## **ERS-560 Troubleshooting Guide**

| Symptom  | Cause   | Check or Try  |
|--|---|---|
| #1<br>No display and/or backlighting<br>No Power Light   | No Power  Defective Display   | Check power circuit breaker and wiring  ON/OFF switch on main circuit board  Ribbon cable not secure  0.5 amp fuse on main circuit board  |
| #2<br>Keypad Does Not Respond  | Ribbon Cable Lightning or Power surge   | Check ribbon cable Turn Meter OFF/ON RESET meter see page 23  |
| #3 4-20 mA. Output Not Functioning  4-20mA Indicates Max All The Time (see #9 below)  Output Not Same As Display | Defective Wiring  Defective Output and/or Lightning Damage  Not Scaled Correctly                          | Check wiring and polarity. Disconnect output wires and check with current meter. If OK, receiver or wiring is problem.  Replace Q1 and /or Q2 (2N3904 transistor) and U1 (LM324 IC) on main circuit board.  Go to programming, 'SCALE 20mA OUTPUT' and 'TEST ANALOG OUTPUT'   |
| #4 Display Does Not Change or Update   | Processor Crash<br>Lightning or Power Surge   | Turn Power OFF/ON<br>RESET meter see page 23  |
| #5<br>Pass Code Lockout  | Wrong Code<br>Code Corrupted  | Call Factory for alternate code<br>Provide product SN#<br>Call (610) 942-3190   |
| #6 Display Says 'ECHO LOST, Check Wiring   | Sensor NOT LEVEL  Accustic Signal Path Obstructed  Defective wiring or wrong cable type  Defective Sensor | Check sensor mounting for plumb  Check for signal path obstructions, foam on water surface etc.  Check wire splices for break or short - Do not solder or use wire connectors at splice use wire nut and electrical tape  Test sensor back at the meter to by-pass cable run replace sensor and/or PC-54% transmit/receive circuit card if needed |
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## **ERS-560 Troubleshooting Guide**

|   | Chalanter   |   |  |  |
|---|---|---|--|--|
| Symptom   | Cause   | Check or Try  |  |  |
| #7 Display Says 'Temperature Error Check wires'         | Defective wiring  | Check wire splices for break or short - Do not solder or use wire connectors at splice - use wire nut and electrical tape. Make sure all three (3) wires (RED, BLACK, BARE) are connected.                    |  |  |
| ,   |   | Enter Manual Temperature in Program until corrected.  |  |  |
|   | Defective Temp Probe  | Use DC volt meter to check RETURN signal from probe (+ to TC [black wire] and - to BARE wire [gnd] at terminal barrier). DC volt range is 1 to 4.4 volts. 0 or 5 volts indicates bad probe or wiring.         |  |  |
| #8<br>Readings Fluctuate                                | Turbulence  | Reduce source of turbulence, foam and/or debris.  May need stilling well to correct.  |  |  |
|   | Intermittent Foam   | Check that sensor is plumb.   |  |  |
|   | Floating Debris   | Increase programmed DAMP FACTOR Best setting is 3 to 5.   |  |  |
|   | Electrical Noise  | Do not run sensor wires with other wires or parallel with electrical wires Do not locate system in same area as VFD (variable speed drive).   |  |  |
| #9<br>Readings Are Fixed                                | Sensor Not Plumb or<br>Obstruction in Accustic Path                                       | Check sensor for plumb and obstructions   |  |  |
| Reads MAX All The Time  Spikes to Max readings randomly | Sensor Mounted To Metal<br>Support or Sensor screwed<br>too tight to mounting<br>hardware | Remove ANY METAL (including pipe nipples) from sensor mounting. Use only PVC mounting components. Loosen Sensor slightly. Check for water collecting in conduit behind sensor head or very cold temperatures. |  |  |
|   | Ring Time Problem   | Adj THRESHOLD CW slightly on XMIT/REC circuit board PC-548or increase BLANK adjustment.   |  |  |
|   | Very Cold Temperatures<br>(may extend sensor ring time)                                   | Reduce GAIN adjustment on circuit board   |  |  |
| #11<br>Depth / Volume Readings<br>Not Correct           | Program Data Incorrect Incorrect Temperature Reading                                      | Check ALL program data etc.  Check Temperature Reading on display - Use SELECT button to scroll to reading - if reading is greater than ±10°F, check probe - see symptom #7 above.                            |  |  |
| #12<br>Relays not activating as<br>expected             | Programming Error Defective Relay   | Verify programmed elevations and if ALTERNATE function is correct.  |  |  |