### *SubDrive Solar Troubleshooting*

| Display | Fault | Possible Causes | Corrective Action |
|---|---|---|---|
| E1 | Motor Underload | Air-locked pump. Overpumped or dry well. Worn pump, damaged shaft or coupling, blocked pump or pump screen. | Wait for well to recover and auto restart to occur. (See description of Underload Smart Reset). If the problem persists, check pump and motor. |
| E2 | Undervoltage | Misconnected or loose input leads.<br>Low sunlight to PV array.<br>Generator voltage too low. | Tighten any loose input connections.<br>Wait for more intense sunlight.<br>Follow generator troubleshooting guide. |
| E3 | Locked Pump | Motor/pump misaligned.<br>Pump bound up with sand or abrasive.<br>Dragging motor or pump. | Unit will attempt to free a locked pump. If it is unsuccessful, check the motor and pump. |
| E4 | External Trip | Water flow too low to adequately cool pump and motor.<br>Flow switch miswired. | Check that “trip” terminal is correctly wired to flow switch.<br>Check that flow switch is properly installed in pipe discharge.<br>Check that pipe discharge is not blocked.<br>Wait for sufficient solar power to pump adequate water. |
| E5 | Open Circuit | Loose or open connection to motor.<br>Defective motor or cable | Check motor cable connections.<br>Cycle input power* to reset.<br>If problem persists, check cable and motor. |
| E6 | (a) At power-up: Short Circuit<br>(b) While running: Over Current | (a) short in motor connections at terminal or within motor cable.<br>(b) debris in pump. | (a) check motor connections at terminal.<br>(b) Check pump.<br>Cycle input power* to reset.<br>If problem persists, check motor cable and pump. |
| E7 | Overheated Controller | Unit in direct sunlight.<br>High ambient temperature.<br>Obstruction of air flow. | Shade unit.<br>Clean any debris from heat sink fins on rear of enclosure.<br>This fault automatically resets when temperature returns to safe level. |
| E9 | Internal Error | Controller internal processing has encountered an incorrect value. | Cycle input power.* |

**Table 6. Fault Code / Troubleshooting**

* “Cycle input power” means disconnecting PV and generator power (if used) for at least fiv minutes, then re-connecting power.