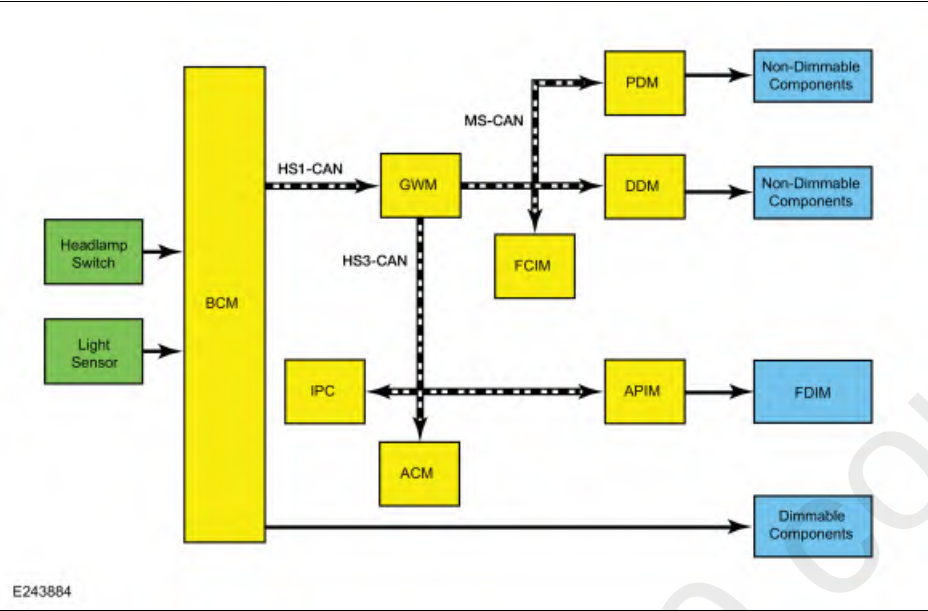


Instrument Panel and Interior Switches Illumination - System Operation and Component Description

System Operation

System Diagram



Item	Description
1	FDIM
2	BCM
3	Headlamp Switch
4	Dimmable Components
5	Light Sensor
6	FCIM
7	ACM
8	APIM
9	IPC
10	PDM
11	Non-Dimmable Components
12	GWM
13	Non-Dimmable Components
14	DDM

Network Message Chart

ACM, APIM, DDM, FCIM, IPC, PDM Network Input Messages

Broadcast Message	Originating Module	Message Purpose
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Illumination dimming level	BCM	Used to command the dimmable illumination level for networked modules with integrated backlighting, and for modules that provide voltage to components or relay the message to other components.
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DDM, PDM Network Input Messages

Broadcast Message	Originating Module	Message Purpose
Courtesy battery saver	BCM	Used to turn the non-dimmable illumination on or off for components wired to the DDM and the PDM.

Dimmable Illumination

The illumination dimming level is controlled by the BCM. The BCM sends 2 voltage signals to the headlamp switch, one for the brightness increase and the other for brightness decrease. Based on the dimmer switch input from the headlamp switch, the BCM calculates the dimming level.

The dimmable illumination sources are controlled directly from a voltage supplied circuit by a module, indirectly from the BCM by sending a network message to a module that contains backlighting (such as the IPC, or from a module that receives the backlighting message and provides voltage directly to the switch or through communication to the switch over a LIN circuit.

The BCM is the master module that controls the dimmable illumination. The BCM accomplishes this by:

- providing PWM voltage directly to backlit switches.
- sending a message over the network to modules that contain integrated backlighting.
- sending a message over the network to modules that in turn provide PWM directly to backlit switches.

Dimmable backlit components that receive voltage directly from a module through a circuit are:

NOTE: *Some components are optional and are not equipped on every vehicle.*

BCM

- Adjustable pedal switch
- Exhaust brake/roll stability control switch
- Hazard flasher/stability control switch
- Headlamp switch
- Heated rear seat switch
- Ignition switch (push button)
- Lane departure switch
- Mode select switch (MSS)
- Overhead console/front dome lamp switch
- Spot lamp switch
- Stability assist disable switch
- Steering wheel mounted switches
- Tailgate release switch
- Upfitter auxiliary switches

Modules that contain integral Light Emitting Diodes (LEDs) are sent a message from the BCM indicating the backlighting intensity level. The receiving modules use the illumination brightness level message to set the backlighting intensity of internal illumination sources. If a module does not receive the illumination brightness level message or the data received is deemed invalid, the module defaults to full nighttime intensity.

Additionally, if the IPC does not receive the ambient light level message from the BCM for up to 5 seconds, the IPC illumination remains at the last level based on the last message received.

The following modules have dimmable illumination integrated into them :

NOTE: *Some modules are optional and are not equipped on every vehicle.*

- FCIM
- FDIM
- IPC

Non-Dimmable Illumination

The BCM sends the ignition status to the DDM and the PDM over the network. Based on the ignition status, the DDM and the PDM each provide voltage to the following components:

DDM

- Left front door lock control switch
- Power telescoping mirror switch

PDM

- Right front door lock control switch
- Right front window control switch

The driver window control switch illumination is controlled internally and receives voltage from the accessory delay relay for the power window system. The non-dimmable illumination is on when the accessory delay relay is energized.

The rear window switch illumination is controlled by the window lock-out switch. The window lock-out switch provides voltage to the rear window switches for operation of the power windows from the rear window switches. When the window lock-out switch is pressed, the rear window switch illumination and the power windows do not operate from the rear window control switches.

The power sliding window switch receives voltage from the accessory delay relay for the power sliding window system. This also provides voltage for the switch non-dimmable illumination internal to the switch.

Component Description

Headlamp Switch

The headlamp switch has the dimmer switches integrated into it. They are momentary contact switches. The headlamp switch is monitored by the BCM. When the dim up or dim down button is pressed, the signal from the BCM is routed to ground indicating a request to increase or decrease the illumination brightness level.

BCM

The BCM is the master module in control of the backlighting system.

The BCM requires PMI when replaced. Additionally, carry out the parameter reset procedure and program at least 2 keys.
