


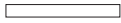
| LED CODES | | EXPLANATION |
|--|---|---|
| | <i>LED off</i>  <i>solid on</i>  | no power or defective controller controller operational; no faults |
| | 1,1 □ □ | thermal cutback fault |
| | 1,2 □ □□ | throttle fault |
| | 1,3 □ □□□ | speed limit pot fault |
| | 1,4 □ □□□□ | undervoltage fault |
| | 1,5 □ □□□□□ | overvoltage fault |
| | 2,1 □□ □ | main contactor driver Off fault |
| | 2,3 □□ □□□ | main contactor fault |
| | 2,4 □□ □□□□ | main contactor driver On fault |
| * | 3,1 □□□ □ | HPD fault present for >10 seconds |
| | 3,2 □□□ □□ | brake On fault |
| | 3,3 □□□ □□□ | precharge fault |
| | 3,4 □□□ □□□□ | brake Off fault |
| | 3,5 □□□ □□□□□ | HPD (High Pedal Disable) fault |
| * | 4,1 □□□□ □ | current sense fault |
| * | 4,2 □□□□ □□ | motor voltage fault (hardware failsafe) |
| * † | 4,3 □□□□ □□□ | EEPROM fault |
| * | 4,4 □□□□ □□□□ | power section fault |
| <p>* = <i>Must cycle keyswitch to clear.</i></p> <p>† = <i>Must use programmer to clear, as follows: select Parameters Menu, alter data value of any parameter, cycle keyswitch.</i></p> <p>NOTE: Only one fault is indicated at a time, and faults are not queued up.</p> | | |

Table 3 TROUBLESHOOTING CHART

| LED CODE | PROGRAMMER LCD DISPLAY | EXPLANATION | POSSIBLE CAUSE |
|----------|------------------------|---|---|
| 1,1 | THERMAL CUTBACK | over-/under-temperature cutback | <ol style="list-style-type: none"> 1. Temperature >92°C or < -25°C. 2. Excessive load on vehicle. 3. Operation in extreme environments. 4. Electromagnetic brake not releasing. |
| 1,2 | THROTTLE FAULT 1 | throttle fault | <ol style="list-style-type: none"> 1. Throttle input wire open or shorted. 2. Throttle pot defective. 3. Wrong throttle type selected. |
| 1,3 | SPD LIMIT POT FAULT | speed limit pot fault | <ol style="list-style-type: none"> 1. Speed limit pot wire(s) broken or shorted. 2. Broken speed limit pot. |
| 1,4 | LOW BATTERY VOLTAGE | battery voltage too low | <ol style="list-style-type: none"> 1. Battery voltage <17 volts. 2. Bad connection at battery or controller. |
| 1,5 | OVERVOLTAGE | battery voltage too high | <ol style="list-style-type: none"> 1. Battery voltage >36 volts. 2. Vehicle operating with charger attached. 3. Intermittent battery connection. |
| 2,1 | MAIN OFF FAULT | main contactor driver Off fault | <ol style="list-style-type: none"> 1. Main contactor driver failed open. |
| 2,3 | MAIN CONT FLTS | main contactor fault | <ol style="list-style-type: none"> 1. Main contactor welded or stuck open. 2. Main contactor driver fault. 3. Brake coil resistance too high. |
| 2,4 | MAIN ON FAULT | main contactor driver On fault | <ol style="list-style-type: none"> 1. Main contactor driver failed closed. |
| 3,1 | PROC/WIRING FAULT | HPD fault present for >10 sec. | <ol style="list-style-type: none"> 1. Misadjusted throttle. 2. Broken throttle pot or throttle mechanism. |
| 3,2 | BRAKE ON FAULT | brake On fault | <ol style="list-style-type: none"> 1. Electromagnetic brake driver shorted. 2. Electromagnetic brake coil open. |
| 3,3 | PRECHARGE FAULT | precharge fault | <ol style="list-style-type: none"> 1. Low battery voltage. 2. KSI and throttle turned on at same time. |
| 3,4 | BRAKE OFF FAULT | brake Off fault | <ol style="list-style-type: none"> 1. Electromagnetic brake driver open. 2. Electromagnetic brake coil shorted. |
| 3,5 | HPD | HPD (High Pedal Disable) fault | <ol style="list-style-type: none"> 1. Improper sequence of throttle and KSI, push, or inhibit inputs. 2. Misadjusted throttle pot. |
| 4,1 | CURRENT SENSE FAULT | current sense fault | <ol style="list-style-type: none"> 1. Short in motor or in motor wiring. 2. Controller failure. * |
| 4,2 | HW FAILSAFE | motor voltage fault (hardware failsafe) | <ol style="list-style-type: none"> 1. Motor voltage does not correspond to throttle request. 2. Short in motor or in motor wiring. 3. Controller failure. * |
| 4,3 | EEPROM FAULT | EEPROM fault | <ol style="list-style-type: none"> 1. EEPROM failure or fault. |
| 4,4 | POWER SECTION FAULT | power section fault | <ol style="list-style-type: none"> 1. EEPROM failure or fault. 2. Short in motor or in motor wiring. 3. Controller failure. * |

* Jack up vehicle and retest to confirm diagnosis. Clean connections, inspect system wiring, and retest.