

Light Control System

- Provided that the ignition is ON and the light control switch is in the AUTO position, the light control system detects whether the surroundings are bright or dark and automatically illuminates the taillights and headlights. This system is provided on all models as standard equipment.
- The circuit that controls this system is built into the MPX body ECU, which is installed in the driver's side of the instrument panel.
- A function is provided to extend the light OFF delay time in order to prevent the headlight from momentarily turning back ON, such as when the headlights are momentarily relit under the control of the light control system after they are turned OFF.

Function

- The light control system controls the taillights and headlights as indicated in the table below, in accordance with the conditions such as the position of the light control switch or whether the surroundings are bright or dark.

Light operation by the light control system

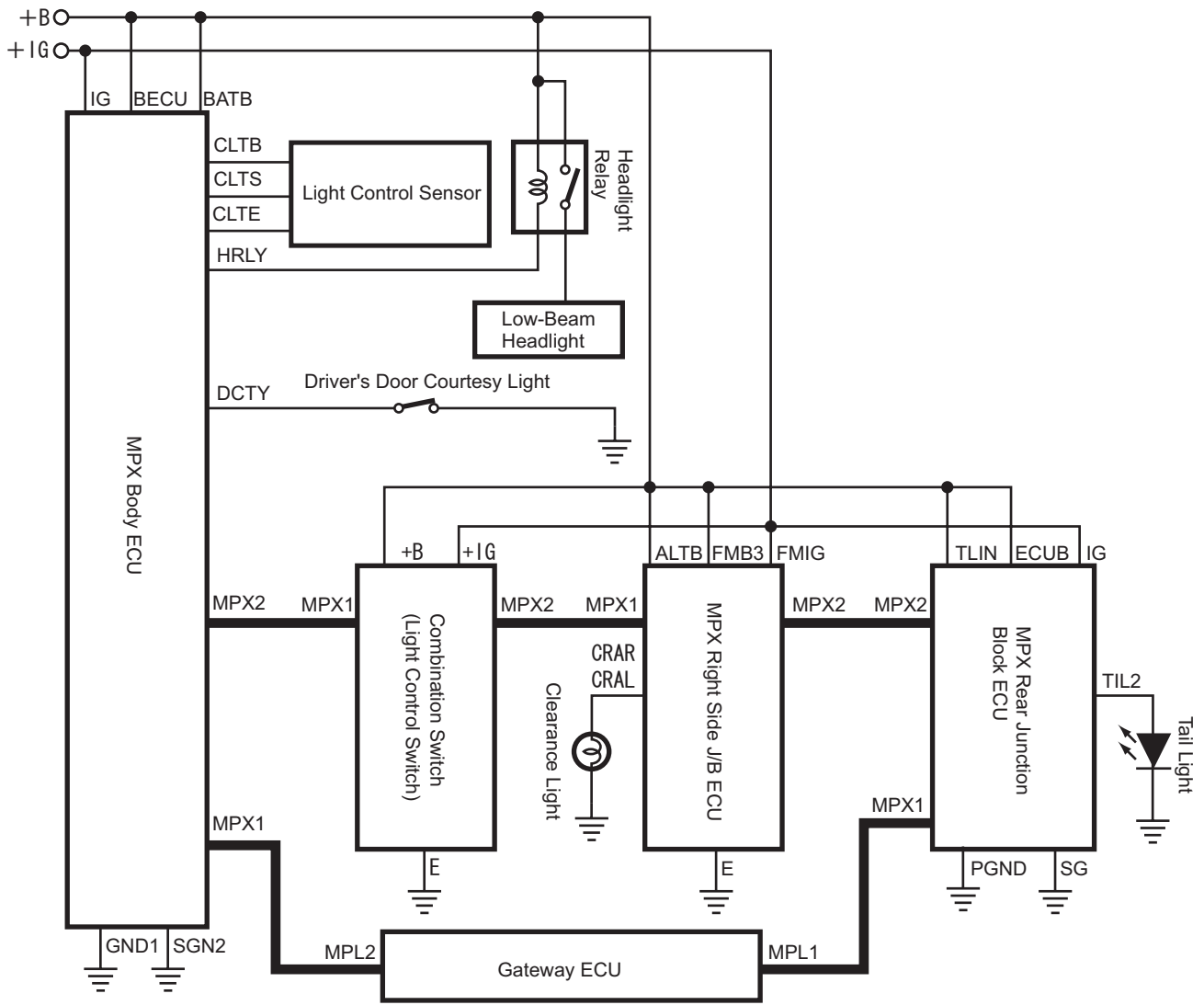
No.	Light Control Switch Position	IG	Driver Door Courtesy Light Switch	Surrounding Conditions	Taillights	Headlights
1	OFF	—	—	—	OFF	OFF
2	TAIL	—	—	—	Illumination	OFF
3	HEAD	—	—	—	Illumination	OFF
4	AUTO	ON	OFF	Bright	OFF	OFF
5	↑	↑	↑	Momentarily Dark	Illumination	OFF
6	↑	↑	↑	Semi-Dark	Illumination	OFF
7	↑	↑	↑	Dark	Illumination	Illumination
8	↑	↑	↑	Momentarily Bright	Illumination	Illumination
9	↑	OFF	↑	Dark	Illumination	Illumination
10	↑	↑	ON	↑	OFF	OFF
11	↑	↑	OFF	↑	OFF	OFF
12	↑	ON	↑	↑	Illumination	Illumination
13	↑	↑	ON	↑	Illumination	Illumination

Operation

- The control of the light control system is effected primarily by the MPX body ECU. However, the combination switch, MPX right side J/B ECU, and the MPX rear junction block ECU, which are connected by the BEAN (Body Electronics Area Network), exchange signals to control the light control switch operating signals, clearance light illumination, and the taillight illumination. The numbers used in the operations described below correspond to the numbers used in the List of Light Operations by the Light Control System.

Light Control System Operation

Condition	Basic Operation
The surroundings are bright (No. 4)	• If the surroundings are brighter than the taillight OFF brightness level or the headlight OFF brightness level, the system will turn OFF both the taillights and headlights.
The surroundings that are bright become momentarily dark (No. 5)	• While the surroundings are bright, if the headlight OFF brightness level changes to the ON brightness level, the taillights will turn ON because the taillight ON brightness level has already been reached. However, the headlights will not turn ON. If the surroundings are darker than the ON brightness level after the delay time has elapsed, the headlights will turn ON. However, if the surroundings are brighter than the ON brightness level after the delay time has elapsed, the headlights will remain OFF. This function prevents the headlights from momentarily turning ON when the surroundings become momentarily dark, such as when a vehicle that is being driven in bright surroundings encounters a spot of darkness under an overpass or along a tree-lined road. However, the headlights will turn ON if the surroundings become dark to the urgent headlight ON brightness level.
The surroundings are semi-dark, dark, or momentarily bright (No. 6 to No. 8)	• If the surroundings are semi-dark and darker than the taillight ON brightness level, the taillights will turn ON (No. 6) • From the state described above, if the surroundings become darker than the headlights ON brightness level, the headlights will turn ON (No. 7) • Even if the surroundings suddenly become bright with streetlights while the headlights are ON, the headlights will not turn OFF (No. 8)
The ignition is turned OFF (No. 9)	• If the driver turns the ignition OFF while any one of the foregoing states (No. 6 to No. 8) is in effect, both the taillights and headlights will remain ON. Then, if the driver turns OFF the light control switch and sets it again to OFF, both the taillights and headlights will turn OFF.
The driver turns the ignition OFF and opens the driver's door, or subsequently closes it (No. 10 and No. 11)	• If the driver's door is opened (thus turning ON the driver's door courtesy light switch) from the previous state (No. 9), both the taillights and headlights will turn OFF (No. 10) • If the driver's door is closed (thus turning OFF the driver's door courtesy light switch) from the foregoing state, both the taillights and headlights will remain OFF (No. 11)
The driver turns the ignition ON again while the driver's door remains closed (No. 12)	• If the driver turns the ignition ON again from the previous state (No. 10 or No. 11), and the surroundings are dark, both the taillights and headlights will turn ON.
The driver opens the driver's door again from the previous state (No. 13)	• Even if the driver opens the driver's door again (thus turning ON the driver's door courtesy light switch) from the previous state (No. 12), both the taillights and headlights will remain ON, provided that the surroundings are dark.



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Failsafe

- If the light control sensor outputs a frequency below 30Hz, the MPX body ECU determines that the light control sensor has failed or the wiring harness has an open or short circuit. Then, the MPX body ECU performs a failsafe function.
- The MPX body ECU recognizes an input failure from the light control sensor while the light control switch is in the AUTO position and the ignition is ON. Then, if the headlights and taillights are ON, the light auto cut system will turn them OFF or keep them ON until the light control switch is turned OFF. If the headlights and taillights are OFF, the light control system will not effect control, and the lights will remain OFF. If the light control sensor restores the output of the normal frequency while the failsafe function is being effected, the light control system will automatically restore its control.