

What is HID Xenon?

High Intensity Discharge (**HID**) is a new type of lighting technology that primarily different from the conventional halogen bulbs that use a heated tungsten filament. Unlike Halogen lamps, High-Intensity-Discharge (**HID**) lamps don't have a filament but create light by the arc between two electrodes. The arc activates the Xenon, which in turn ignites the metal halide. The light produced by an **HID Xenon lighting** system is greater than a standard halogen bulb and with less power consumption. On the road, HID Xenon lighting systems appear as a bright white beam which resembles natural daylight. The bright white beam offers greater visibility and road safety.

In an **HID Xenon** lighting system for automobile, the voltage between the two electrodes rises firstly from 12V to 23000V and keeps stable at 83V by using the Xenon **HID ballasts** system. Due to the ultra high voltage, the Xenon gas ionizes and a super-bright beam is produced, whose color temperature is up to **12000K**. The HID Xenon lighting is much more economic, more stable and brighter than the conventional automobile lighting.

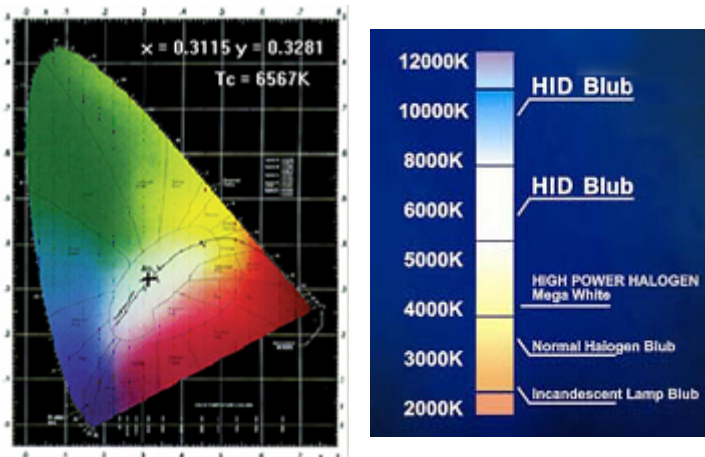


HID Technology:

XENON HID lamps do not have a filament. Instead the light is created by an electrical discharge between two electrodes in an air tight tiny quartz capsule filled with xenon gas, mercury and metal halide salts. This improves durability as road vibrations can cause damage to coil lighting technologies. These light sources also produce a blue-white light that is safer because it is closer to natural daylight. The color temperature is approximately **4200 K** compared to 3200 K for halogen. The increased light output from a 35 watt **XENON HID lamp** is approximately 80% more light than a 55 watt halogen bulb. The **XENON HID** system will also draw less power from your vehicles electrical system.

Temperature:

Color Temperature is a measurement in Degrees Kelvin that indicates the hue of a specific type of light source. Many people believe the misconception that colour temperature is a rating of the brightness of the bulb or **HID kit**. This belief is completely false. The reality of the matter is that the higher the colour temperature, the less useable light output you will obtain. A perfect example would be a black light. This light has a colour temperature of approx 12,000k and has almost no useable light or lumens output. Higher K kits such as **7000k, 7500k**, etc. have been manufactured for individuals that are more concerned about the actual colour output of their lights as opposed to the actual useable light output



Colour Temperature (T_{cp})

A black body (perfect radiant body) is an ideal object that absorbs all energy, changes its colour from red through yellow to white as its temperature increases. The absolute temperature T (K) of the black body is referred to as the colour temperature and colour by a locus (black body locus).

The above diagram is sometimes used to indicate the colour of a light source. Correlated colour temperature is used to apply the general idea of colour temperature to those colours that are close to, but not exactly on the blackbody locus. For instance, a light source which has a colour difference of 0.01 in the green direction (Duv) from a black body which has a colour temperature of **7,000K** is indicated as having a correlated colour temperature of 7,000K + 0.01 (uv unit).

FAQ'S

What is HID Xenon?

High Intensity Discharge (HID) is a new type of lighting technology that primarily different from the conventional halogen bulbs that use a heated tungsten filament. Unlike Halogen lamps, High-Intensity-Discharge (HID) lamps don't have a filament but create light by the arc between two electrodes. The arc activates the Xenon, which in turn ignites the metal halide. The light produced by an HID Xenon lighting system is greater than a standard halogen bulb and with less power consumption. On the road, HID Xenon lighting systems appear as a bright white beam which resembles natural daylight. The bright white beam offers greater visibility and road safety.

In an HID Xenon lighting system for automobile, the voltage between the two electrodes rises firstly from 12V to 23000V and keeps stable at 8000V by using the Xenon HID ballasts system. Due to the ultra high voltage, the Xenon gas ionizes and a super-bright beam is produced, whose color temperature is up to 12000K. The HID Xenon lighting is much more economic, stabler and brighter than the conventional automobile lighting.

What are the advantages of Xenon Light?

LOW POWER CONSUMPTION

The xenon bulb provides more than twice the amount of light of a halogen bulb, while only consuming half the power (wattage). Therefore, the driver can see more clearly, and the car has more power for other functions. Moreover, it is environmentally friendly, as less power means less fuel consumption.

3 TIMES BRIGHTER

The clear white light produced by the Xenon bulb is similar to daylight. Research has shown that this enables drivers to concentrate better. Furthermore, this particular light color reflects the road markings and signs better than conventional lighting.

EXTREMELY LONG LIFE

The xenon bulb also delivers a marked contribution to road safety in the event of limited visibility due to weather conditions. In practical terms, the life span of the bulb is equal to that of the car, which means that the bulb need only be replaced in exceptional cases.

Why is good quality car lighting so important?

Because it saves lives. Better lighting leads to earlier and improved recognition of objects, cyclists, pedestrians, road workers, etc. Earlier and improved recognition of traffic signs and road markings is also vitally important to accident prevention. Therefore, better lighting delivers an active contribution to road safety and driver comfort, and can save lives.

Can I change my headlights to Xenon gas discharge?

Yes! Installation is so fast and easy, most people are done in only 20 minutes. Everything you need to complete the installation is included in the

kit - no tools are required. And our instructions are designed to be clear and easy to follow.

Why was Xenon Light developed?

For more safety on our roads. In the past decade, car manufacturers have made cars safer and more comfortable by the introduction of A.B.S., air bags, air conditioning, etc. But still, no less than 60% of all traffic accidents take place in poorly lit conditions. Therefore, lighting greatly contributes actively to road safety and comfort.

What does the XENON HID light system kit includes?

We will supply you with all of the necessary components and hardware to install this system into your vehicle. Each kit includes: 2 direct plug-in XENON H.I.D. lamps, 2 ballasts (transformer / igniter unit), all necessary wiring, complete and easy to follow installation instructions and wiring diagram.

Why is Xenon Light more expensive than halogen lighting?

Xenon lighting is not simply a question of a new type of bulb, but a whole new system consisting of:

- (1) A complex HID Xenon bulb manufactured according to the highest standards of precision.
- (2) A hi-tech HID electrical ballast system specially adapted to the Xenon bulb.

The price is governed by all these components. Generally the price of the HID ballast, which is NOT necessary to a traditional bulb, accounts for 2/3 of the price of the whole Xenon HID lighting system.

What is Lumen (lm)?

The international unit (SI) of luminous flux (quantity of lights). For example, a dinner candle produces about 12 lumens and a standard 60-watt incandescent bulb produces 830 lumens. The higher the number is, the brighter the light is.

What is Kelvin (K)?

A basic unit of thermodynamic temperature (color temperature) used to measure the whiteness of the light output. The higher the number is, the

whiter the light is. When over 5000K the light begins to turn to blue as daylight.

How do I determine if an HID ballast is operational or has failed?

First replace the lamp with a known good lamp listed on the fixture or ballast label. If this does not correct the problem, then measure the input voltage to the fixture and to the ballast to verify the availability of supply voltage at the ballast input. If the supply voltage exists at the ballast input leads, check for OCV, using the cautions in A2 above. If the OCV voltage is correct as listed on the ballast label, the problem could be a defective capacitor or igniter. Change one of these component one at a time to correct the problem. Generally, if the ballast shows no signs of overheating and the OCV measurement is correct the ballast is good and there has to be another component failure or a wiring problem.

What will cause my lamp to cycle on and off?

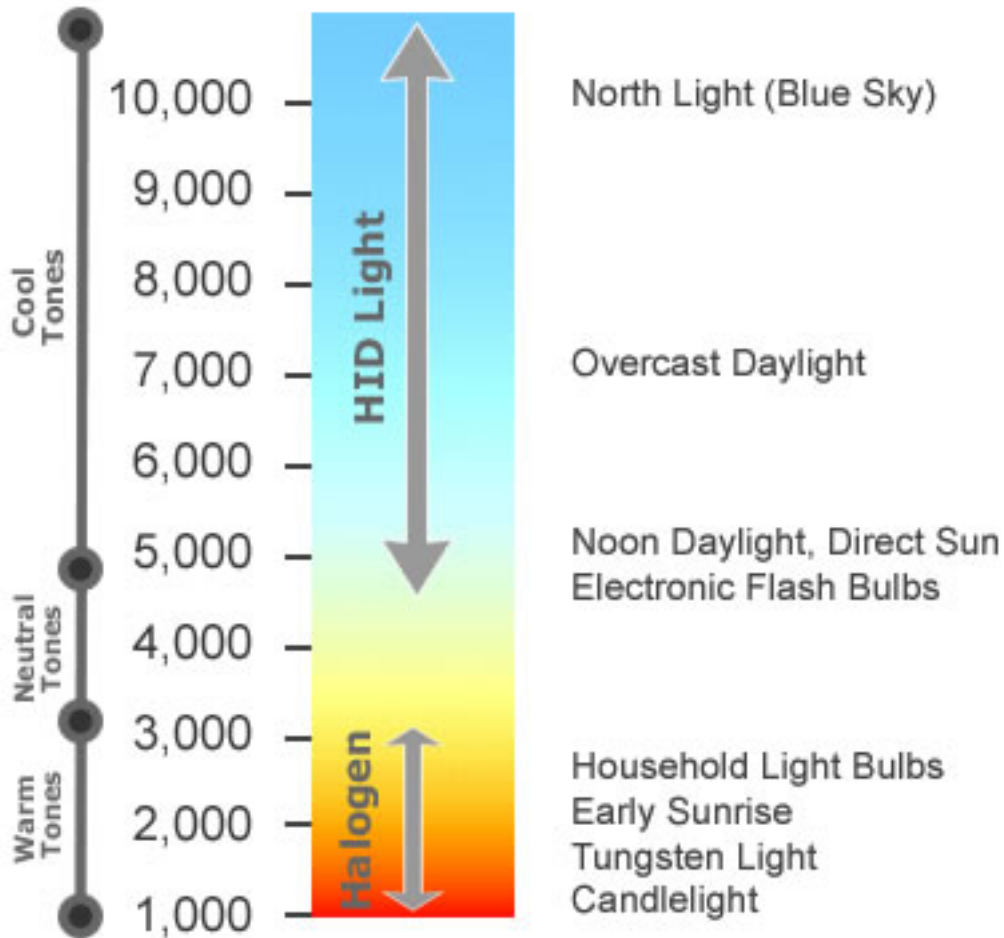
This is an indication that the lamp has reached the end of its life. Replacing the lamp with a lamp specified to operate with the installed ballast will usually correct the cycling. This problem is most likely to be observed with High Pressure Sodium lighting systems.

Can a lamp of the same wattage be used with any ballast rated for that wattage, such as, a 400 W Metal Halide lamp with a 400 W High Pressure Sodium ballast?

No. A lamp will only operate properly when used with the ballast designed for that particular lamp. The lamps to be used with a particular ballast are listed on the ballast label and in the ballast literature. Using a lamp that is not specified will affect ballast life, lamp life or both. HID lamps all have specified unique operating characteristics. The ballasts have been designed to operate the lamps within those specified parameters.



Color Temperatures in K (Degrees Kelvin)





Left: HID 6000K Right: Halogen