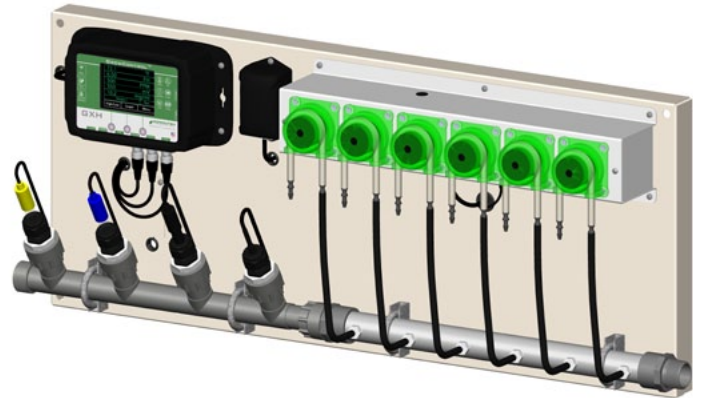
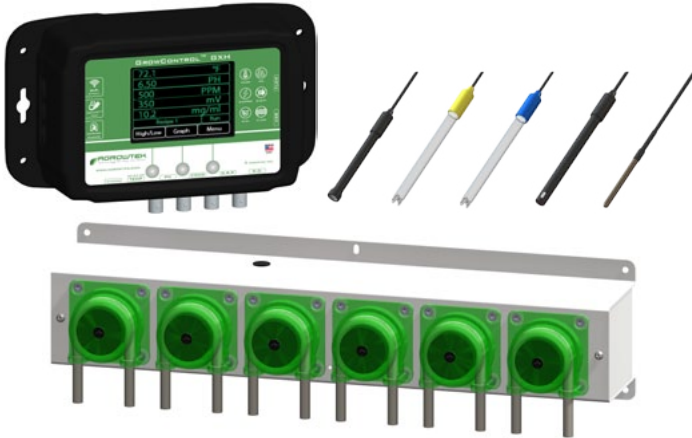


Nutrient Monitor & Dosing System



GDXP Panel Mounted Assembly

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Overview

The GDX dosing system is designed to automatically dose nutrients, pH and ORP buffers into recirculating systems and stock tanks to maintain target levels. The GDX system operates independently of other systems and doses on demand automatically according to target set-points and sensor readings. Each pump can be configured independently to any sensor with unique dose ratios/amounts. Up to 14 different recipes / configurations can be stored for quick access and on the fly recipe changes.

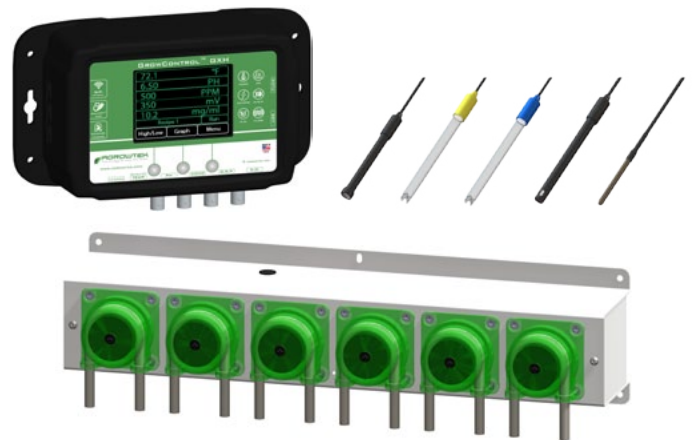
GDX systems require the sensors to be continuously in contact with the water in order to properly manage the dosing pumps. Probe can be located in the reservoir tank, or may be installed inline with a continuously recirculating water flow.

GDX systems are available as pre-fabricated **Dosing Panels** or as basic **Dosing System Kits**.

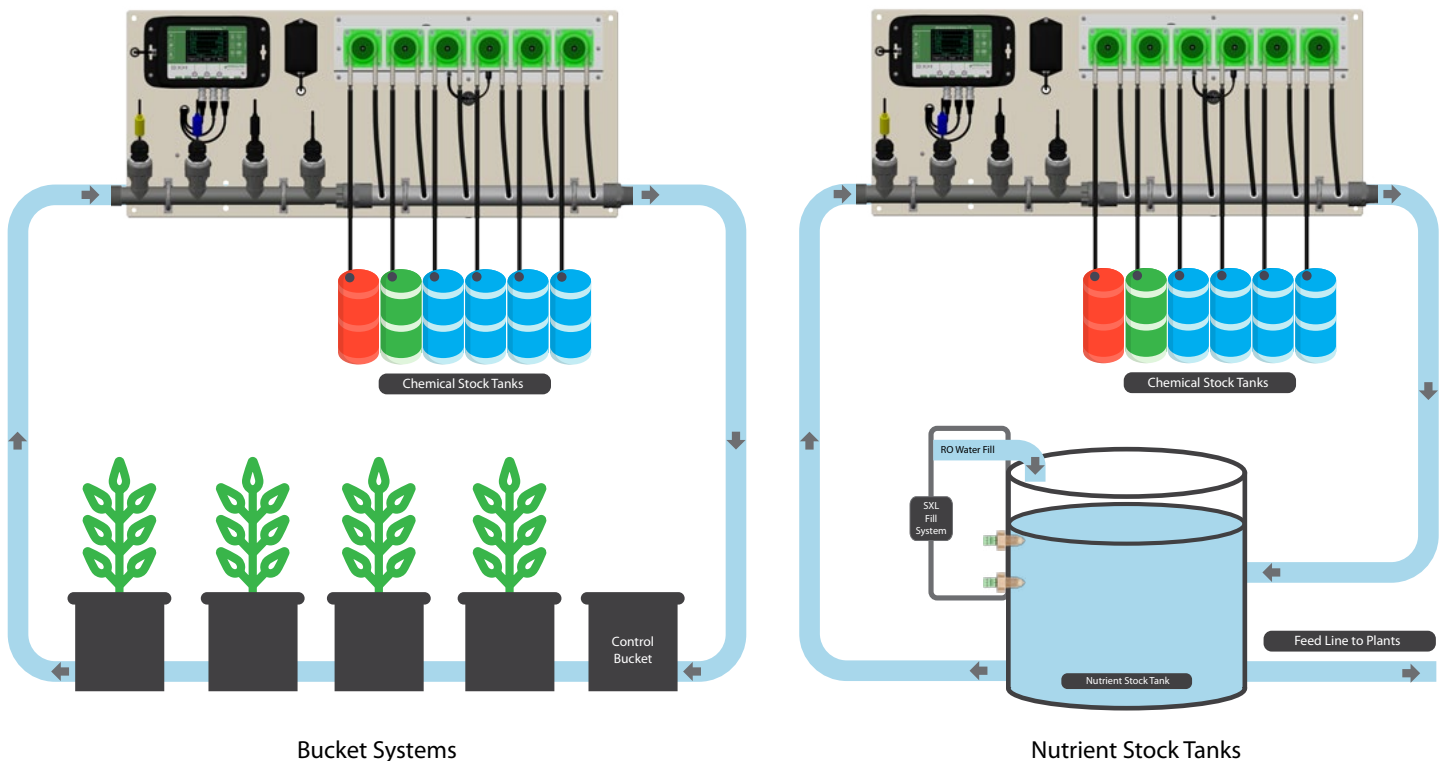
Dosing Panel



Dosing System Kit



Fertigation Layout



Installation Instructions

Wall mounting tabs are provided for installing the controller and pumps against a vertical wall surface. Mount **above** water sources. Avoid locations where water can easily drip or spray onto equipment.

1. Measure out the hole locations per the dimensions, or mark the holes using the device as a template.
2. Drill holes and install anchors (if required, not included.) Keep the equipment away from dust during work.
3. Install the equipment to the wall surface using appropriate screws.

Connecting Sensor Probes

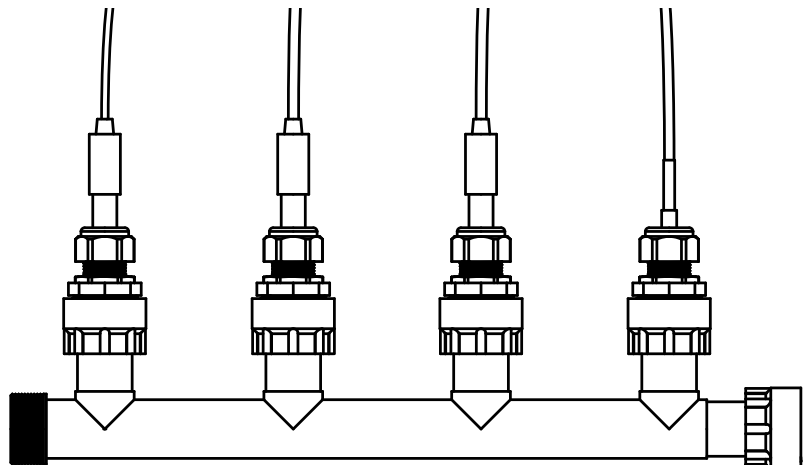
pH, conductivity and ORP sensors are equipped with "BNC" style connectors which push on and then turn 1/4 rotation CW to lock them in place. Temperature is a 3-pin plug connector, simply push in until it clicks.



pH & ORP probes must remain wet to avoid damage. Do not allow probe tips to dry.

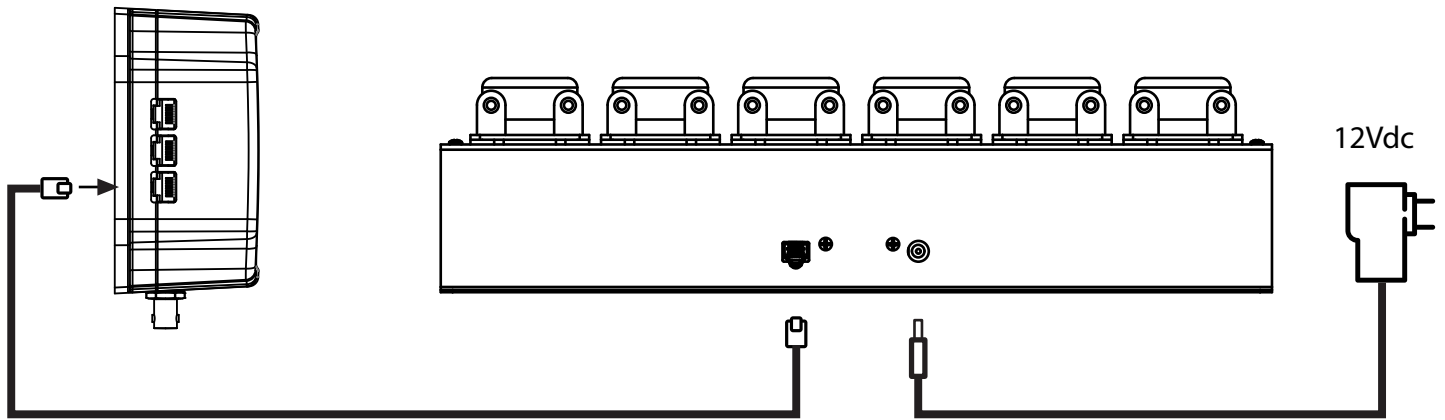
Probe Manifold

Optional probe manifolds are available for mounting sensor probes in a recirculating system or sample pump loop.



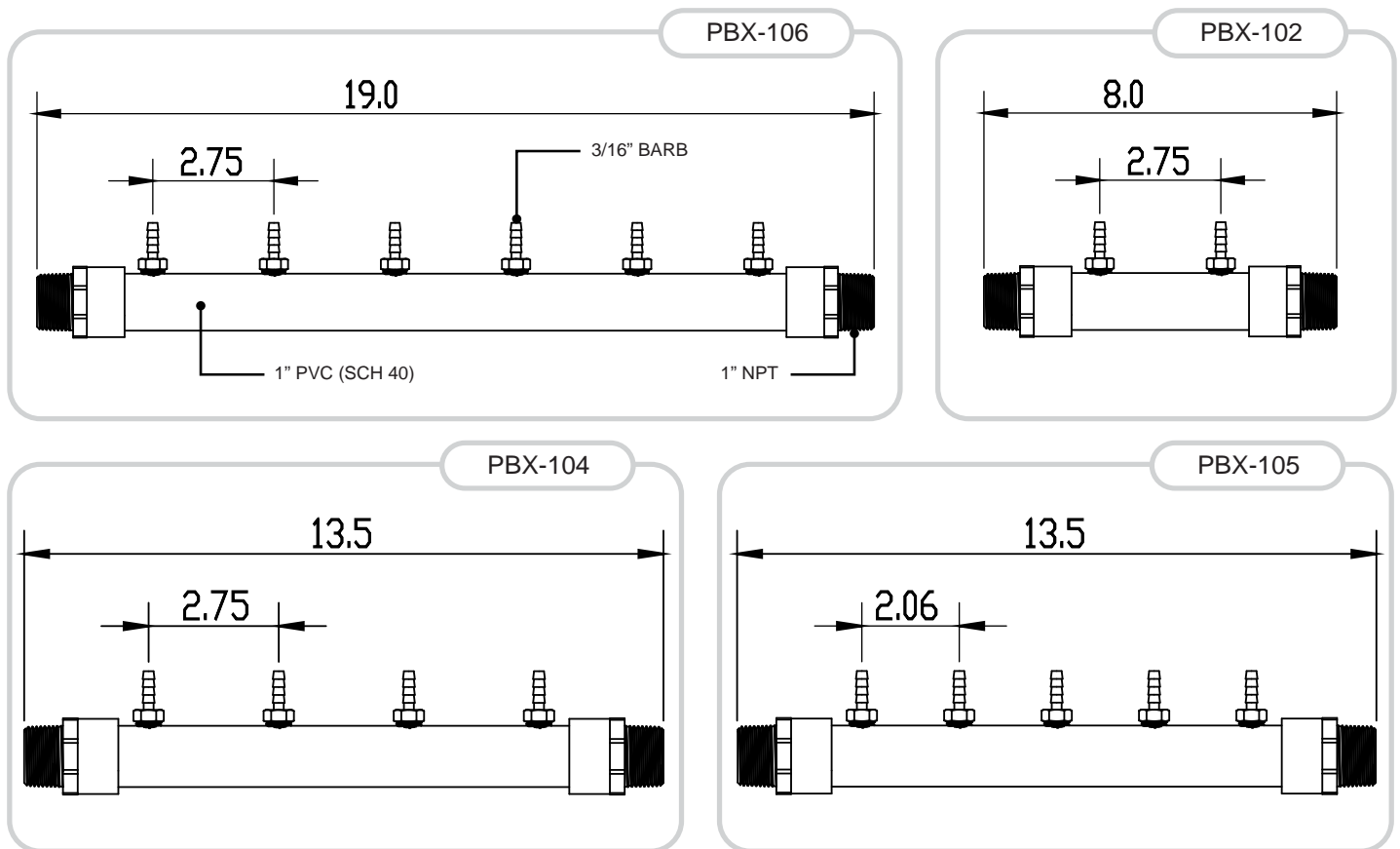
Connection to Controller

The pump can be connected to the GXH dosing controller with a standard RJ-45 ethernet cable and is powered by the dosing pump's power supply through the cable.



Injection Manifold

Optional injection manifolds provide a convenient method for injecting chemicals from the peristaltic pumps inline with a recirculating system or sample pump loop.



Operation Instructions

The GXH controller continuously monitors the sensor probes and compares the readings to “target” set points for pH, conductivity (EC) and ORP (optional) that are set in the current recipe. If the readings are outside of the allowed range, the pumps will sequentially dose according to the configured recipe, repeating until the targets are achieved. Each pump has a programmable delay time to separate parts and/or add a delay between the cycles.

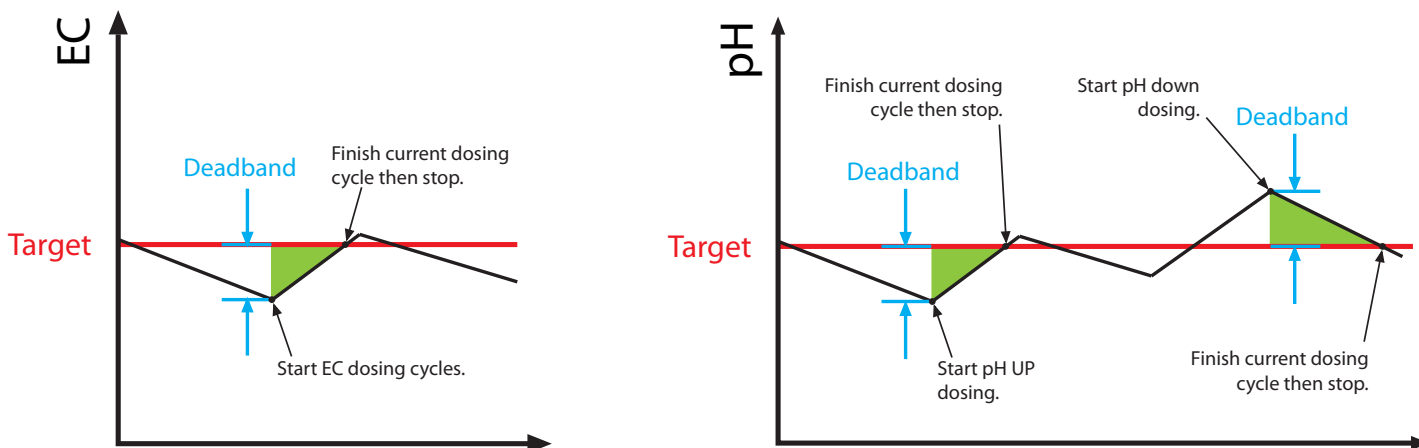
Definitions

Target

A “target” is a set-point that the system is looking to achieve such as maintaining 1000uS, 6.00pH or 400mV ORP. The targets are programmable for each sensor.

Dead Band

“Dead band” is the amount of drift allowed from the target before starting dosing cycles back to the target. For example: to allow a drift of 100uS (50ppm) from the nutrient concentration target, set the EC deadband value to “100uS” (50ppm,) or to allow a drift of 0.20 pH above or below the target, enter a pH deadband of “0.20.”



Recipe

Each pump is assigned a “type” (EC/pH/ORP), a “mode” (up or down dosing,) a dose size (mL,) and a after-dose delay time (seconds.) Pumps can be configured in any order, but the system will still follow the standard dosing cycle flow chart as shown on the following page.

EC LOCK-OUT (for pH pumps)

EC LOCK is a menu option that appears on pumps assigned to pH control. EC LOCK prevents pH dosing while EC targets are not satisfied and nutrient dosing is on-going.

pH LOCK-OUT (for ORP pumps)

pH LOCK is a menu option that appears on pumps assigned to ORP control. pH LOCK prevents ORP dosing while pH targets are not satisfied and pH dosing is on-going.

Delay

Every pump has a configurable “delay” time setting which occurs after the pump doses and before continuing to the next pump in the sequence. See dosing cycle flow chart on the following page for more details.

Dosing Cycles

EC Dosing

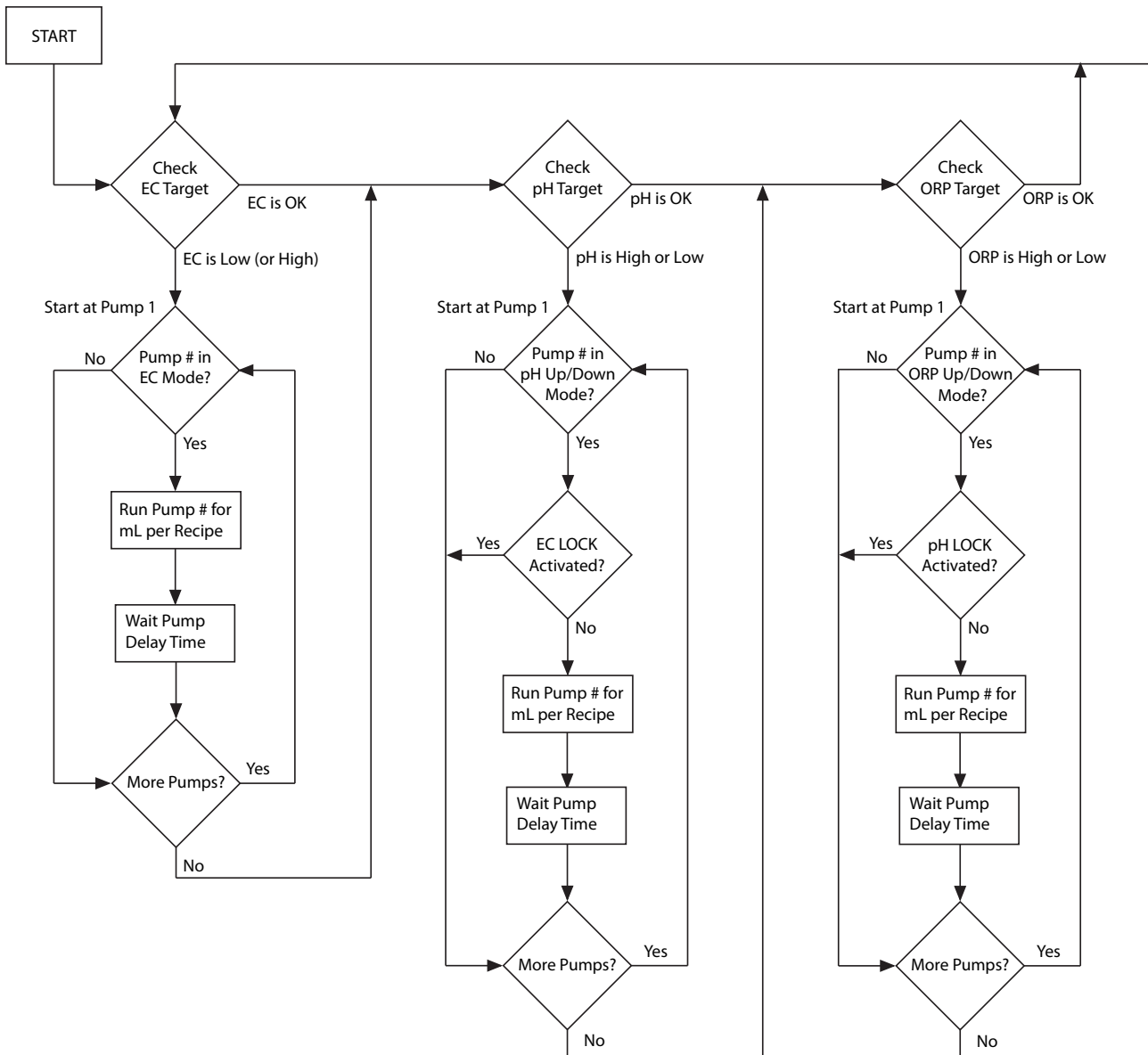
The system begins by checking the EC against the current recipe's target set point. If the sensor reading is outside of the target range, the pump will begin a nutrient dosing cycle. The cycle starts by checking the first (left most) pump to see if it is assigned to nutrient control (EC mode.) If it is, the pump's recipe volume is dosed followed by a pause for the pump delay time if one is set. The system then progresses to the next pump and continues to dose each remaining "EC pump" before proceeding to check the pH.

pH & ORP Dosing

The system then checks the pH value to see if it is with the target range. If the pH requires adjustment, each pump is checked (starting with the first) if it is assigned to pH (up or down) and if so, the recipe dose is administered. Once all the pumps are checked for pH dosing, if equipped, ORP follows in the same fashion. pH or ORP dosing may be paused if the EC or pH locks are set respectively.

EC LOCK option prevents pH dosing from starting while EC is not in the target range.

pH LOCK option prevents ORP from dosing while pH is not in the target range.



General Operation

3-button/LCD display interface allows easy monitoring of sensor values.

Simple menu driven setup for configuring pump recipes, system settings, sensor calibration and more.

The main screen displays the real-time sensor readings from the attached sensors.

Each button is labeled at the bottom of the display to describe it's function on the current screen or menu.

[High/Low] [Graph] [Menu]

70.4	°F	
6.10	pH	
330	PPM	
455	mV	
9.3	mg/ml	
High/Low	Graph	Menu

High / Low History

[High/Low]

Simple minimum and maximum recorded values are stored until the user resets the values to the current readings. To view the minimum and maximum values since the last reset, press the button labeled "High/Low."

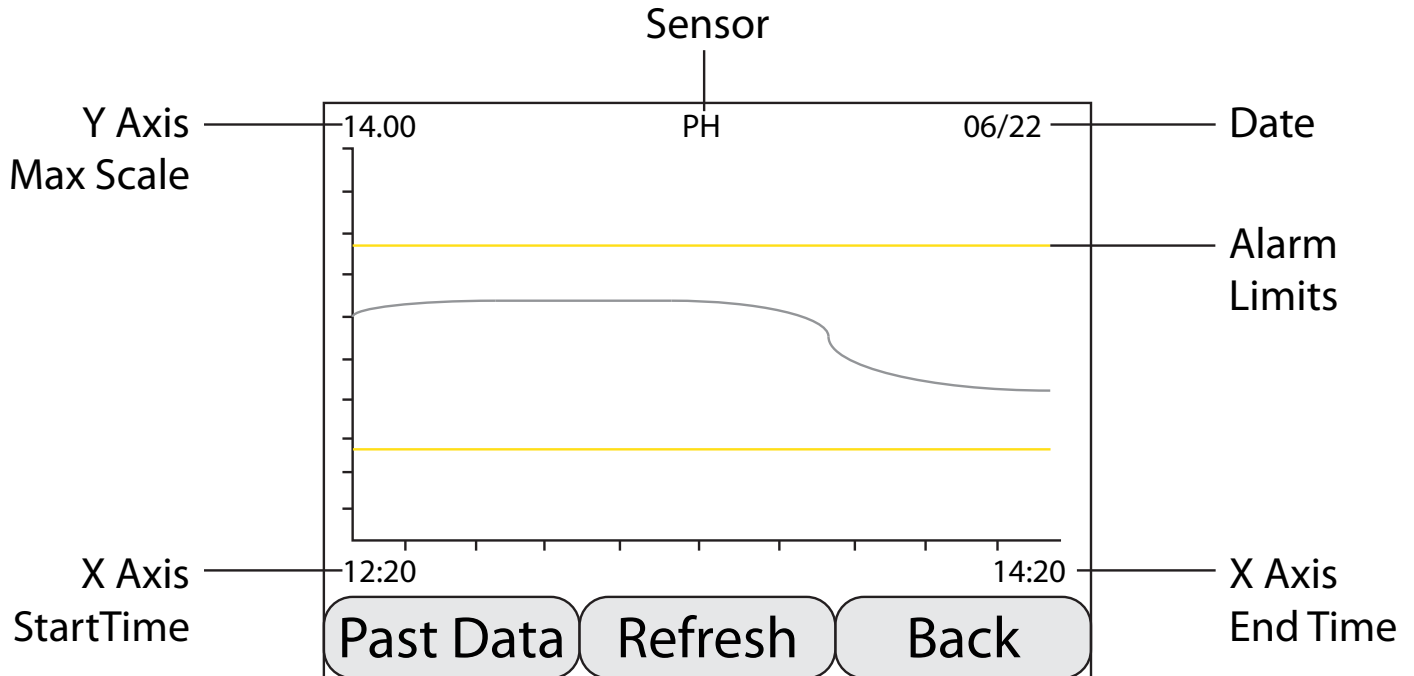
To clear the min/max history, press the "Reset" button to reset. The min and max values will all be set to the current readings and will update with higher or lower readings as they occur.

Low	High	
65.2	70.4	°F
5.53	6.10	pH
288	330	PPM
233	455	mV
8.4	9.3	mg/ml
Exit	Reset	

Graphing

[Graph]

The display can graph the most recent 300 data points from the sensor's internal data point memory. With the default logging interval of 60 seconds, the graph displays the last five hours of data.



The sensor value is plotted in BLUE. Temperature, if overlaid on the plot, is red. Alarm levels as set by the user are plotted in yellow.

The "Past Data" button pages back through the data log memory, plotting past data. The "Refresh" button updates the graph to the most recent data and replots the graph.

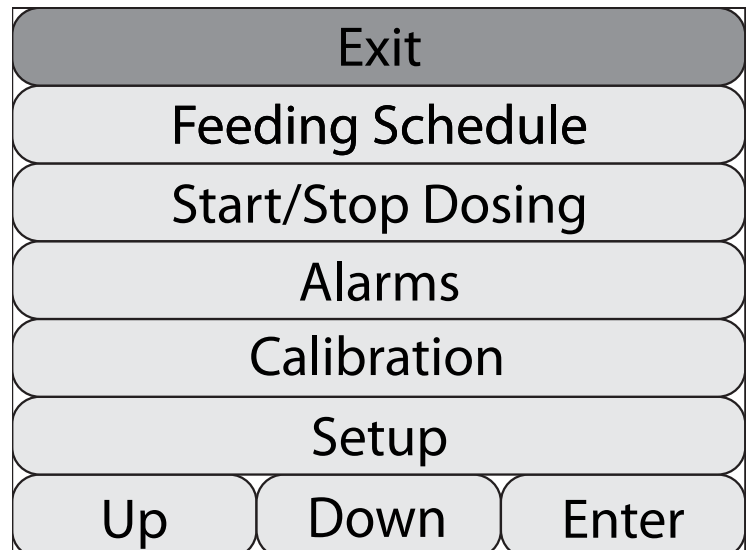
Main Menu

[Menu]

The main menu is where dosing recipes are set, alarms are configured, sensors are calibrated and general settings such as time, date and units are setup.

Use the **UP** or **DOWN** buttons to navigate the menu.

Use the **ENTER** button to enter a selection.

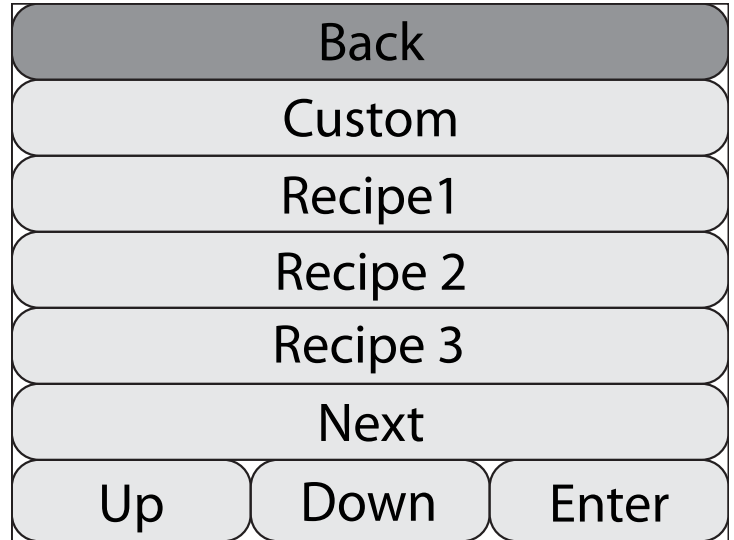


Feeding Schedule (Recipes)

[Menu] > [Feeding Schedule]

The GXH dosing controller can store 14 independent recipes. The recipes can be quickly selected to actively run, or can be edited as desired.

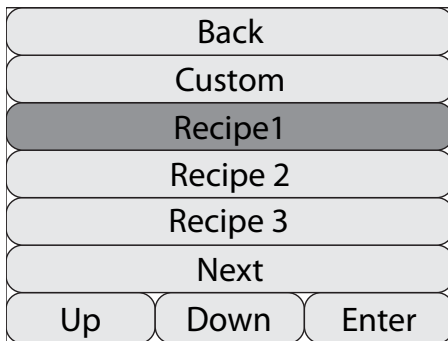
The pre-configured recipe schedules are named Recipe 1 through Recipe 14.



Run a Recipe

[Menu] > [Feeding Schedule] > [Recipe 1]

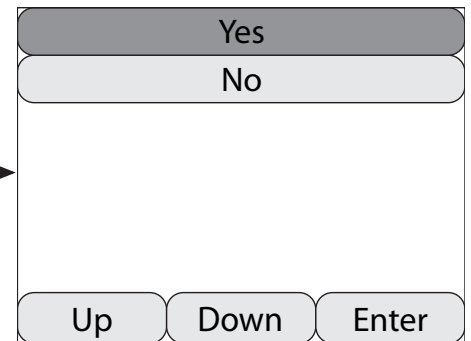
To load a pre-configured recipe from the schedule list, select the recipe you want to run, then select: **RUN > YES.**



1. Select a feed schedule.



Select RUN and press ENTER.



Select YES and press ENTER.
Select NO to cancel.

Edit a Recipe

[Menu] > [Feeding Schedule] > [Recipe 1]

A feed schedule item includes a dosing recipe for each pump, and targets for each sensor. Begin by configuring each pump's sensor type (pH, ORP or nutrient) and dosing mode (up or down.)

Back		
Run		
Recipe		
Targets		
Up	Down	Enter

Select RECIPE.

Back		
Pump 1		
Pump 2		
Pump 3		
Pump 4		
Next		
Up	Down	Enter

Select the pump to configure for this schedule.

Back		
Pump Mode		
Dose Size		
Delay		
Up	Down	Enter

Select PUMP MODE to configure the sensor type and dosing mode.

Back		
Type		
Mode		
Up	Down	Enter

Select TYPE to choose the sensor type.

Off		
PPM		
PH		
ORP		
Up	Down	Enter

Select a sensor type, or choose OFF to disable the pump, then press ENTER.

The pump mode menu configures the pump TYPE (pH, nutrients or ORP) and dosing MODE (up or down.)

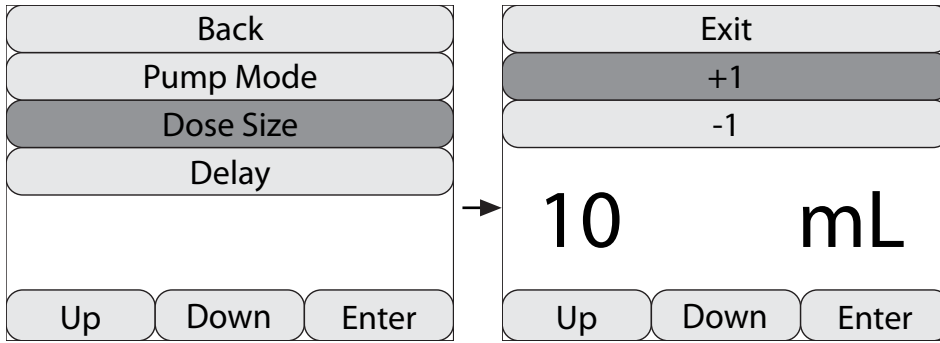
Back		
Type		
Mode		
Up	Down	Enter

Select MODE to choose the dosing direction.

Up		
Down		
Up	Down	Enter

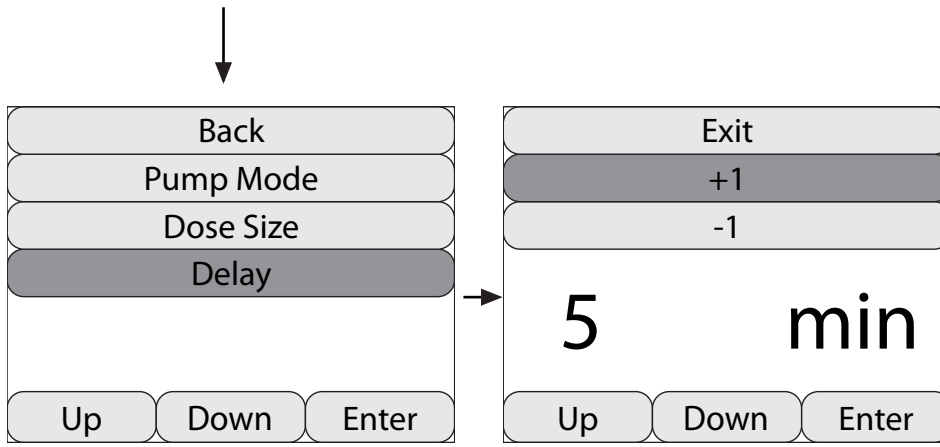
Select a the Up or Down direction then press ENTER.

Once the pump mode is configured, the dose size must be set. The dose size is typically the amount recommended for 1 gallon of water according to the manufacturer’s dosing schedule.



Select DOSE SIZE to set the dose volume.

Use the +1 and -1 menu items to increment the dose volume.



Select DELAY to set the after-dose delay time.

Use the +1 and -1 menu items to increment the delay time after the pump doses.

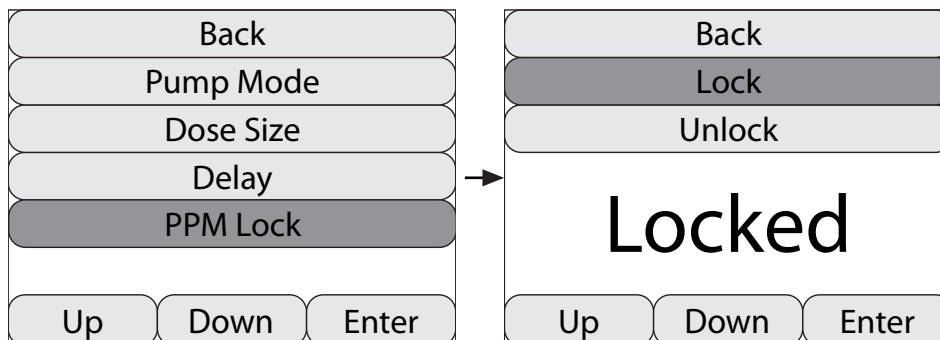
Each pump can have a delay time to separate nutrient parts, pH, and ORP dosing cycles.

Pump Lock-Out

[Menu] > [Feeding Schedule] > [Recipe 1] > [Recipe] > [Pump n]

Pumps configured for pH dosing or ORP dosing have an optional interlock function that appears in the pump recipe menu when one of these pump types are selected.

PPM LOCK can be set on pH pumps to prevent operation while PPM pumps are dosing.
PH LOCK can be set on ORP pumps to prevent operation while pH pumps are dosing.



Targets

[Menu] > [Feeding Schedule] > [Recipe 1]

Targets can be set for each feeding schedule for the pH, conductivity and ORP levels with adjustable dead-band ranges for each sensor.

Back
Run
Recipe
Targets
Up
Down
Enter

Select TARGETS from the desired feed schedule menu.

Back
PPM
PH
ORP
Up
Down
Enter

Select the sensor to set the target and dead band for this schedule.

Back
Target
Deadband
Up
Down
Enter

Select TARGET to set the sensor target value.

Exit
+1
-1
200 PPM
Up
Down
Enter

Set the target to the desired value.

Back
Target
Deadband
Up
Down
Enter

Select DEADBAND to set the sensor deadband range.

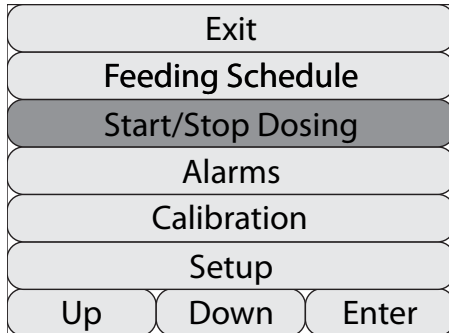
Exit
+1
-1
50 PPM
Up
Down
Enter

Set the deadband to the maximum allowed drift from the target.

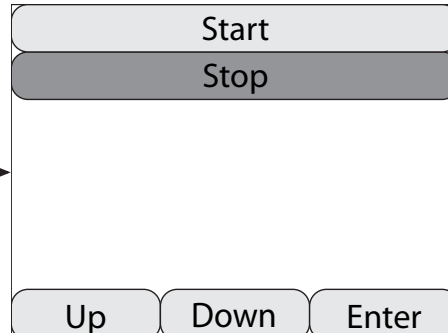
Start/Stop Dosing

[Menu] > [Start/Stop Dosing]

Once the desired feeding schedule is set to "RUN", the system can begin dosing.



Select START/STOP DOSING from the main menu.

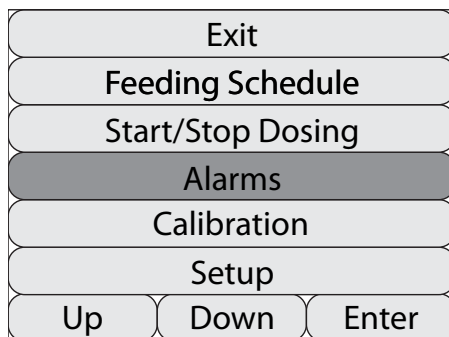


To allow the pumps to auto-dose, select "START." To stop the pumps, select "STOP."

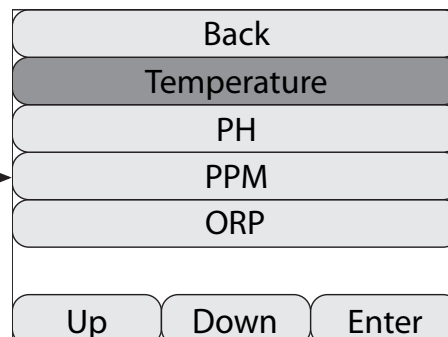
Alarms

[Menu] > [Alarms]

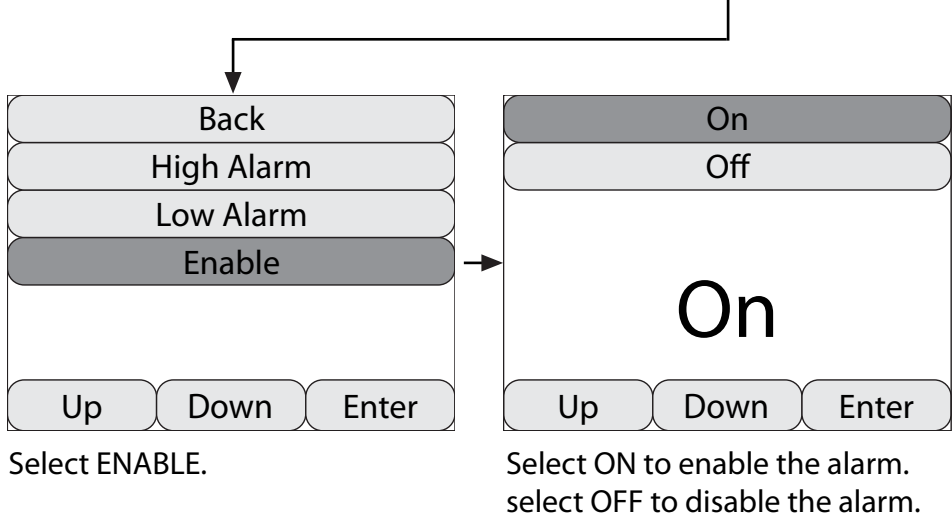
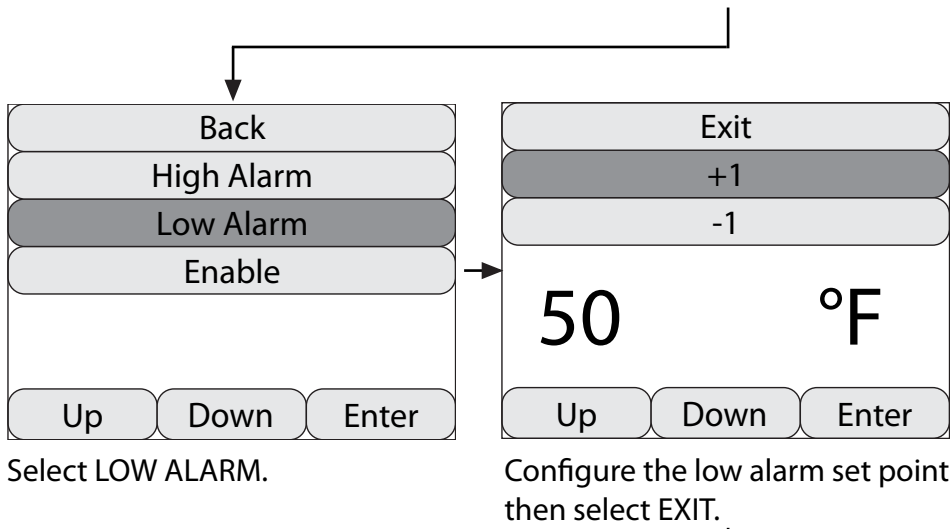
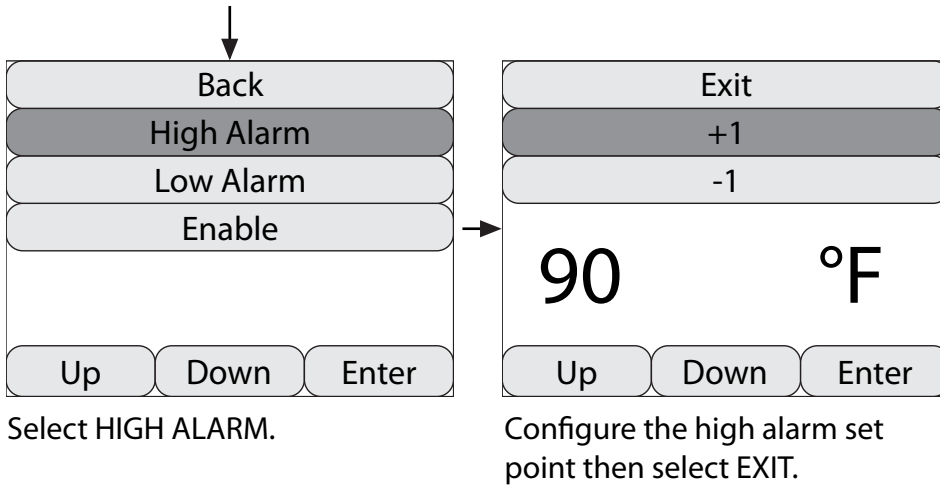
High and low alarm set-points can be configured for each sensor. If a sensor's alarm is enabled and the sensor is outside of the allowable range, the alarm will activate. An audible buzzer will sound and the sensor value will be displayed on the screen in **RED** to alert the operator of the alarm condition. Additionally, alarm limits are plotted in **YELLOW** on the graphs to quickly view if sensor values are within the desired range.



Select ALARMS from the main menu.



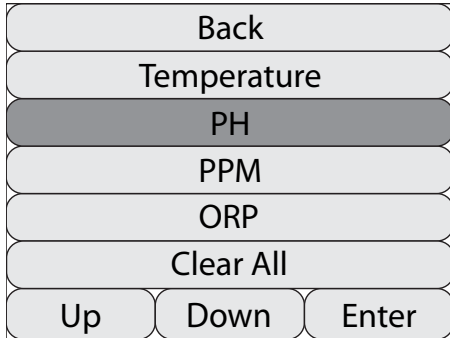
Select the sensor to configure the alarm settings.



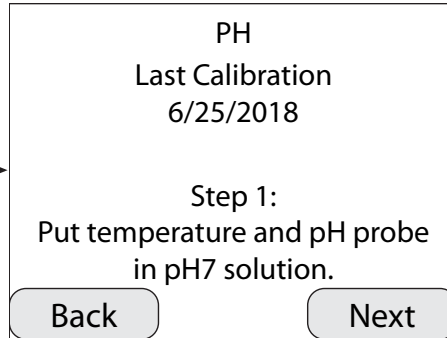
pH Calibration

[Menu] > [Calibration] > [PH]

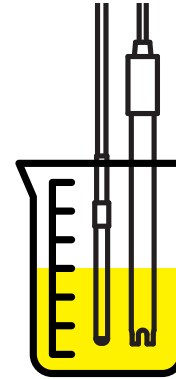
pH calibration is a two-point process requiring both pH 7 and pH 4.01 calibration solutions. The temperature probe must be inserted into the calibration solution at the same time as the pH probe.



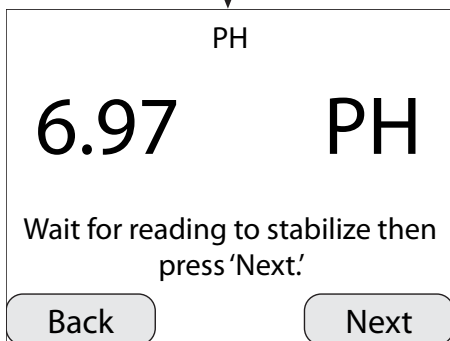
Select PH from the calibration menu.



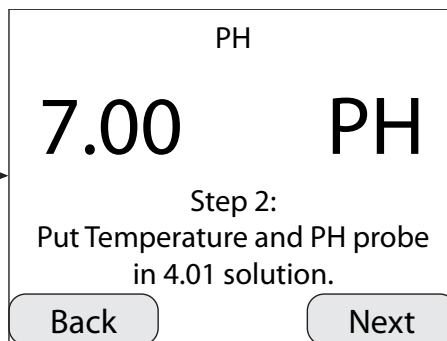
The last calibration date is shown. Place the pH and temperature probes into pH 7 solution and press NEXT to continue.



pH 7 Calibration Solution



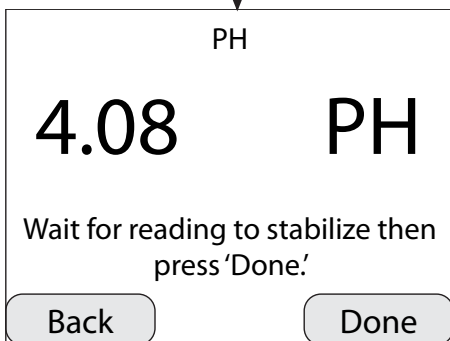
Wait for the reading to stop changing, then press NEXT. This may take several minutes.



pH 7 will now be calibrated. Next, put the probes into pH 4.01 solution.



pH 4.01 Calibration Solution

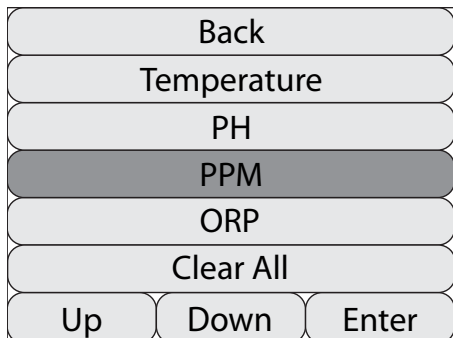


Wait for the reading to stop changing, then press NEXT. This may take several minutes.

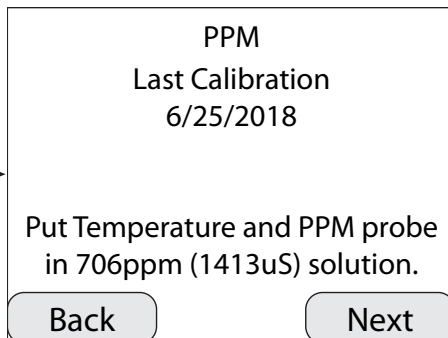
Conductivity (PPM) Calibration

[Menu] > [Calibration] > [PPM]

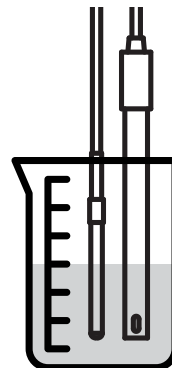
Conductivity calibration is a single point process requiring 1413uS (706ppm) calibration solution. The temperature probe must be inserted into the calibration solution at the same time as the conductivity probe.



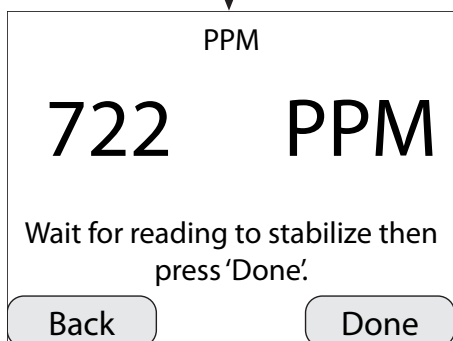
Select PPM from the calibration menu.



The last calibration date is shown. Place the PPM and temperature probes into calibration solution and press NEXT.



1413uS (706ppm) Calibration Solution

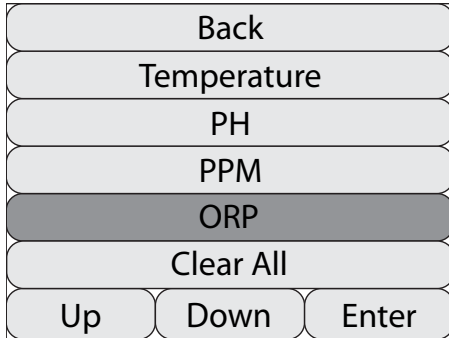


Wait for the reading to stop changing, then press DONE. This may take several minutes.

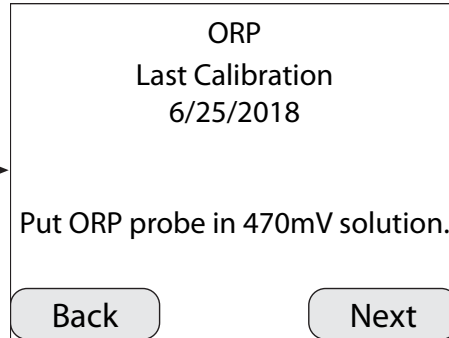
ORP Calibration

[Menu] > [Calibration] > [ORP]

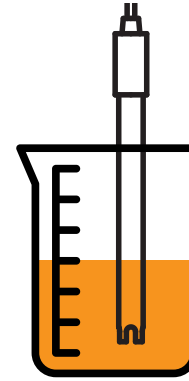
Conductivity calibration is a single point process requiring 470mV calibration solution. ORP is not temperature dependent and does not require the temperature probe for calibration.



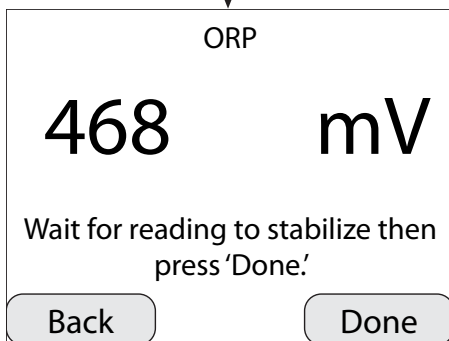
Select ORP from the calibration menu.



The last calibration date is shown. Place the EC and temperature probes into calibration solution and press NEXT.



470mV Calibration Solution

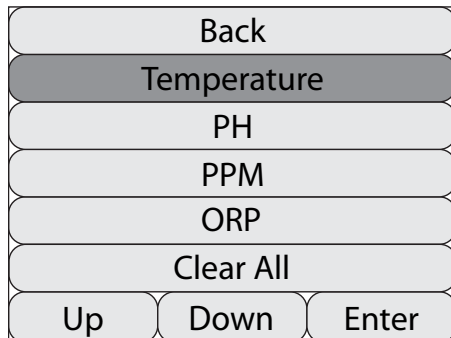


Wait for the reading to stop changing, then press DONE. This may take several minutes.

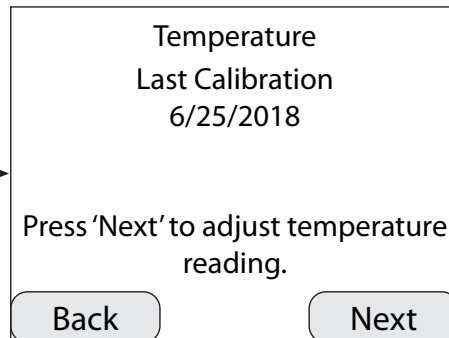
Temperature Calibration

[Menu] > [Calibration] > [Temperature]

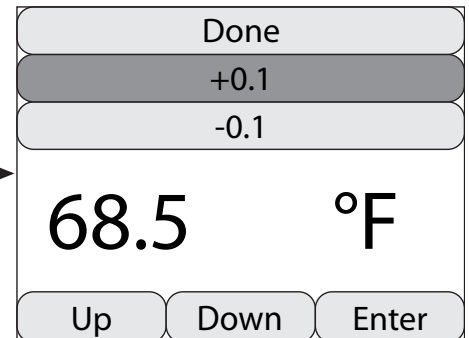
Temperature may be calibrated to a reference as required; simply adjust the sensor reading to the corrected value.



Select TEMPERATURE from the calibration menu.



The last calibration date is shown. Press NEXT to continue.

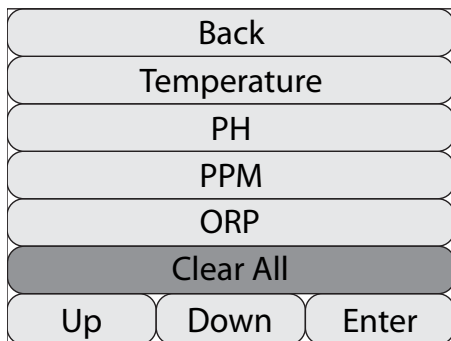


Adjust the value to the calibrated reading, then select DONE.

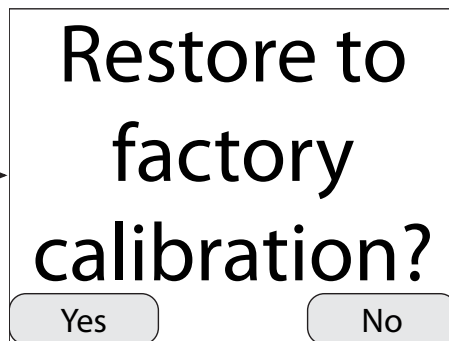
Clear Calibration

[Menu] > [Calibration] > [Clear All]

Original factory calibration may be restored at any time to all sensors by selecting "clear all" from the calibration menu.



Select CLEAR ALL from the calibration menu.



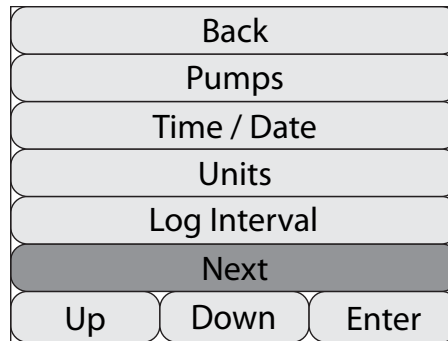
Select YES to restore factory calibration, or press NO to cancel.

Setup Menu

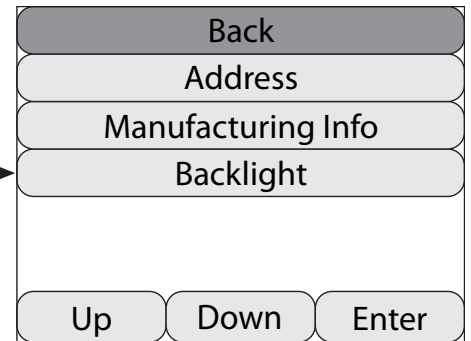
[Menu] > [Setup]

The setup menu contains general setup and configuration menus including:

- Pump priming
- Temperature units
- Set time & date
- Data logging interval
- Device address
- Manufacturing Info
- Backlight Timer



Select NEXT to continue to the next menu page.

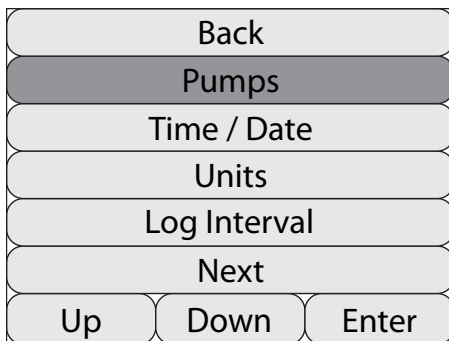


Select BACK to go to the previous menu page.

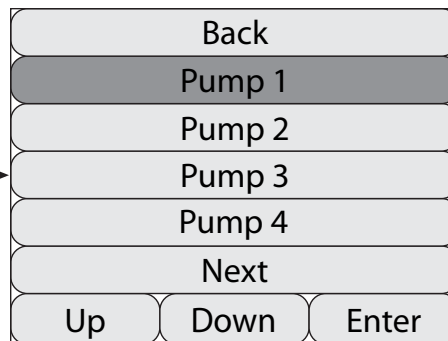
Priming Pumps

[Menu] > [Setup] > [Pumps]

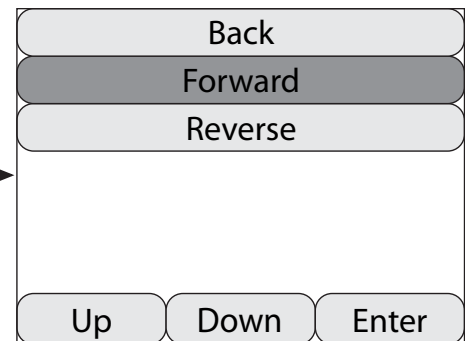
Pumps may be manually operated to prime the lines or for other maintenance reasons. From the Prime menu, select a pump to prime. Pumps may be operated in the forward or reverse direction if required.



Select PUMPS from the setup menu.



Choose a pump to prime.

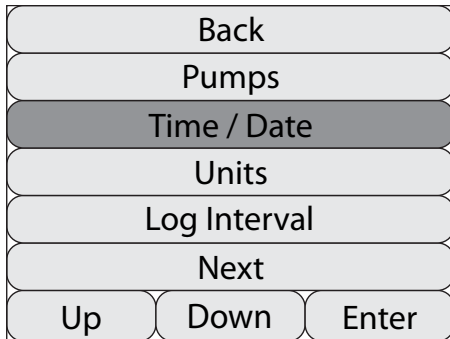


Select the FORWARD direction and HOLD the ENTER button.

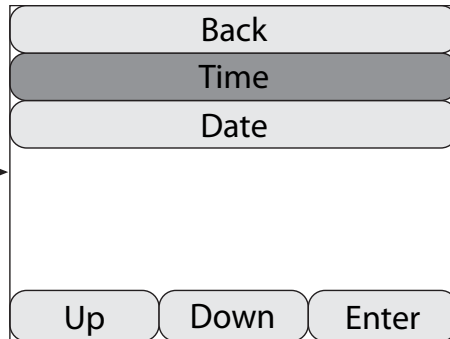
Time / Date

[Menu] > [Setup] > [Time / Date]

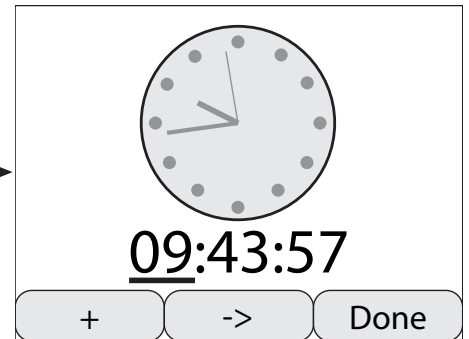
The controller includes a precision real-time clock with battery back-up for time-stamping the data log information. The last calibration for each sensor is also time stamped and provides a 21-day reminder for calibration by changing the sensor value to YELLOW on the display screen.



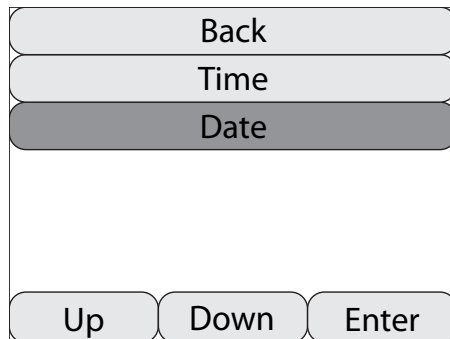
Select TIME / DATE from the setup menu.



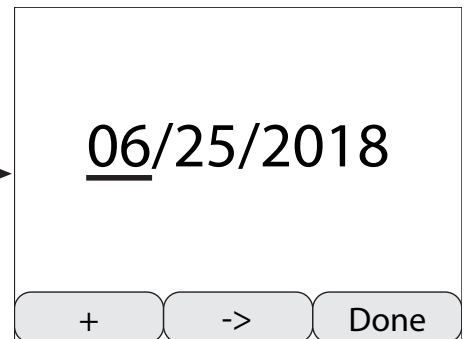
Choose TIME and press enter.



Press '+' to increment the value, '->' to change to the next value, and DONE to set the time.



Choose DATE and press enter.



Press '+' to increment the value, '->' to change to the next value, and DONE to set the time.

Sensor Units

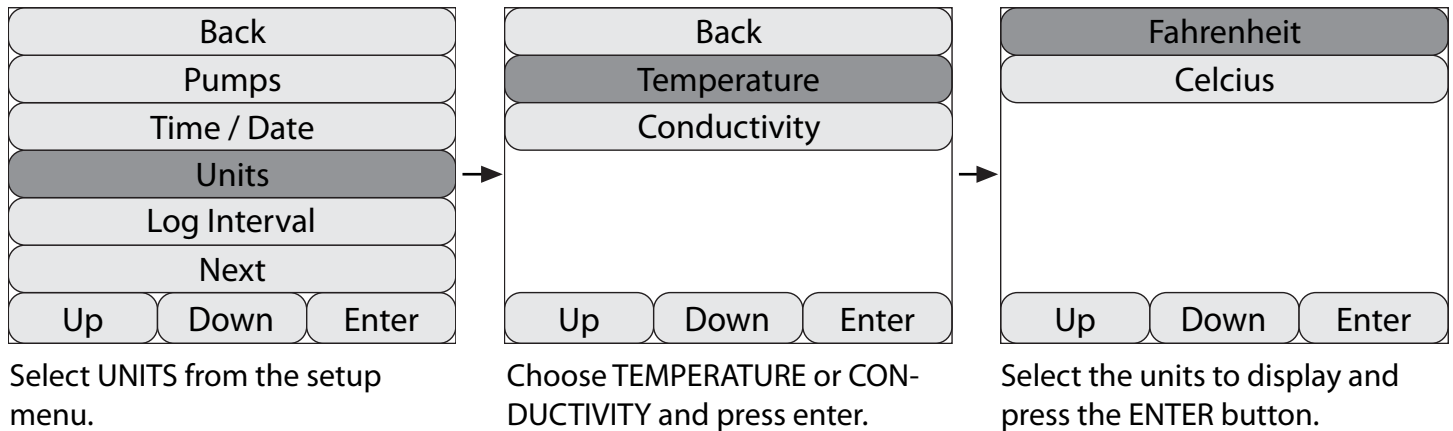
[Menu] > [Setup] > [Units]

Temperature may be displayed in °F or °C.

Conductivity may be displayed and dosed in microSiemens (uS) or TDS (PPM = uS x 0.5).

Note: Check alarm settings when converting temperature units.

Note: Ensure recipe targets are correct for the units you have selected.

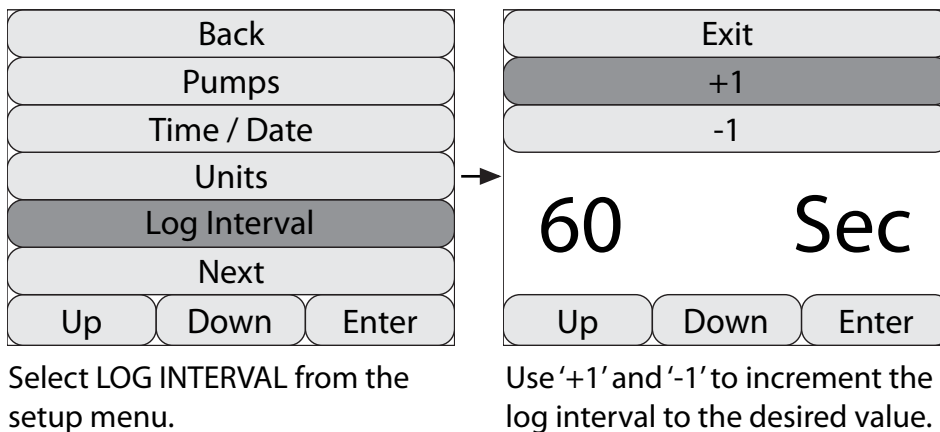


Logging Interval

[Menu] > [Setup] > [Log Interval]

Adjust the interval for recording data points in the on-board memory. Acceptable values are from 1 - 65535 seconds. 20,000 data points can be stored for each sensor value. The most recent 300 data points are shown on the graphical history. The entire data history may be downloaded from the sensor to a .csv file with the LX1 USB AgrowLINK and free software.

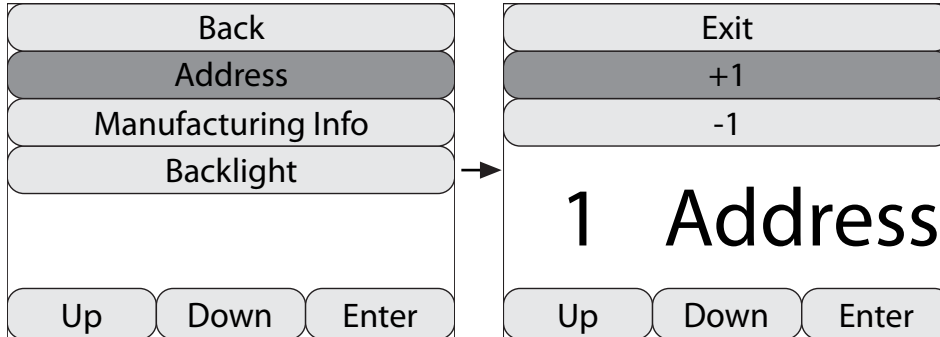
Note: 60 second intervals = ~14 days of data storage.



Device Address

[Menu] > [Setup] > [Address]

Controllers are digitally addressable from 1-247 and can be configured manually for MODBUS applications with a LX2 ModLINK RS-485 interface.



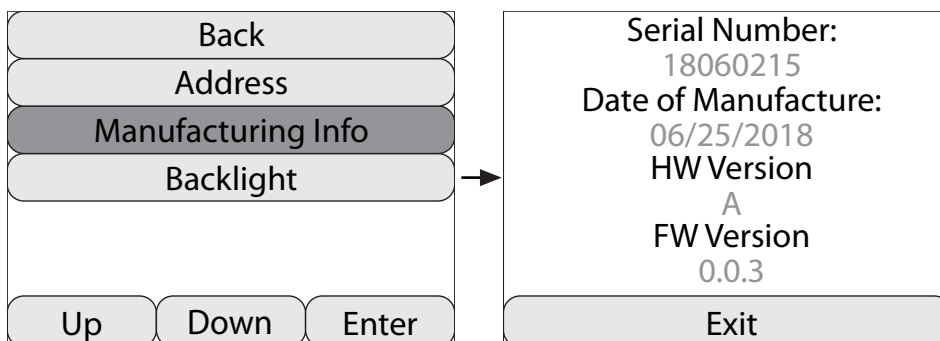
Select ADDRESS from the setup menu.

Use '+1' and '-1' to increment the device address to the desired value.

Manufacturing Information

[Menu] > [Setup] > [Manufacturing Info]

Manufacturer information such as serial number, date of manufacture, hardware and firmware versions can be read from the MFG INFO page.



Select MANUFACTURING INFO from the setup menu.

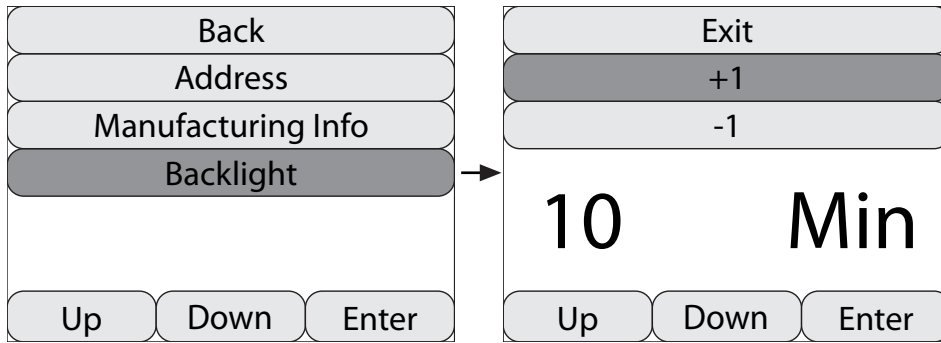
The unit information will be displayed.

Display Backlight Timer

[Menu] > [Setup] > [Backlight]

The display back light can be programmed to turn off after a specified time of inactivity from the last time a button is pressed.

The delay can be set from 1-255 minutes, or set to 0 to disable the back light timer and keep the display on continuously.



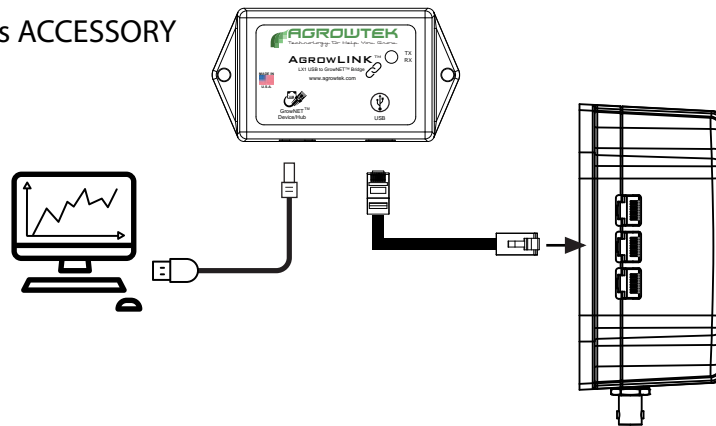
Select BACKLIGHT from the setup menu.

Adjust the time to the desired value using the +1 and -1 items.

Connection to USB LINK

LX1 USB LINK connects the controller's ACCESSORY port to a computer's USB port for:

- Firmware Updates
- Data Logging Download
- More

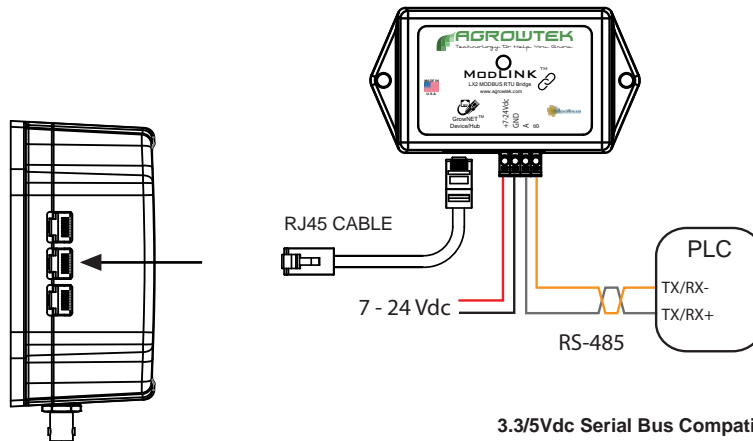


Note: GXH controller unit must be connected to power from the dosing pump or the DC power adapter.

Connection to MODBUS RTU

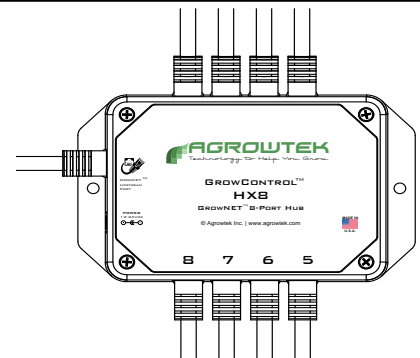
RS-485

Use the LX2 ModLINK to connect a MODBUS master to the ACCESSORY port.



HX8 8-Port Hubs

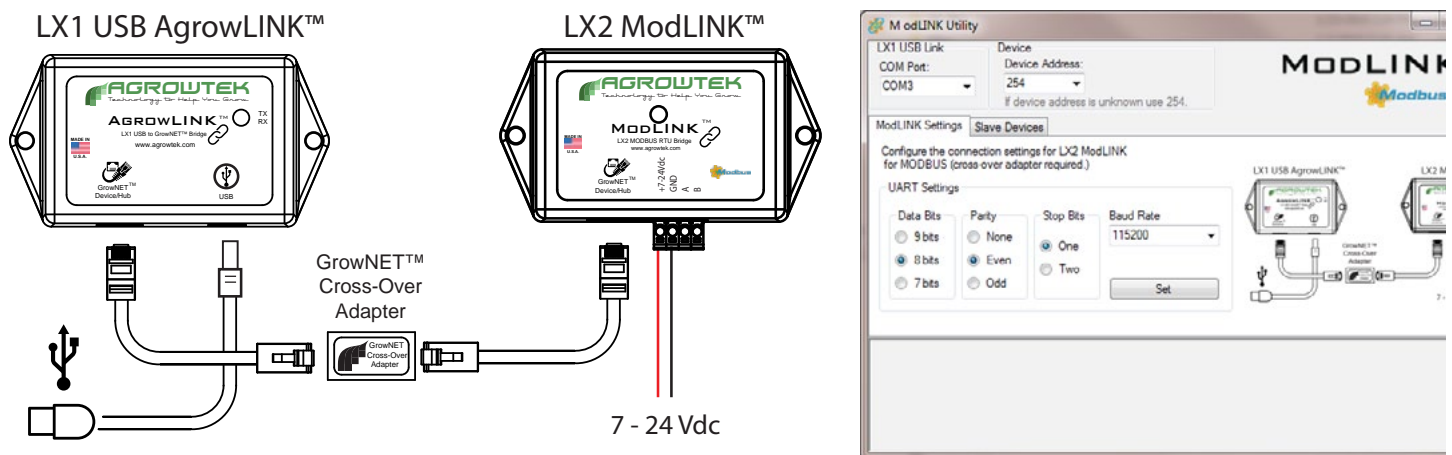
HX8 GrowNET™ Hubs allow multiple GDX/GXH systems to be connected to a single LX1 or LX2 interface. Buffered, full-duplex hubs can be daisy chained to form a network of devices with only one LX1 or LX2 interface.



Serial Speed & Format

The default serial data format for the LX2 ModLINK interface is: **19,200 baud, 8-N-1.**

Alternate speeds and formats between 9,600 - 115,200 baud may be configured with the free AgrowLINK PC utility using a LX1 USB AgrowLINK and the cross-over adapter supplied with the LX2 ModLINK.



See MODBUS manual for more information.



Supported Commands

0x03 Read Multiple Registers
 0x06 Write Single Register
 0x10 Write Multiple Register

Register Types

All registers are 16 bits wide with addresses using the standard MODICON protocol. Floating point values use the standard IEEE 32-bit format occupying two contiguous 16 bit registers. ASCII values are stored with two characters (bytes) per register in hexadecimal format.

MODBUS Register Map

Parameter	Function	Type	Scale	Access	Address				
Device Address	Slave Address	Value, 1-247	16 bit	R/W	40001				
Baud Rate	Comm baud rate	Value	16 bit	R	40002				
Data Format	Comm data format	Value	16 bit		40003				
Serial#	Serial Number	ASCII	8 Char		40004				
DOM	Date of Manufacture				40008				
HW Version	Hardware Version				40012				
FW Version	Firmware Version				40016				
Sensor 1	Sensor Reading	Signed Int	16 bit		40101				
Sensor 2				40102					
Sensor 3				40103					
Sensor 4				40104					
Sensor 5				40105					
Sensor 1		Float	32-bit	40201					
Sensor 2				40203					
Sensor 3				40205					
Sensor 4				40207					
Sensor 5				40209					
Sensor 1		Offset Calibration Value	Signed Int	16 bit	W	41101			
Sensor 2						41102			
Sensor 3						41103			
Sensor 4						41104			
Sensor 5						41105			
Sensor 1	Span Calibration Value					Signed Int	16 bit	W	41201
Sensor 2									41202
Sensor 3									41203
Sensor 4									41204
Sensor 5									41205

Sensor Value Registers

Sensor values are available in integer or floating point formats depending on the register requested (see map.)

Sensor #	Type	Integer Scale	Range
1	Temperature	x100	-2000 - 6000 (-20 - 60°C)
2	pH	x100	0 - 1400 (0 - 14.00pH)
3	Conductivity	x1	0 - 2500 ppm
4	O.R.P.	x1	-1000 - +1000 mV
5	D.O.	x100	0 - 2000 (0 - 20.00 mg/L)

For example: an integer temperature value of 2417 is equal to a temperature reading of 24.17°C.

Calibration Registers

Calibration registers are 16-bit signed integers for the purpose of calibrating the sensor values or analog output channels. Calibration may be achieved by writing the desired calibrated value to the associated register. Writing to the calibration registers automatically invokes the calibration routine for that register.

Offset Calibration

Offset, or zero calibration, is an arithmetic positive or negative correction to the sensor reading. Operations performed using the offset register are:

- Temperature calibration
- pH 7 calibration
- Conductivity, ORP or DO zero calibration

To perform a sensor offset calibration, simply write the corrected sensor value to the offset calibration register (taking into account the integer scale as shown above.)

To set the temperature to a calibrated value of 25°C, write the value "2500."

To set the pH 7 calibration, write the value "700."

To set the conductivity zero calibration, write the value "0."

Span Calibration

Span, or slope calibration, corrects the slope of the sensor reading at a second point, away from the zero calibration. Operations performed using the span register are:

- pH 4.01 or 10.0 calibration
- Conductivity, ORP or DO calibration to solution standard

To set the pH 4.01 calibration, write the value "401."

To set the conductivity to a calibrated value of 1413uS, write the value "1413."

Note: perform any "offset" calibrations prior span calibrations.

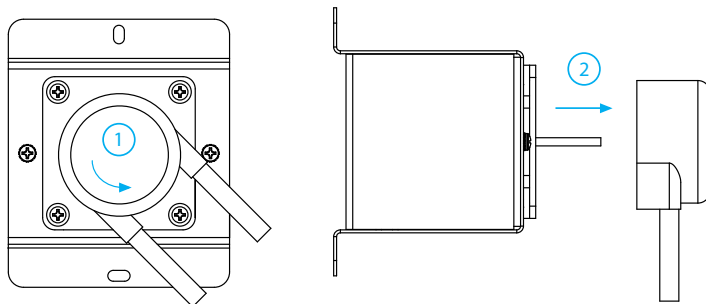
Maintenance

Exterior Cleaning

Exterior may be wiped with a damp cloth with mild dish detergent, then wiped dry.

Dosing Pumps

Pump heads are replaceable when the tubing wears out from extended use. Pump heads typically last 12-24 months depending on the volumes being dispensed. Replacement is a simple process of rotating the pump head counter-clockwise 1/8 turn and sliding the head off of the motor shaft. Replace in reverse order.



Chemical Tubing

Tubing connecting the dosing pumps to the manifolds is standard 3/16" ID x 5/16" OD PVC. Clear or black tubing may be used.

Sensor Probes

Sensor probes require periodic cleaning, reconditioning and calibration for reliable service. See calibration section for details on performing calibration service after cleaning.

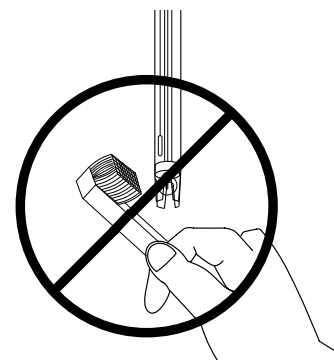
Probe Cleaning

Coating of the pH or ORP bulbs can lead to erroneous readings including shortened span (slope). Coatings and blockages in the EC sensor can cause incorrect readings. The type of coating will determine the cleaning technique.

Soft coatings can be removed by vigorous stirring or by the use of a squirt bottle.

Organic chemical or hard coatings should be chemically removed. 5-10% hydrochloric acid (HCl) soak for a few minutes and often removes many coatings.


If cleaning does not restore pH sensor performance, reconditioning may be tried.



Do not use a brush or abrasive on pH or EC probes.

pH Probe Reconditioning

When reconditioning is required due to electrode aging the following chemical treatments can be tried. They are presented in the order of the severity of attack on the pH glass and may not improve (and in some cases actually further deteriorate) electrode performance.

 **DANGER:** Use proper precautions when handling these hazardous chemicals. Ammonium bifluoride and HF (hydrofluoric acid) are extremely hazardous and should only be used by qualified personnel.

Reconditioning Method 1

Immerse the electrode tip in 0.1 N HCl for 15 seconds, rinse in tap water and then immerse tip in 0.1 M NaOH for 15 seconds and rinse in tap water. Repeat this sequence three times and then recheck the electrode's performance. If performance has not been restored, try method two.

Reconditioning Method 2

Immerse the tip in a 20% solution of NH₄F-HF (ammonium bifluoride) for two to three minutes, rinse in tap water and recheck performance. If performance has not been restored, try method three.

Reconditioning Method 3

Immerse electrode tip in 5% HF for 10-15 seconds, rinse well in tap water, quickly rinse in 5N HCl, rinse well in tap water and recheck performance. If performance has not been restored, it is time to get a new probe.

Technical Information

Specifications

Sensor

Power	12-24Vdc, ~2W (5W w/LCD)
Max Cable Distance	1000ft
Optional Interface	LCD w/3 Buttons
Temperature Range	-20 - 60°C
Temperature Accuracy	±2°C, 0.01° resolution
pH Range	0-14pH
pH Accuracy	±0.02pH, 0.01pH resolution
Conductivity Range	0 - 5000 uS (0-2500ppm)
Conductivity Accuracy	±20uS, 2uS resolution
ORP (DO) Range	-1000 - +1000mV (0-20mg/L)
ORP (DO) Accuracy	±10mV, 1mV resolution (±0.1mg/L, 0.1 resolution)
4-20mA Output Resolution	12 bit , 0.005mA

Pump

Power	12Vdc, 1Amp
Pump Heads	1, 2, 4, 5, or 6
Flow Rate	50mL/min
Tubing Material	FDA Approved Norprene
Tubing Size	1/4" O.D. x 3/16" I.D.
Max Outlet Pressure	20psi
Minimum Dose Size	1mL

Storage and Disposal

Storage

Store equipment in a clean, dry environment with ambient temperature between 10-50°C.

Disposal

This industrial control equipment may contain traces of lead or other metals and environmental contaminants and must not be discarded as unsorted municipal waste, but must be collected separately for the purpose of treatment, recovery and environmentally sound disposal. Wash hands after handling internal components or PCB's.

Warranty

Agrowtek Inc. warrants that all manufactured products are, to the best of its knowledge, free of defective material and workmanship and warrants this product for 1 year from the date of purchase. This warranty is extended to the original purchaser from the date of receipt. This warranty does not cover damages from abuse, accidental breakage, or units that have been modified, altered, or installed in a manner other than that which is specified in the installation instructions. Agrowtek Inc. must be contacted prior to return shipment for a return authorization. No returns will be accepted without a return authorization. This warranty is applicable only to products that have been properly stored, installed, and maintained per the installation and operation manual and used for their intended purpose. This limited warranty does not cover products installed in or operated under unusual conditions or environments including, but not limited to, high humidity or high temperature conditions. The products which have been claimed and comply with the aforementioned restrictions shall be replaced or repaired at the sole discretion of the Agrowtek Inc. at no charge. This warranty is provided in lieu of all other warranty provisions, express or implied. It is including but not limited to any implied warranty of fitness or merchantability for a particular purpose and is limited to the Warranty Period. In no event or circumstance shall Agrowtek Inc. be liable to any third party or the claimant for damages in excess of the price paid for the product, or for any loss of use, inconvenience, commercial loss, loss of time, lost profits or savings or any other incidental, consequential or special damages arising out of the use of, or inability to use, the product. This disclaimer is made to the fullest extent allowed by law or regulation and is specifically made to specify that the liability of Agrowtek Inc. under this limited warranty, or any claimed extension thereof, shall be to replace or repair the Product or refund the price paid for the Product.