

Features of the High Beam Module



AI Overview

High beam modules provide adaptive illumination, automatic switching, and precise LED control to enhance night-time visibility while minimizing glare for other road users. Automatic High Beam Control Modern high beam modules often include High Beam Assist (HBA), which automatically switches between high and low beams based on detected ambient light and the presence of oncoming or preceding vehicles. A front-facing camera acts as a sensor to detect brightness and adjust the beam accordingly, ensuring optimal visibility without blinding other drivers (Hyundai).

Adaptive Illumination Advanced systems, such as Adaptive Driving Beam (ADB) and Adaptive High-Beam Systems, divide the high beam into multiple sections or LEDs. These systems can selectively dim or illuminate specific areas of the road to avoid glare while maintaining maximum visibility. For example, Honda's ADB splits the beam into upper and lower sections, adjusting light distribution to detect pedestrians and vehicles, improving safety in urban and low-light conditions. Lexus' system uses 24 independent LED chips across two rows to precisely control illuminated and non-illuminated areas, even dimming around vehicles while highlighting street signs.

CAN Bus Integration High beam modules can interface with a vehicle's CAN Bus to detect high beam activation and control additional lighting. The CANM8 CANNECT HIGHBEAM interface outputs 12V when the high beam is active, allowing seamless integration with auxiliary driving lights or custom applications.

LED and Bi-LED Technology Modules like the HELLA Bi-LED SlimLine combine low and high beam functions in a single headlamp, offering high color temperature illumination (around 5,500K) for daylight-like visibility. These modules are robust, dustproof, and vibration-resistant, suitable for harsh environments, and allow customization of bezel design for aesthetic purposes.

Safety Enhancements High beam modules often integrate with driver-assist systems, such as Front Cross Traffic Alert, to detect vehicles and bicycl...

Article Content

The CMS Phase-2 Fast Beam Condition Monitor prototype test with beam

The Fast Beam Condition Monitor (FBCM) is a standalone luminometer for the High Luminosity LHC (HL-LHC) program of the CMS Experiment at CERN. The detector is under development and

CANM8 CANNECT High Beam Output Interface

The CANM8 CANNECT HIGHBEAM is an ideal solution for vehicles which require the installation of additional driving lights (via a relay) which are switched on

Designing a TIR High Beam | Keysight

The document guides optical engineers through creating a functional high-beam module that meets performance and regulatory requirements, while demonstrating how LucidShape's advanced design

Adaptive High-beam System

This allows drivers to enjoy their most vividly lit night-time drive, providing exceptional visibility while delivering calmer driving conditions, without the need

Intelligent headlight control

High beam control improves driver visibility at night by automatically controlling the on/off function of the vehicle high beams through traffic detection. Using video data, the range of the low beam or high

What Is Automatic High Beams and How Do They Work?

Understand how automatic high beams enhance safety and visibility by using sensors and smart logic to manage headlight intensity.

HIGH BEAM ASSISTANT

High Beam Assistant (FLA) Model: E60, E61, E63 LCI, E64 LCI Production: From 2008 Model Year After completion of this module you will be able to: Understand the operation of FLA system

What Are Automatic High Beams?

Automatic high beams are a feature of modern vehicles' headlight systems. Here's how they work, when to use them, and when to shut them off.

Automatic High-Beam control -Autonexa

Automatic High-Beam Control (AHBC) is an advanced driver assistance feature designed to improve nighttime driving safety by automatically

How It Works: Automatic and Adaptive Headlights (Low

High beam headlights provide maximum illumination for dark roads and rural areas. Adaptive systems enhance high beam functionality by

[SpellChecker/dict at main · CaiQiuL/SpellChecker · GitHub](#)

Contribute to CaiQiuL/SpellChecker development by creating an account on GitHub.

Intelligent headlight control

Light functions The low beam activation function can automatically activate or deactivate the vehicle's low beam lights in accordance with the current lighting conditions. High beam control improves driver

LED high-beam module design for automotive headlight

In this paper, a laser-assisted light-emitting diode (LED) car high-beam headlight for modern cars is proposed. The headlight employs the LED light as the main light source of the car

High-beam assist - basic principles | HELLA

Glare-free high beam assist with vertical cut-off line The principle is simple: Driving with the high beam permanently on. The conventional low beam represents a

Matrix LED Headlights: Redefine Adaptive Front-lighting

Matrix LED headlights produce a glare-free high beam through pixel-level digital control of individually addressable LEDs. These adaptive lighting

90mm Bi-LED High and Low Beam Headlight Module

The 90mm Bi-LED headlights incorporate both the high and low beam into one projector module. One light source for each side of the vehicle. Features/Benefits

CAN Bus High Beam Interface | CANNECT HIGHBEAM

The CANM8 CANNECT HIGHBEAM is a CAN Bus Interface that provides a quick solution for detecting High Beam Activity, for the installation of additional driving

High Beam Assist

Nissan's High Beam Assist: Nissan's various technologies, including electrification, autonomous drive, connected car & service, mobility service, and energy

General Motors IntelliBeam Technology Info | GM Authority

IntelliBeam is a GM lighting technology that automatically turns the vehicle's high-beam headlamps on and off according to surrounding traffic conditions.

CAN Bus High Beam Interface | CANNECT HIGHBEAM

The CANM8 CANNECT HIGHBEAM-4 interface is a 4 output CAN Bus interface which provides a quick solution for detecting high beam activity on vehicles

Auto High Beam Assist Not Working

We hope you find the Auto High Beam Assist Not Working guide helpful. Check these troubleshooting and repair

What Are Automatic High Beams and How Do They

Are automatic high beams part of ADAS calibration services? Yes. Automatic high beams rely on cameras and sensors that are part of a vehicle's

Matrix Adaptive Beam Lighting: Enhancing Nighttime

Figure 2: System Block Matrix Adaptive Beam The LED Module (LM) contains high-brightness LEDs, which are managed by the LED matrix driver that

The Ins and Outs of Working on Automatic High Beams

When the camera detects these lights and the system is operational, the software in the module that manages the automatic high beam operation will then decide what to do. It will either

A review of automotive intelligent and adaptive

The latest development is steering toward the adoption of Light Amplification by Stimulated Emission of Radiation (Laser) technology. 3

Adaptive Driving Beam—Honda Technology—Honda Global

A variable high beam system split into upper and lower sections detects vehicles in front and oncoming vehicles and automatically controls the illumination area accordingly to minimize glare for other drivers.

High Beam Assist

Learn how High Beam Assist enhances night driving safety by automatically managing your car's high beams. Discover its benefits, how it works, and its

CANHBVX2 Hi-Beam CAN-Bus Interface

Connect the female connector of the Hi-Beam harness to the OBD port. Turn the ignition on and test the functionality of the Hi-Beam interface with the additional accessory. When successfully tested, this

Gearlair 10W High-Power Laser Star Pointer Portable Astronomy

On clear nights, the beam is distinctly visible, easily pointing out constellations and celestial bodies, making it an ideal tool for astronomical observations, outdoor explorations, and camping expeditions.

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