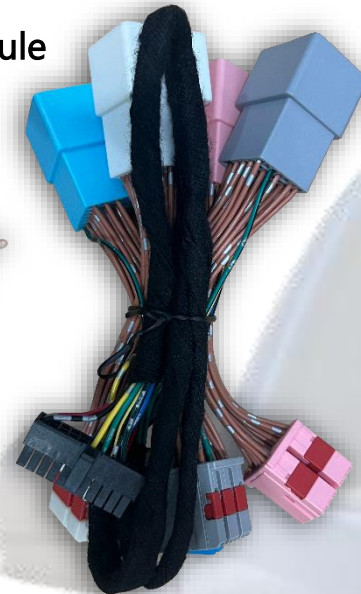


PAGE	DESCRIPTION
1	<i>This Page</i>
2	<u>Z-WAGZ BCM Operation and Kit Contents</u>
3	<u>Z-WAGZ BCM FORD Installation</u>
4	<u>Z-WAGZ BCM GM Installation</u>
5	<u>Z-WAGZ BCM GM LED Status</u>
6	<u>Z-WAGZ BCM FORD LED Status</u>
7	<u>Z-WAGZ OBD Operation and Kit Contents</u>
8	<u>Z-WAGZ OBD Installation</u>
9	<u>Z-WAGZ OBD LED Status</u>

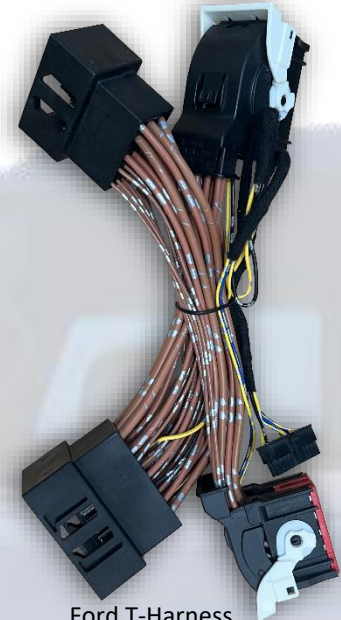
Plug & Play, BCM-Controlled, OE Light Flash Module



Activation Switch
(optional use)



GM T-Harness
(ZW-BCM-GM only)



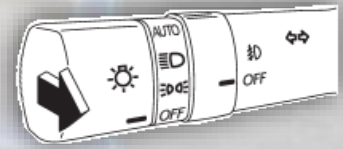
Ford T-Harness
(ZW-BCM-FRD only)

Thank you for purchasing a genuine Z-WAGZ unit, the simplest BCM-module for flashing OEM lights with a press of a button. This unit comes pre-programmed with 8 different light patterns, some for halogen systems & some for LED systems – see below for full operation information including on-board LED status.

Operation for Ford and GM vehicles is the same:

1. Install the Z-WAGZ unit to the OE BCM unit. Follow instructions on page 2 (for Ford) or 3 (For GM).
2. Turn Ignition ON (Ignition must be on for proper operation). Leave vehicle in Park.
3. **To activate Z-WAGZ:**
 - Press and HOLD the **high beam** lever (5 sec) OR
 - Press and HOLD the provided push button (3 sec) OR
 - Send a Ground (-) signal to the **red wire** (designed to be extended for OE up-fitter switches)

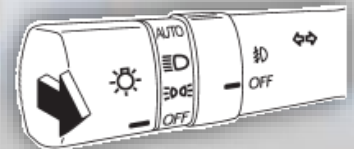
Pattern 1 will begin to flash. Once pattern 1 begins, the hazards in the gauge cluster will blink 1 time, indicating Pattern 1 has been selected and the LED on the unit will blink **BLUE**. See chart for remaining pattern color indication.



4. **To switch to Pattern 2:** (Pattern 1 must be currently active)
 - Engage either turn signal, then press and HOLD the **high beam** lever once more (5 sec). OR
 - Press & release the provided push button

The hazards will blink twice indicating Pattern 2 has been selected. Repeat this process to switch to the next pattern.

5. **To deactivate Z-WAGZ:**
 - Press and HOLD the **high beam** lever OR
 - Press and HOLD the provided push button OR
 - Release Ground (-) signal to the **red wire** (if connected this way)



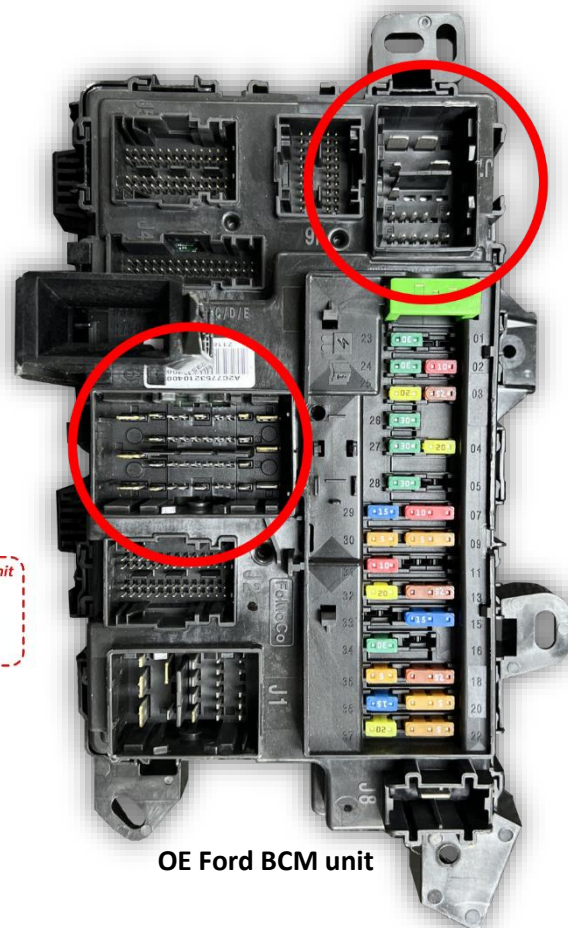
NOTES:

- Vehicles equipped with LED lights should use LED patterns. Vehicles equipped with standard bulbs should use bulb patterns.
- *Drive Mode* (anything outside of PARK gear) will emit its own, separate pattern from whatever pattern is currently selected. This is a limitation of the vehicle and how light data is handled when not in *PARK* gear.
- Not all lights on the vehicle are necessarily used, some lights are not controllable via BCM CAN data.
- Z-WAGZ will retain the last used pattern, even after being disconnected from the BCM (if ever).
- When in *Drive Mode*, turn signals, headlights & reverse lights will override pattern flashing, until turned off again.
- When on some patterns, in some vehicles, the reverse camera image may show up/flash on the OE screen (if equipped). This is a factory limitation and is normal. If you want to avoid this, use a pattern which removes the reverse light flashing.

Ford Vehicle Installation



1. Locate the BCM unit. The chart below indicates the BCM location in various vehicles.
2. With the vehicle OFF: disconnect the (2) circled plugs shown. Connect the male side of each T-Harness to the BCM and the (removed) plugs into the female side of the Z-WAGZ BCM harnessing. These connectors can only fit in one place and connect in one way.
3. Connect the Z-WAGZ BCM unit to the 22-pin connector, tie-wrap the unit to another harness if desired.
4. Return to page (1) for operation instructions.



OE Ford BCM unit

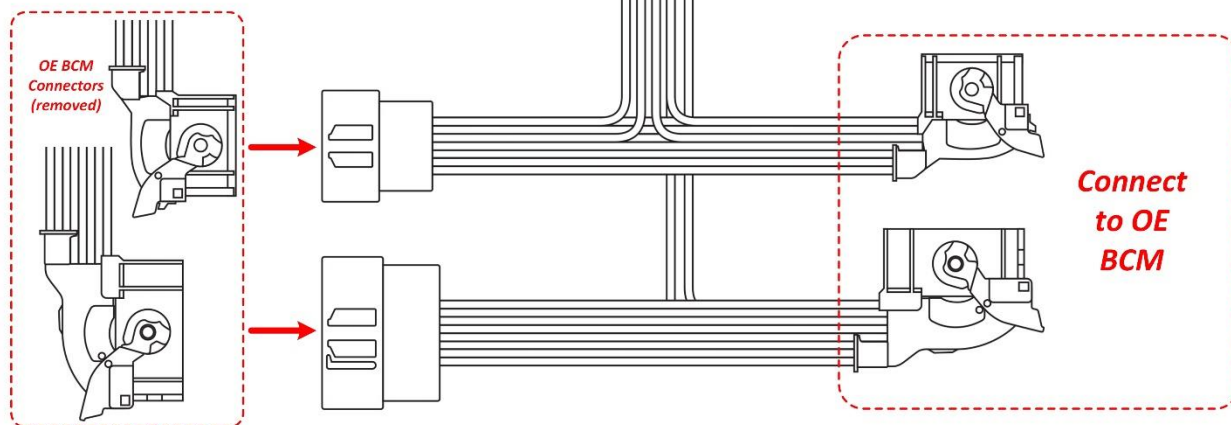
Ford BCM Locations:

MODEL	LOCATION
F-Series Trucks (all)	Passenger side kick panel
Explorer	Behind lower dash panel, left of steering wheel



Confirmed Vehicles:

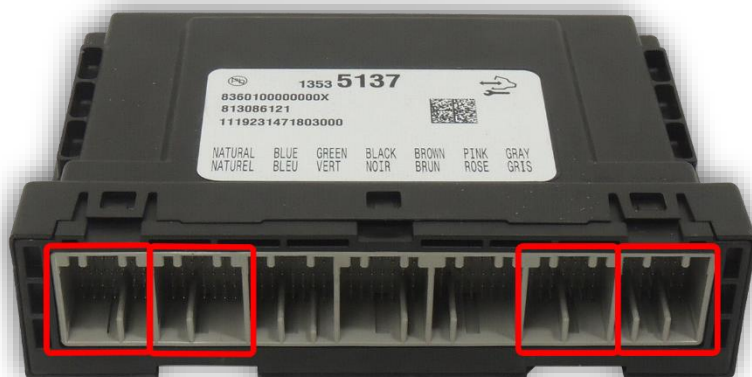
MAKE	MODEL	YEAR
Ford	Expedition	2018
	F150 XLT, STX, Raptor	2019-2022
	Explorer	2022
	F350	2019



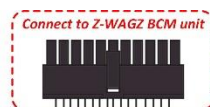
GM Vehicle Installation



1. Locate the BCM unit. The chart below indicates the BCM location in various vehicles.
2. With the vehicle OFF: disconnect the (4) highlighted plugs shown. Connect the male side of each T-Harness to the BCM and the (removed) plugs into the female side of the Z-WAGZ BCM harnessing. These connectors can only fit in one place and connect in one way and are color matched to the OE plugs.
3. Connect the Z-WAGZ BCM unit to the 22-pin connector, tie-wrap the unit to another harness if desired.
4. Return to page (1) for operation instructions.



OE GM BCM unit

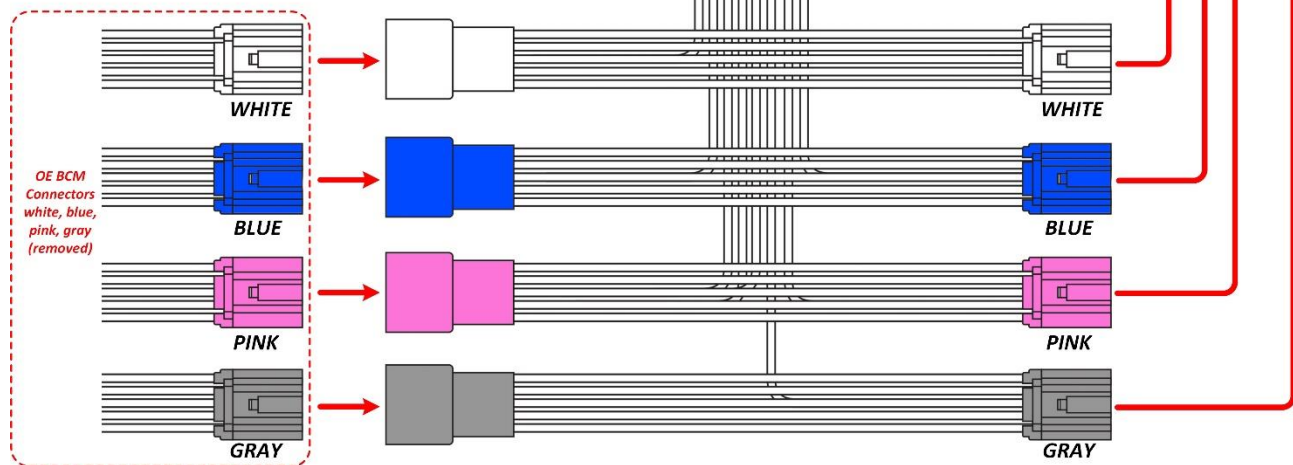


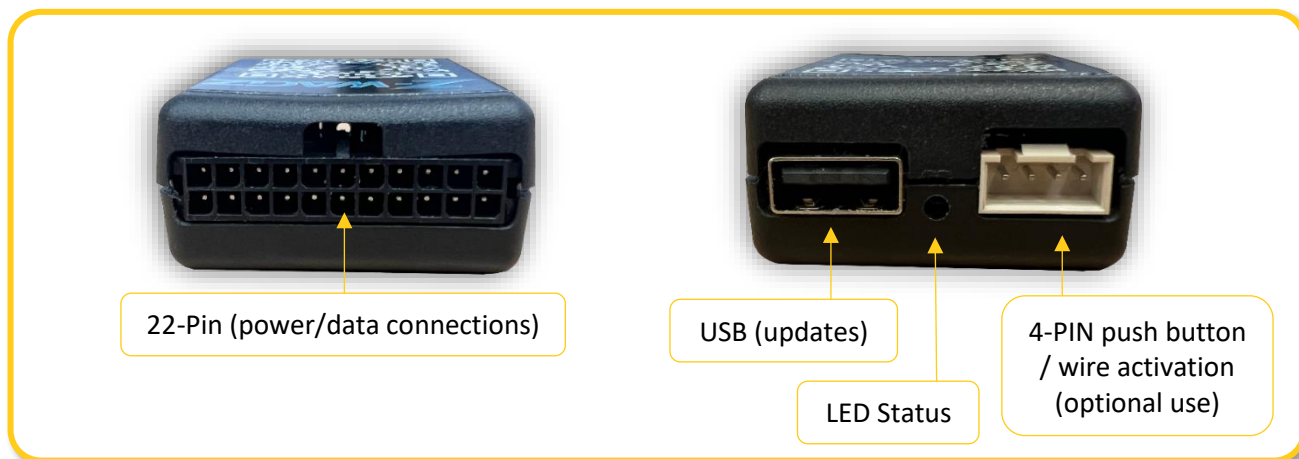
GM BCM Locations:

MODEL	LOCATION
Silverado/Sierra/Colorado	Underneath steering wheel / dash area

Confirmed Vehicles:

MAKE	MODEL	YEAR
GM	Silverado	2018, 2021, 2022
	Colorado	2018
	Sierra	2021
	Sierra 2500 HD	2021





GM LED Status / Patterns

START-UP INDICATION		
Description	LED Status	More Information
Initial Wake Up	Blinks BLUE (1 time)	---
Unit recognizes CAN bus	Blinks BLUE (3 times)	Upon CAN data wake
Unit detects ACC info	Blinks BLUE (1 time)	Upon Turning Ignition ON
Unit detects GEAR info	Blinks VIOLET (1 time)	Upon switching gears
Unit detects HIGH BEAM press OR External button press	Solid BLUE	Upon pressing High Beam lever or provided push button
No response from vehicle/CAN	Solid OR Blinks RED	While Z-WAGZ is activated
PATTERN INDICATION		
Description	LED Status	More Information
Pattern 1	BLUE , off, BLUE , off	BASE PATTERN (LED PATTERN)
Pattern 2	RED , off, RED , off	BASE PATTERN + HIGH BEAMS (LED PATTERN)
Pattern 3	BLUE , RED , BLUE , off	WATERFALL PATTERN (LED PATTERN)
Pattern 4	RED , BLUE , RED , off	BLINK 2x PATTERN (LED PATTERN)
Pattern 5	BLUE , off, RED , off	BASE PATTERN (NO REV LIGHT) (LED PATTERN)
Pattern 6	BLUE&RED , off, BLUE&RED , off	BASE PATTERN (NO LOW BEAM) (LED PATTERN)
Pattern 7	BLUE , BLUE&RED , BLUE , off	BASE PATTERN (NO LOW BEAM, NO REV) (LED PATTERN)
Pattern 8	RED , BLUE&RED , RED , off	BASE PATTERN SLOWER (BULB PATTERN)
Pattern 9	BLUE , off, BLUE&RED , off	BASE PATTERN + HIGH BEAMS SLOWER (BULB PATTERN)
Pattern 10	RED , off, BLUE&RED , off	WATERFALL PATTERN SLOWER (BULB PATTERN)
Pattern 11	BLUE&RED , BLUE , BLUE&RED , off	BLINK 2x PATTERN SLOWER (BULB PATTERN)
Pattern 12	BLUE&RED , RED , BLUE&RED , off	BASE PATTERN (NO REV LIGHTS) SLOWER (BULB PATTERN)
Pattern 13	BLUE , RED , off, off	BASE PATTERN (NO LOW BEAM) SLOWER (BULB PATTERN)
Pattern 14	RED , BLUE , off, off	BASE PATTERN (NO REV or LOW) SLOWER (BULB PATTERN)
POWER CONSUMPTION		
Current Draw Active:	100mA MAX	
Current Draw idle:	4mA MAX	
Trigger wire act:	0V	
Trigger wire idle:	3.3V	
Current limit:	10mA	

FORD LED Status / Patterns

START-UP INDICATION		
Description	LED Status	More Information
Initial Wake Up	Blinks BLUE (1 time)	---
Unit recognizes CAN bus	Blinks BLUE (3 times)	Upon CAN data wake
Unit detects ACC info	Blinks BLUE (1 time)	Upon Turning Ignition ON
Unit detects GEAR info	Blinks VIOLET (1 time)	Upon switching gears
Unit detects HIGH BEAM press OR External button press	Solid BLUE	Upon pressing High Beam lever or provided push button
No response from vehicle/CAN	Solid OR Blinks RED	While Z-WAGZ is activated
PATTERN INDICATION		
Description	LED Status	More Information
Pattern 1	BLUE , off, BLUE , off	BASE PATTERN (LED PATTERN)
Pattern 2	RED , off, RED , off	BASE PATTERN + HIGH BEAMS (LED PATTERN)
Pattern 3	BLUE , RED , BLUE , off	BASE PATTERN + MIRROR BLINKERS (LED PATTERN)
Pattern 4	RED , BLUE , RED , off	BASE PATTERN + MIRROR BLINKERS + HIGH BEAMS (LED PATTERN)
Pattern 5	BLUE , off, RED , off	BASE PATTERN (NO REV LIGHT) (LED PATTERN)
Pattern 6	BLUE&RED , off, BLUE&RED , off	BASE PATTERN BACK SIDE LIGHTS SLOWER (BULB PATTERN)
Pattern 7	BLUE , BLUE&RED , BLUE , off	BASE PATTERN + ALL LIGHTS SLOWER (BULB PATTERN)
Pattern 8	RED , BLUE&RED , RED , off	BASE PATTERN + ALL LIGHTS + MIRROR BLINKERS SLOWER (BULB PATTERN)
Pattern 9	Off, BLUE , off, BLUE&RED	BASE PATTERN + ALL LIGHTS + HIGH BEAM SLOWER (BULB PATTERN)
Pattern 10	Off, RED , off, BLUE&RED	BASE PATTERN + ALL LIGHTS + HIGH BEAM + MIRROR BLINKERS SLOWER (BULB PATTERN)
POWER CONSUMPTION		
Current Draw Active:	100mA MAX	
Current Draw idle:	4mA MAX	
Trigger wire act:	0V	
Trigger wire idle:	3.3V	
Current limit:	10mA	

Plug & Play, OBD2-Controlled, OE Light Flash Module

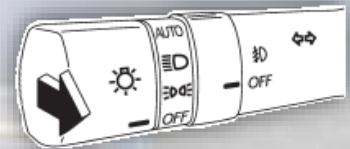
Thank you for purchasing a genuine Z-WAGZ unit, the simplest OBD2-module for flashing OEM lights with a press of a button. This unit comes pre-programmed with 8 different light patterns, some for halogen systems & some for LED systems – see below for full operation information including on-board LED status.



Security Gateway Bypass (18+ FCA only)

Operation:

6. Connect the Z-WAGZ unit to the OBD2 port.
7. Turn Ignition ON (Ignition must be on for proper operation). Leave vehicle in Park.
8. **To activate Z-WAGZ:**
 - Press and HOLD the **high beam** lever (5 sec) OR
 - Press and HOLD the provided push button (3 sec) OR
 - Send a Ground (-) signal to the **red wire** (designed to be extended for OE up-fitter switches)

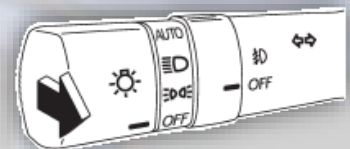


Pattern 1 will begin to flash. Once pattern 1 begins, the hazards in the gauge cluster will blink 1 time, indicating Pattern 1 has been selected and the LED on the unit will blink **BLUE**. See chart for remaining pattern color indication.

9. **To switch to Pattern 2:** (Pattern 1 must be currently active)
 - Engage either turn signal, then press and HOLD the **high beam** lever once more (5 sec). OR
 - Press & release the provided push button

The hazards will blink twice indicating Pattern 2 has been selected. Repeat this process to switch to the next pattern.

10. **To deactivate Z-WAGZ:**
 - Press and HOLD the **high beam** lever OR
 - Press and HOLD the provided push button OR
 - Release Ground (-) signal to the **red wire** (if connected this way)



NOTES:

- Vehicles equipped with LED lights should use LED patterns (1-4). Vehicles equipped with standard bulbs should use bulb patterns (5-8)
- *Drive Mode* (anything outside of PARK gear) will emit its own, separate pattern from whatever pattern is currently selected. This is a limitation of the vehicle and how light data is handled when not in PARK gear.
- Not all lights on the vehicle are necessarily used, some lights are not controllable via OBD CAN data.
- Z-WAGZ will retain the last used pattern, even after being disconnected from the OBD2 port.
- When in *Drive Mode*, turn signals, headlights & reverse lights will override pattern flashing, until turned off again.
- For FORD (only), **pattern 4** is an 'Alternative Mode' pattern. Some vehicles do not respond to typical data, therefore this pattern method was created.

Confirmed Vehicles*:

MAKE	MODEL	YEAR
Ford	Expedition	2018
	F150	2013-2019
	F250	2016-2019
	F350	2016-2019
Lincoln	MKC	2019
Dodge	Challenger	2018
	Charger	2013
	Durango	2016
	Journey	2019
	RAM 1500	2019-2021
Jeep	Grand Cherokee	2018



*Vehicles on this chart have been tested to function properly. More models will be added over time. Other vehicles not listed here may still function.

FCA (Chrysler, Dodge Jeep) vehicles manufactured 2018+ require the OE security module to be bypassed (included) for Z-WAGZ to function. The location of this module varies per vehicle.



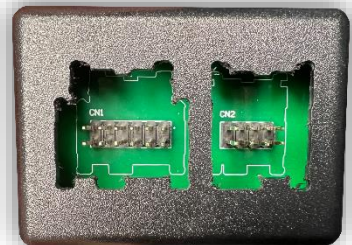
OE FCA Security Gateway Module



OE Security Gateway Module Locations

MODEL	SGW Location
Durango	Left side of pass footwell
Jeep Grand Cherokee	Left side of pass footwell
RAM 1500 Classic (DS: pre facelift)	Behind radio screen
RAM 1500 DT (facelift)	Directly above OBD2 port
RAM 2500-5500	Behind Cluster/Speedometer
Challenger	Behind radio screen
Charger/300	Left side driver's footwell
Journey	Driver's side dash, behind paneling

****If bringing vehicle to dealer, remove this gateway bypass and return connectors to factory module.***



Once the gateway module is located and accessible, with the key off, remove both plugs and connect to the provided bypass module*. Secure with zip tie or other method to prevent pulling.

LED Status

START-UP INDICATION		
<i>Description</i>	<i>LED Status</i>	<i>More Information</i>
Initial Wake Up	Blinks BLUE (1 time)	Upon connection to OBD port
Unit recognizes CAN bus	Blinks BLUE (3 times)	Upon connection to OBD port
Unit detects ACC info	Blinks GREEN (1 time)	Upon Turning Ignition ON
Unit detects GEAR info	Blinks VIOLET (1 time)	Upon switching gears
Unit detects HIGH BEAM press OR External button press	Solid GREEN	Upon pressing High Beam lever or provided push button
No response from vehicle/CAN	Solid OR Blinks RED	While connected to OBD and Z-WAGZ activated
PATTERN INDICATION		
<i>Description</i>	<i>LED Status</i>	<i>More Information</i>
Pattern 1	Blinks BLUE	<i>LED PATTERN</i>
Pattern 2	Blinks GREEN	<i>LED PATTERN</i>
Pattern 3	Blinks RED	<i>LED PATTERN</i>
Pattern 4	Alternates GREEN & BLUE	<i>ALT MODE (FORD)</i>
Pattern 5	Alternates GREEN & RED	<i>BULB PATTERN</i>
Pattern 6	Alternates BLUE & RED	<i>BULB PATTERN</i>
Pattern 7	Alternates VIOLET & GREEN	<i>BULB PATTERN</i>
Pattern 8	Alternates LIGHT BLUE & RED	<i>BULB PATTERN</i>
POWER CONSUMPTION		
Current Draw Active:	100mA MAX	
Current Draw idle:	4mA MAX	
Trigger wire act:	0V	
Trigger wire idle:	5V	
Current limit:	10mA	