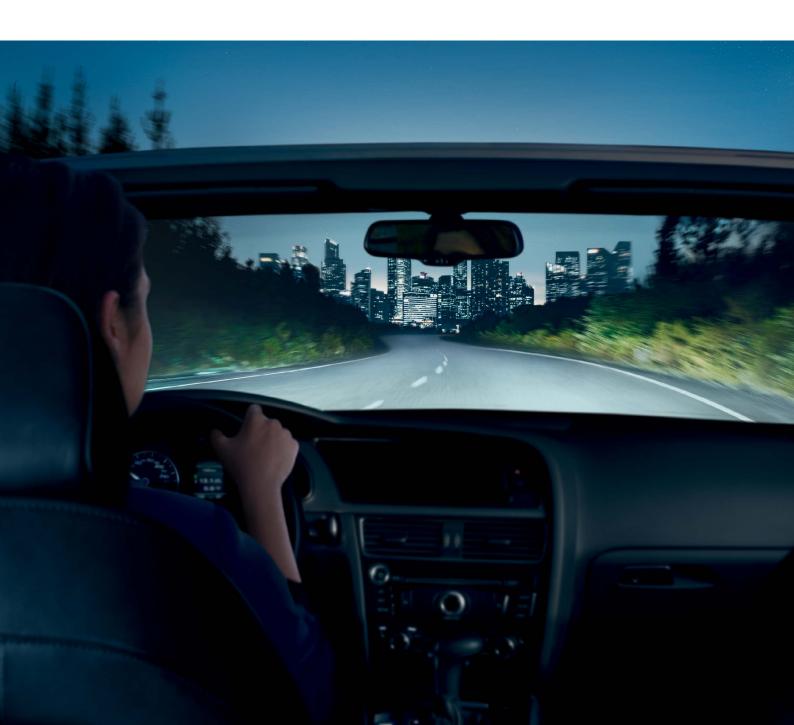


# Outstanding visibility for safer driving

Bosch automotive bulbs



## **Safer on the road**Bosch automotive bulbs



#### High quality automotive bulbs

Bosch automotive bulbs stand for reliability and robustness. They increase road safety and driving comfort through good road lighting without blinding oncoming traffic.

#### Spare parts, diagnostics and workshop services

The workshop and retail range includes high-quality spare parts, diagnostics and workshop equipment as well as special training courses and a technical hotline. Bosch thus offers a complete package to make it easier for workshops to install and remove spare parts.

#### **Competence and know-how**

Bosch knows the technical requirements of vehicles very well and offers innovative and reliable solutions within its aftermarket range. The knowledge also benefits Bosch automotive bulbs. Bosch offers reliable solutions that meet technical requirements and impress with their high quality.

#### **Global presence**

More than 16,000 associates in 150 countries and an extensive dealer network reliably ensure target-oriented workshop support and local availability of the spare parts range.

#### **Automotive bulbs**

#### Overview

Reliable vehicle lighting is particularly important, especially under difficult lighting conditions. Bosch offers a comprehensive range of automotive bulbs in high quality – from headlight bulbs to the interior lighting of the vehicle.

#### Innovations since over 100 years

Since the invention of the first electric lighting system in 1913, Bosch provided real highlights in the automotive bulb market with new ideas and convincing products. This includes modern and classic lighting technologies such as halogen, xenon HID and LED vehicle lamps.

#### Extensive program in excellent quality

Bosch lighting technology and automotive bulbs are enlighting examples for greater security. The comprehensive Bosch range contains suitable automotive bulbs for almost every vehicle. These include headlight bulbs and miniature lamps for

passenger car and commercial vehicle applications. The wide product range is convincing – with excellent quality and long service life.

#### **Product ranges for trade and workshops**

With the workshop and DIY ranges, Bosch supplies the market with two tailor-made specific programs across all sales channels. The modern design of the practical workshop packaging and the attractive DIY packaging appeals positively to consumers and successfully supports sales in the market.



## **LED lamps for off-road**

## Product range and details



Quick comparison	****	****	***
	LED upgrade made easy – the powerful, long-lasting LED vehicle lamp for head- lights equipped with halogen bulbs	The stylish LED vehicle lamp is a ready-to-install LED upgrade for halogen headlights.	The LED retrofit product line combines powerful technology with modern design – for miniature lamps inside and outside the vehicle
Technology	LED	LED	LED
Lighting range	••••	••••	-
Brightness	••••	••••	•••
Service life	••••	••••	••••
Scope of application	€		
Position	Headligh	Headlight	Indicator/brake and Interior lamps
Main types of automotive bulbs available	H4, H7, HB4, H8/H11/H16	H4, H7	C5W, P21W, PY21W, W5W etc.
Blister	-	-	•

LED Duobox







for very good route

LED upgrade using

CAN bus technology

■ Powerful LED technology

with up to 6,000 Kelvin for an effect similar to

illumination

daylight

■ Ready-to-install



- Easy LED upgrade using CAN bus technology
- Extremely white color temperature of up to 6,000 Kelvin and a very long service life
- Easy LED upgrade
- Modern design for a stylish look
- 80% lower energy consumption than a halogen bulb

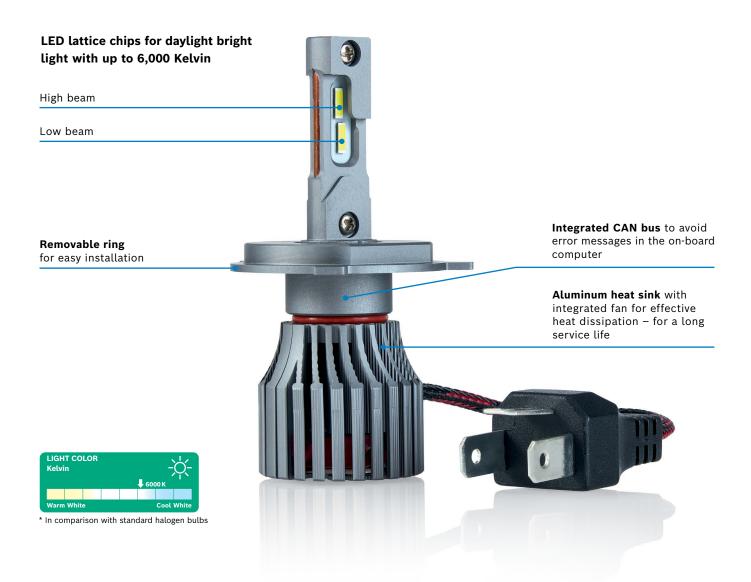
- For off-road use only: not approved for public roads
- Black packaging line

Advantages at a glance

Blue packaging line

#### **LED Powerlight**

## Technology











Standard halogen bulb and Bosch LED Powerlight: street view (Bosch test lane) and front view in comparison at night



#### Did you know?

LED lamps (Light Emitting Diode) do not have a gas-filled glass body, but rather light-emitting chips. These are in the same position as the filaments of halogen bulbs – for optimal light distribution via the headlight reflectors. Compared to halogen bulbs, LED lamps have a significantly higher light output and a much longer service life. To prevent overheating, LED headlight lamps are equipped with a small cooling fan.

## Halogen bulbs





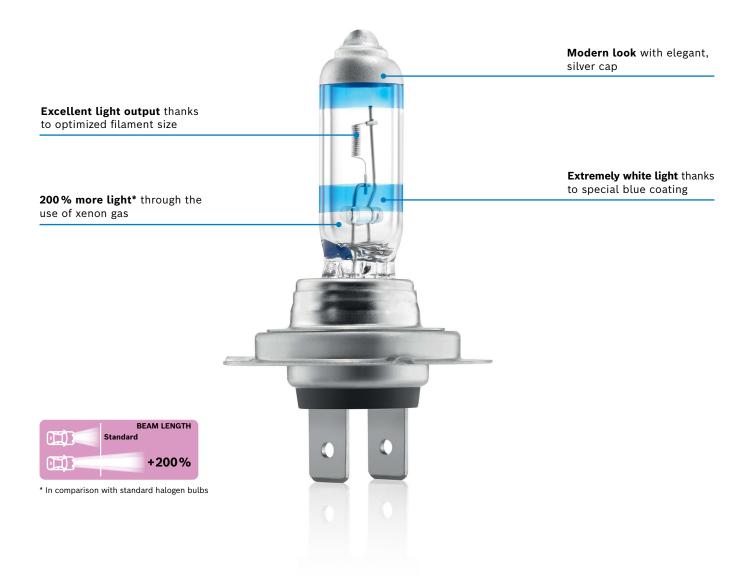


	Plus 200 Gigalight	Plus 150 and 120 Gigalight	Plus 90 and Plus 50
Quick comparison	****	****	***
	The halogen bulb with the highest light intensity within the Bosch range provides up to 200% more light on the road ahead*	The automotive halogen bulb with intense white light provides up to 150% respectively 120% more light on the road ahead*	The automotive halogen bulb with intense bright light provides up to 90 % respectively 50 % more light on the road ahead*
Technology	Halogen	Halogen	Halogen
Lighting range	••••	$\bullet \bullet \bullet \bullet \bullet$	•••
Brightness	••••	$\bullet \bullet \bullet \bullet \bullet 0$	••••
Service life	••	••0	•••
Scope of application	£3 600	£3 600	£_3 C_>
Main types of automotive bulbs available	H4, H7	H1, H4, H7, H11, HB3, HB4, HIR2	H1, H4, H7
Workshop packaging		-/-	-/•
Blister	•	•/•	•/•
Double blister	•	•/•	•/-
Advantages at a glance	<ul> <li>Up to 200% more light*, with a beam of light with up to 150 m length</li> <li>Extremely strong luminosity thanks to xenon gas filling</li> <li>Modern look with intense white light</li> <li>Silver cap for a stylish look in clear glass headlights</li> </ul>	<ul> <li>Particularly strong luminosity through xenon gas filling</li> <li>Very white light for stronger contrasts and a stylish look</li> <li>Silver cap for a stylish look in clear glass headlights</li> </ul>	<ul> <li>Strong luminosity thanks to filling with a special gas mixture</li> <li>Very bright light that is easy on the eyes</li> <li>Plus 90 with silver cap for a stylish look in clear glass headlights</li> </ul>

- \* In comparison with standard halogen bulbs
- Black packaging line

#### Plus 200 Gigalight

## Technology











Standard halogen bulb and Bosch Plus 200 Gigalight: street view and front view in comparison at night



#### Did you know?

Modern vehicle headlights are equipped for technical and optical reasons with plastic cover plates. However, the UV-radiation from vehicle lamps causes these plastics to turn yellow and become brittle over time. Therefore, all Bosch main-headlight bulbs are equipped with UV-Cut, which reduces harmful UV-contents in the light and prevents the headlight from yellowing.

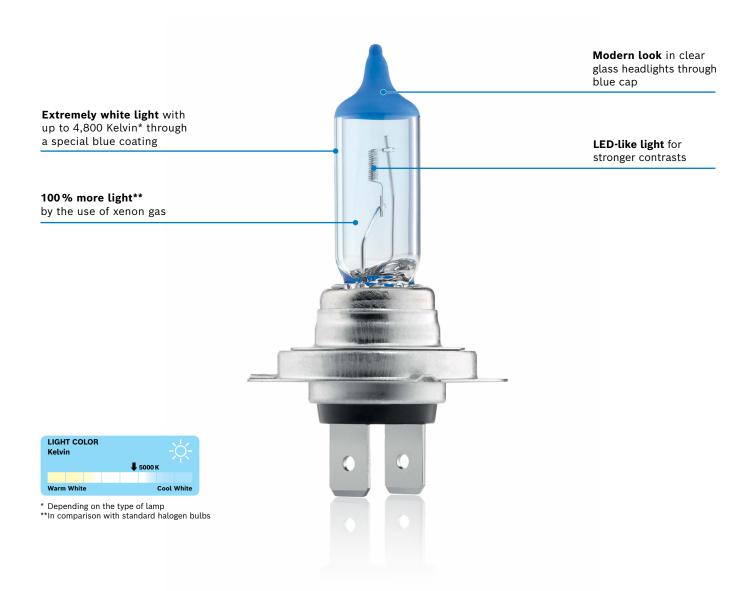
#### Halogen bulbs



- \* Depending on the type of lamp
- \*\* In comparison with standard halogen lamps
- Black packaging line

## Ultra White

## Technology











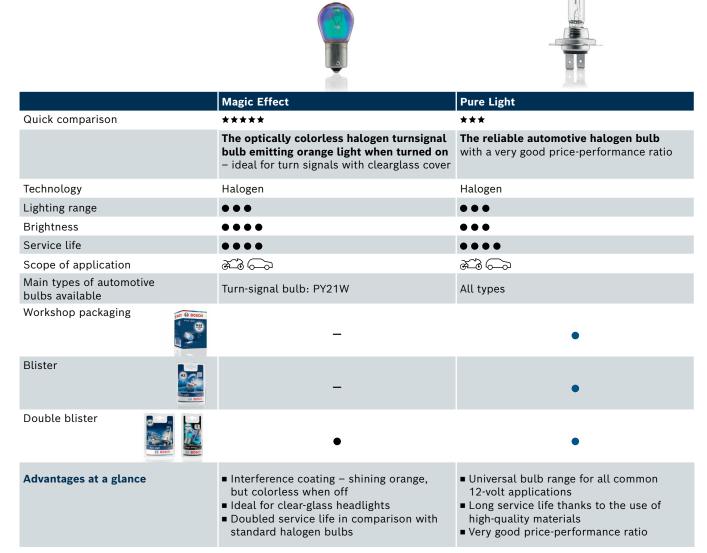
Standard halogen bulb and Bosch Ultra White: street view and front view in comparison at night

#### ?

#### Did you know?

The color temperature indicates the color tone of a light source. A black body serves as a reference object, which glowing in different colors of light as it heats up. The emitted light changes from red to yellow and white to blue. For example, a vehicle lamp with warm white light has a color temperature of around 2,700 Kelvin, a LED or gas discharge lamp with a light similar to daylight of 4,000 to 6,000 Kelvin.

#### Halogen bulbs



- Black packaging line
- Blue packaging line



## Gas-discharge lamps (Xenon HID)





	Xenon White HID	Xenon HID
Quick comparison	****	***
	The most powerful xenon lamp in the Bosch range with extremely white, daylight light – up to 6,000 Kelvin	The xenon lamp with high luminous efficiency ensures very good lighting conditions with a light color of 4,200 Kelvin
Technology	Gas-discharge lamp (Xenon HID)	Gas-discharge lamp (Xenon HID)
Lighting range	••••	••••
Brightness	••••	••••
Service life	•••	••••
Scope of application	<b>€</b>	£3 65 EB
Main types of automotive bulbs available	D1S, D2S, D3S	D1S, D2S, D2R, D3S, D4S, D5S
Workshop packaging	•	•
Advantages at a glance	<ul> <li>Extremely white, high-contrast light for safer and more relaxed driving</li> <li>Color temperatures up to 6,000 Kelvin – for a modern white look</li> <li>100% more light than a standard xenon lamp thanks to a special gas mixture</li> </ul>	<ul> <li>Filled with xenon gas for strong light output</li> <li>High reliability and longevity</li> <li>Low energy consumption</li> </ul>

- Black packaging line
- Blue packaging line



## What drives you, drives us

Bosch technologies are used in most vehicles worldwide. People, and assuring their mobility, is what we are focused on.

Therefore, we have dedicated over 130 years of pioneering spirit and expertise in research and manufacturing to achieving this.

We provide the aftermarket and workshops worldwide with modern diagnostic and workshop equipment and a wide range of spare parts for passenger cars and commercial vehicles:

- solutions for efficient vehicle repairs
- innovative workshop equipment and software
- one of the world's most comprehensive ranges of new and exchange parts
- large network of wholesale customers, for quick and reliable parts supply
- competent hotline support
- comprehensive educational and training offers
- targeted sales and marketing support

**Find out more at:** boschaftermarket.com

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