

# PTM506-BW (Pre-Trip Module)

2011-2016 Ford F250-F550 (A-PTM506-BW)

2017 Ford F-250-F550 (B-PTM506-BW)



## Introduction

The PTM506 controls exterior lights for Pre-Trip Inspection. Lamp Test mode cycles lights ON and OFF so the user can verify all exterior lights are working. PTM will also provide separate outputs for Aftermarket Left Turn Lamps, Right Turn Lamps, and Parking Lamps (optional).

Additionally the PTM506-BW has an optional Bluetooth module that reports a number of vehicle parameters to a paired tablet or other Bluetooth enabled device.

## Installation Instructions



**WARNING**  
Disconnect the battery to  
prevent setting a check engine  
light.

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.

It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna's or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

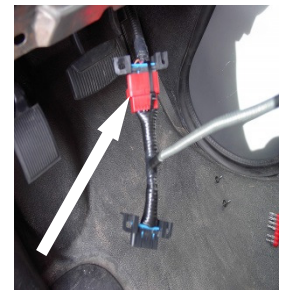
## PTM Module

Remove the lower dash panel below the steering column and find a suitable location to mount the module. Do not mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module. Mount the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Route the harnesses such that the tilt steering column does not contact them in the full down position. When installing the harnesses, leave several inches of take-out in order to remove the module if necessary.

## Data Link Harness

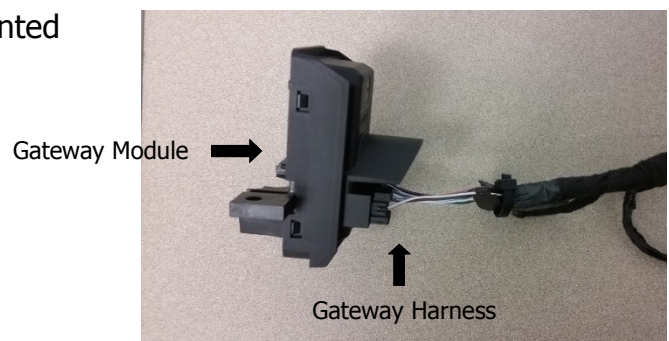
### A-PTM506-BW (2011-2016 Ford F250-F550)

1. Locate the vehicle's OBDII Data Link Connector. It will be located below the lower left dash panel.
2. Remove the mounting screws for the OBDII connector. Plug the red connector from the CVC501/502 Data Link T-Harness into the vehicle's OBDII connector. Ensure the connection is fully seated and secured with the supplied wire tie.
3. Mount the black connector from the CVC501/502 Data Link Harness in the former location of the vehicle OBD II connector.
4. Connect the 6-pin Data Link Connector Pin #1 Red wire to a +12v Hot in Run and Crank power source.
5. Secure the CVC501/502 harness so that it does not hang below the lower dash panel.
6. Plug the 6-pin connector from the Data Link Harness into the 6-Pin connector on the module.



### B-PTM506-BW (2017 Ford F-250-F550 and 2016-2017 F-150)

1. Locate the vehicle's Gateway Module. It will be mounted below the lower left dash panel.
2. Remove the harness behind the Gateway module by pressing the locking tab and pulling outward.
3. Plug the Female side of the Intermotive Gateway Harness into the back of the Gateway module. Ensure the connection is fully seated and secured by the locking tab.
4. Plug the Male side of the Intermotive Data Link Harness into the Gateway harness.
5. Secure the CVC Gateway harness so that it does not hang below the lower dash panel.



# PTM506 Connector Definition

## 8-Pin PTM Input Pin-Out Definition (J4)

Connector J4 contains the PTM's 2 discrete wire inputs. One is active low and the other is active high. The active low inputs have their own internal pull up resistors so they can be left floating when not used or not active.

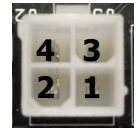
The 2 input pins on connector J4 are defined as follows (supplied cable harness S-H50FX):

- Pin #1 - Green/White wire to momentary low true input to enable PTM mode.
- Pin #2 - Not Used
- Pin #3 - Red/White wire momentary high true input to enable PTM mode.
- Pin #4 - Not Used
- Pin #5 - Not Used
- Pin #6 - Not Used
- Pin #7 - Not Used
- Pin #8 - Not Used



**J4 connector**

Connect the inputs to the vehicle equipment as indicated. Do NOT connect both Pin 1 and Pin 3, only one method of activation can be used. Choose the method for the vehicle and connect only the input needed to the appropriate momentary switch.



**J5 connector**

## 4-Pin PTM LCO Connector Pin-Out Definition (J5)

Connector J5 contains the PTM's low current output (LCO) pins for aftermarket turn signal LED's. Each output is 12V rated at 1A.

The 2 LCO pins on connector J5 are defined as follows (supplied cable harness S-H65KX):

- Pin #1 - LCO 1, Yellow, Left Turn Signal
- Pin #2 - LCO 2, Green, Right Turn Signal
- Pin #3 - LCO 3, Not Used
- Pin #4 - LCO 4, Not Used

Connect the outputs to the vehicle equipment as indicated.

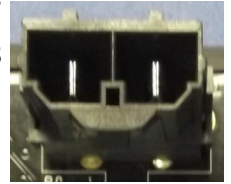
# Trailer Tow Package (-L)

Optional package which contains components to control the parking lights on the Trailer Tow connector for a 2017 F250-F550.

## PTM Power Connection (J6)

Locate the supplied power harness (supplied cable harness S-H118AX) that will be connected later to the 2-pin Molex Mini-Fit Senior connector, J6. Connect the end of the red wire directly to a +12V vehicle battery source (using an inline 20 amp fuse is recommended.) Connect the end of the black wire to a clean bare metal chassis ground. The installer **must** provide strain relief on the cable outside of the PTM's enclosure. It is recommended that the strain relief is within 6" of the enclosure. The absence of strain relief could result in damage to the module.

Pin 1 2  
# Ground Power



J6connector

## PTM 16w Minifit Jr (Red Jumpers) (J7)

This connector is a 16-pin Molex Mini-Fit Plus connector and is used to connect the relay inputs with the source that is needed for the application.



J7 connector

Connect S-H30HX red wire connector into 16-pin connector.

## 4-Pin SABRE Outputs for Parking Lights (J8)

Connector J8 (S-H117GX) contains a fused relay output pin for the parking lights. The relay output is capable of 10A maximum.

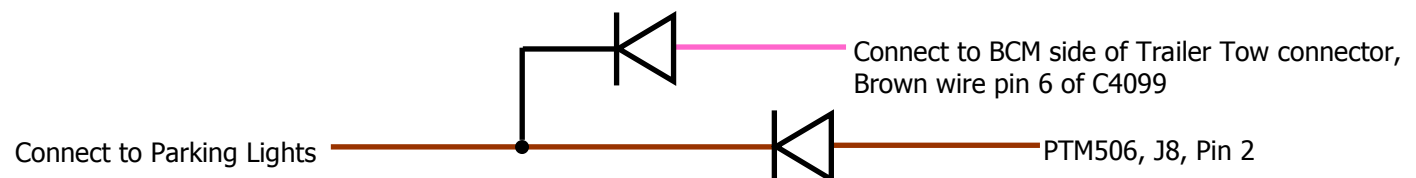
Pin # 4 3 2 1



J8 connector

- Pin #1 - N/C
- Pin #2 - Relay Output 2, Fuse 2, Brown Wire (Pink Wire for Diode), Parking Lamps
- Pin #3 - N/C
- Pin #4 - N/C

1. Locate the Trailer Tow Connector C4099 near back of the Vehicle.
2. **Verify** with a DVM that there is 12V on Pin 6 (Brown) when the parking Lights are on and 0V when the lights are off.
3. Cut the Brown wire, about 3 inches from the connector.
4. Attach the BCM side of the Brown , to the Pink wire of the PTM Harness
5. Attach the Lamp side of the Brown , wire to the Brown wire of the PTM Harness.



## Post Installation System Operation Test

Perform the following tests before actually mounting the module, to allow easy viewing of the diagnostic LED's, if needed.

1. Place the ignition in the Run position and verify that LED's 1 - 4 turn On indicating Bluetooth was successfully renamed.
2. Cycle the ignition Off and On and verify that LED's 1 - 4 turn Off when the ignition is in the Run position.
3. Place transmission in Park, apply parking brake.
4. Momentarily apply a ground signal to 4w minifit jr pin #1 (green/white) to enable Pre-Trip mode. Or momentarily apply a +12V signal to 4w minifit jr pin #3 (red/white) to enable Pre-Trip mode.
5. When Pre-Trip is engaged the module will cycle the exterior lights. **Note:** This will cycle for about 5 mins and shut off automatically.
6. Release parking brake and confirm Pre-Trip is disabled.
7. Apply parking brake and repeat step 5 to confirm that Pre-Trip mode can once again be enabled.

If the PTM506 fails any of the above tests, check harnesses and review instructions, or check diagnostics below. If necessary, call InterMotive Technical Support at (530) 823-1048.

## Diagnostics

Diagnostic mode is entered by pressing the red button switch. There are 4 pages of diagnostics and each page is determined by the number of flashes of the Status LED. The module provides diagnostic LEDs which illuminate according to the following table below.

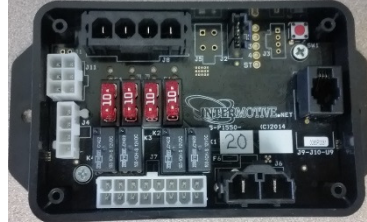
To exit this mode, press the red button one more time after opening the 4th page of diagnostics.

STATUS LED	Page 1	Page 2	Page 3	Page 4
LED_1	n/a	PB	PTM Mode	BT Connected
LED_2	Left TS	VSS<2	n/a	n/a
LED_3	Right TS	TR=Park	Active High Trigger	n/a
LED_4	n/a	n/a	Active Low Trigger	n/a

# PTM506-BW (Pre-Trip Module)

2011-2016 Ford F250-F550 (A-PTM506-BW)

2017 Ford F-250-F550 (B-PTM506-BW)



## System Operation

The Pre-Trip Inspection Module cycles the exterior lights in order to assist the customer to verify all lights are working.

Lamp Test mode may be initiated by either a momentary ground or a momentary power input.

### Lamp Test Mode:

To enter Lamp Test Mode all conditions must be met.

- Transmission in Park
- Apply Parking Brake
- Vehicle speed zero.
- Momentarily ground the Green/White wire **or** apply 12v to the Red/White wire.

To exit Lamp Test Mode any condition may be applied:

- Momentarily ground the Green/White wire **or** apply 12v to the Red/White wire.
- Release Parking Brake,
- Place Transmission out of Park.

Part # S-M1550-05

**PTM506-BW**

Part # S-H65KX

Left Turn Signal — YELLOW 1

Right Turn Signal — GREEN 2

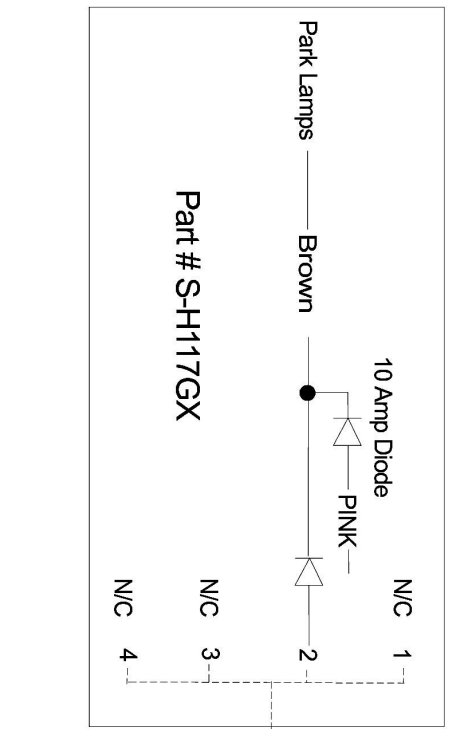
Part # S-H118AX  
1 — Ground  
2 — Power

OPTIONAL (A-PTM1-A1 Option)

N/C 3  
N/C 4

Part # S-H117GX

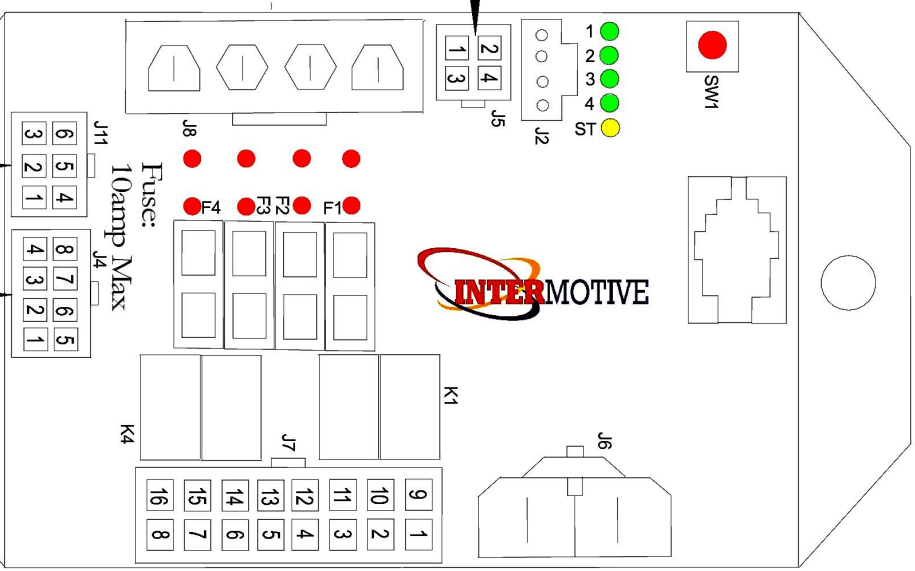
N/C 1  
N/C 2  
N/C 3  
N/C 4



2011 - 2016 : Part # S-H33AJX

2017 : Part # S-H133AHX

(CAN 1 High) — YELLOW — 1  
(CAN 2 High) — GREEN — 2  
(CAN 1 Low) — N/C — 3  
(CAN 2 Low) — BROWN — 4  
BLUE — 5  
6



4 — RED  
12 —

Part # S-H30HX

1 GREEN/WHITE — (Active Low Input)  
2 N/C  
3 RED/WHITE — (Active High Input)  
4 N/C  
5 N/C  
6 N/C  
7 N/C  
8 N/C  
(Use Only One Input)

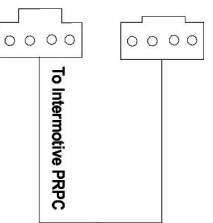
Part # S-H50FX

**Submit product registration at [www.intermotive.net](http://www.intermotive.net)**

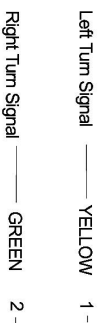
If the PTM fails any step in the System Operation Test, review the installation instructions and check all connections.  
If necessary, call Intermotive Technical Support at (530) 823-1048

PTM506-B-110718-CAD

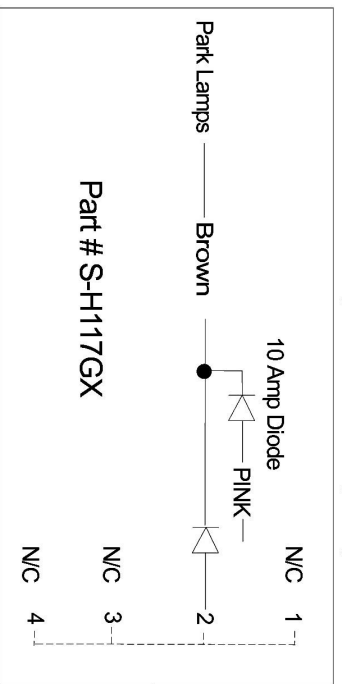
Part # S-H32HX-02



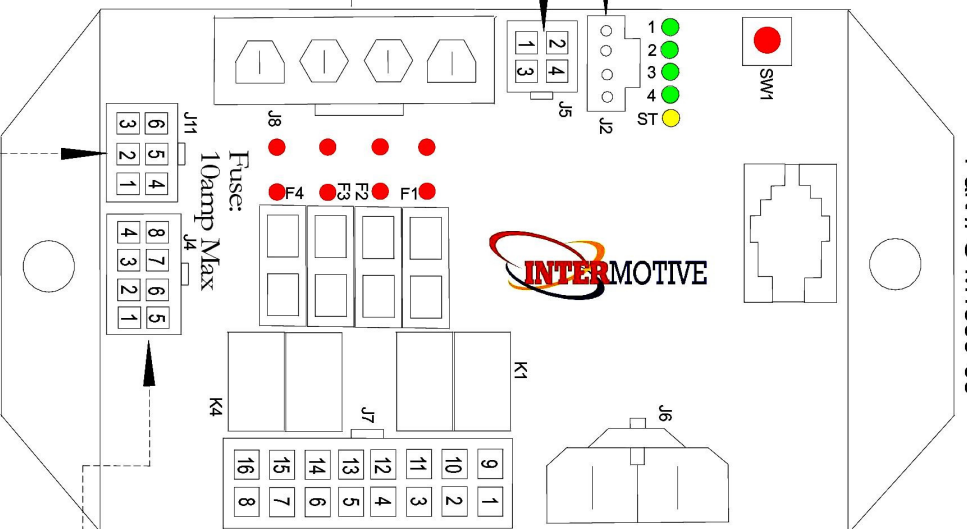
Part # S-H65KX



OPTIONAL (A-PTM1-AL Option)



Part # S-M1550-05



Part # S-H118AX

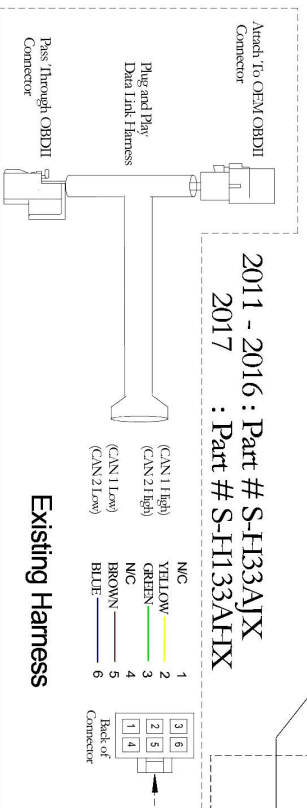
- 1 ----- Ground
- 2 ----- Power

Part # S-H30HX

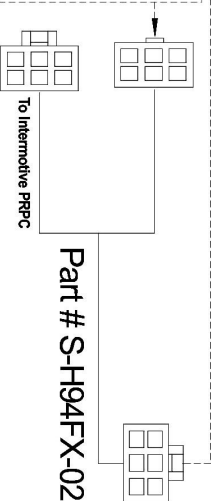
- 4 -----
- 12 ----- RED

Part # S-H50FX

- 1 GREEN/WHITE - (Active Low Input)
  - 2 N/C
  - 3 RED/WHITE - (Active High Input)
  - 4 N/C
  - 5 N/C
  - 6 N/C
  - 7 N/C
  - 8 N/C
- (Use Only One Input)



Existing Harness



Submit product registration at [www.intermotive.net](http://www.intermotive.net)

If the PTM fails any step in the System Operation Test, review the installation instructions and check all connections. If necessary, call Intermotive Technical Support at (530) 823-1048

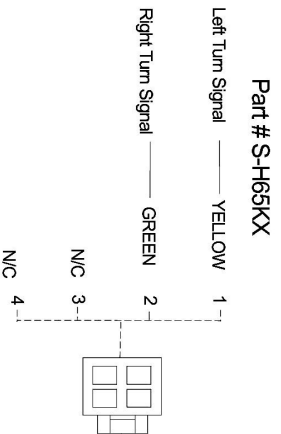
PTM506-B-110718-CAD

PTM506-BP/BPW

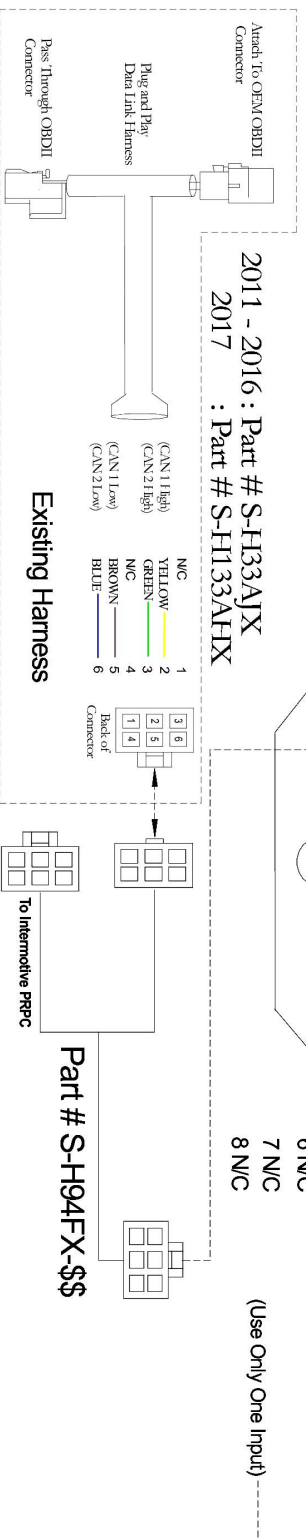
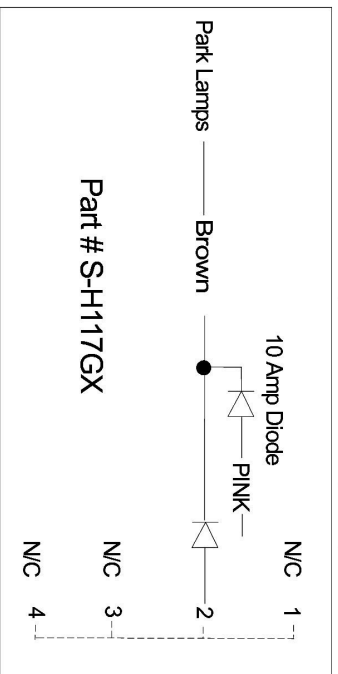


# PTM506-BW-YA\$\$

Part # S-M1550-05



## OPTIONAL (A-PTM1-AL Option)



**Submit product registration at [www.intermotive.net](http://www.intermotive.net)**

If the PTM fails any step in the System Operation Test, review the installation instructions and check all connections. If necessary, call Intermotive Technical Support at (530) 823-1048

PTM506-B-110718-CAD