# L3, L4, & L5 Troubleshooting

- **Error Codes**

LiftMaster Logic 3.0, 4.0, and 5.0 Operators incorporate a self-diagnostic feature built into the MAS LED. In addition to indicating when routine maintenance is due, the MAS LED can be used to troubleshoot problems with the operator.

If the MAS LED on the logic board or 3-button control station is flashing on and off rapidly, the Maintenance Alert System has been triggered and service is due on the operator. If the MAS LED flashes 2 or more times in a row followed by a pause, an operator error has occurred. To view the errors, turn the selector dial to DIAGNOSTIC and press the OPEN button. To view the individual error codes (if more than one exists) press CLOSE. It is possible to have more than one error at a time. Use the chart below to determine the error.

| ERROR CODE | DESCRIPTION | SYMPTOM | SOLUTION |
|---|---|---|---|
| 1 blink | MAS triggered (cycles or months) | Normal operation | Reset MAS. |
| 2 blinks | No RPM input during opening or closing | The door only responds to constant pressure commands. OR No operator movement for 3-Phase Operator. | Clutch is slipping: adjust clutch, or verify RPM sensor connection or replace RPM sensor. *NOTE: To relearn the RPM sensor, move the door with a constant pressure command. The door will stop once relearned and normal operation will resume.* OR Replace 3-Phase Power Board. |
| 3 blinks | (MRT) Maximum Run Time has timed out | The door stops before reaching the desired time | Check the operator for any faults (e.g., bad limit switch), program the Max Run Timer OR reset to factory defaults. |
| 4 blinks | Obstruction sensed on closing | Operator will reverse to OPEN position | Remove obstructions or realign photoelectric sensor. |
| 5 blinks | A button is stuck (longer than 2 minutes) | The control station will not respond | The control station must be fixed or replaced before it will be recognized as an input. |
| 6 blinks | Invalid option card plugged into option card receptacles | Option card will not function properly | Refer to accessories (page 63) for list of supported option card(s). |
| 7 blinks | LiftMaster Monitored Entrapment Protection (LMEP) device faulted or removed for greater than 2 minutes | Normal operation (5 second constant pressure override required to close) | Cleared when entrapment protection device is cleared or connected. |
| 8 blinks | Brownout detected | Operator will run as long as enough power is present | 1. Check AC line for voltage. 2. Check transformer secondary for low voltage. Too many accessories may be connected to the transformer. |
| 9 blinks | Motor movement at invalid time | Operator will continue to function normally for 5 operations and then default to a constant pressure mode | Check relays and the drive circuitry to insure that they are turning off. Operator must run correctly for two starts for the error to be cleared. |
| 10 blinks | Operator was not in programming mode when the motor phase jumper was changed. | The phase will not change | Enter programming mode and move phase jumper to change phase. |
| 12 blinks (3 Phase Only) | Current sense fault. | Motor moves for limited cycles, then motor no longer moves. | 1. Check current sense wiring connection. 2. Cycle operator power after wiring has been corrected. OR Replace 3-Power Power Board |

**NOTE:** *12 flash for current sense 3ph only. Error codes take priority over normal MAS LED operation. Error codes will repeat on the MAS every 1.5 seconds until cleared. There may be more than one error present, but only the highest priority will flash. If the highest error is cleared, the next highest will flash. All errors self-correct when corrective action is taken and a reset is not needed.*

**NOTE:** *After a power cycle, the board will flash a series of lights, and then flash the firmware Rev. on the MAS light. The firmware revision will always be flashed as X.Y.; e.g. current version is 8.12 which would flash as; 8 blinks, pause, one blink, pause, 12 blinks. The firmware version is printed on the label of each L5 board. These blinks should not be confused with an error code which would continue to flash repeatedly.*

- **Diagnostic Chart**

The industrial duty logic boards (5.0, 4.0, 3.0) have several LEDs to assist in the installation and troubleshooting of the operator. The following chart should assist in verifying the operator is functioning properly. Turn the selector dial to DIAGNOSTIC to keep the door from moving while troubleshooting.

| LED | COLOR | DEFINITION |
|---|---|---|
| Power | Green | Indicates power is being generated for the logic board. |
| Stop | Green | Indicates a closed circuit between Common terminal 4 and Stop terminal 5. Pressing stop should turn off this LED. |
| Open | Yellow | Indicates a closed circuit between Common terminal 4 and Open terminal 7. Pressing the open button should turn ON this LED. |
| Close | Yellow | Indicates a closed circuit between Common terminal 4 and Close terminal 6. Pressing the close button should turn ON this LED. |
| LMEP (Photoelectric sensors) (CPS-U, CPS-UN4) | Green | Solid on indicates LMEP learned. Flashing indicates sensors need to be re-connected or activated, or unlearned if removed**. Solid off indicates no sensors learned. |
| Timer Defeat | Yellow | Solid on indicates a closed circuit between common and terminal 12. Timer-To-Close will not close. |
| OLS | Yellow | Pressing the Open Limit Switch should turn ON this LED. |
| CLS | Yellow | Pressing the Close Limit Switch should turn ON this LED. |
| SLS | Yellow | Pressing the Sensing Limit Switch should turn ON this LED. |
| Edge | Yellow | Indicates a closed circuit between common and terminal 8. Pressing the edge should turn ON this LED. |
| Mid-Stop | Yellow | Solid on indicates door is stopped on mid-stop. |
| Timer Enabled | Green | Solid on indicates TIMER is programmed and will activate from open or mid stop position. Flashing indicates TIMER is counting down and door will close after preset time. Each flash represents 1 second of programmed time. |
| SBC | Yellow | Indicates a closed circuit between common and terminal 1. Pressing the single button control station should turn ON this LED. |
| MAS | Yellow | Indicates the Maintenance Alert System has been activated or an error code has been triggered. See inside cover of the operator.<br><br>**NOTE:** After a power cycle, the board will flash a series of lights, and then flash the firmware Rev. on the MAS light. The firmware revision will always be flashed as X.Y.; e.g. current version is 8.12 which would flash as; 8 blinks, pause, one blink, pause, 12 blinks. The firmware version is printed on the label of each L5 board. These blinks should not be confused with an error code which would continue to flash repeatedly. |
| Relay A | Yellow | Indicates open or close command has been given to the motor. LED turns on when OPEN/CLOSE button is pressed. |
| Relay B | Yellow | Indicates open or close command has been given to the motor. LED turns on when OPEN/CLOSE button is pressed. |
| DATA* | Green | Indicates communication between the Logic 5.0 board and optional TLS1CARD. |

\* Logic 5.0 ONLY
\*\* To unlearn, turn the selector dial to DIAG. Press and hold the STOP button until the MAS LED flashes (5 flashes). Return the selector dial to the desired wiring type.

- **Symptoms and Solutions:**

| SYMPTOM: The Operator Will Not Respond To Any Commands | |
|---|---|
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| No power supply | Verify primary line voltage from power source. Green POWER LED must be on. |
| Operator 3-button control station is miswired | Use the OPEN, CLOSE and STOP LEDs to help check correct wiring. Verify the logic board is accepting commands by using the on-board 3-button control station. Green light next to the STOP button must be on. |
| Interlock switch is activated | Check interlock(s). If more than one external interlock is present they must be wired in series. |
| Dial still in programming or diagnostic mode | Set dial to desired wiring type. |
| Motor is malfunctioning | Verify proper voltage getting to the motor. |
| Motor thermal overload tripped | Check for obstructions and verify the door moves freely. Cycle operator in constant pressure one full cycle open and close to reset fault. Check to see if motor is hot. Allow motor to cool before attempting to move door. |
| Failsafe switch is activated requiring photoelectric sensors (Logic 3.0 only) | Move switch to non-failsafe or connect a failsafe sensing device. |
| LiftMaster Monitored Entrapment Protection (LMEP) not installed (Logic 4.0 and 5.0) | Move selector dial to C2 for constant pressure to close or add a LiftMaster Monitored Entrapment Protection (LMEP). |
| A relay or the power board (Logic 5.0 ONLY) may need to be replaced | When the OPEN or CLOSE button is pressed, Relay A or B LED should turn on and the door should move in the corresponding direction. If Relay A or B lights and the door does not move, the relay or Power Board (Logic 5.0 ONLY) may need to be replaced. |
| Possible accessory malfunction | Disconnect all devices; reattach them one at a time testing for a failure after each one is replaced. |
| Possible logic board failure | Replace logic board. |
| **SYMPTOM: Power LED Is Not On** | |
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| Loose secondary wiring connections or a faulty control transformer | Repair or replace connections or control transformer. |
| Logic board failure | Replace logic board. |
| Interlock switch | Check interlock(s). |
| **SYMPTOM: Stop Button LED Is Not On** | |
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| Control station miswired or not connected | Check wiring to control station. |
| Interlock switch | Check interlock switch(es) for continuity. |

| SYMPTOM: The Door Will Move About A Foot, Then Stop. After Stopping, Only Constant Pressure Commands Will Move The Door ||
|---|---|
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| RPM sensor is not connected properly or may need to be replaced | a) Check the RPM assembly for loose connections. Check the Interrupter Cup to ensure it turning when the operator is running. Check for foreign matter blocking the optical lens.<br>b) Replace RPM sensor. |

| SYMPTOM: The Door Will Move Most Of The Way Towards A Limit, Then Stop. An Extra Open Or Close Command Is Able To Get Door To Complete Cycle ||
|---|---|
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| The Maximum Run Timer is not set correctly | Manually reprogram the Maximum Run Timer OR reset to factory defaults. |

| SYMPTOM: The Door Will Open Partway And Stop. A Second Open Command Is Needed To Open The Door Completely. ||
|---|---|
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| There may be a Mid-Stop set | Check to see if the Mid-Stop LED is on. Clear the Mid-Stop by turning the selector dial to program. Press and hold the Mid-Stop button for 5 seconds. Return dial to desired wiring type. |

| SYMPTOM: The Door Will Open But Will Only Close After A Five Second Delay With Constant Pressure On The Close Button ||
|---|---|
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| The photoelectric sensor, sensing edge or other entrapment protection device is obstructed or activated | If the on-board EYES LED is flashing, the photo-eyes are misaligned or not connected. Remove any obstructions; check the safety device wires for continuity or a short. |
| The logic board thinks the photoelectric sensors are attached and blocked | Erase the LMEP device; turn the selector dial to DIAG, push and hold the stop button until the MAS LED flashes. If a LiftMaster entrapment protection device is not connected the only modes of operation are C2, D1 or E2. |
| Failsafe switch set (L3 only) | Slide switch to Non-Failsafe mode. |

| SYMPTOM: The Operator Will Not Respond To Any Commands ||
|---|---|
| **POSSIBLE CAUSE:** | **SOLUTION:** |
| Possible accessory malfunction | Disconnect all devices; reattach one at a time testing for a failure after each one is replaced. |
| Possible logic board failure | Replace logic board. |