PULSE INSTRUMENTS
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pH Monitor and Controller Quick Guide

Model AP110-PH

Function:

pH monitor and controller turns on acid pump and yellow indicator light when pH value is above the high setpoint. It turns on base pump and yellow indicator light when pH value is below the low setpoint. If pH value is above High pH alarm setpoint or below Low pH alarm setpoint, the yellow alarm indicator light will turn on.

Connection:

Pull the ISFET non-glass sensor cable into the control panel by going through the cord grip at the bottom of the control panel. Connect the wires of sensor cable to the terminal strip located on the back of the control panel. The sensor may come with or without extension cable. Please read below for more information.

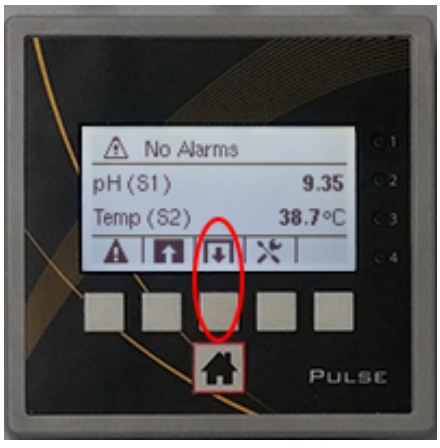
Sensor without extension cable connection Connect the leads of the sensor cable to the terminal strip, the leads of the sensor cable color matching with the label of the terminal strip. Notice the white wire is not labeled on the terminal strip, therefore, no need to connect it.

Sensor with extension cable connection Connect the Male BNC connector of the extension to the Female BNC connector on the back of the controller.

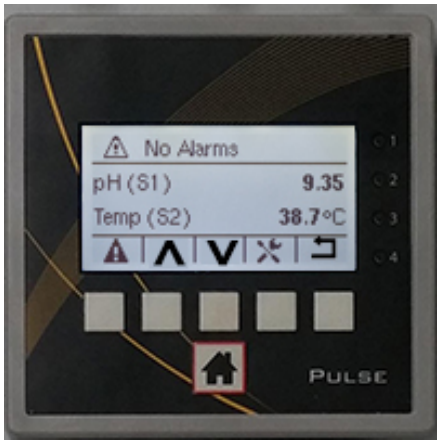
Pump connection Plug the power-plugs of your chemical pumps into the drop-cords at the bottom of the control panel, match your application for the pump with the labels of the drop cords.

Setpoints:

1. Press “down arrow” as indicated on screen.
2. Select relay you wish to set by using “up and down” arrows and press “enter”.



3. Press  to enter into config.
4. Scroll down and select set point.
5. Change "setpoint" by using "up and down" arrows. Press enter when done.

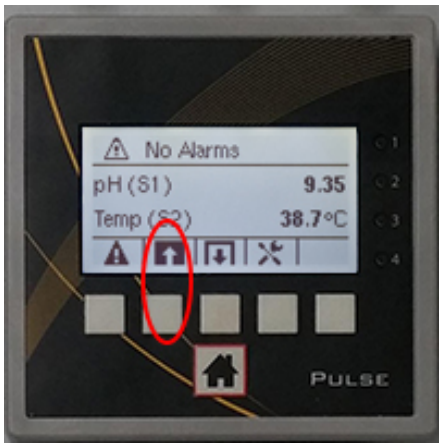


Electrode Cleaning:

Remove the electrodes from the flow cell. Take a 1:100 diluted solution of acid to water in a cup, and place the electrode front tip in the solution at least two inches deep, for minimum five to fifteen minutes. Rinse the tip and re-check the calibration.

Calibration:

1. Place the pH probe in buffer solution 7.00 and allow sufficient time for the electrode to reach buffer solution value.
2. Press "up arrow" as indicated on screen.
3. Select sensor (S1) you wish to calibrate by using "up and down" arrows and press "enter".
4. Press  to enter calibration mode.
5. Select 7.00 buffer solution by pressing enter
6. Press "enter" to accept calibration



7. Rinse the electrode with water and place it into the pH 4.01 buffer solution and allow sufficient time for the electrode to reach the buffer solution value
8. Select 4.00 buffer solution by pressing “enter”
9. Press “enter” to accept calibration

Error Messages:

The controller’s error messages are displayed on the second screen of the controller.

Explanation	Solution
• pH value is over the high limit. pH value is higher than 15.0 pH.	• Check electrode connection and cable. • Check the solution.
• pH value is below the low limit. pH value is lower than –1.0 pH.	• Check electrode connection and cable. • Check the solution.
• Electrode needs cleaning. • Old standard calibration solution.	• Clean electrode. • Change calibration solution. • Change electrode.
• Big difference between the displayed value and the standard calibration solution value.	• Clean electrode. • Change calibration solution. • Change electrode.
• Wrong standard calibration solution.	• Change calibration solution. Make sure the calibration solution is pH 4, 7, or 10.
• Temperature is over the high limit. Temperature is higher than 110oC.	• Temperature sensor or resistor connection on controller terminal 11 and 12. • Do not use electrode over the temperature limit.
• Temperature is below the low limit. Temperature is lower than -10oC.	• Temperature sensor or resistor connection on controller terminal 11 and 12. • Do not use electrode under the temperature limit.
• Controller system error. Loss of memory.	• Contact the factory.