NUMBER: 132-3338-XXX | SHT 1 of 1 | A.4

ECN/DATE	BY	REVISIONS	REV
55091 08JUN21	MTT	INITIAL RELEASE	A

motion

job# **CHAL-155353** rev# **02** time **2:15 pm**

file name **155353_LM_Spartan_Diagram.ai** size **12 in. W x 18 in. H** updates kjf121621, kjf122221, JVSpf.01.10.22

print/finish **4/C Offset** die **132-3338-000.pdf**

colors **CMYK Die** ref **01-39240-13 HDSL24UL example.ai** PDF size **100%** NOT FOR PRINT NOT FOR COLOR

The Motion Agency, Inc. 325 N. LaSalle Dr | Suite 550 | Chicago, IL 60654 | 312.565.0044 agencyinmotion.com

LiftMaster

WIRING DIAGRAM *Models INSL24UL and IHSL24UL*

⚠ WARNING

To reduce the risk of INJURY or DEATH:

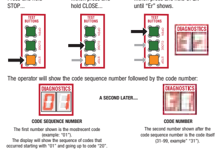
- Turn both the AC Power and Battery switches to OFF position BEFORE installing or servicing operator.
- Replace ONLY with fuse of same type and rating.
- To be compliant with UL 325 and industry safety guidelines, qualified monitored external entrapment protection devices such as photoelectric sensors or edge sensors are required to be installed with this operator at each entrapment zone. Use ONLY LiftMaster approved entrapment protection devices (refer to the accessory page of manual).
- See manual prior to servicing regarding maintenance and required safety testing.

Diagnostic Codes

TO VIEW THE CODES:

Press and hold STOP... ...then press and hold CLOSE... ...then press and hold OPEN until "Er" shows.

The operator will show the code sequence number followed by the code number:



CODE SEQUENCE NUMBER

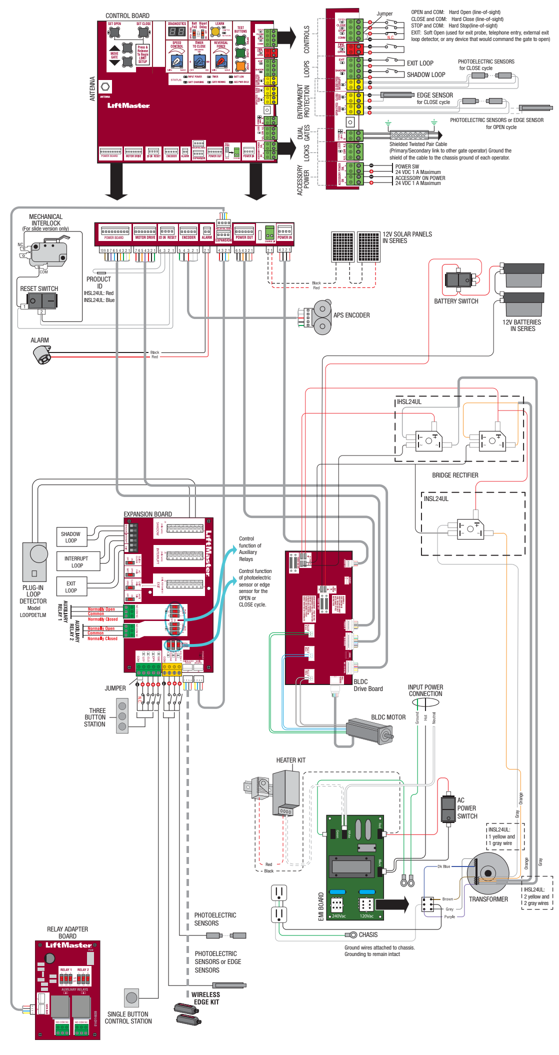
The first number shown is the mostrecent code (example: "01"). The display will show the sequence of codes that occurred starting with "01" and going up to code "20".

CODE NUMBER

The second number shown after the code sequence number is the code itself (31-99, example" "31").

CODE COLOR KEY: LiftMaster System | Installed System | Informational | External Entrapment Protection | Inherent Entrapment Protection

CODE	MEANING	SOLUTION	SAVED
00	Normal Operation	No Action Required	YES
TBD	Configuration error with Motor, Drive Board, or ID Resistor	Confirm correct part has been replaced, disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue persists, remove and replace latest part that was changed. Refer to page TBD in manual.	YES
3A	Invalid force setting change	Reversal force dial setting was changed outside of manual setup mode. Return dial to previous setting to clear the code or enter/exit manual setup mode for changes to take effect.	YES
3C	Invalid Speed setting change	Speed dial setting was changed outside of manual setup mode. Return dial to previous setting to clear the code or enter/exit manual setup mode for changes to take effect. Automatic force setup will occur.	YES
31	Control board has experienced an internalfailure.	Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue continues, replace main control board.	NO
34	Absolute Position Encoder error, not gettingposition information from encoder	Check APE assembly and wiring connections. Replace the APE assembly if necessary.	YES
35	Max-run-time exceeded error	Check for an obstruction, then reprogram the limits.	YES
36	Product ID error	Was the control board just replaced? If so, erase limits, enter limit setup mode and set limits. If not, disconnect all power, wait 15 seconds, then reconnect power before changing product ID harness.	YES
37	Product ID failure	Unplug product ID harness then plug back in. Disconnect all power, wait 15 seconds, then reconnect power before replacing product ID harness.	YES
38	Hard stop limit (Arm 1)	Limit may be set too tightly against a non-resilient hard stop (re-adjust limit). Operator may be at end of travel (re-adjust mounting).	NO
40	Battery overvoltage	Possible short of the battery charge harness. Check harness, verifying input power, ID Resistor Color, and confirm wiring (series versus parallel).	YES
41	Battery overcurrent	Possible short of the battery charge harness. Check harness, verifying input power, ID Resistor Color, and confirm wiring (series versus parallel).	YES
42	No battery at boot up	Check battery connections and installation. Replace batteries if depleted to less than 20V on a 24V system or less than 10V on a 12V system. Make sure there is NOT a single 12V battery on a 24V system.	YES
43	Exit loop error	Failure or missing loop (SHORT or OPEN - LiftMaster Plug-in Loop Detector only). Check loop wiring throughout connection. May be a short in the loop, or an open connection in the loop.	YES
44	Shadow loop error		
45	Interrupt loop error		
46	Wireless edge battery low		
47	Motor Drive Board	Check drive board connections. Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue persists, replace motor drive.	YES
48	Hall Sensor Fault	Check motor and motor drive connections. Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue persists, replace motor.	YES
49	Motor Drive Communication Fault	Verify drive board connections. Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue continues, replace motor drive.	YES
50*	Gate overspeed detected *Note: Code 50 only applies to Slide gateoperators.	Make sure the gate is installed on a level surface and not on an excessive grade.	YES
53	Brownout occurred	AC/DC board supply dipped below allowable level. Review power supply and wiring. If rebooting, ensure enough time for discharge of power to force a fresh boot.	YES
54	Wireless second operator communication error	Check the second operator for power. If OFF, restore power and try to run the system. If powered, deactivate the wireless feature and then re-learn the second operator.	YES
60	Minimum number of monitored entrapmentprotection devices not installed.	Review monitored entrapment protection device connections. Slide gate operators require a minimum of two external safety devices; one in the close and one in the open direction.	NO
61	CLOSE EYE/INTERRUPT held	Check wire input on main control board, squeeze and release the edge and verify main board edge LED changes; check for eye alignment or obstruction. Check entrapment devices for water intrusion.	YES
62	CLOSE EDGE held		
63	OPEN EYE/EDGE held		
64	CLOSE EYE/INTERRUPT held	Check wired input on expansion board; squeeze and release the edge and verify main board edge LED changes, check for eye alignment or obstruction. Check for entrapment devices for water intrusion.	YES
65	CLOSE EYE/EDGE held		
66	OPEN EYE/EDGE held		
67	Wireless edge triggered more than 3 minutes.	Check wired input for wiring issue or obstruction.	YES
68	Wireless edge loss of monitoring	Check wireless edge inputs.	YES
69	Wireless edge triggered	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check inputs and wiring.	NO
70	CLOSE EYE/INTERRUPT triggered, causing reversal, preventing close, or resetting TTC	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check alignment, inputs, and wiring on main control board	NO
71	CLOSE EDGE triggered, causing reversal, NO preventing close, or canceling TTC		
72	OPEN EYE/EDGE triggered, causing reversal or preventing opening		
73	CLOSE EYE/INTERRUPT triggered, causingreversal, preventing close, or resetting TTC	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check alignment, inputs, and wiring on expansion board.	NO
74	CLOSE EYE/EDGE triggered, causing reversal and preventing close or canceling TTC		
75	OPEN EYE/EDGE triggered, causing reversal or preventing opening		
80	Close input (EYE/EDGE) communication fault from other operator	Check inputs and communication method between operators, either wired bus or radio. Ensure operator is powered. May have to erase the wireless communication and reprogram the two operators.	YES
81	Open input (EYE/EDGE) communication fault from other operator		
82	Close input (EYE/EDGE) communication fault (expansion board)	Check the connections between the main board and the expansion board.	YES
83	Close input (EYE/EDGE) communication fault (expansion board)		
84	Non-monitored device detected on the wireless safety system	Non-monitored contact closure devices are not supported. Make sure connected devices are monitored. Check edges for proper orientation and resistive end cap connection.	YES
90	Low Voltage Input to Motor Drive Fault	Verify incoming power meets voltage requirement of operator. Verify battery voltage is above 20V. Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue persists, replace power supply.	YES
91	Force reversal (Operator 1)	Check for obstruction. If no obstruction, check that the mechanical assembly is engaged and free to move. See Limit, Speed and Force Adjustment page 23.	YES
93	RPM / STALL reversal (Operator 1)	Check for obstruction. If no obstruction, check the operator wiring and that the mechanical assembly is engaged and freeto move. Replace APE assembly.	YES
95	Low Voltage Input to Motor Drive Fault	Operator attempted to run, no response from motor drive assembly. Check connector and harness. If connected properly and still not working, replace motor and motor drive.	YES
96	Motor Drive Board Fault	Check connections to motor drive board. Power cycle and retry. Replace powerboard if issue persists.	YES
99	Normal operation	No action required.	YES



18.000

12.000

R.250 TYP.

NOTES:
1. LABEL TO BE PROVIDED ONE WIDE ON ROLLS PER DIAGRAM. ARTWORK TO BE ORIENTED IN READABLE FORMAT, LEFT TO RIGHT, TOP TO BOTTOM.
2. MATERIAL TO BE PERMANENT PRESSURE SENSITIVE ADHESIVE, FOR OUTDOOR USE SHEET STEEL WITH POLYESTER URETHANE BLEND POWDER COAT PAINT AT A TEMPARATURE RANGE OF -40° C - 85° C.
3. LABEL TO BE PRINTED PER ARTWORK.
4. PARTS MUST COMPLY WITH HAZARDOUS MATERIALS REGULATIONS, AND COMPLIANCE MUST BE INDICATED ON EACH SHIPMENT PER 190A0790.

STATISTICAL PROCESS CONTROL LEVELS

NO. OF APPL. DIMS: **TBD** | MNR = MINOR = CpK 1.00 | MJR = MAJOR = CpK 1.33 | CRT = CRITICAL = CpK 1.67

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5-2009

THIRD ANGLE PROJECTION

CHAMBERLAIN GROUP

CONFIDENTIAL
THIS DRAWING, ANY INFORMATION CONTAINED HEREIN, AND ANY ASSOCIATED DATA AND MATERIALS (COLLECTIVELY,"INFORMATION") IS THE SOLE AND EXCLUSIVE PROPERTY OF, AND IS PROPRIETARY TO, THE CHAMBERLAIN GROUP, INC. THIS INFORMATION MAY NOT BE REPRODUCED, COPIED, MODIFIED, DISCLOSED, TRANSFERRED OR MADE AVAILABLE TO OTHERS,IN WHOLE OR IN PART, WITHOUT THE PRIOR EXPRESS WRITTEN CONSENT OF CHAMBERLAIN.

THIS IS A COMPUTER GENERATED DRAWING DO NOT CHANGE THIS DOCUMENT WITHOUT UPDATING THE COMPUTER DATABASE

TOLERANCES EXCEPT AS NOTED: (IN)
±0.01 .00 DECIMAL
±0.005 .000 DECIMAL
±1.0° ON ANGLES
±0.003 ON HOLES

THIS COPY ISSUED:

NAME: LABEL, WIRING DIAGRAM, SPARTAN

MATERIAL: SEE NOTES

FINISH: NONE

STATE: Design

DRAWN BY AND DATE	SCALE	NUMBER	SHEET	VERSION
Mike Tishler (mtishler: Chamberlain) 06-Apr-21 11:15:29 AM	1.00	132-3338-XXX	1 of 1	A.4

CGI_DSIZE REV D