■AUTOMATIC LIGHT CONTROL SYSTEM

1. General

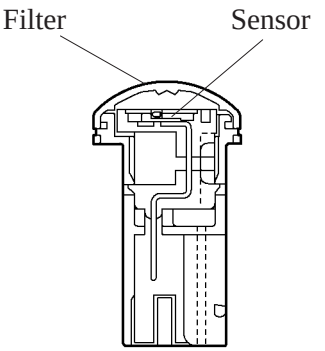
When the light control switch is at the AUTO position, the automatic light control sensor detects the ambient light and automatically turns the taillight and headlight on or off accordingly.
The automatic light control system of the new GS300 has the following features:

- The function for judging the light of the vehicle's surroundings and the function for controlling the taillight and headlight relays are enclosed in the No. 2 body ECU.
- A light sensitivity adjustment function, which is implemented by the customized body electronics system, has been provided.
- A control has been provided to reduce the instances in which the headlights are turned ON/OFF by this system.

2. Construction and Operation

Automatic Light Control Sensor

- The control function of the automatic light control system has been integrated in the No. 2 body ECU. Accordingly, the automatic light control sensor now consists only of the light sensor that detects the illuminance of the vehicle's surrounding light.
  The light sensor is comprised of a photo diode which senses the available light, power source circuit and frequency output circuit.
- The brightness that is detected by this sensor is transmitted to the No. 2 body ECU in the form of signals based on the frequency output system.
- The sensitivity of this sensor can be adjusted to 5 stages by the customized body electronics system.



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▶ Specifications ◀

Destination / Item		Europe*1	Australia G.C.C. Countries	
ON/OFF Delay Time for the Lights	OFF	Approx. 4 sec.	Taillight	Approx. 2.0 sec.
			Headlight	Approx. 4.0 sec.
	ON	Approx. 6 sec.	Taillight	Approx. 0.15 sec.
			Headlight	Approx. 1.0 sec.
		Approx. 0.25 sec.*2	Headlight	Approx. 0.25 sec.*2

*1: Headlights and taillights turn ON and OFF simultaneously.
*2: Control to turn ON the lights immediately when driving in a tunnel.

1) Frequency Output Circuit

The frequency output circuit varies the frequency of the pulses that are output by the sensor in accordance with the illuminance that is detected by the automatic light control sensor.

Frequency Varies from 50 Hz
According to Illuminance

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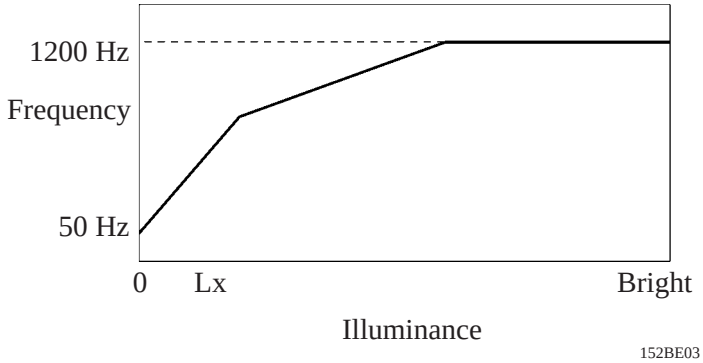
Output Pulse



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Frenquency Characteristics Diagram

No. 2 Body ECU

- The control functions of the automatic light control system, such as the function to judge the illuminance of the vehicle's surroundings and the function to control the taillight and headlight relays, are integrated in the No. 2 body ECU. Accordingly, the body ECU performs system control based on the illuminance signal that is sent by the automatic light control sensor.
- After the headlights are turned OFF, if the body ECU detects that the headlights are turned ON again within 10 seconds, the ECU changes the headlight OFF delay time from 4 seconds to 10 seconds. Accordingly, the ON/OFF operation of the headlights, which could occur while driving through a consecutive string of tunnels, can be minimized.