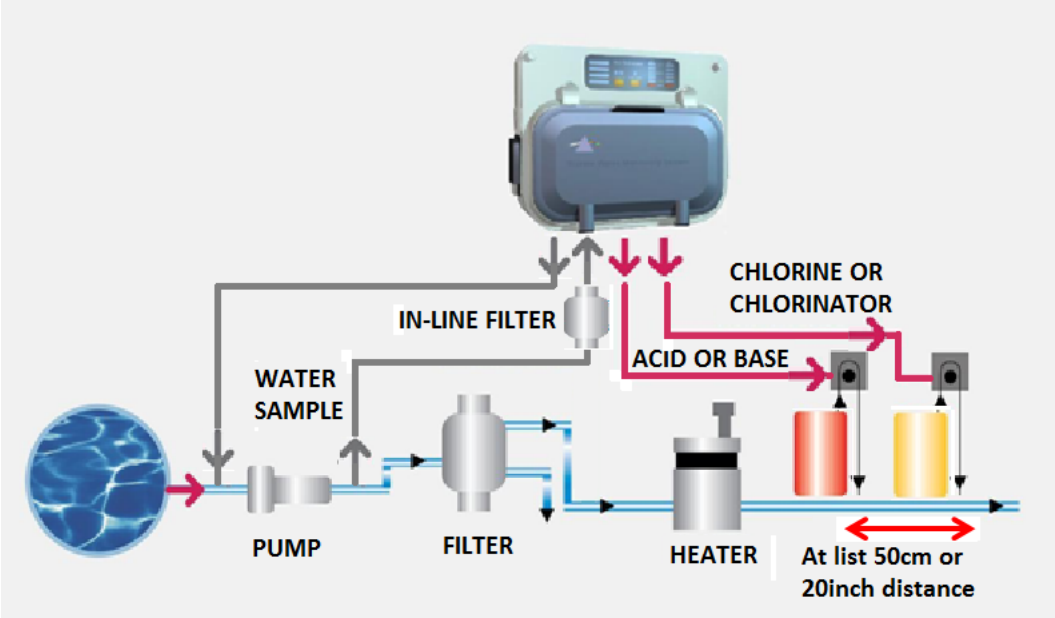
For an easier view of the PRIZMA® display, it is recommended to install under a sunshade.

WARNING

The Chlorine and pH dosing systems should be installed AFTER the pool equipment (heater etc.)

WARNING

Chlorine injection into water pipe must be 50cm (20Inch) apart from acid or base injection into water pipe.



3.1. Required Components

Supplied with the Controller:

- PRIZMA® wall mount adapter
- Cassette
- Tubing to and from PRIZMA® , 10m (33 feet) of 6mm (1/4”) O.D with 4 plumbing fittings
- Power cord, 1.5m (4 feet) cord provided without plug

A TDU (Technical Device Unit) is required to perform software set-up changes.

NOTE

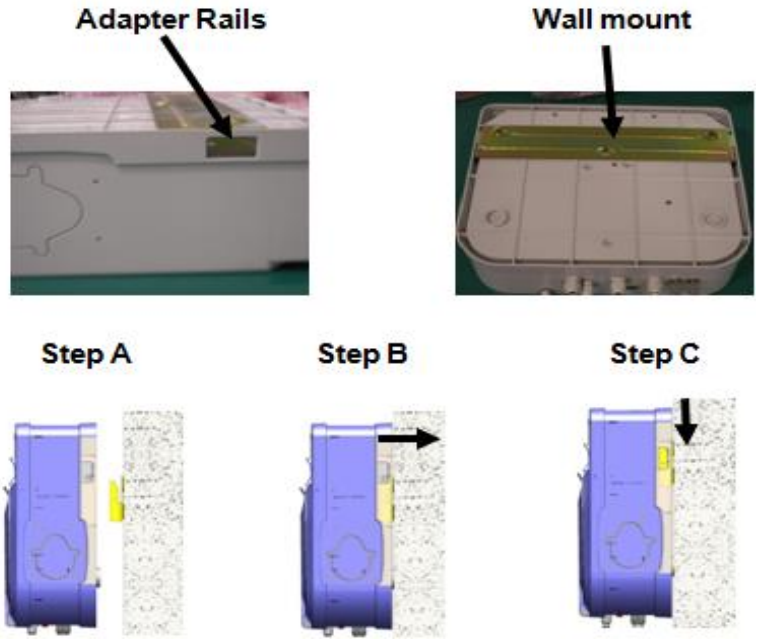
A single TDU can be used to program multiple PRIZMA® controllers.

Every pool is slightly different so please be aware of the pool’s plumbing configuration and sizes before installing. The installer will need to supply all additional components to complete the installation. Make sure that you have all required parts on-site including:

- Installation materials for attaching PRIZMA® to the wall or to other mounting surface
- Plumbing Fittings and Tubing required to supply water to and from the controller (6mm (1/4”) O.D)
- Plumbing Fittings and Tubing required to inject chemicals to the water (6mm (1/4”) O.D)
- Electrical components to supply power to the controller
- Electrical components to connect controller to dosing systems

3.2. Basic Installation

1. Mount the PRIZMA®'s wall mount adapter on a stable wall or surface, preferable at eye level
2. Connect the PRIZMA® to the wall mount adapter, making sure the adapter rails are securely inserted in the PRIZMA®



3.3. Plumbing Installation

3.3.1. PRIZMA® Controller

NOTE

PRIZMA® should be installed after a water filter of at least 700micron

1. Connect the water inlet tube to the pool's circulation system after the filter and before the chemical dosing systems.

NOTE

If the pressure is greater than 15 psi (1 bar) a pressure reducer will be required.

2. Connect the water outlet tube to the pool's circulation system on the suction side of the pump.

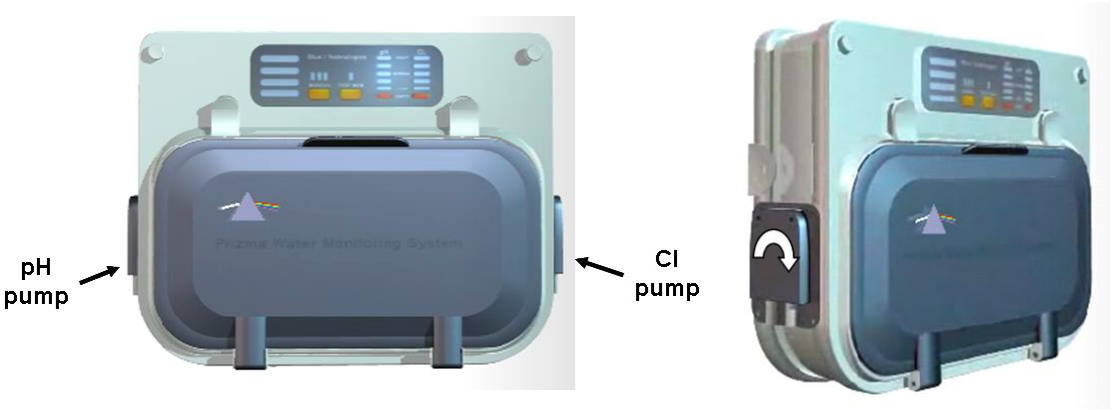
NOTE

A 4 psi (0.25 bar) pressure difference is required between the PRIZMA®'s inlet and outlet.

3. Optional: connect a drain line to the sampling drain port

3.3.2. Cl and pH Dosing Systems (PRIZMA® Integrated Pumps)

This section applies only when Cl and pH dosing pumps ordered with the PRIZMA® controller. For any other chemical dosing systems, refer to the manufacturers' instructions for proper installation.



1. Connect the Cl (Right) Dosing Pump:
    a. Connect the inlet to the liquid chlorine tank
        i. Follow the direction arrow on the pump (In ▲ , Out ▼)
        ii. Make sure that the tube from the chlorine tank is weighted/secured to bottom of the tank using the supplied weight.
    b. Connect the outlet to the pool's circulation system after the filter and heater.

2. Connect the pH (Left) Dosing Pump:
    a. Connect the inlet to the liquid acid tank
        i. Follow the direction arrow on the pump (In ▲ , Out ▼)
        ii. Make sure that the tube from the chlorine tank is weighted/secured to bottom of the tank using the supplied weight
    b. Connect the outlet to the pool's circulation system AFTER the filter and heater.

3.4. Electrical Installation

CAUTION

The PRIZMA® is shipped as 220-240V AC. An 110V jumper is shipped in the installation kit for onsite configuration. Please confirm the required voltage before making any electrical connections.

CAUTION

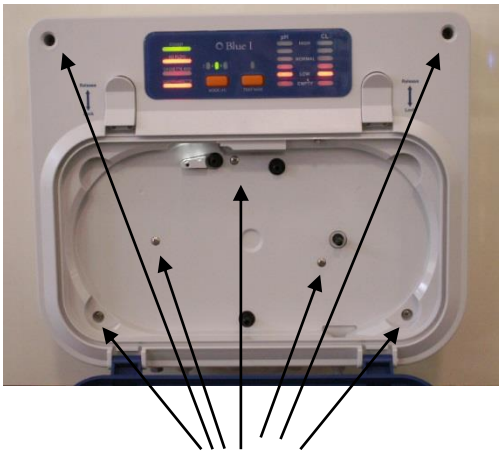
Before opening the cover, make sure ALL electrical sources to the PRIZMA® are OFF.

NOTE

The maximum voltage for PH Ext. and CL Ext. inputs shall not exceed 250VAC and 3A MAX. Wiring connection shall be 17AWG MIN, Rated voltage: 250VAC, Minimum rated current: 10A, Flammability rating: F1

NOTE

EXT. FLOW SW, PH Tank Empty, CL Tank Empty inputs shall be limited to 16V r.m.s and 22.6V peak and 35VDC



Screws

To perform the electrical installation, the front cover will need to be removed (not required if only connecting plug to existing cord):

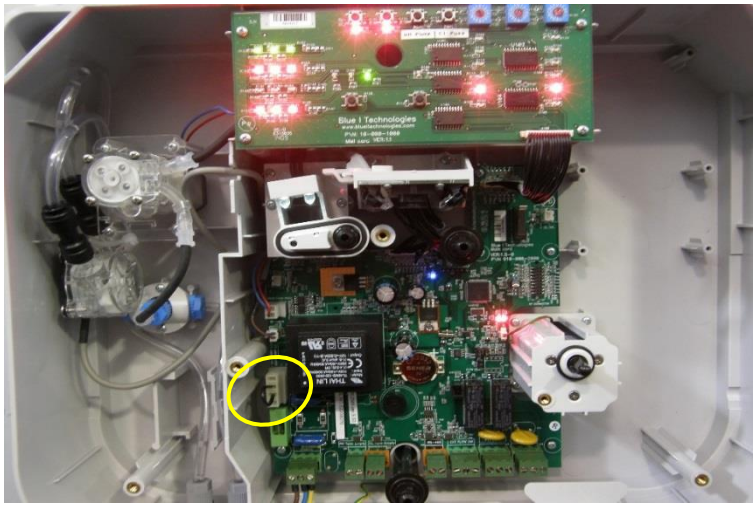
1. Remove 4 screws (1 near each corner)
2. Remove 3 screws (behind cassette door)
3. Gently and evenly pull cover from main controller body

3.4.1. 110 / 220V configuration

NOTE
The PRIZMA® is shipped with 220V configuration
An 110V jumper and label sticker are shipped as part of the installation kit
Please confirm the required voltage before making any electrical connections

In case 110V configuration is required, the following should be performed:

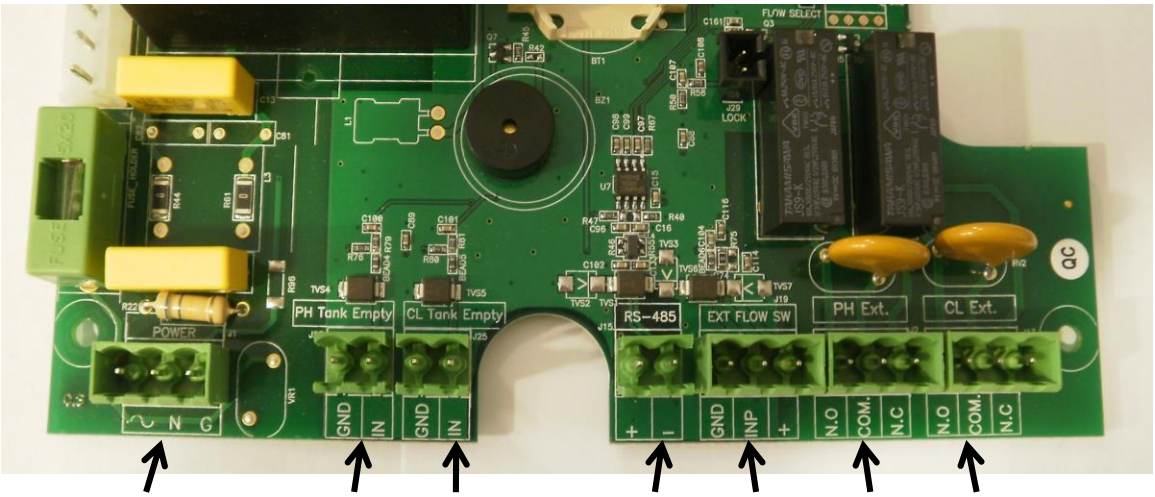
1. Remove the 220V jumper (circled in yellow) by pulling it upwards
2. Insert the 110V jumper , while covering all 4 pins
3. Apply the 110V label sticker on top of the existing 220V label (located on the external right side of the PRIZMA® Case)



3.4.2. Connecting Main Power

The main power supply to PRIZMA® should be interlocked to the pool's main pump. If the pool's main pump does not have power; the PRIZMA® should not have power.

1. Connect appropriate plug to the supplied power cord OR
2. Hard-wire power supply to power supply terminal block following the (Line, Neutral, Ground markings,"~" "N" "G", respectively.



Power Supply | **pH Tank Empty Switch** | **Cl Tank Empty Switch** | **Rs 485** | **External Flow Switch** | **pH Ext. (Relay)** | **Cl Ext. (Relay)**

3.4.3. Connecting Relays (external dosing systems)

No additional wiring is required for the PRIZMA® Integrated Cl and/or pH pumps. This section is for external chlorine and/or pH dosing systems.

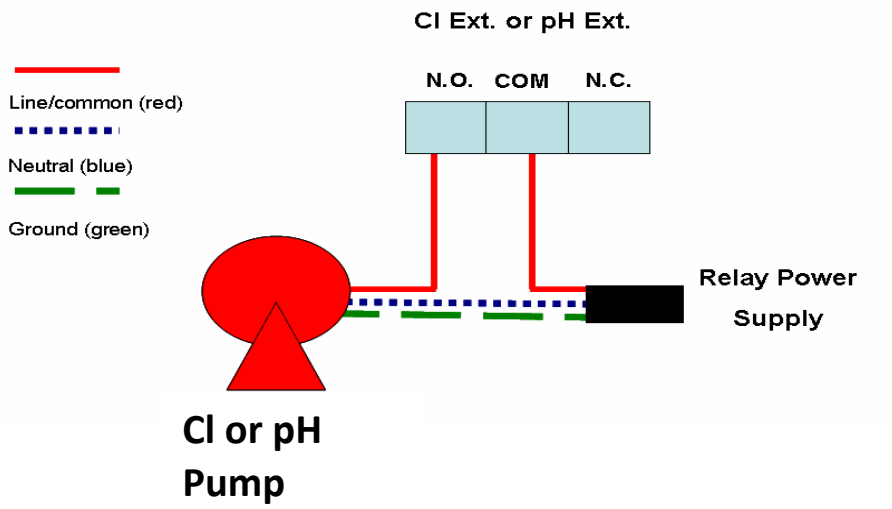
The relays controlling the dosing systems are dry contacts and do not have power. They operate as a switch for the power and only the line (live) wire of the power supply should be connected to the Cl ext. or pH ext. terminal blocks.

1. Connect the earth wire to the ground return wire from each of the controlled dosing systems.
2. Connect the neutral wire to the return wire from each of the controlled dosing systems.
3. Connect the line (live) wire to the connector marked Com of each relay.
4. Connect the line wire from the dosing system to the connector marked N.O. or N.C. as appropriate of each relay.
   a. N.O. = Normally Open means that the Cl or pH feeder will only receive power when the PRIZMA® calls for Cl or pH feed.
   b. N.C. = Normally Closed means that the Cl or pH feeder will always receive power except when the PRIZMA® calls for Cl or pH feed.

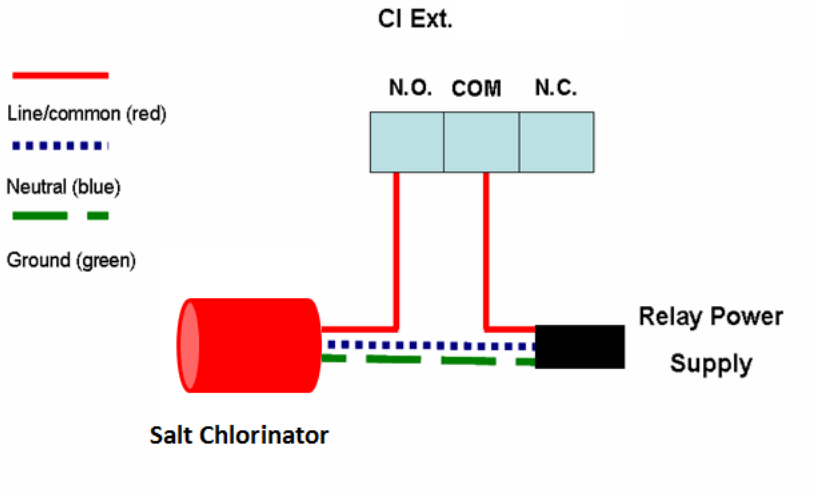
Example Relay Wiring

This section is for general information only and is not intended to fit every possible dosing system. If you are unsure of the proper wiring configuration, consult the dosing system manufacture for specific electrical requirements.

1. Dosing Pump or Solenoid Valve
    a. Dosing will turn ON based on PRIZMA® decision to add chemicals
    b. Connect the Line (live) wire through *COM* and *N.O*.

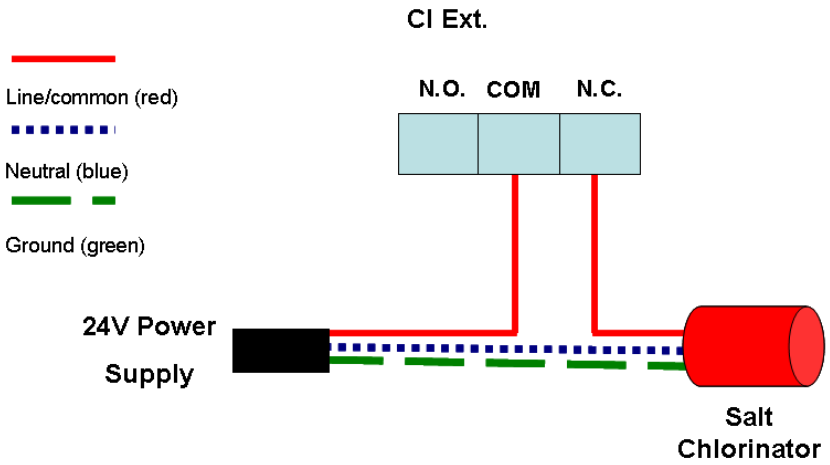


2. Salt Chlorinator
    a. Dosing will turn ON based on PRIZMA® decision to add chemicals
    b. Connect the Line (live) wire through *COM* and *N.O*.



3. Salt Chlorinator (dry contact or 24V)
    a. Dosing will turn ON based on PRIZMA® decision to add chemicals
    b. Connect 24V wire between *COM* and *N.C*.
    c. The Chlorinator will receive 24V all the time. ("OFF" dousing time)

d. The voltage will disconnect from salt generation ("ON" dosing time) based on PRIZMA® decision to add chemicals



CAUTION

- Each relay connection is limited to 4 amps, to prevent overheating
- Make sure that voltage to the dosing system is correct before connecting power supply
- PRIZMA®'s cover should not be opened except for initial installation and troubleshooting

3.4.4. pH (+) and pH (-) setting

PRIZMA® default setting coming with pH (-) control (Acid). The controller is adding acid to balance the pool until reaching the set point.

pH (+) control can be set by switching the position of the lock (see photo below) on the bottom part of the PRIZMA®. In that case, the controller will add base until reaching the set point. The keys are supplied with the controller.

3.4.5. Connecting External Communication

The RS-485 connection is used for external communication including the optional Water Guard OL Wireless Communicator. Please see Water Guard OL manual for communicator details.

1. Connect the '+' on the PRIZMA® RS485 terminal block to the '+' of the communicator RS485 terminal block
2. Connect the '-' on the PRIZMA® RS485 terminal block to the '-' of the communicator RS485 terminal block

3.4.6. Connecting the Empty Tank Alarms

These connections allow for sensors in the chlorine and pH feed systems to display alarms when the chlorine and pH run out. The sensors are not supplied with the controller.

Sensor must supply dry contact (ON/OFF) signal to be recognized by PRIZMA®.

Follow tank sensor manufacture directions for installation and confirmation of wiring

Connect the two wires from the tank sensor to the Ground and IN of the Cl or pH empty terminal block.

3.4.7. Connecting External Flow Switch

The external flow switch provides another layer of safety against accidental chemical dosing in the case of no flow in the pool's circulation system where chemicals are being added (i.e. during backwash). PRIZMA® supports both 2 and 3 wire flow switches.

Follow flow switch manufacturer directions for installation and confirmation of wiring.

Place a jumper (short) connection J21 Flow Control, located on top right of main electronics card.

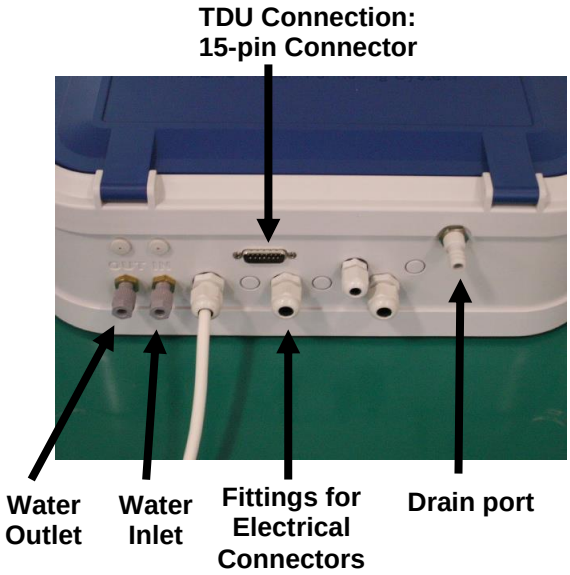
- When a 2 wire switch is used, it should be connected to the "INP" and "GND" connections on PRIZMA®.
- When a 3 wire switch is used, the "VCC" connection will also be used. After connection check for proper operation and change wire order if not working.

3.5. Completing Installation

1. Replace the cover of the PRIZMA® making sure that all screws are securely in place; do not over tighten.
2. Install a new cassette
3. Close Door and lower tabs to hold door in place
4. Cassette will load automatically start to test and control the pool.

4. Controller Settings and Software Set-up

To ensure that PRIZMA® is able to control most effectively, it must be configured to the specific pool to account for differences in: pool volume, chemical feed rates, and set-points. This is accomplished through the TDU (Technical Device Unit), which is also used to calibrate the controller. Connect the TDU to the 15-pin connector on the bottom of the PRIZMA® and the controller will automatically enter programming mode.



4.1. Connecting the TDU (Technical Device Unit)

1. Remove the connector cap before connecting the TDU.

NOTE
Do not forget to place the connector cap back in place, after disconnecting the TDU, in order to protect the connector from corrosion.

2. Connect the cable from the TDU to the 15-pin connector on the bottom of the PRIZMA®
3. Press and hold PWR for 3 seconds until the back-light on the TDU turns ON
4. The software and hardware version of the TDU will appear on the screen

NOTE
In case the TDU SW version is different from the one mentioned in this manual, some menus will be missing from the TDU.

   a. Connection Status
      i. If a PRIZMA® controller is properly connected, the screen will display the PRIZMA® ID and any active alarms
      ii. If a PRIZMA® controller is not properly connected, the TDU will show "Device Not Found" and will shut down
   b. Battery Life -- on the top right corner of the display

4.2. General Manu Navigation

- MEN. Enters the menu
- PWR. Turns TDU ON/OFF
- ESC. Exits Menu
- OK Makes a Selection or Accept Change
- UP/DOWN Arrows Changes Menu or Setting Value
- LEFT/RIGHT Arrows Changes Setting Value

4.3. Main Menu 1: Chlorine Settings

1. Press MENU
2. Use the UP and DOWN Arrows to select "**CL Set-Point**" and Press OK
3. Use the UP and DOWN Arrows to enter the "**CL Set-Point**" and Press OK
4. Use the LEFT and RIGHT Arrows to select YES and Press OK to Save Changes
5. Use the UP and DOWN Arrows to select "**Cl Feed Rate**" and Press OK
6. Use the UP and DOWN Arrows to enter the "**Cl Feed Rate**" and Press OK
7. Use the LEFT and RIGHT Arrows to select YES and Press OK to Save Changes

NOTE
The default value depends on the display mode selection. Please refer to paragraph **4.12 "Tech Menu 5: Display Mode Selection" for the default values**

4.4. Main Menu 2: pH Settings

1. Press MENU (if already in menu do not need to press again)
2. Use the UP and DOWN Arrows to select "**pH Set-Point**" and Press "OK"
3. Use the UP and DOWN Arrows to enter the "**pH Set-Point**" and Press "OK"
4. Use the LEFT and RIGHT Arrows to select "YES" and Press "OK" to Save Changes
5. Use the UP and DOWN Arrows to select "**pH Feed Rate**" and Press "OK"
6. Use the UP and DOWN Arrows to enter the "**pH Feed Rate**" and Press "OK"
7. Use the LEFT and RIGHT Arrows to select YES and Press "OK" to Save Changes

NOTE

The default value depends on the display mode selection. Please refer to paragraph **4.12 "Tech Menu 5: Display Mode Selection" for the default values**

4.4.1. Cl and pH Feed Rates

The feed rate is the output of the feed system in (**l/h** or **gal/day**) and the controller assumes 12% sodium hypochlorite solution for chlorine and Muriatic Acid / HCL for pH. If using diluted solutions or different feed systems adjust accordingly. The table on the right provides estimates for starting points as well as conversions if you have specific feed rates from your dosing system manufacturer.

Cl Feed Rate (approximate conversion)				
Dosing System	l/h	gal/day	g/day	lb/day
Salt Chlorinators	0.1	0.6	288	0.6
	0.2	1.3	576	1.3
	0.3	1.9	864	1.9
	0.4	2.5	1,152	2.5
	0.5	3.2	1,440	3.2
	0.6	3.8	1,728	3.8
Tablet Feeders	0.7	4.4	2,016	4.4
	0.8	5.1	2,304	5.1
	0.9	5.7	2,592	5.7
	1	6.3	2,880	6.3
Liquid Dosing Pumps	2	12.7	5,760	12.7
	3	19.0	8,640	19.0
	4	25.4	11,520	25.4
	5	31.7	14,400	31.7
	6	38.0	17,280	38.1
	7	44.4	20,160	44.4

NOTE

A Lower feed rate will increase the amount of time the feeder is ON. A higher feed rate will decrease the amount of time the feeder is ON.

- If the pool is consistently below the set-point, lower the feed rate.
- If the pool is consistently above the set-point, raise the feed rate.

NOTE

Chlorine / pH dosing feed rate is 1.1-7 (l/h or gal/day)

4.5. Main Menu 3: Calibration and Pool Volume

NOTE

The PRIZMA® is calibrated in factory and there is no need for site calibration.
Please skip the calibration menus

4.5.1. Calibrating Cl and pH

NOTE

- It takes approximately 2 weeks after installation for the pool's chemical levels to stabilize.
- When calibrating, make sure that water for the manual test is taken from the sample line to the PRIZMA® Controller; not directly from the pool.
- The Cl and pH must be in measurement range (Cl between 0.5 to 5.0ppm and pH between 6.5 to 8.2) in order to calibrate. If the Cl or pH is out of measurement range an alarm of "Out of Range Balance the Pool". Calibration should be performed when the pool operates at or near +/- 25% of the set-points for both Cl and pH.

1. Press “MENU”
2. Use the UP and DOWN Arrows to select “**Cl CALIBRATION**” and Press “OK”
3. Display will show “**CL Value**” and “**Sensor Value**”. The “**Cl Value**” is the calibrated value for Cl and the “**Sensor Value**” is the measured Cl level with no calibration.
4. Press “OK”
5. Display will show Wait for Measurement
    a. Measurement cycle will start
    b. If there is a problem with the test preventing calibration (i.e. no flow or no cassette), the TDU will display “**Check Alarms**”.
6. Perform external calibration test on the water from the PRIZMA® sample line using a digital photometer.
7. Wait for measurement to complete (TEST NOW Light will go out when complete)
8. Use the UP or DOWN Arrows to change the “**CALIBRATE TO**” value to match the manual test and Press “OK”
9. Use the LEFT and RIGHT Arrows to select “YES” and Press “OK” to Save Changes
10. Repeat Steps 2-9 for pH Calibration

4.5.2. Setting Pool Volume

1. Press “MENU” (if already in menu do not need to press again)
2. Use the UP and DOWN Arrows to select “**POOL VOLUME**” and Press “OK”
3. Use the UP and DOWN Arrows to enter the “**POOL VOLUME**” and Press “OK”
4. Use the LEFT and RIGHT Arrows to select “YES” and Press “OK” to Save Changes

4.6. Main Menu 4: Pump Operation and Test Now

4.6.1. Testing Cl and pH Feed System

1. Press “MENU” (if already in menu do not need to press again)
2. Use the UP and DOWN Arrows to select “**Cl Pump opr**” and Press “OK”
3. Use the LEFT Arrow to select “ON”
4. Confirm that the Cl pump or dosing system turns ON
5. Use the RIGHT Arrow to Select “OFF”
6. Confirm that the Cl pump or dosing system turns OFF
7. Press “OK”
8. Repeat Steps 2-8 for “**pH Pump opr**”

4.6.2. Test Now

1. Press “MENU” (if already in menu do not need to press again)
2. Use the UP and DOWN Arrows to select “**Test Now**” and Press OK
    a. Use the LEFT and RIGHT Arrows to select YES and Press OK
    b. Measurement cycle will start
    c. If there is a problem with the test (i.e. no flow or no cassette), the TDU will display “**Check Alarms**”.

4.7. Menu 5: Additional Pool Information

In order to accurately account for the evaporation rate of the chlorine, additional information about the specific pool is required.

1. Press “MENU” (if already in menu do not need to press again)
2. Use the UP and DOWN Arrows to select “**Stabilized**” and Press “OK”
    a. The stabilized option refers to the use of stabilized chlorine such as di-chlor and tri-chlor and/or using cyanuric acid.
3. Use the LEFT Arrow to select “Yes” or “No” and Press “OK”
4. Use the UP and DOWN Arrows to select “**Pool Cover**” and Press “OK”
5. Use the LEFT Arrow to select “Yes” or “No” and Press “OK”
6. Use the UP and DOWN Arrows to select “**Indoor**” and Press “OK”
7. Use the LEFT Arrow to select “Yes” or “No” and Press “OK”
8. Press “ESC”
9. A message asking if you want to send all changes will appear on the display. Use the LEFT Arrow to Select Yes to Send the Changes to the PRIZMA®.
10. The TDU will return to the main menu display.

4.8. Technical Menu

This Menu shows additional information about the PRIZMA® that may be useful in troubleshooting problems as well as the TDU set-up.

To enter the Technical Menu:

1. Press “MENU”
2. Press UP and DOWN Arrows TOGETHER

4.9. Technical Menu 1 and Technical Menu 2

These menus show additional information about the connected PRIZMA®. NO changes can be made to these values; it is for information only. Descriptions of each are below:

- Temperature: Temperature inside the PRIZMA® Controller in °C
- Evap Factor: Evaporation Factor PRIZMA® is using (based on settings in Menu 5)
- Light Intens: Light Intensity of the LEDs
- SW ver num: Software Version of the connected PRIZMA®
- HW ver num: Hardware Version of the connected PRIZMA®
- Protocol #: Communication Protocol of the connected PRIZMA®

4.10. Tech Menu 3: TDU Settings

This menu allows for selecting US or Metric units and Language of the TDU

1. Use the UP and DOWN Arrows to Select “**Pool Vol**” and Press “OK”
2. Use the LEFT and RIGHT Arrows to Select between “**m^3**” or “**gal**” and Press “OK”
3. Use the UP and DOWN Arrows to Select “**Feed Rate**” and Press “OK”
4. Use the LEFT and RIGHT Arrows to Select between “**L/hr**” or “**gal/day**” and Press “OK”
5. Use the UP and DOWN Arrows to Select “**Language**” and Press “OK”

6. Use the LEFT and RIGHT Arrows to Select the Language of the TDU and Press “OK”

Pool Volume Configuration			
M^3	Gallons (appox.)	M^3	Gallons (appox.)
1	260	50	13,200
3	790	60	15,800
5	1,320	70	18,500
7	1,840	90	23,700
10	2,640	110	29,000
20	5,250	130	32,300
30	7,900	150	39,600
40	10,500	170	45,000

4.11. Tech Menu 4: Remote Settings Continued and Testing

This menu is destined for future features.

4.12. Tech Menu 5: Display Mode Selection

This menu allows for selecting display mode and setting the unit address.

1. Use the UP and DOWN Arrows to Select “**Display Conf.**” and Press “OK”
2. Use the LEFT and RIGHT Arrows to Select between the modes “**RGL Mode** ” or “**BNK Mode**” or “**MTR Mode**” or “**OX-Hot Mode**” or “**OX-Cold Mode”** and Press “OK”
3. Use the UP and DOWN Arrows to Select “**Address**” and Press “OK”
4. Use the LEFT and RIGHT Arrows to set PRIZMA® address” and Press “OK”

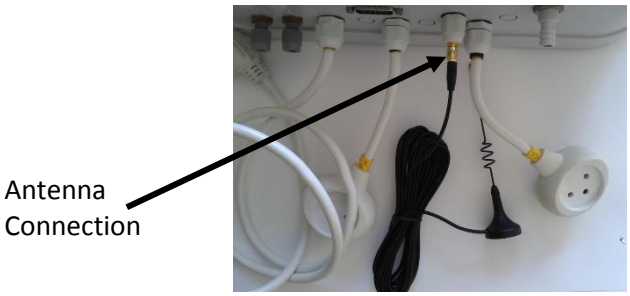
pH Scale Values	RGL	BNK	MTR	OX Hot Countries	OX Cold Countries
High	> 8.0	>8.0	>8.1	>8.0	>7.7
	7.8 – 8.0	7.5 – 8.0	7.8 – 8.1	7.8 - 8	7.5-7.7
Normal	7.0 – 7.6	7.0 – 7.4	7.0 – 7.6	7 - 7.6	7-7.4
	6.5 – 6.9	6.5 – 6.9	6.5 – 6.9	6.5 - 6.9	6.5-6.9
Low	< 6.5	<6.5	<6.5	< 6.5	<6.5
Empty					
Cl Scale Values	**RGL**	**BNK**	**MTR**	**Hot Countries**	**Cold Countries**
High	> 5.1	> 1.5	0.9 - 1.0	> 2.6	>1.5
	3.1 – 5.0	1.1 – 1.5	0.7 – 0.8	2.1 - 2.6	1.0-1.5
Normal	1.2 – 3.0	0.8 – 1.0	0.5 – 0.6	0.6 - 2.0	0.5-0.9
	0.6 – 1.1	0.5 – 0.7	0.3 – 0.4	0.4 - 0.5	0.3-0.4
Low	< 0.6	< 0.5	< 0.3	< 0.4	<0.3
Empty					
Set Points	**RGL**	**BNK**	**MTR**	**Hot Countries**	**Cold Countries**
pH Set Point	7.0 – 7.6 Default - 7.2	7.0 – 7.8 Default - 7.2	7.0 – 7.6 Default - 7.4	7.0 – 7.6 Default - 7.2	7.0 – 7.4 Default - 7.2
Cl set Point	0.5 – 2.5ppm Default –1.5	0.5 – 2.5ppm Default –0.9	0.5 – 2.5ppm Default –0.8	0.8 – 1.3ppm Default – 1.3	0.5 – 1.0ppm Default – 0.9

5. Controller Settings and Software Set-up Using Smartphone App

The PRIZMA® can be set up and controlled using a smartphone app instead of the TDU. This can be used only with devices carrying the WiFi label:

5.1 WiFi set-up

Connect PRIZMA® WiFi antenna and open cable to enable better communication.



5.2 Download the smartphone application

1. For iPhone users: Go to the App Store and download iPRIZMA® app.
2. For Android users: Go to the Google Play Store and download iPRIZMA® app.

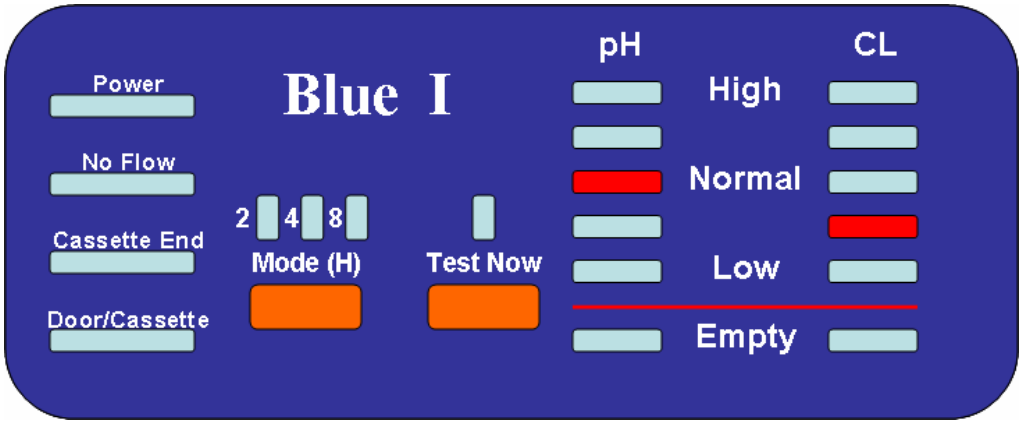
5.3 First time connection to PRIZMA® using iPRIZMA®

Turn on WiFi in smartphone settings

5.4 Using iPRIZMA® app

To continue operating using iPRIZMA® refer to iPRIZMA® Application User Manual.

6. Normal Operation



Under normal operation, the display will show pH and Cl values in a scale of low, normal, and high based on the chosen scale “display Mode”, for example RGL mode has the following scale:

pH	pH Range	CL	Cl Range (ppm)
	> 8.1		> 5.1
	7.8 to 8.1		3.1 to 5.0
	7.0 to 7.6		1.2 to 3.0
	6.5 to 6.9		0.6 to 1.1
	< 6.4		< 0.5

Only 1 LED will be illuminated and will indicate the range of pH or Cl values.

In the example to the left, the pH is between 7.0 and 7.6 and the Cl is between 0.6 to 1.1 ppm.

The TDU will show the numeric values for the pH and Cl test to the nearest tenth.

7. Alarms and Troubleshooting

- **No Flow –** flow to PRIZMA® is off or too low
  - Check that water is flowing to and from PRIZMA® and correct problem preventing flow to controller
  - Check that internal flow switch is rotating
    - Remove obstruction preventing flow switch from moving
    - Check wire connection on electronics card
    - Replace flow switch if necessary

- **Cassette End –** Testing cassette is empty
  - Replace Cassette

- **Door/Cassette –** cassette is not properly installed or door open.
  - open door, remove cassette then insert cassette back and close door making sure to re-latch both latches for the door.
- **Chlorine or pH too low/high**
  - Use remote programmer to:
    - Adjust set-point if not properly set
    - Increase total amount of Cl or pH feed by:

- ✓ Increasing Pool Volume or
- ✓ Decreasing Feed Rate (yes decreasing)

- Decrease total amount of Cl or pH feed by:
  - ✓ Decreasing Pool Volume or
  - ✓ Increasing Feed Rate (yes increasing)

8. Maintenance

8.1. Replacing the Test-strip Cassette

When the test-strip cassette is empty, the “cassette end” alarm will light-up.

1. Open Cassette Door
2. Remove the old cassette and discard
3. Open a new cassette and press into place
4. Close the cover
5. The cassette will automatically load and testing and control will resume automatically

NOTE
The cassette is enveloped in a sealed cover for moisture control. The cassette sealed envelope should be opened prior to installation. An open cassette expires within 4 months

8.2. Flow Meter Replacement

Please refer to Appendix B item No.5 for part location identification inside the PRIZMA®.

The flow meter should be replaced **once a year** for proper maintenance and correct functionality.

1. Disconnect the PRIZMA® from the power source and stop the water flow
2. Remove the cassette
3. Take off the front cover:
   a. remove two bolts on the top of the front cover (covered with rubber cover) and two bolts on the bottom of the front cover (located behind the cassette holder)
   b. remove three conical bolts located in the middle of the cassette holder
4. Open the front cover
5. Locate the flow meter
6. Replace the flow meter (P/N: 910-005-0000) maintaining the same initial (vertical) position
7. Check that the flow meter assembled correctly:
   a. Connect the PRIZMA® to the water flow
   b. Verify that flow meter is working and there is no water leakage
   c. Connect the PRIZMA® to the power source
   d. Verify that “no flow” indication is off
   e. Disconnect the PRIZMA® from the power source
8. Close the front cover using and insert back the bolts
9. Insert back the cassette

10. Close the cassette cover
11. Connect the PRIZMA® to the power source
12. The cassette will automatically load and testing and control will resume automatically

8.3. Sampling Water Pump Replacement

Please refer to Appendix B item No.2 for part location identification inside the PRIZMA®.

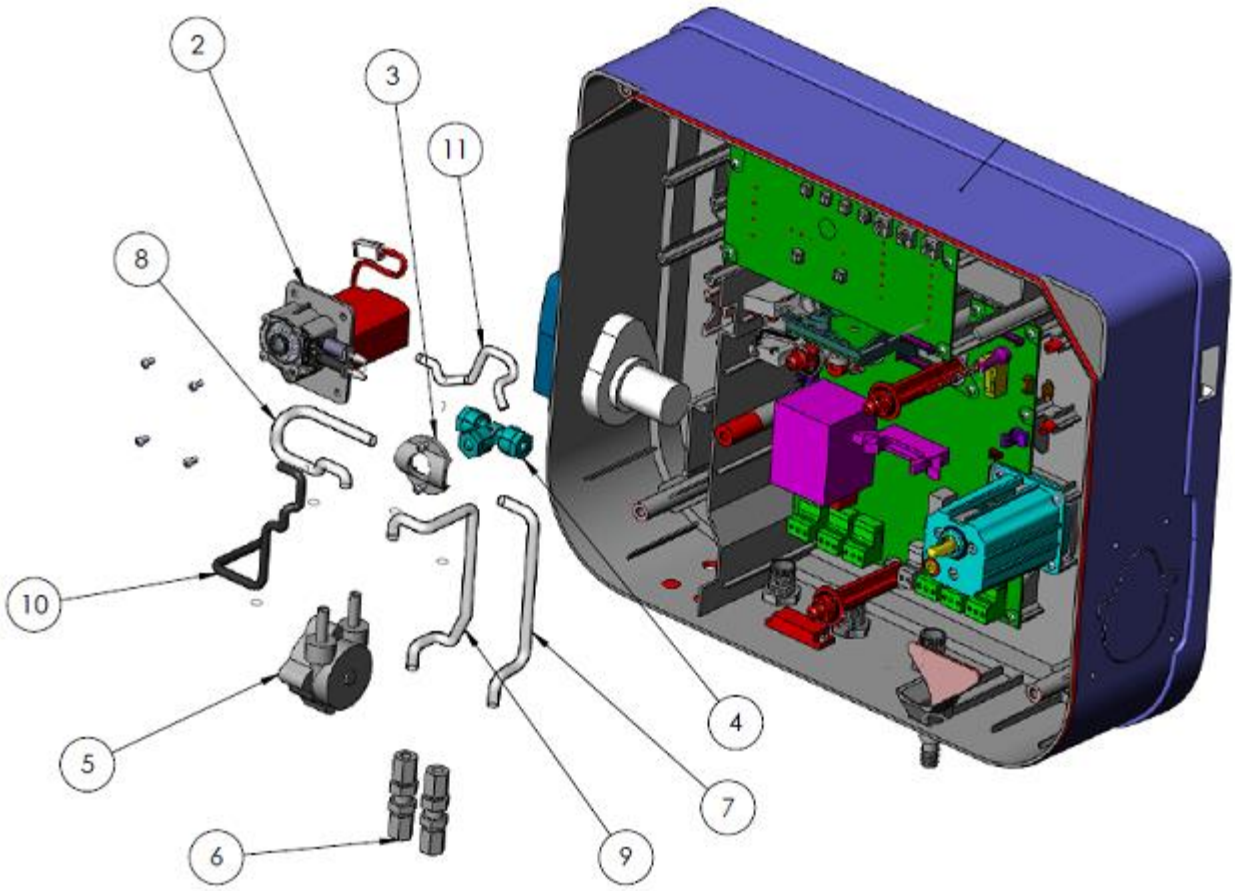
The sampling water pump should be replaced **once a year** for proper maintenance and correct functionality.

1. If the front panel is not already open, repeat steps 1 to 4 in Sec. 6.3 above
2. Locate the sampling water pump
3. Replace the sampling water pump (P/N: 910-009-0000)
4. Check that the sampling water pump assembled correctly:
    a. Connect the PRIZMA® to the water flow
    b. Verify that there is no water leakage from sampling water pump tubes
5. Close the front cover using and insert back the bolts
6. Insert back the cassette
7. Close the cassette cover
8. Connect the PRIZMA® to the power source
9. The cassette will automatically load and testing and control will resume automatically

Appendix A – PRIZMA® Specifications

GENERAL	
Measurements	Colorimetric based, Free Chlorine & pH
Operation Mode	Periodic & Configurable : 1,2 & 3 times per day
Measurements Range	pH: 6 - 9.1 Cl: 0.2 – 6.3ppm
Measurements Accuracy	+/- 5%
Calibration	Automatic, after every measurement
Flow Rate	60l/h (recycled into the pool)
Test Sample	10cc per test
Outside Diameter of the Fitting	6 mm
Pressure	1 Bar max
Number of Tests in cassette	125 or 250 (Cl + pH)
COMMUNICATIONS	
Digital	RS-485 to TDU or Modem
Cabels	1xpH pump , 1xCl pump
Sensors	pH/Cl Tank Empty, External flow Available
Alarms	7
Programmer tool	Via RS-485
ELECTRICAL	
Input	110-120/210-240VAC; 60/50 Hz;
Power Consumption	15 VA max
MECHANICAL	
Dimensions	470mm x 330mm x 130mm 18.5”x12.9”x5.1”
Weight	3.60kg
ENVIRONMENTAL	
Operating Temperature	2^0C to +55^0C
Operating Humidity	1%-90% non condensing
Enclosure type	IPx5
STANDARD COMPLIANCE	
FCC	FCC 47 CRF part15 Subpart B Class B
Safety	CAN/CSA-C22.2 No. 61010-1 UL Std. No. 61010-1 AS/NZS 3136
CE	EN 61326-1 EN 61010-1:01
WARRANTY	
2 years - electronic card	
1 year - All other components	

Appendix B – PRIZMA® Blow-Apart Diagram



Part No		Description
#2 in the drawing	910-009-0000	Sampling Water pump
#3 in the drawing	910-000-4035	OMEGA T Holder
#4 in the drawing	910-012-0000	TEFEN 16 (tube Assembly)
#5 in the drawing	910-005-0000	Flow Meter (tube Assembly)
#6 in the drawing	910-000-4039	SERTO 6mm
#7 & 8 in the drawing	910-000-0090	Clear tube
#8 in the drawing	910-005-0000	106 mm clear tube
#9 in the drawing	910-005-0000	65mm Niofren 4-6 tube
#10 in the drawing	910-005-0000	85mm Niofren 4-6 tube

Blue I Water Technologies Ltd.
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