

Battery Saver

NOTE: Time-out is 10 seconds if the vehicle is in factory mode or 1 minute if the vehicle is in transport mode.

The BCM provides automatic shut-off of the courtesy and demand lamps after a time-out period when the ignition is off. When 10 minutes (30 minutes for demand lamps) have elapsed, the BCM automatically shuts off voltage to the lamps. A timer in the BCM starts/restarts (voltage is restored if the BCM is in battery saver mode) when:

- the ignition transitions to off.
- the front or rear interior lamp was switched on.
- any door becomes ajar.
- any button of a RKE transmitter is pressed.
- a door is unlocked using the passive entry feature.
- a valid code was entered on the keyless entry keypad.

Courtesy Lamps

The BCM controls the courtesy lighting and timing functions by monitoring inputs from the following:

- Ignition state
- Courtesy lamp switch (integrated into the overhead console)
- Door ajar switches
- Liftgate ajar switch (manual liftgate)
- RGTM (power liftgate only)
- RKE system

The BCM sends a voltage signal to each door ajar switch. When the doors are closed, the circuit is switched to ground and the voltage is pulled low, indicating closed doors.

For the manual liftgate, the BCM sends a voltage signal to the liftgate latch. When the liftgate is closed, the circuit is switched to ground and the voltage is pulled low, indicating a closed liftgate.

For the power liftgate, the BCM sends a voltage signal to the RGTM. When the liftgate is closed, the circuit is switched to ground and the voltage is pulled low, indicating a closed liftgate.

The BCM monitors the ignition state and inputs from the RKE system to determine when to energize the interior light relay. When the interior light relay is energized, voltage is provided to the interior lamps. The BCM controls the voltage side of the courtesy lamps for the illuminated entry and exit features.

For keyless entry, the BCM monitors input from the RKE transmitter (directly from the integrated keyhead transmitters (IKTs) on vehicles without push button start) or from the RFA module (on vehicles with push button start) to determine when to activate/deactivate the illuminated entry and exit functions.

For vehicles with memory mirrors, when the puddle lamps are requested, the BCM sends a message over the HS-CAN1 to the GWM. The GWM sends the message over the MS-CAN to the DDM and the PDM to provide voltage to the left and right puddle lamps based on messaged input from the BCM.

For police equipped vehicles, when police silent mode/dark car mode function is activated through the IPC message center, the courtesy lamps do not illuminate. Courtesy lamp operation returns to normal when police silent mode/dark car mode function is deactivated. For more information on police silent mode/dark car mode function, activation and deactivation, Refer to: Instrument Panel Cluster (IPC) - System Operation and Component Description (413-01 Instrumentation, Message Center and Warning Chimes, Description and Operation).

Illuminated Entry and Exit

The illuminated entry and exit features provide temporary illumination of the parking lamps, dimmable backlighting, ambient backlighting and courtesy lamps. Refer to the table for additional information.

NOTE: An arbitrator (software programming) within the BCM determines which actions take precedence over others (for example, an open door keeps the courtesy lamps on even when a command to lock the doors is received).

Action	Parking Lamps	Courtesy Lamps	Dimmable Backlighting	Ambient Lighting
RKE transmitter or mechanical unlocking of the doors	On for 25 seconds	On for 25 seconds	On for 25 seconds	Off
RKE transmitter or mechanical locking of the doors	Off	Off	Off	Off 3 seconds after courtesy lamps turned off
Open a closed door after previously unlocking (no ignition state change since unlock)	Off (on for remaining time if unlocked from transmitter or mechanical unlocking of the doors)	On	Off	On
Close all doors	Off	On for 25 seconds	On for 25 seconds	On for 25 seconds
Ignition changed to on	Off	On for 25 seconds	Off	On
Ignition changed out of on	Off	On for 25 seconds	On for 25 seconds	On for 25 seconds
Open a door after the ignition is changed to off	Off	On	Off	On (color is red on the open door)
Ignition is off and doors are unlocked from the door lock switch	Off	On for 25 seconds	Off	Off
Ignition is off and doors are locked from the door lock switch	Off	Off	Off	Off

Demand Lamps

When the BCM is in not in battery saver mode, the interior light output is energized to provide voltage to the demand lamps.

Ambient Lighting

The ambient lighting subsystem consists of the BCM and the Light Emitting Diodes (LEDs) located within the floor console, front door panels and front and rear footwell areas. The ambient lighting is operational when the ignition is in any state other than off (the exception is when it is used in conjunction with the illuminated entry/exit features), the headlamps are on and the outside ambient light level is low. The BCM provides the voltage to the ambient lighting system, while the touchscreen (FDIM) is used to cycle through the different color variations or turn the ambient lighting feature on or off. A LIN circuit is routed from the BCM to all of the Light Emitting Diodes (LEDs). There are 3 Light Emitting Diodes (LEDs) (red, blue and green) housed within each LED assembly. By illuminating various color combinations, the Light Emitting Diodes (LEDs) are able to produce different colors of ambient light.

The APIM uses software to monitor the user interface from the touchscreen. Based on the ambient lighting system selections made using the touchscreen, the APIM sends ambient light color request and ambient light intensity request messages over the communication network for color and brightness settings. The BCM retains the last color and brightness setting between uses.

Police Silent Mode/Dark Car Mode

For police equipped vehicles, the police silent mode/dark car mode feature disables activation of courtesy lamps due to a door unlock, door ajar or removing the key from the ignition cylinder. The courtesy lamps may still be activated by the dome lamp switch, post crash alert, and perimeter and panic alarms. The IPC message center provides a menu selection to allow the driver to activate the police silent mode/dark car mode. For more information on police silent/dark car mode operation, Refer to: Instrument Panel Cluster (IPC) - System Operation and Component Description (413-01 Instrumentation, Message Center and Warning Chimes, Description and Operation).

The police silent mode/dark car mode feature is enabled/disabled through programmable parameters in the BCM.

Refer to: Module Configuration - System Operation and Component Description (418-01 Module Configuration, Description and Operation).

Component Description

Door and Liftgate Ajar Switches

The door and liftgate ajar switches (ground switches) each receive a voltage signal from the BCM on independent circuits. When the door is closed, the door ajar switch is closed, routing the signal to ground. When the door is opened, the door ajar switch opens.

Interior Lamp

All of the interior demand lamps receive voltage from the demand lamp relay (integrated into the BCM) when the battery saver feature is not active. This is used by each interior lamp to power the demand LED within it.

All of the interior courtesy lamps receive voltage from the interior lighting output of the BCM.

The front interior lamp sends a message to the rear lamp(s) to activate/deactivate them through a LIN circuit.

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Diagnosis and Testing

Interior Lighting

Diagnostic Trouble Code (DTC) Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.
REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).

Diagnostic Trouble Code Chart

Module	DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
BCM	B1175:01	Driver Door Ajar Switch:General Electrical Failure	If the courtesy lamps are always on, GO to Pinpoint Test C
BCM	B1175:01	Driver Door Ajar Switch:General Electrical Failure	If the courtesy lamps are inoperative, GO to Pinpoint Test A
BCM	B1176:01	Passenger Door Ajar Switch:General Electrical Failure	If the courtesy lamps are always on, GO to Pinpoint Test C
BCM	B1176:01	Passenger Door Ajar Switch:General Electrical Failure	If the courtesy lamps are inoperative, GO to Pinpoint Test A
BCM	B11C0:01	Driver Side Rear Door Ajar Switch:General Electrical Failure	If the courtesy lamps are always on, GO to Pinpoint Test C
BCM	B11C0:01	Driver Side Rear Door Ajar Switch:General Electrical Failure	If the courtesy lamps are inoperative, GO to Pinpoint Test A
BCM	B11C1:01	Passenger Side Rear Door Ajar Switch:General Electrical Failure	If the courtesy lamps are always on, GO to Pinpoint Test C
BCM	B11C1:01	Passenger Side Rear Door Ajar Switch:General Electrical Failure	If the courtesy lamps are inoperative, GO to Pinpoint Test A
BCM	B12C2:11	Puddle Lamp:Circuit Short To Ground	GO to Pinpoint Test B
BCM	B12C2:15	Puddle Lamp:Circuit Short To Battery or Open	If the illuminated scuff plates are always on, GO to Pinpoint Test D
BCM	B12C2:15	Puddle Lamp:Circuit Short To Battery or Open	If one or both illuminated scuff plates are inoperative, GO to Pinpoint Test B
BCM	B1306:01	Liftgate Ajar Switch:General Electrical Failure	If the courtesy lamps are always on, GO to Pinpoint Test C
BCM	B1306:01	Liftgate Ajar Switch:General Electrical Failure	If the courtesy lamps are inoperative, GO to Pinpoint Test J
BCM	B1313:11	Interior Lighting Output:Circuit Short To Ground	GO to Pinpoint Test B
BCM	B1313:15	Interior Lighting Output:Circuit Short To Battery or Open	If the courtesy lamps are always on, GO to Pinpoint Test D
BCM	B1313:15	Interior Lighting Output:Circuit Short To Battery or Open	If the courtesy lamps are inoperative, GO to Pinpoint Test B
BCM	B145C:11	Ambient Lighting Power Supply Output:Circuit Short To Ground	GO to Pinpoint Test H
BCM	B145C:15	Ambient Lighting Power Supply Output:Circuit Short To Battery or Open	GO to Pinpoint Test H
BCM	B1465:00	Ambient Lighting Bus 1:No Sub Type Information	If all the ambient lighting is inoperative, always on or does not change color/intensity, GO to Pinpoint Test H