

Signet

3-5700 pH/ORP Controller Troubleshooting Guide

Display	Problem	Solution
1. ORP: +1000 mV Input: + 998 mV (example†)	ORP electrode installed in preamplifier	Remove ORP electrode and replace with recommended pH electrode (sec. 2)
2A. Out Of Range CHECK SENSOR	Electrode not installed in preamplifier Temperature input miscalibrated or out of range during power up	1) Verify temperature input connections and electrode installation (sec. 2) 2) Disconnect Green and White preamplifier wires from rear T+ and T- terminals. Measure resistance across disconnected wires for 2.9 kΩ - 3.1 kΩ at 25 °C (77 °F). If measured resistance is out of range: <ul style="list-style-type: none"> • Wrong electrode installed in preamplifier (ORP electrode=10 kΩ). Replace ORP electrode with pH electrode. • Faulty preamplifier contacts, see preamplifier manual for additional information. • Faulty electrode, see electrode manual for additional information. 3) To verify instrument input: <ul style="list-style-type: none"> • Disconnect Green and White preamplifier wires from rear T+ and T- terminals, then install a 3 kΩ fixed resistor across the terminals. • Power instrument and verify 25 °C (77 °F) on display. If 25 °C (77 °F) is not displayed, calibrate temperature input for 25 °C (sec. 6.3B). • If instrument displays correctly after calibration, instrument is ok. If error condition persists, instrument requires factory service.
2B. CHECK SENSOR?	Temperature input missing or out of range during power up	Refer to solution steps 1 - 3 above.
2C. Temperature Bad CHECK SENSOR	Temperature input missing or out of range during EASY CAL procedure (sec. 6.2)	Refer to solution steps 1 - 3 above
3. Out Of Range Use Manual Cal	pH buffers other than pH 4, 7, 10 used during EASY CAL procedure or electrode has excess offset	<ul style="list-style-type: none"> • Use pH 4, 7, 10 buffers for EASY CAL procedure (sec. 6.2). • Use manual calibration to set standard and slope (sec. 6.3C, 6.3D) • Clean electrode (see electrode manual) then retry EASY CAL (sec. 6.2)
4. ! Same Buffer	Same pH buffer used for EASY CAL buffer 1 and 2	Use different pH 4, 7, 10 buffer for EASY CAL procedure solution #1 and solution #2 (sec. 6.3).
5. 15.00 pH + 25.0 °C	Excessive mV input from preamplifier	Faulty preamplifier, refer to preamplifier manual for additional information To verify instrument input: <ul style="list-style-type: none"> • Disconnect Brown and Blue preamplifier wires and Install shorting strap (jumper) across mV input and Iso Gnd terminals. • Power instrument and verify 7.00 pH on display. If 7.00 pH is not displayed, calibrate "Set Standard" input for 7.00 pH (sec. 6.3C) • If instrument displays correctly after calibration, instrument is ok. If error condition persists, instrument requires factory service.

Display	Problem	Solution
6. ! pH Must Be 14.00 Or Less	pH input out of range or improperly entered during Standard or Slope calibration	A) Use two solutions of known pH within 00.00 - 14.00 pH range for manual Standard and Slope calibration (sec. 6.3C, 6.3D). B) Enter pH value only within 0.00 - 14.00 pH during standard or slope calibration (sec. 6.3C - 6.3D)
7. Slope Too Close To Standard	pH slope calibration too close to pH standard calibration	(CALIBRATE Menu sec. 6.3D only) Calibrate pH slope using a pH solution ≥ 2 pH units from the pH standard solution (sec. 6.3C, 6.3D).
8. Value Must Be 14.00 Or Less	Relay, 4 mA, or 20 mA setpoint greater than 14.00 pH	Enter setpoint within 00.00 - 14.00 pH range (sec. 6.3E)
9. Value Must Be 300 Or Less	Relay pulse setting greater than 300 pulses per minute	Enter relay pulse setting within 0 - 300 pulses per minute (sec. 6.3H)
10. SETUP READ ERROR Press any Key	Power fault occurred while saving setup menu entry	Press any key to reload factory defaults then reprogram system setup parameters.