



ILISC515-A is a Microprocessor Driven System



INTERMOTIVE ILISC515-A is a Microprocessor Driven System Instruction Manual

[Home](#) » [INTERMOTIVE](#) » **INTERMOTIVE ILISC515-A is a Microprocessor Driven System Instruction Manual** 

Contents

- [1 INTERMOTIVE ILISC515-A is a Microprocessor Driven System](#)
- [2 Product Information](#)
- [3 Product Usage Instructions](#)
- [4 Introduction](#)
- [5 Installation Instructions](#)
- [6 LED Display Panel Mounting](#)
- [7 Control Inputs/Outputs – 8-pin connector](#)
- [8 Lift Door Identification](#)
- [9 Post Installation/Check List](#)
- [10 Optional Door Ajar LED Display Panel](#)
- [11 Operating Instructions](#)
- [12 Blunt Cut Harness](#)
- [13 Braun Plug and Play Lift Harness](#)
- [14 Ricon Plug and Play Lift Harness](#)
- [15 Braun Plug and Play with 2019 Relay Kit](#)
- [16 Documents / Resources](#)
 - [16.1 References](#)
- [17 Related Posts](#)



INTERMOTIVE ILISC515-A is a Microprocessor Driven System



Product Information

Specifications:

- **Product Name:** ILISC515-A Shift Interlock (Manual Lift Door)
- **Compatible Vehicle:** 2015 – 2019 Ford Transit
- **Add-On Option:** ILISC515-AD with Door Ajar panel
- **Manufacturer:** InterMotive, Inc.
- **Address:** 12840 Earhart Ave Auburn, CA 95602
- **Contact:** Phone: [530-823-1048](tel:530-823-1048) Fax: [530-823-1516](tel:530-823-1516)

Product Usage Instructions

Data Link Harness Installation:

1. Locate the vehicle's OBDII Data Link Connector beneath the lower left dash panel.
2. Remove the White OBDII connector from the dash panel and plug in the red connector from the ILISC515-A Data Link Harness into the vehicle's OBDII connector.
3. Mount the White pass-through connector from the ILISC515-A Data Link Harness in place of the vehicle's OBDII connector.
4. Secure the ILISC515-A Data Link harness to prevent hanging below the lower dash panel.
5. Connect the free end of the Data Link harness to the mating 4-pin connector on the ILISC515-A module.

Connecting a Lift Door Input:

- If the vehicle lacks rear or side door switches, install and connect a door switch to the module's pin 8 (gray wire) of the 8-pin connector.
- For vehicles with OEM door switches, the module can read door status via the vehicle communications network. Follow specific instructions based on your vehicle's configuration.

Control Inputs/Outputs – 8-pin connector:

Ricon Braun lifts: Connect to pin #6 of the 9-pin connector. For Optional Shift Lock Input, connect the Yellow wire

to a High True output and insert a pin into pin #1 at the 8-pin connector.

FAQ:

- **Q: What should I do if my vehicle does not have OEM door switches?**

A: If your vehicle lacks OEM door switches, you will need to install a discrete lift-over door communication input to operate the module effectively.

- **Q: How do I enable shift lock using the ILISC515-A Shift Interlock?**

A: Connect the Yellow wire to a source providing High True output and insert it into pin #1 at the 8-pin connector to enable shift lock functionality.

Introduction

The ILISC515-A is a microprocessor-driven system for controlling wheelchair lift operation. The default system can 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 in the Park when the wheelchair lift is in use. Optional Plug and Play harnesses are available for most applications, making installation fast and easy. The “Key OFF Only” operation is available with instruction sets to change operating modes.

ILISC515 Add-On Option

ILISC515-AD with Door Ajar panel: Monitors additional doors other than the lift door.

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

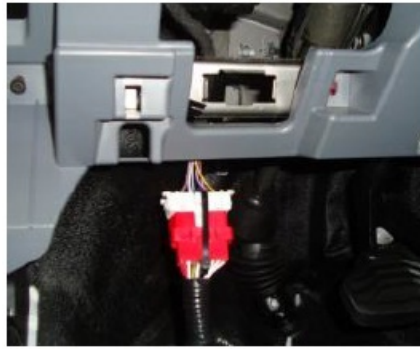
Disconnect the vehicle battery before proceeding with the installation.

ILISC515-A Module

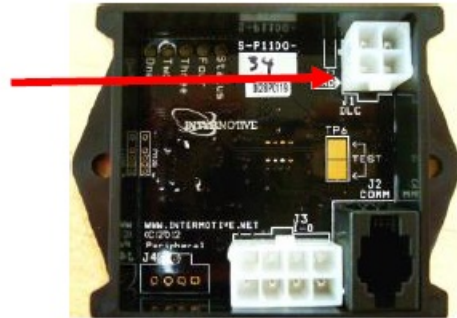
Remove the lower dash panel below the steering column area and find a suitable location to mount the module so that the module’s Diagnostic LEDs can be viewed with the lower dash panel removed. Locate the module in an area away from any high-heat sources (engine heat, heater ducts, etc.). Do not mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module.

Data Link Harness Installation

1. Locate the vehicle OBDII Data Link Connector, mounted below the lower left dash panel.
2. Remove the White OBDII connector from the dash panel by squeezing both sides of the connector. Plug the red connector from the ILISC515-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 White pass-through connector from the ILISC515-A Data Link Harness in the former location of the vehicle’s OBDII connector.
4. Secure the ILISC515-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 ILISC515-A module.



LED Display Panel Mounting

LED Display Panel Mounting – Black 4-pin connector

Locate a suitable position on the dashboard, within view of the driver to mount the LED Display Panel. Ensure there is open space behind the dash where the panel is mounted. The harness is 40" in length, which is the maximum distance the display can be from the module.

1. Drill a 5/8" hole in the dash where the center of the display will be located.
2. Attach the Black 4-pin connector of the LED display panel harness to the module.
3. Run the other end of the harness under the dash and out through the 5/8" hole.
4. Attach the end to the LED Display Panel.
5. Ensure the panel is level and secure using supplied screws.

Connecting a Lift Door Input

If you are working on a vehicle that has no rear or side door switches installed (cutaway chassis), a door switch (on the proper (lift) door) must be installed and connected to the module's pin 8 (gray wire) of the 8-pin connector (see the appropriate CAD drawing). NOTE: This input must provide a ground-level value when the door is open (Low-True). For this type of vehicle, this is all that is needed for door sensing.

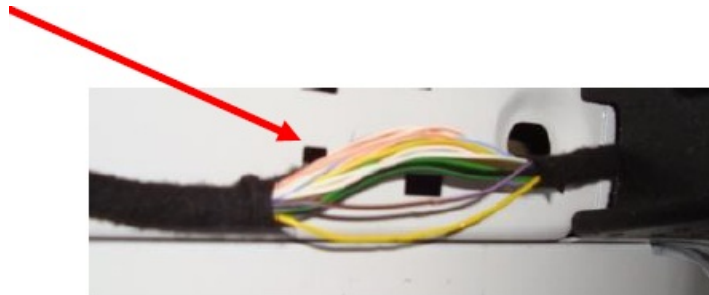
On a vehicle that is equipped with an OEM door with switches, the module can read the door status on the vehicle communications network. The module's default setting reads door status over a vehicle communication network and operates in "Key On Only" mode.¹ Therefore, installing discrete lift door input is only necessary to operate the module in "Key Off Only" mode, "Key On and Off" mode, or if the vehicle does not have OEM door switches. The next section assumes the vehicle has preinstalled door switches and explains how to make the discrete connection.

OEM Side Door Discrete Connection



If a "Key OFF" operation is desired, a discrete Lift Door input must be made to the module. This is accomplished by connecting to the existing vehicle switch harness above and behind the driver's seat. Securely connect the Gray wire of the 8-pin harness to the Yellow OEM wire. If using a Posi-Tap, follow the below instructions.

The slide door wire (yellow) is in this harness. Unscrew the Gray cap on the Posi-Tap connector and install it on the appropriate wire, then screw the rest of the connector onto the cap snugging it down but not overly tight.



Unscrew the other end of the Posi-Tap connector, strip 1/4" insulation off the Gray wire coming from pin 8 of the module, and insert it through the loose piece so the wire end is even with the piece edge. Hold the wire so it doesn't push back out of the Posi-tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

NOTE:

There is an additional sequence that must be run at installation which identifies the lift door to the module.



Control Inputs/Outputs – 8-pin connector

- The ILISC515-A provides three ground-side inputs and one 12V, 1 amp output.
- Refer to the ILISC515-A CAD drawing as a reference when reading these instructions. A control relay may be

needed to power some lifts, due to the lift drawing current of more than 1 amp. Install a (diode clamped) relay as shown on the CAD drawing.

- Lengthen the following wires appropriately, using solder and heat shrink tubing or tape.
- The blunt-cut (4-wire) 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 amp when it is safe to operate the lift. This can be used to enable the Lift. If the lift draws more than 1 amp, a control relay will need to be installed.
- Grey – This input must “tap in” to the existing Lift Door switch wire as the instructions show (See above) or connect directly to an installed door switch. This can be used to detect doors open/close.
- Yellow (Optional Shift Lock Input) — Insert the “pinned” end of the included Yellow wire into pin #1 of the 8-pin connector and connect the other end to any source that provides a High True level to enable shift lock. This can be used to enable shift lock upon closing the switch.

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

Connect this optional ILISC-515 input to the OEM Park Brake switch (as shown) such that the switch is made when the Park Brake is set. Install a provided rectifier diode (RL202-TPCT-ND or equivalent) as shown in the Blunt Cut CAD drawing, to isolate the Parking Brake ground signal. Strip back some insulation off the OEM White/Violet wire, solder the Brown wire on, and tape or use heat shrink tubing. This connection is required if lift operation is desired when the vehicle ignition is OFF.

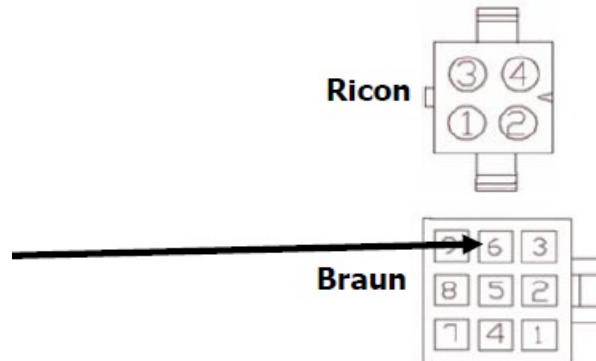


- Pin #1— YELLOW (Shift Lock Input) *Optional
- Pin #2 — N/C
- Pin #3 — ORANGE (Vehicle Secure (12V) Output)
- Pin #4 — N/C
- Pin #5 — BROWN (Park Brake (GND) Input) *Optional
- Pin #6 — N/C
- Pin #7 — ORANGE (Jumpered to Pin#3)
- Pin #8 — GREY (Lift Door Open Input)

Connect the 8-pin connector to the module

Optional Plug & Play Lift Harness

- **Orange** – This output provides 12V @ 1 amp when it is safe to operate the lift. Cut the wire to the correct length attach one of the pins provided using a crimping tool and insert a pin into the correct cavity.
- **Ricon lifts:** Connect to pin #86 of the control relay. Plug the 4-pin connector into the lift.



- **Braun lifts:** Connect to pin #6 of the 9-pin connector.
- **Optional Shift Lock Input:** Connect the Yellow wire to any source which provides a High True output to enable shift lock and insert pin into pin #1 at the 8-pin connector.
- **Grey** – This input must “tap in” to the existing Lift Door switch wire as the instructions show (See installation description).
 - Pin #1 — OPEN (Optional Shift Lock Input)
 - Pin #2 — N/C
 - Pin #3 — ORANGE (Vehicle Secure (12V) Output)
 - Pin #4 — N/C
 - Pin #5 — BROWN (Park Brake (GND) Input) *Optional
 - Pin #6 — N/C
 - Pin #7 — ORANGE (Jumpered to Pin#3)
 - Pin #8 — GREY (Lift Door Open Input)

Connect the 8-pin connector to the module

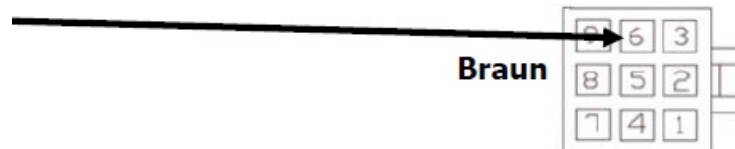


Optional Braun Plug & Play Relay Kit #900-00005

Current models of Braun lifts draw more than 1 amp and will require the Braun plug-and-play relay kit.



- **Orange** – This output provides 12V when it is safe to operate the lift. Cut the wire to the correct length attach one of the pins provided using a crimping tool and insert at pin #86 of the included relay.
- **Red** – Connect to pin #6 of the 9-pin Braun lift connector.



- **Yellow (eyelet)** – Connect to External +12V at the lift.
- **Black (eyelet)** – Connect to External ground at the lift.
- **Optional Shift Lock Input:** Connect the Yellow wire to any source which provides a High True output to enable shift lock and insert pin into pin #1 at the 8-pin connector.
- **Gray** – This input must “tap in” to the existing Lift Door switch wire as the instructions show (See installation description).
 - Pin #1 — OPEN (Optional Shift Lock Input)
 - Pin #2 — N/C
 - Pin #3 — ORANGE (Vehicle Secure (12V) Output)
 - Pin #4 — N/C
 - Pin #5 — BROWN (Park Brake (GND) Input) *Optional
 - Pin #6 — N/C
 - Pin #7 — ORANGE (Jumpered to Pin#3)
 - Pin #8 — GRAY (Lift Door Open Input)

Connect the 8-pin connector to the module



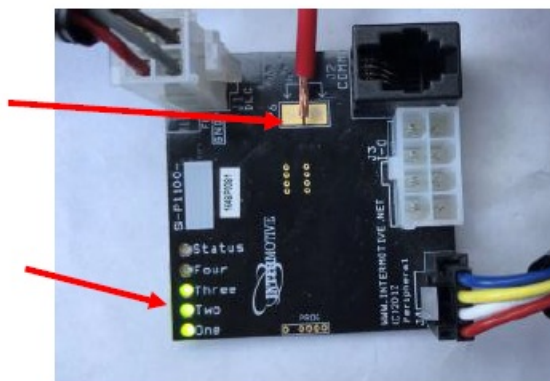
Reconnect vehicle battery

Ensure all the harnesses are properly connected and routed. With all connections made, turn KEY to RUN position — the display panel should prove out with all LEDs lit for about 2 seconds.

Lift Door Identification

The module's default setting has the lift door as the rear door and door status on the vehicle communication network. If the vehicle has the OEM side and rear doors with built-in switches, the module needs to know which of the two possible doors (side or rear) is defined to be the lift door. The following procedure must be performed to accomplish this:

1. Assure Side and Rear Doors are completely closed
2. The vehicle is in PARK with the Key in the RUN position and the engine OFF
3. Park Brake is applied
4. Put the module in diagnostic mode by carefully connecting TP6 test pads together – the module LEDs will scroll, then LED1 will “blink out” the firmware version, and finally LEDs 1 – 3 (at the least) will come ON steady.
5. Wait for LED1 to complete “blink out” the firmware version and all LEDs become steady.
6. Pump the Service Brake pedal (4 times within 5 sec) until you see module LEDs 1 – 4 blinking together.
7. Open the lift door; The module LEDs will stop blinking and remain OFF.
8. Verify the lift door is “known” by opening and closing it while watching the “Lift Door Open” LED on the display panel. If there is no indication or if the sense seems opposite to what it should be, the previous sequence must be repeated.



NOTE:

If a discrete connection was made for the lift door, the module will use the discrete input (pin 8) exclusively from this point to determine the status of the lift door.

Cutaway Vehicles Only (Firmware Version 4.08 or higher)

1. Assure the Side and Rear Doors are completely closed.
2. The vehicle is in PARK with the Key in the RUN position, either the driver or passenger door must be open, the engine is OFF, and the Grey wire on the 8-pin connector is not grounded, and/ or the lift door is closed.
3. Apply the Park Brake.
4. Put the module in diagnostic mode by pressing the Red “Test” button on the module – the module LEDs will scroll, then LED1 will “blink out” the firmware version, and LEDs 1 – 3 (at the least) will come on steady.
5. Depress and continue to hold the Service Brake while doing steps 5 through 6.
6. Press the Red “Test” button a second time on the module – the Status LED, LED1, and LED2 will blink On and Off slowly.
7. Jump a ground to the Grey wire on the 8-pin connector or have a second person open the Lift Door that the Grey wire is attached to.

8. LEDs 1 – 4 will blink rapidly, if successful.

NOTE:

For a discrete door, ensure the discrete wire has been installed before performing pat and rub above.

KEY OFF ONLY mode

The module's default setting is the "Key On Only" operation. Vehicle security only turns on when all conditions are met. NOTE: in "Key On Only" mode, the module will go to sleep in 15 seconds after the vehicle is turned off with the key in the off position. To change operation mode to "Key Off Only" mode, the following procedure must be performed:

1. Assure Park Brake is NOT applied with Key in RUN position and engine OFF.
2. Put the module in diagnostic mode by carefully connecting the TP6 test pads.
3. Wait for module LED1 to finish the "blink out" firmware version and all LEDs become steady.
4. Connect the TP6 test pads again while holding down the Service Brake.
5. Continue holding the Service Brake until LED3 and LED4 turn on steady and let go of the Service Brake while LED3 and LED4 are still ON.

NOTE:

Releasing the Service Brake while LED3 and LED4 are still ON sets the module to "Key Off Only" mode. Whereas releasing the Service Brake while LED3 and LED4 is OFF sets the module to "Key On" mode. "Key Off Only" mode will only work if a discrete Lift Door input connection is installed.

Post Installation/Check List

ILISC515-A (Manual Lift Door)

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. NOTE: see the next if using the optional "Door Ajar" display panel.

Begin the checklist with the vehicle in the following state:

- Lift stowed
- Lift Door closed
- Park Brake set (PB)
- Transmission in Park (P)
- Ignition off (Key off). Wait until the module goes into "Sleep" mode (all panel LEDs OFF) which takes approximately 5 minutes.



KEY ON CHECK: NOTE—you can skip this section if the module is set up for Key Off Only

1. Turn the ignition key on (to "Run"), verify the module wakes up and all 5 LEDs turn ON for approximately 2 seconds. The lower icon LEDs are backlit and should remain ON whenever the module is awake.
2. Verify that the Park, Park Brake, and the Shift Lock LED remain ON.
3. Attempt to deploy the lift. The lift must not deploy with the Lift Door closed. Next, open the lift door.
4. With the Lift Door open, the Park Brake set, and the transmission in Park, all 5 LEDs will be ON. Attempt to deploy the lift. Verify the lift deploys. Stow the lift.
5. With the Lift Door open and transmission in the Park, release the Park Brake. Verify that the Park Brake (PB) and Vehicle Secure LEDs turn OFF, and attempt to deploy the lift. Verify the lift does not deploy.
6. With the Lift Door closed and the Park Brake set, verify transmission will not shift out of Park.
7. With the Lift Door open and the Park Brake released, verify transmission will not shift out of the Park.
8. With the Lift Door closed, the Park Brake released and the Service Brake applied, verify you can shift out of Park.

KEY OFF CHECK:

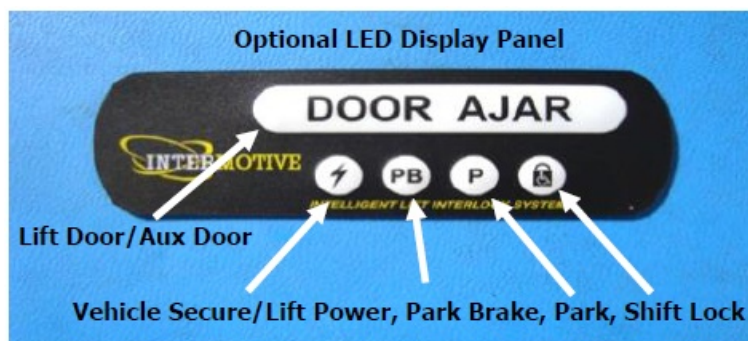
NOTE:

You must have both a discrete Park Brake and Lift Door input connected for the following test. If not, then the test can be skipped:

1. Start with the same conditions as for the KEY ON check above except do not wait for the module to go to sleep. The key remains OFF throughout this test.
2. Repeat Steps 2 – 5 (above) to complete this test.
3. Close the Lift Door and verify module goes to sleep after 5 min.
4. Open the Lift Door and verify module wakes up with display LEDs proving out; then Park, Shift Lock, and Lift Door Open LEDs remain ON.

Optional Door Ajar LED Display Panel

Perform the same checks as above if using the Door Ajar panel. When any door (other than the lift door) is open (CAN sensing) or an optional door input is installed at pin 4 and said door is OPEN, the large "Door Ajar" section will blink, however if the lift door is also open, it overrides any other door and illuminates the section steadily.



Using Module LEDs

The module has 5 on-board LEDs which are used to convey information about the operation of the module. In the normal mode all LEDs are OFF, but they come ON in different situations:

Operation Errors

Under certain conditions, the module LEDs are used to indicate errors that prevent continued operation. In this

case, the Status LED will blink, and depending on which other LEDs are lit, the error is identified as follows:

- LED1 ON – Set-up error on the output device.
- LED2 ON – Could not set up the CAN communication
- LED3 ON – Output error
- LED 2&3 ON – Loss of CAN traffic

VIN Errors

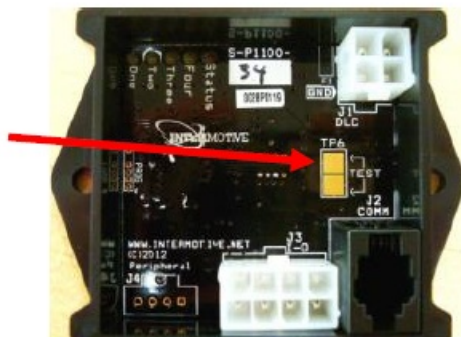
If there is an error while getting the vehicle VIN during initial installation, LEDs 1-4 will scroll 2 times then another LED will turn on to ID the error as follows:

- LED1 ON – Wrong Manufacture (Not Ford)
- LED2 ON – Wrong chassis (Not a Transit)
- LED3 ON – Wrong engine
- LED4 ON – Wrong model year (Not model 2015-2018)
- STATUS ON – Bogus VIN (e.g. all characters the same)
- No LEDs ON – No VIN response

Status

One can put the module into a diagnostic mode where each LED represents a system status. The module is fully functional in this mode. To enter diagnostic mode, touch a grounded wire to the Test Pad on the module. LEDs will scroll a couple of times, LED1 will “blink out” the current firmware version, and then the LEDs will reveal the system status as follows:

- LED 1 ON when Shift Lock is enabled.
- LED 2 ON when the transmission is in the park.
- LED 3 ON when Park Brake is set.
- LED 4 ON when the Lift Door is open.
- STATUS LED ON indicates “Vehicle Secure” or “Lift enabled” meaning there is 12V on Pin 3 (Orange wire) which connects to the lift.
- Cycling the key will exit Diagnostic Mode and all LEDs will be off.



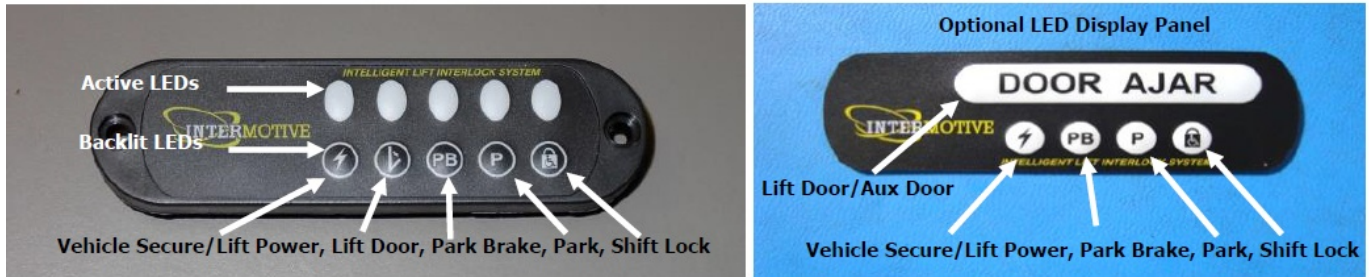
Operating Instructions

Leave in Vehicle

ILISC515-A Shift Interlock (Manual Lift Door) Operating Instructions 2015 – 2019 Ford Transit

ILISC515-A (Manual Lift Door)

The ILISC515-A is a microprocessor-driven system for controlling wheelchair lift operation. The system will operate with the vehicle ignition ON or OFF, (if optional Park Brake and Lift Door input supplied) or if so set up, the lift will only be energized if the Key is OFF. Lift operation is enabled when specific vehicle safety conditions are met and will lock the transmission in the Park when the wheelchair lift is in use. The ILISC515-A prevents the vehicle from being shifted out of the 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:

1. When the vehicle is in "Park" the (P) LED will be ON.
2. When the Park Brake is applied, the (PB) LED will be ON.
3. When the Lift Door is open, the Lift Door LED will be ON. (Door Ajar LED on (optional display panel).
4. With the vehicle in Park and either the Park Brake applied or the Lift Door open or external Shift Lock input enabled, the Shift Lock LED will be ON, and the transmission cannot be shifted out of Park.
5. With the vehicle in Park, the Park Brake applied and the Lift Door open, the Vehicle Secure LED will be ON, and the lift will be operational. All LEDs will be illuminated on either display panel.

- **Key-Off function:** (if discrete Park Brake and Lift Door input supplied)
 - The vehicle must be in the Park before turning the key off.
 - With the vehicle in Park, the (P) LED and Shift Lock LED will be ON.
 - With the Park Brake applied and the Lift Door open, all LEDs will be ON, and the lift will be operational.

- **Optional display:**

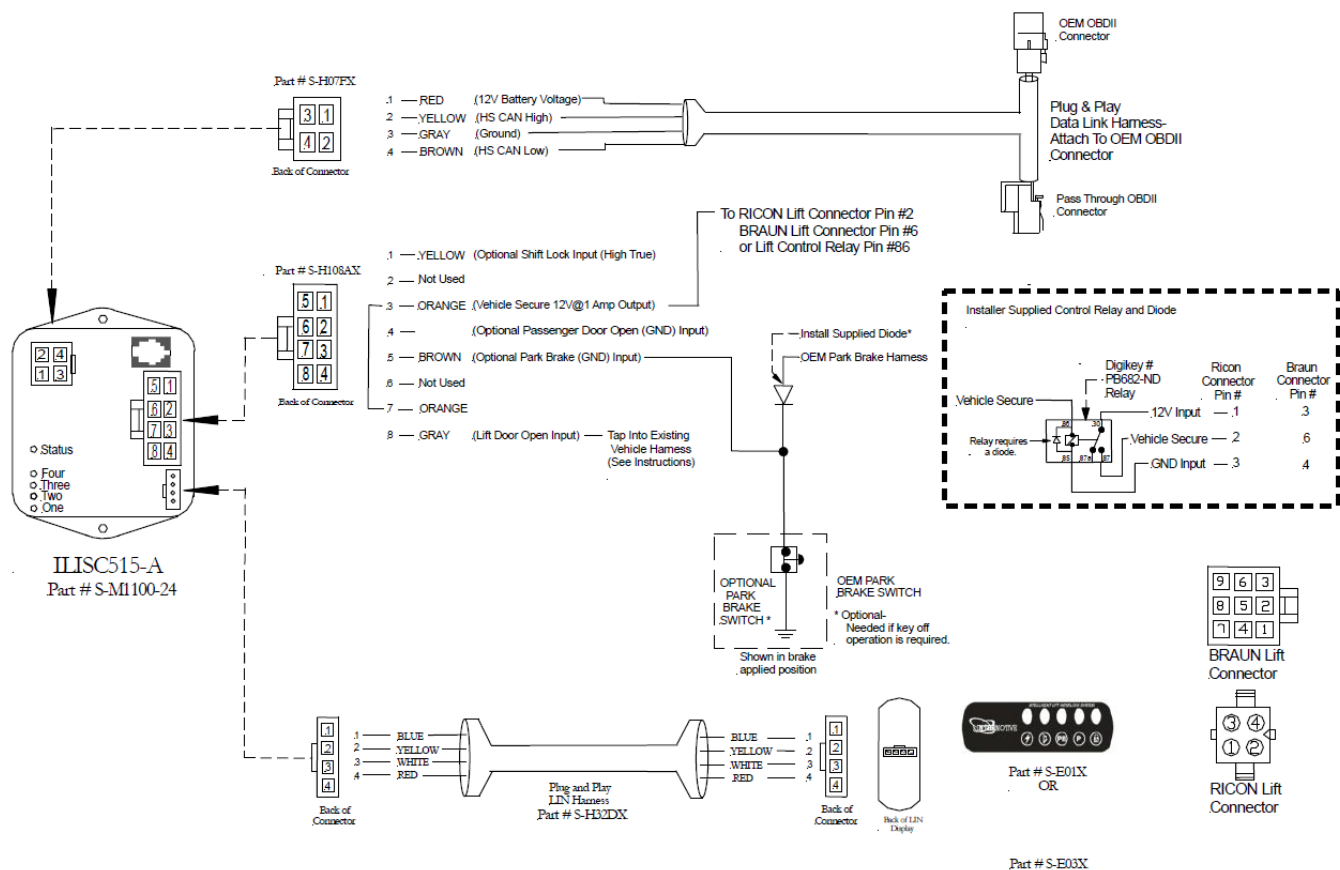
If equipped with the optional "Door Ajar" display panel, the large Door Ajar section will blink when any door (other than the Lift Door) is Open. If the Lift Door itself is open, the Door Ajar section will stay on steady, taking priority over any other door.

- **Sleep Mode:**

When the lift door is closed and ignition power (Key) is turned OFF, the vehicle CAN communication traffic will stop after a delay. Around five minutes after this, the system will enter a low current "sleep" mode of operation with all LEDs OFF. To wake from "sleep" mode, turn the ignition on (key on) or open the lift door.

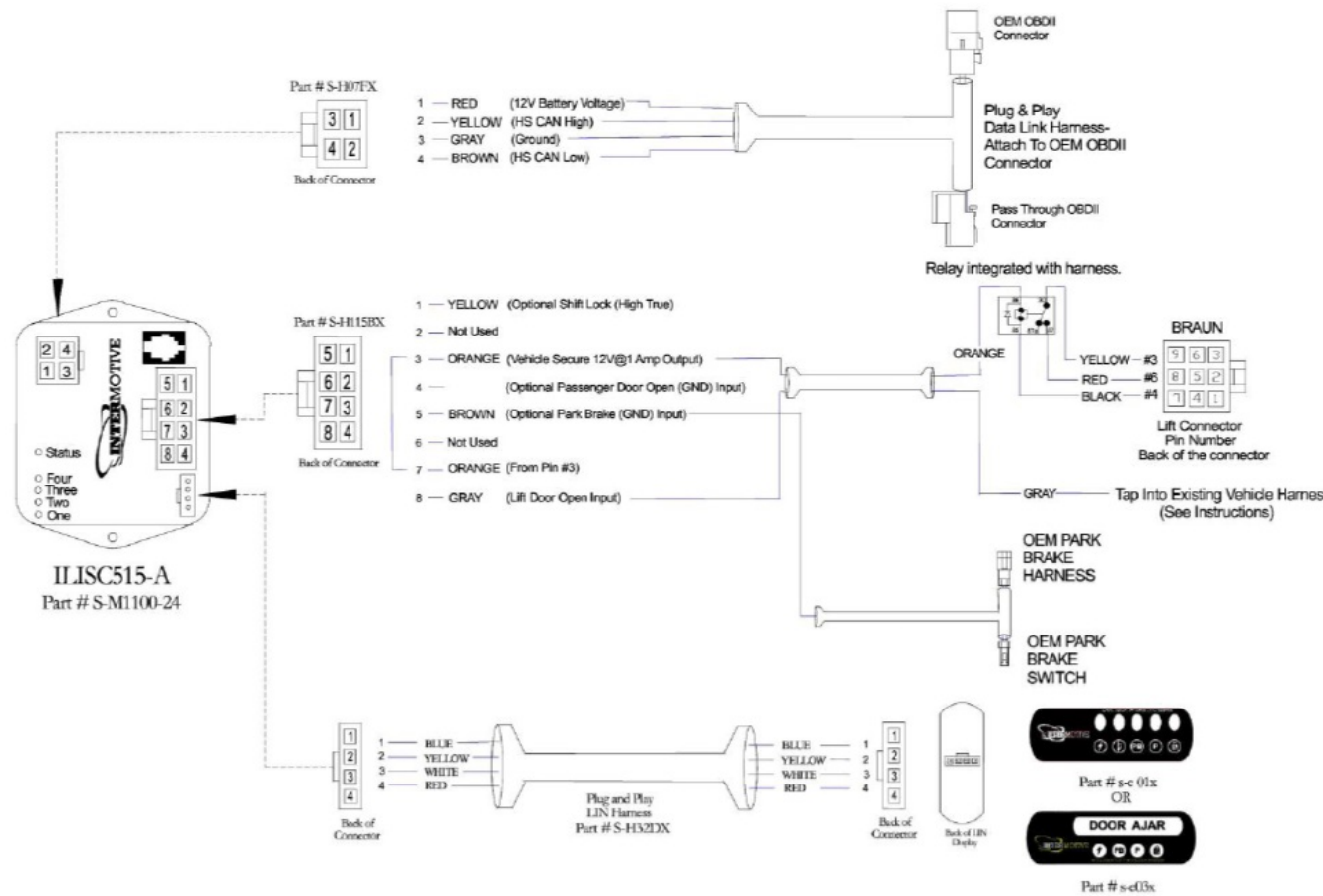
All display LEDs will turn ON for approximately 2 seconds as a "prove out". The backlit LEDs remain ON as long as the module is awake.

Blunt Cut Harness



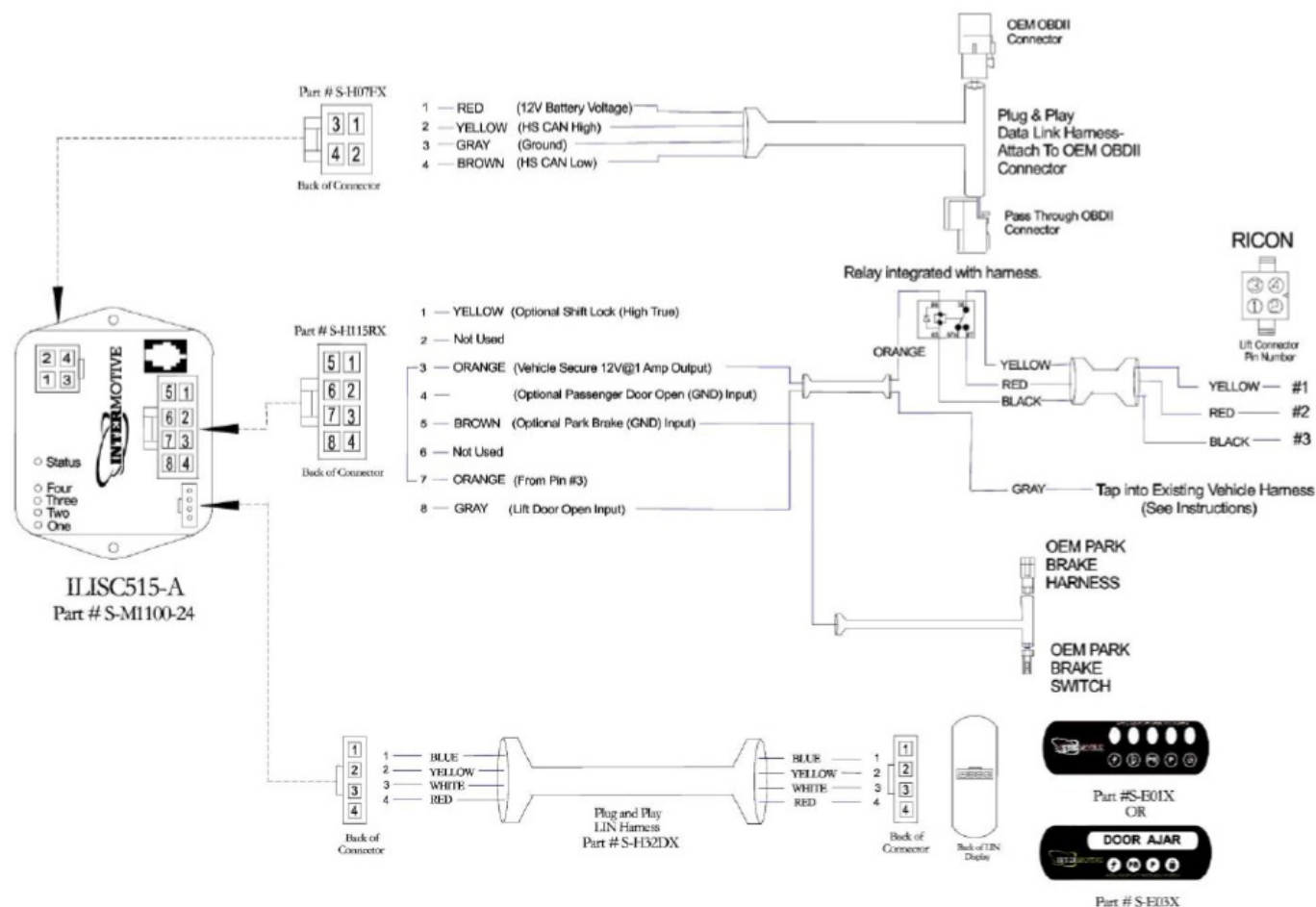
If the ILISC515-A fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at [530-823-1048](tel:530-823-1048).

Braun Plug and Play Lift Harness



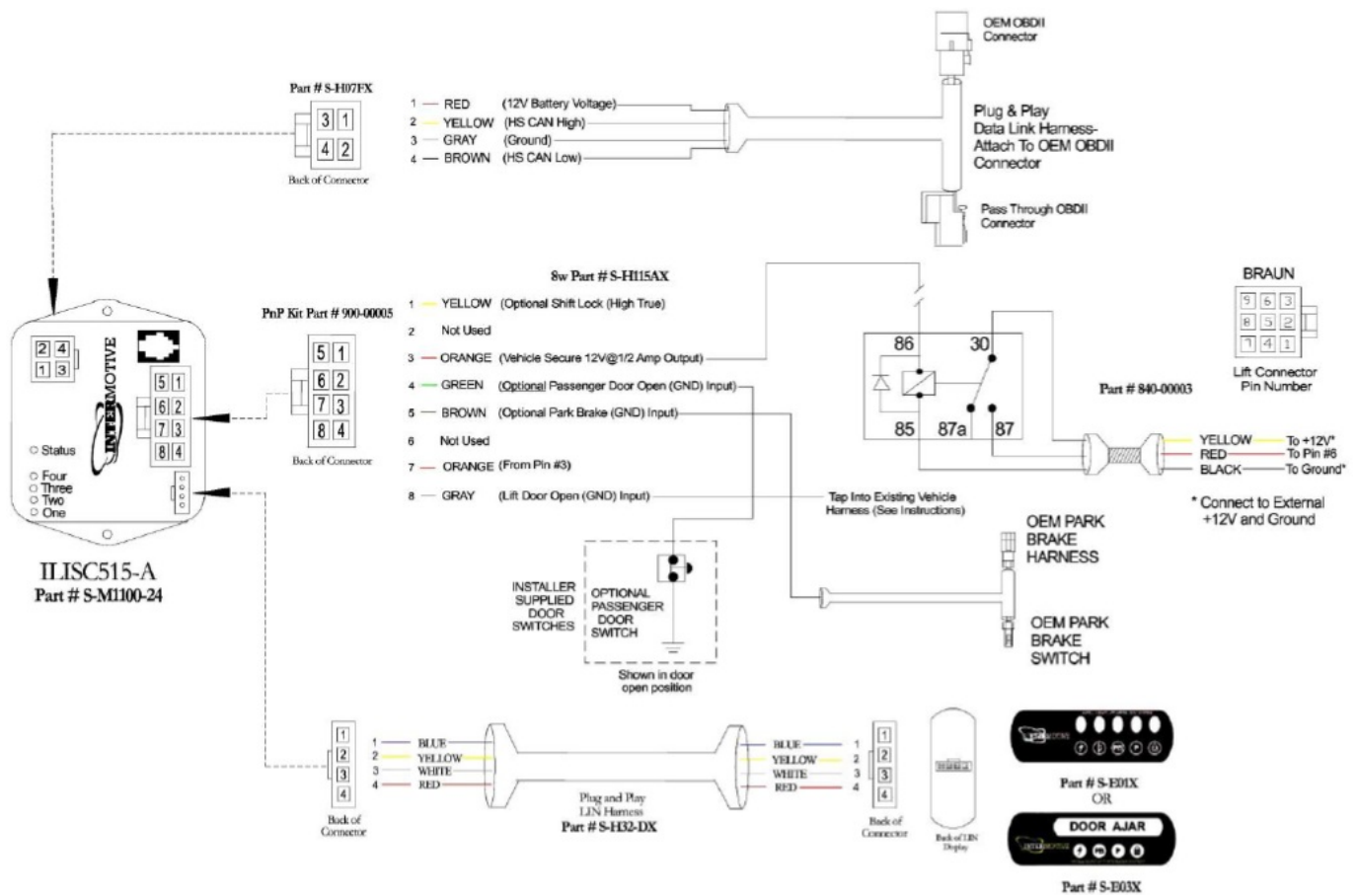
If the ILISC515-A fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at [530-823-1048](tel:530-823-1048).

Ricon Plug and Play Lift Harness




If the ILISC515-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](tel:530-823-1048).

Braun Plug and Play with 2019 Relay Kit



If the ILISC515-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](tel:530-823-1048).

Documents / Resources



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ILISC515-A, ILISC515-A is a Microprocessor Driven System, is a Microprocessor Driven System, Microprocessor Driven System, Driven System, System

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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