



INTERMOTIVE LOCK610-A Microprocessor Driven System Instruction Manual

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INTERMOTIVE LOCK610-A Microprocessor Driven System



Introduction

The LOCK610 system is a microprocessor driven system for controlling wheelchair lift operation. The system will operate with the vehicle ignition on or off. Lift operation will be enabled when specific vehicle safety conditions are met and will lock the transmission shifter in Park when the wheelchair lift is in use. Optional Plug and Play harnesses are available for most applications, making installation fast and easy.

IMPORTANT—READ BEFORE INSTALLATION

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers. Avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

Installation Instructions

Disconnect vehicle battery before proceeding with installation.

LOCK610 Module

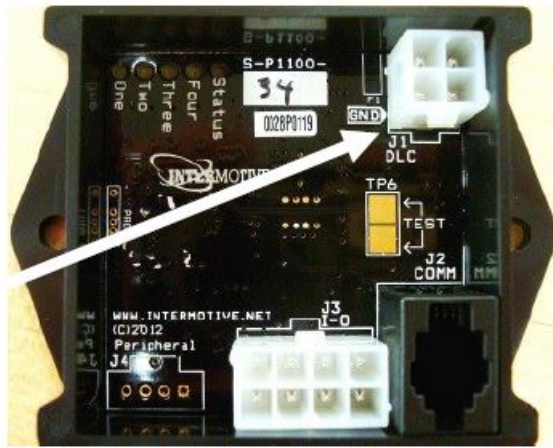
Remove the lower dash panel below the steering column area and find a suitable location to mount the module so that the Diagnostic LED's can be viewed with the lower dash panel removed. Secure using 2-sided foam tape, screws or wire ties. Locate the module in an area away from any high heat sources. Do not actually mount the module until all wire harnesses are routed and secure (last step of the installation is to mount the module).

Data Link Harness

1. Locate the vehicle OBDII Data Link Connector. It will be mounted below the lower left dash panel.



2. Remove the mounting screws for the OBDII connector. Plug the red connector from the LOCK610-A Data Link Harness into the vehicle's OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.
3. Mount the Black pass through connector from the LOCK610-A Data Link Harness in the former location of the vehicle's OBDII connector.



4. Secure the LOCK610-A Data Link harness so that it does not hang below the lower dash panel.
5. Plug the free end of the Data Link harness into the mating 4-pin connector on the LOCK610-A module.

Shift Lock Solenoid Harness

1. Locate the OEM shift lock solenoid down on the right side of the steering column.
2. Remove the OEM 2-pin black connector and install matching InterMotive T- harness.
3. Verify the green locking tabs are in the locked position.



Control Inputs/Outputs – 8-pin connector

The LOCK610-A provides three ground side inputs and two 12V, 1/2 amp outputs.

Refer to the LOCK610-A CAD drawing as reference when reading these instructions. A control relay may be needed to power some lifts, due to the lift drawing more than 1/2 amp. Install a TVS (diode clamped) relay as shown on the CAD drawing.

Lengthen the following two wires, (three if optional Green wire used), by soldering and heat shrink or taping. The blunt-cut harness provides for control connections to the vehicle as follows:

Orange – Connect this output to the lift or lift relay. Refer to the particular lift model drawing when making this connection. This output provides 12V @ 1/2 amp when it is safe to operate the lift.

Gray – Connect this input to the Lift Door switch. Ensure a ground signal is provided with the door open. When the door is open the vehicle is prevented from shifting out of PARK. This door must be open in order to allow lift operation.

Green – Connect this wire only if an additional door connection is desired.

This input is an optional connection for an additional door (passenger). It is connected the same as the Lift Door and also prevents shifting out of PARK. This door does not have to be open to allow lift operation.

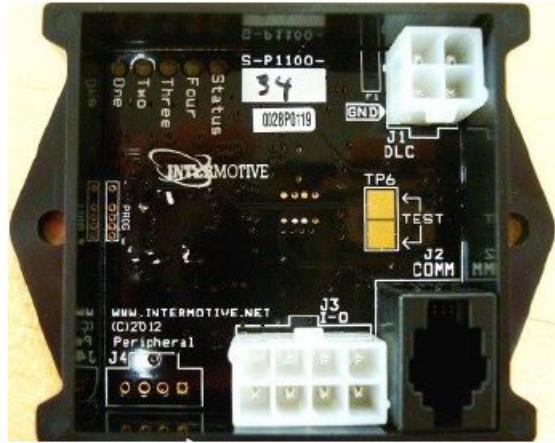
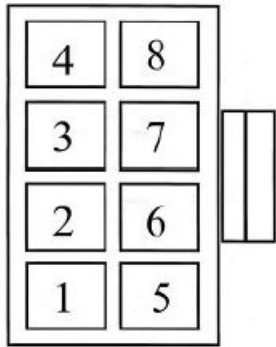
Brown – Connect this wire only if “key off” lift operation is desired.

This optional input connects to the OEM Park Brake switch, such that the switch is made (ground) when the Park Brake is set. Install a standard rectifier diode (digikey RL202-TPCT-ND or equivalent) to isolate the Parking Brake ground signal. Strip back some insulation off the Lt. Blue wire, solder the Brown wire on and tape or use heat shrink tubing.



- Pin #1 — N/C
- Pin #2 — N/C

- **Pin #3** — ORANGE (Vehicle Secure (12V) Output)
- **Pin #4** — BROWN (Park Brake (GND) Input) *Optional
- **Pin #5** — GREEN (Passenger Door Open (GND) Input) *Optional
- **Pin #6** — N/C
- **Pin #7** — BLUE (Shift Interlock Output) Plug & Play Harness
- **Pin #8** — GRAY (Lift Door Open (GND)



Connect the 8 pin connector to the module

LOCK610 Module

Ensure all the harnesses are properly connected and routed, and are not hanging below the dash area. Mount the ILISC510 module as described on page one and secure using screws or doubled sided tape.

Post Installation / Check List

The following checks must be made after installation of the system, to ensure correct and safe operation of the lift. If any of the checks do not pass, do not deliver the vehicle. Recheck all connections as per the installation instructions.

Begin the checklist with the vehicle in the following state:

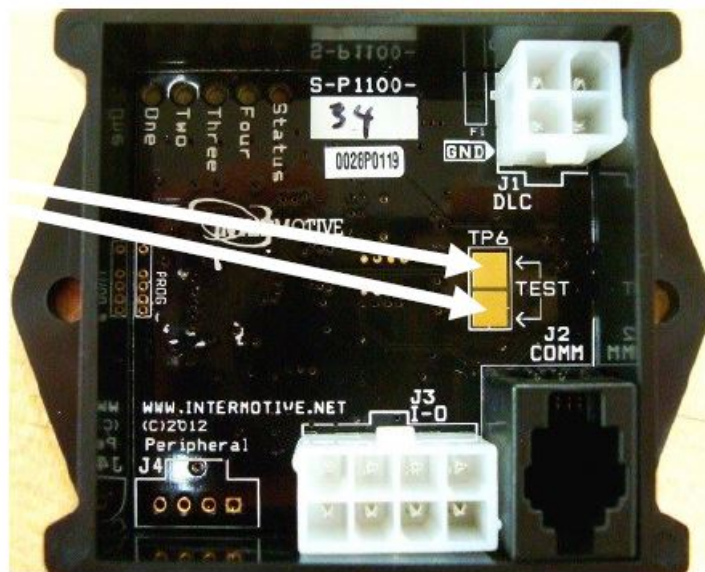
- Lift stowed
 - Lift Door closed
 - Park Brake set.
 - Transmission in Park
 - Ignition off (Key off)
1. Turn ignition key on (to "run"), attempt to deploy the lift. Verify the lift does not deploy with the Lift Door closed.
 2. With key on, release the Park Brake and open the Lift Door, attempt to deploy the lift. Verify the lift does not deploy with Park Brake released.
 3. With key on, Lift Door open, Park Brake set, transmission in Park, attempt to deploy the lift. Verify the lift deploys. Stow the lift.

4. With key on, Lift Door closed, Park Brake set, verify transmission will not shift out of Park.
5. With key on, Lift Door open, Park Brake released, verify transmission will not shift out of Park.
6. With the lift deployed, attempt to shift the transmission out of Park, verify the transmission shift lever does not shift out of Park.
7. With key on, Lift Door closed, Park Brake released and the Service Brake applied, verify the transmission shift lever is able to shift out of Park.
8. Optional input: If the vehicle is equipped with a connection for an additional door (passenger), verify transmission shift lever will not shift out of Park, if the door is open.
9. Optional input: If the vehicle is equipped with key off lift function, the Park Brake must be set and the Lift Door open for system to be operational. With key off, verify the shift lever remains locked with the Lift Door closed and Park Brake released.

Lift Interlock Diagnostic Mode Testing

Enabling Diagnostic Mode allows a visual indication of system status and is a good troubleshooting tool when used in conjunction with the above tests. The module is fully functional in this mode. Enter Diagnostic Mode by the following steps:

1. Place transmission in Park and turn ignition switch to “run” position.
2. Short the two “Test” pads together on the module. LED’s on the module will prove out, then become status indicators:



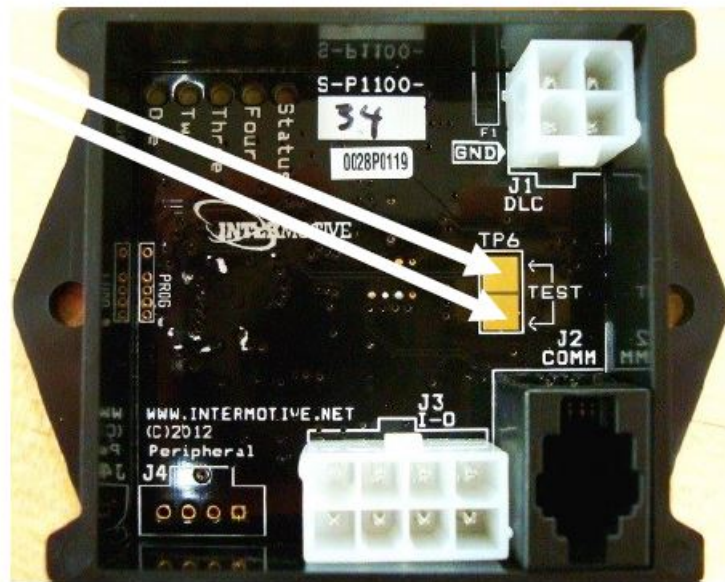
- LED 1 will be on when Shift Lock enabled.
- LED 2 will be on when transmission is in Park.
- LED 3 will be on when Park Brake is set.
- LED 4 will be on when Lift Door is open.
- LED marked “status” indicates “Vehicle Secure” or “Lift enabled” meaning there is 12V on Pin 3 (green wire) which connects to the lift.

Cycling the key will exit Diagnostic Mode and all LED’s will be off.

“Key OFF only” procedure

The module comes from the factory with the ability to power the lift with the key on or off. If operating the lift with key off only is desired, perform the following steps:

1. Sit at the wheel with the vehicle in park and the Park Brake ON.
2. Have the vehicle key in the ON position.
3. Put the LOCK module into its Diagnostic mode by momentarily shorting the two "Test" pads together. LED's on the module will light depending on what vehicle conditions are met.
4. Apply and hold the Service Brake.
5. Short the two "Test" pads together again. Module LED's 3 and 4 will turn ON for 3 seconds and then turn OFF for 3 seconds, and repeat.
6. If Service Brake is released when LED's are ON, the "Key OFF only" mode is selected. If the Service Brake is released when the LED's are OFF, the default "Key ON or OFF" mode is selected.
7. LED 5 will flash to indicate the mode has been selected and the module will exit the Diagnostic mode.
8. Verify requested mode is in operation by testing for "Vehicle Secure" with Key ON and Key OFF.



*The discrete Park Brake input must be installed for the lift to operate with the Key OFF.

Operating Instructions

The LOCK610 system is microprocessor driven for controlling wheelchair lift operation. The system will operate with the vehicle ignition on or off (if optional Park Brake input supplied). Lift operation will be enabled when specific vehicle safety conditions are met and will lock the transmission shifter in Park when the wheelchair lift is in use. The LOCK610 prevents the vehicle from being shifted out of park if the lift door is open. As an added feature, the vehicle cannot be shifted out of park anytime the parking brake is applied. This eliminates excessive parking brake wear due to driving with the parking brake applied.

Key on function:

- The vehicle is in "Park".
- The Park Brake is applied.
- The Lift Door is open.

Key Off operation (if optional input connected)

- Vehicle must be in Park before turning key off.
- The Park Brake is applied
- The Lift Door is open

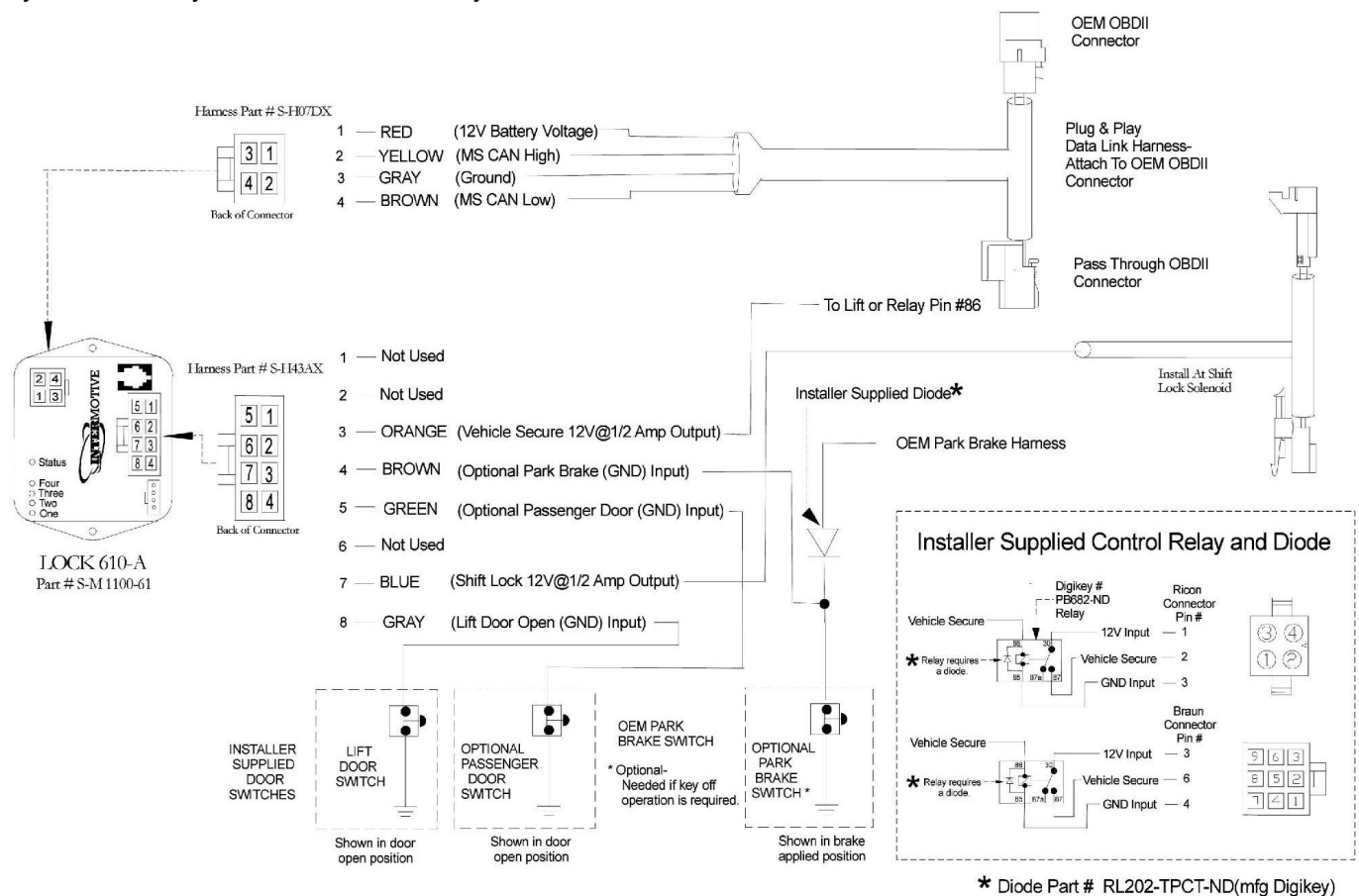
Optional inputs

If the vehicle is equipped with a connection for an additional door (passenger) the system will not allow the vehicle to be shifted out of Park unless the passenger door is closed.

Key off lift operation, for the system to be functional, the Park Brake discrete input will need to be installed.

When the Lift Door is closed and ignition power is not present for 5 minutes, the system will enter a low current “sleep” mode of operation. To wake from “sleep” mode, the ignition must be turned on (key on) or the Lift Door must be opened.

Do not leave the Lift Door open when the vehicle is not in use. This will cause a draw on the vehicles electrical system and may result in a dead battery.



If the LOCK610-A fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.

Documents / Resources



[INTERMOTIVE LOCK610-A Microprocessor Driven System \[pdf\]](#) Instruction Manual
LOCK610-A Microprocessor Driven System, LOCK610-A, Microprocessor Driven System, Micro processor, Driven System

References

-  [InterMotive - Plug and play vehicle control systems](#)

Manuals+.