

# OWNERS MANUAL

## InPower Model ITM132 Platform Lift Interlock 2006+ Chevy & GMC GMT610 Vans

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### **1. Introduction**

This product is intended for installation in 2006+ GM (Chevy & GMC) GMT610 van chassis with FMVSS compliant, public use (commercial) platform lifts manufactured by The Braun Corporation, Ricon Corporation or Maxon Mobility. If another type of lift is to be used, contact the lift manufacturer to determine its compatibility.

The ITM132 interlock system is designed to meet the requirements of FMVSS 403/404 and therefore must be installed in accordance with the lift manufacturer's instructions. The installer must be trained and skilled in installing FMVSS compliant lift systems. The installation must also comply with SAE (Society of Automotive Engineers) and GM electrical wiring procedures.

### **2. Product Description**

The ITM132 interlock system consists of a control module, remote driver's LED display, and chassis interface wiring harness. The control module is a non-microprocessor-based control device. It contains two connectors for interfacing to the remote LED display and wiring harness. The "plug and play" GM chassis harness contains two tee-cables that connect to the parking brake switch and shift lock solenoid that are both located under the dash. A set of nine 1/4 inch male Faston blade terminals are provided for interface to the platform lift system, door switch, transmission Park switch, +12 volt power and ground. There is also a flashing door output that can be used to power an indicator light to show when the lift door is ajar/open or another door is open/ajar if the optional DRV DR input is used.

### **3. Installation Procedures**

#### **3.1 Safety Precautions**



#### **WARNING**

**This interlock product has been designed and manufactured to meet the intended application requirements and specifications. Any modifications to the product or to the installation procedure can be dangerous and will void InPower's warranty.**

- Read and understand the instructions in this manual and other manuals before starting the installation.
- Make sure that the vehicle battery power is disconnected during installation of the Interlock and lift systems.
- Reconnect the battery when the system installation is complete.
- Wear appropriate safety equipment, such as protective eyeglasses, face shield and clothing when installing equipment and handling the battery.
- Be careful when working near a battery. Make sure that the area is well ventilated and that there are no flames near the battery. Never lay objects on the battery that can short the terminals together. If battery acid gets in your eyes, immediately seek first aid. If acid gets on your skin, immediately wash it off with soap and water.

### 3.2 Getting Started

This manual provides instructions for installing the InPower Model ITM132 Interlock System in a 2006+ GM van chassis with a FMVSS compliant, public use (commercial) platform lift. It is important that you follow these instructions carefully and contact InPower if you need assistance or more information. Note that product technical documents are available on InPower's web site.



**Before installing and operating this interlock system, read and understand the lift manufacturer's safety, operating and installation instructions.**

This interlock system installation requires additional parts and materials that are not supplied with the interlock product (See Section 9.2). Identify all required parts before starting the installation and ensure that these items are the correct type and quality.

Inspect the interlock product and all other components for damage before starting the installation. Do not perform the installation if any problems exist.

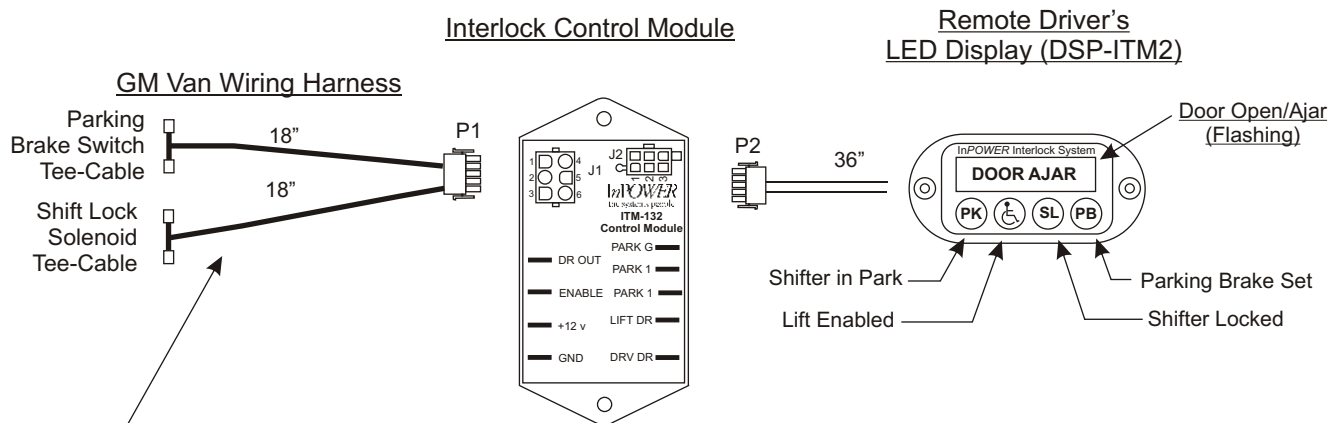
Determine the type of interlock interface required for the platform lift. This interlock system provides a +12 volt @ 10 amps *Lift Enable* output to allow the platform lift to be operated. If the lift system is not compatible with this interface signal you must take the necessary actions to adapt the lift system interface to the interlock system's interface. Refer to the lift manufacturer's installation instructions for further details.

The recommended mounting location for the ITM132 interlock module is under the dash, to the left of the steering column due to the proximity of the wiring connections. **The unit must not be located in the engine compartment or any location that is not protected from the environment.**

### 4. System and Circuit Diagrams

The following pages show the individual circuits that need to be wired. The following section, 5. Installation Instructions, describes how to wire these circuits.

### Interlock System Layout

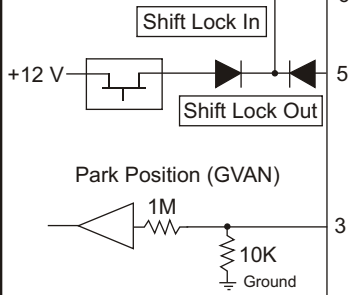


Note - There are two cables available, depending on the chassis type and model year:

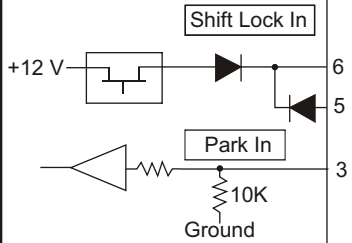
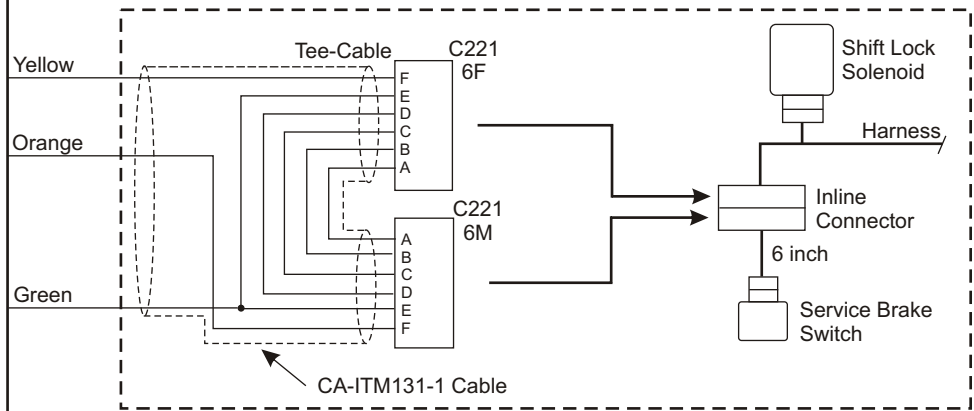
1. CA-ITM131-1                      2006-2007 Gvan
2. CA-ITM131-5                      2008+ Gvan (Park from Shift Lock solenoid circuit)

**InPOWER ITM-132 Interlock Module**

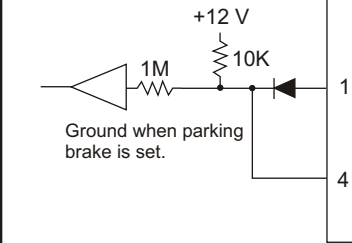
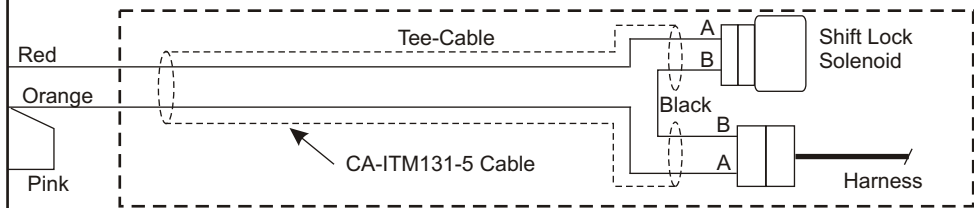
**J2**



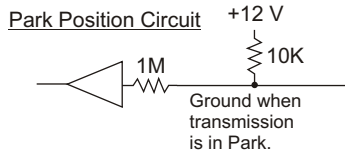
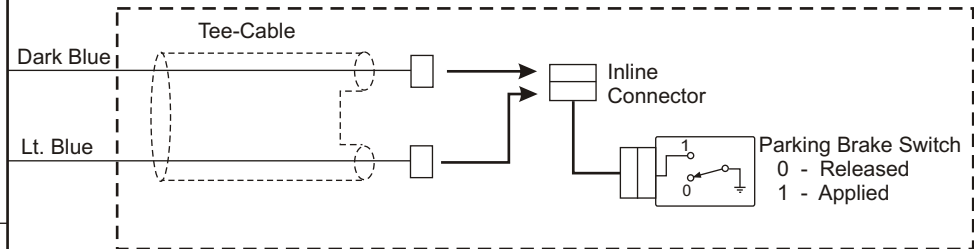
**CIRCUIT 1A - Shift Lock Solenoid & Park Position Cable (2006-2007 Van Chassis)**



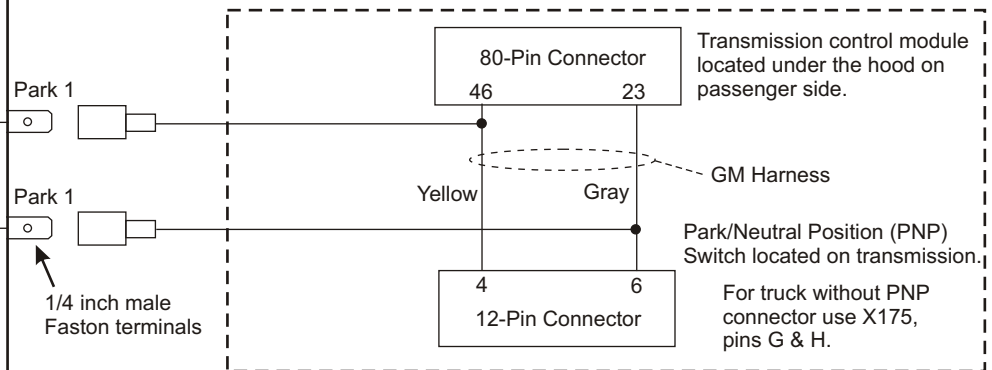
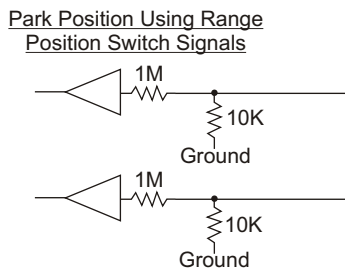
**CIRCUIT 1B - Shift Lock Solenoid Cable (2008+ Van Chassis)**

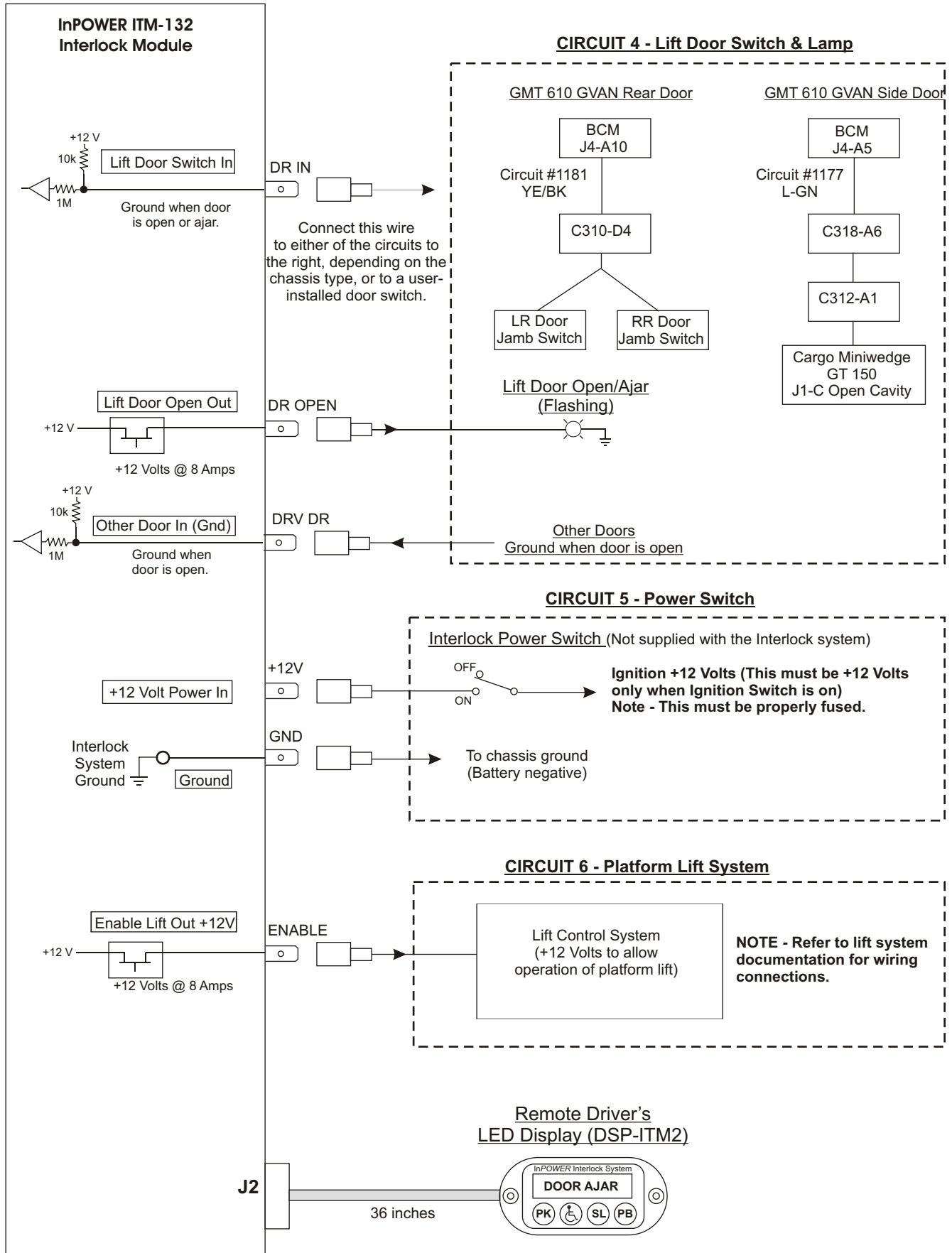


**CIRCUIT 2 - Parking Brake Cable (Van Chassis)**



**CIRCUIT 3 - Park Position (2008+ Van Chassis)**





## 5. Wiring Instructions



### WARNING

**Make sure that the vehicle battery power is disconnected during installation of the Interlock and lift system. Reconnect the battery when the system installation is complete.**

#### **Circuit 1A - Shift Lock Solenoid & Park Position Cable (2006-2007 Van) (Cable CA-ITM131-1)**

1. Locate the 6-pin inline connector C221 brake switch harness to L/P harness.
2. Connect the GVAN tee-cable harness between these mating connectors.
3. Refer to Circuit #1A Drawing and GM document #888457.

#### **Circuit 1B - Shift Lock Solenoid Cable (2008+ Van) (Cable CA-ITM131-5)**

1. Locate the shift lock solenoid.
  2. Disconnect the harness plug from the solenoid assembly.
  3. Install the tee-cable as shown in Circuit Diagram 1B.
- Note - Park position is picked up from the shift lock harness by monitoring the chassis shift lock signal. This Park signal is available when the ignition is on and the service brake pedal is not depressed.

#### **Circuit 1C - Shift Lock Solenoid Cable (2008+ Van) (Cable CA-ITM131-3)**

1. Locate the shift lock solenoid.
2. Disconnect the harness plug from the solenoid assembly.
3. Install the tee-cable as shown in Circuit Diagram 1B.

#### **Circuit 2 Parking Brake Switch Cable**

1. Locate the 2-pin inline connector C220 next to the parking brake. This 2-pin connector will have only one wire installed.
2. Connect the GVAN parking brake tee-cable harness between these two connectors.
3. Refer to Circuit #2A Diagram and GM document #888451.

#### **Circuit 3 - Park Position Cable (2008+ Van)**

Notes:

1. This circuit is only required if Park is not obtained by using Circuits 1A or 1B.
2. This method requires wiring into the Allison transmission harness to connect to two range sensor signals.
  1. Determine the best location to splice into the two wires shown in Circuit Diagram # 3A.
  2. Install a wire between one of the PARK 1 terminals on the interlock module and the wire running between the 80-pin Allison TCM connector (Pin-46) and the transmission 12 pin connector (Pin-4)\*.
  3. Install a wire between the other PARK 1 terminal on the interlock module and the wire running between the 80-pin Allison TCM connector (Pin-23) and the transmission 12 pin connector (Pin-6)\*.
  4. When complete the wiring should be as shown in Circuit #3).

\* For trucks without PNP module use connector X175, pins G & H.

#### **Circuit 4 Wiring (Lift Door Switch and Light )**

1. For van installations you will need to locate the door switch wiring using Circuit #4 Diagram as a reference. When you have located the door switch wire in the GM harness install a wire between this wire and the LIFT DR terminal on the interlock module.
2. For installations on G-Van/Cutaway chassis you will need to install a door switch and wire this switch so that when in the door open position a ground will be applied to the LFT DR terminal on the interlock Module.
3. If a door open light is required, wire the light to the DR OUT terminal on the interlock module as shown in the Circuit #4 Diagram.

#### **Circuit 4 - Other Door Inputs (Optional)**

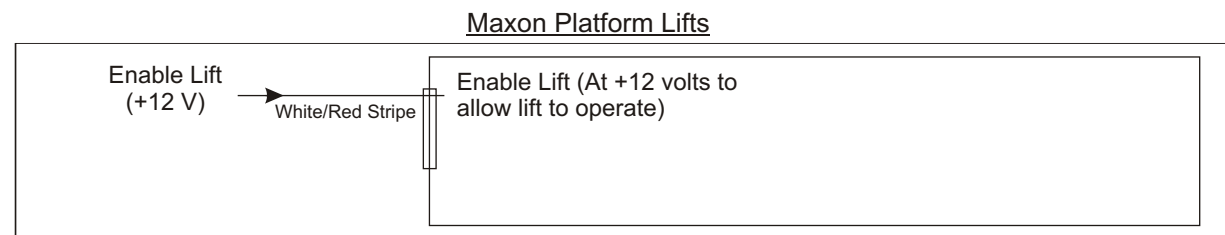
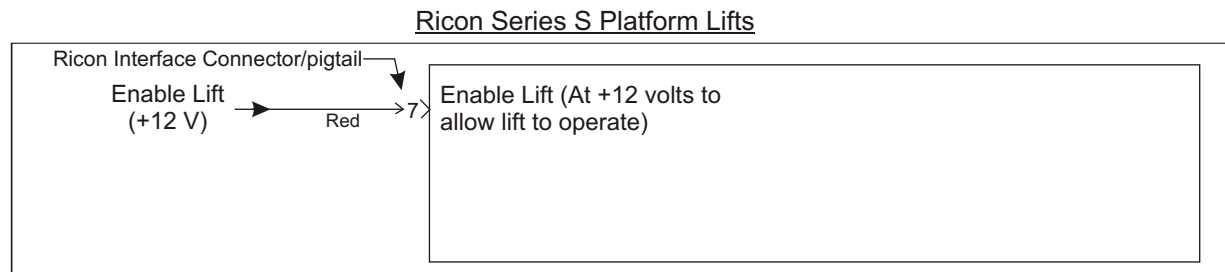
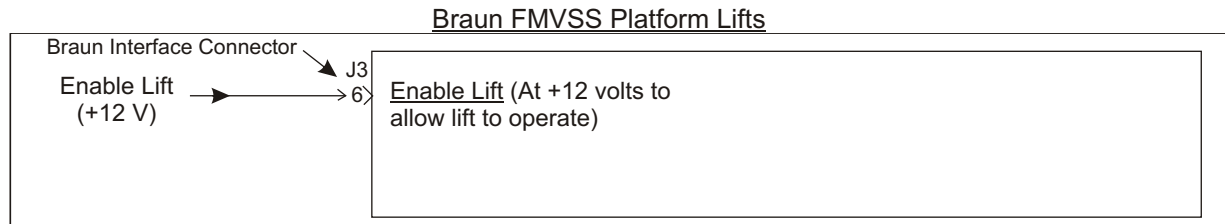
If monitoring of the doors other than the lift door is required, connect them to the DRV DR terminal. This input will flash the door ajar indicator on the remote display and flash the door output (DR OUT) but will not activate the lift.

## 5. Wiring Instructions (Continued)

### Circuit 5 Wiring (Platform Lift)

- Review the platform lift installation manual and determine how to wire the ITM132 interlock to the following lift interface connections:
  - Enable Lift - This is an **input** to the lift system. When at +12 volts, the platform lift can be operated. Install a wire from the platform lift's *Enable Lift* input to the ENABLE terminal on the interlock module.  
**Note - The ITM132 will supply a +12 volt @ 10 amp output to allow operation of the lift. Verify that this is the correct polarity for the platform lift.**

The following diagrams show the wiring interface of typical platform lift systems. **Be sure to verify the exact wiring interface for the lift system that you have.**



### Circuit 5 Wiring (Interlock System Power Switch)

The installer must supply a two-position On-Off Interlock Power Switch. This switch may be mounted on the dash at a convenient location.

NOTE - An alternative method is to wire the interlock module power input directly to a +12 volt power source that is powered by the Ignition Switch, and delete the Interlock Power Switch.

- Mount the Interlock Power Switch.
- Wire the “common” side of the Power On/Off switch to a properly fused +12 volt fused ignition switch source (**powered when the ignition switch is On**). Refer to the GM documentation for location of customer access ignition circuits.
- Wire the “On” position side of the switch to the +12V terminal on the interlock module.
- When complete, you should have +12 volt fused power on the interlock module +12V terminal when the ignition switch is On and the Interlock Power Switch is On.

**NOTE - Do not power the interlock system directly from the Battery or any power source that is not fused and turned off with the ignition switch.**

- Install a wire from a good ground to the GND terminal on the interlock module.

## 5. Wiring Instructions (Continued)

### Remote Driver's LED Display

The LED display includes a 36 inch cable that is attached to the underside of the display at one end and contains a 6-pin connector plug at the other end. Mount the display in a suitable location on the dash (usually to the right of the steering wheel). Drill a hole in the dash so that the cable can be routed through and behind the dash. Attach the display with the to mounting screws provided, route the cable to the ITM132 control module, and insert the cable plug into connector J2.

**NOTE - Consult GM documentation before drilling to verify the location of all critical components and harnesses.**

### 6. Interlock System Operation

The interlock system is powered from the Interlock Power Switch and the Ignition Switch when they are both in the On position. The following is the interlock system sequence of operation:

- Step 1 - With the interlock powered on, place the transmission in the Park position.
- Step 2 - Set the parking brake.
- Step 3 - Open the lift door. When opened, the transmission shift lock will be set to prevent the transmission from being taken out of Park, and the Lift Enable will be set to allow operation of the platform lift. The Lift Door Open light, if installed, will operate.
- Step 4 - The platform lift may now be operated (Refer to the platform lift operating instructions). Note - During the Lift Enable sequence, if the parking brake is released or if the service brake pedal is pressed the Lift Enable will be deactivated, preventing lift operation.
- Step 5 - When the lift cycle is completed return the lift to its fully stowed position.
- Step 6 - Close the lift door. Note - Depending on how the door switch is wired, all doors may need to be closed.
- Step 7 - Release the parking brake. When released, the shift lock will be automatically released.
- Step 8 - The cycle is now complete and the vehicle can be taken out of Park and driven.

### 7. System Troubleshooting

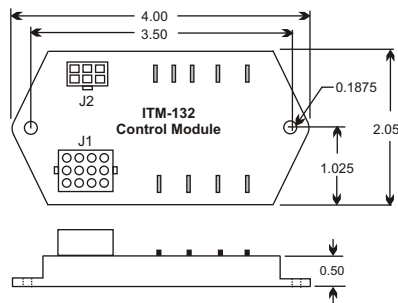
If there is a problem with system operation, there is a very high probability that the control module has: A) either lost its ground or +12 volt power source, or B) that one or more of its inputs are not being actuated by the remote switch (e.g., Lift Door Switch). Most troubles are related to wiring problems, or switches either failing or becoming out of adjustment.

#### Troubleshooting Procedure:

- Step 1 - Determine if the control module is powered. If the LEDs on the remote display are illuminated you have power. If none are illuminated, check the +12 volt supply on +12V terminal with a voltmeter. Also check that the module is getting a good ground on the GND terminal.
- Step 2 - If the ground and power are correct, first reset the interlock system by turning off its power. Then, step through the operating sequence as described in Section 6. *Interlock System Operation*, and note the status of the red LED indicators on the remote display. Pay particular attention to the inputs such as the lift door switch input. Verify that the input status LEDs agree with the switch positions.

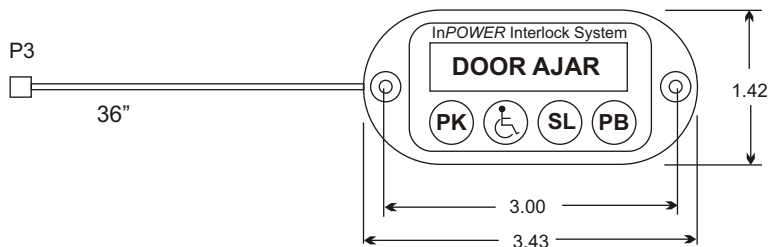
## 8. Mechanical Drawing

Model ITM132 Control Module



All dimensions in inches. Not to scale.

Driver'S LED Display



## 9. Reference Information

### 9.1 Company Contacts

#### GM Upfitter Integration

www.gmupfitter.com  
Tel: 1-800-875-4742  
Fax: 1-586-492-1085

#### Ricon Corporation

7900 Nelson Road  
Panorama City, CA 91402  
(818) 267-3038  
(800) 322-2884  
www.riconcorp.com

#### The Braun Corporation

631 West 11th Street  
Winamac, IN 46966  
(574) 946-6153  
(800) 946-6158  
www.braunlifts.com

#### Maxon Lift Corp.

11921 Slauson Avenue  
Sante Fe Springs, CA 90670  
(562) 464-0099  
(800) 227-4116  
www.maxonlift.com

### 9.2 Required Parts Not Supplied with ITM132 Interlock

1. Power switch and fuse. See page 3, Circuit 3.
2. Lift Door Open indicator light, if required. See page 3, Circuit 4.
3. Lift Door Closed switch, if not using GM door switch. See page 3, Circuit 4.
4. Miscellaneous wire, mounting hardware, wire tie wraps, wire loom.