



## Quick Guide

### PH and ORP (170e) to AP110-BNC PH and ORP Transmitters and Controllers

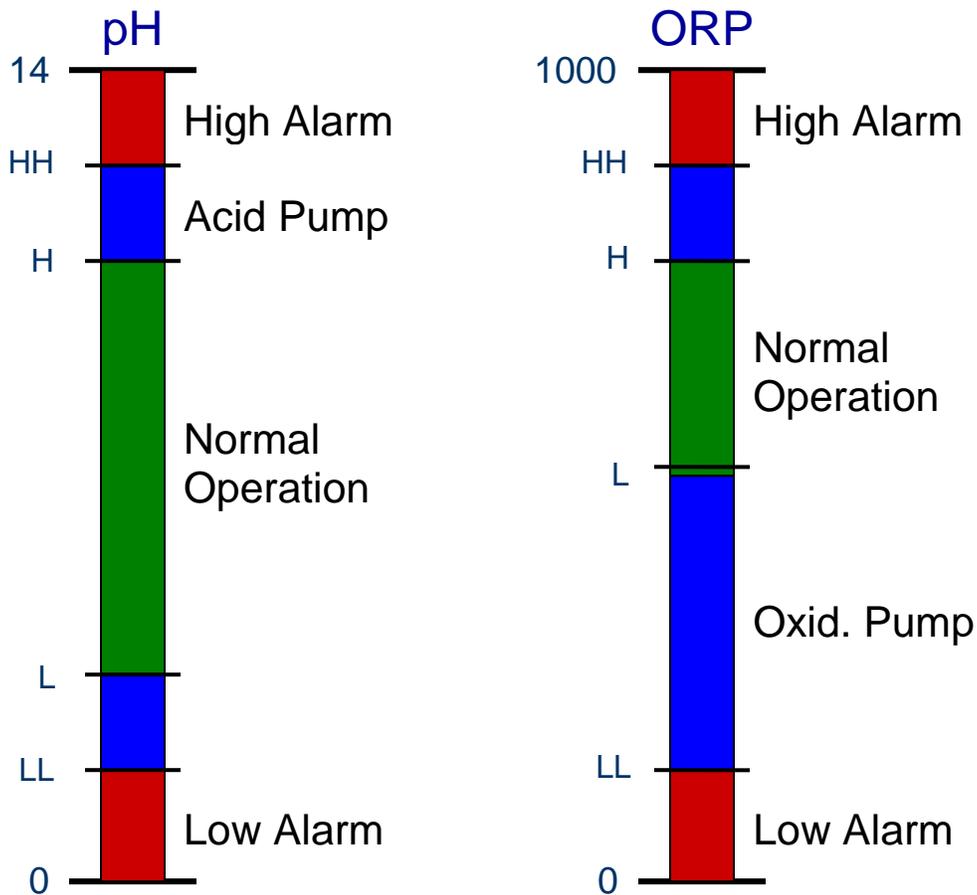


Fig. 1 pH and ORP Control Concept

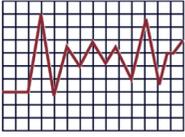
pH has four alarm set points: high-high, high: chemical injection control through Relay 1 (R1), low, and low-low. ORP also has four alarm set points: high-high, high, low: chemical injection control through Relay 1 (R1), and low-low.

#### pH

High alarm: turns on above HH  
Acid pump: turns on above H  
Low alarm: turns on below LL

#### ORP

High alarm: turns on above HH  
Oxidation pump: turns on below L  
Low alarm: turns on below LL



## pH Calibration

1. Connect the pH electrode to the instrument.
2. Place the electrode tip in pH 7.01 buffer solution.
3. Press the **▲** key on the controller to highlight ph (S1).
4. Press **▶**
5. Press **⊕**
6. Press **▼** to highlight Two-Point Buffer cal.
7. Press **▶**.  
On screen: Ok to disable. Press **✓**
8. On screen: First Buffer Temp.  
Press **▶** to highlight number and use **▲** or **▼** keys to achieve Temp. Press **✓**
9. On screen: First Buffer Value. Repeat **▲** **▼** to achieve 7.01. Press **✓**
10. On screen: Please remove sensor and put into buffer. Press **✓**
11. Allow to stabilize.
12. On screen: Second Buffer Temp. Now place the pH electrode in 4.01 buffer solution.
13. Repeat **▲** **▼** keys to achieve Temp. Press **✓**
14. On screen: Second Buffer Value. Repeat **▲** **▼** to achieve 4.01. Press **✓**
15. On screen: Please remove sensor and put into buffer. Press **✓**
16. Allow to stabilize. On screen: Calibration Success. Press **✓**
17. On screen: Please rinse sensor and return it to process. Press **✓**
18. Press **⬆** on the controller to return to the Main Screen.  
\*If Calibration fails, please see AP110 manual for possible causes.

## ORP Calibration

1. Connect the ORP electrode to the instrument.
2. Place the electrode tip in 468mV solution.
3. Press the **▲** on the controller to highlight ORP (S1).
4. Press **▶**
5. Press **⊕**
6. Press **▼** to highlight One-Point Buffer Cal.
7. Press **▶**
8. On screen: Ok to disable. Press **✓**
9. On screen: Buffer value. Press **▶** to highlight number and use **▲** or **▼** to achieve 468. Press **✓**
10. On screen: Please remove sensor and put into buffer solution. Press **✓**
11. Allow to stabilize. On screen: Calibration Success. Press **✓**
12. On screen: Please rinse sensor and return to process. Press **✓**
13. Press **⬆** on the controller to return to the Main Screen.  
\*If Calibration fails, please see AP110 manual for possible causes.



## pH Alarm Settings

1. Press to highlight pH (S1).
2. Press
3. Press
4. Press to highlight desired HH, H, L, LL alarms.
5. Press
6. Press and or to reach desired Alarm value. Press
7. Press on the controller to return to the Main Screen.

## ORP Alarm Settings

1. Press to highlight ORP (S1).
2. Press
3. Press
4. Press to highlight desired HH, H, L, LL alarms.
5. Press
6. Press and or to reach desired Alarm value. Press
7. Press the on the controller to return to the Main Screen.

## pH Chemical Injection Set Point Through Relay 1 (R1)

1. Press to highlight Acid (R1).
2. Press
3. Press
4. Press to highlight the set point.
5. Press
6. Press and or to reach desired set point. Press
7. Press on the controller to return to the Main Screen.

## pH Dead-Band

1. Press to highlight Acid (R1).
2. Press
3. Press
4. Press to highlight dead-band.
5. Press
6. Press and or to reach desired dead-band. Press
7. Press on the controller to return to the Main Screen.



# PULSE INSTRUMENTS

3233 Mission Oaks Blvd., Unit P Camarillo, CA 93012 Phone: (800) 462-1926 Fax: (800) 878-9172

---

## ORP Chemical Injection Set Point Through Relay 1 (R1)

1. Press  to highlight Oxid. (R1).
2. Press 
3. Press 
4. Press  to highlight the set point.
5. Press 
6. Press  and  or  to reach desired set point. Press 
7. Press  on the controller to return to the Main Screen.

## ORP Dead-Band

1. Press  to highlight Oxid. (R1).
2. Press 
3. Press 
4. Press  to highlight dead-band.
5. Press 
6. Press  and  or  to reach desired dead-band. Press 
7. Press  on the controller to return to the Main Screen.