



Rennova Auto Dipper System



An auto-dipper system, also known as an automatic dimming or auto-dimming system, is a feature commonly found in modern vehicles that automatically adjusts the brightness of the headlights to reduce glare for the driver and oncoming traffic. This system is typically used in combination with high-intensity discharge (HID) or LED headlights.

The primary purpose of an auto-dipping system is to enhance road safety by improving visibility during night time driving conditions. It relies on various sensors, typically located on the front and rear of the vehicle, to detect ambient light and the presence of other vehicles. These sensors continuously monitor the light levels and the proximity of other vehicles to determine when to activate the auto-dipper feature.

When the system detects oncoming traffic or vehicles ahead, it automatically adjusts the headlight brightness to a lower level or redirects the light beam downward to prevent blinding other drivers. Once the system no longer detects any vehicles within a certain range, it restores the headlights to their regular intensity.

Overall, auto-dipper systems contribute to safer driving conditions by reducing the risk of temporary blindness or distraction caused by excessively bright headlights.

Director General of Mines safety, Government of India mandated Auto Dipper System fitment in all mining vehicles. Rennova Auto Dipper System is tested and certified as per DGMS standard by a NABL accredited testing agency.

Rennova Solutions' Auto Dipper System is designed with safety features like fault diagnostics, Robust LIN interface, etc., The system is manufactured with Automotive qualified components (AEC-Q1). Safety of driver and vehicle is given paramount importance in the design of Rennova Auto Dipper System.



Control unit



Sensor unit

Salient features of Rennova 's Auto Dipper System(ADS):

- ✧ Automotive Grade Light Sensor (Photo Diode) and AEC qualified components were used. Hence the extreme climatic conditions will not impact the performance of the system.
 - ✧ Ensures Driver and Vehicle safety. Checks High beam and Low beam lights for short circuit and Open circuit faults.
 - ✧ If Low beam light is faulty, High beam light will be kept ON, to avoid driver blackout condition.
 - ✧ Momentary Headlight flashing is allowed.
 - ✧ Robust LIN communication between Sensor node and Control Unit which is immune to Electromagnetic noises.
 - ✧ Side filters were incorporated in the system to avoid false reaction to pole lights and spot lights.
 - ✧ Sensor Sensitivity and response time can be adjusted using Software tool.
 - ✧ Tested and certified as per DGMS regulatory standard by NABL accredited Testing agency.
 - ✧ Freedom to concentrate more on steering control
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ADS Specification

Technical Specifications	
Operating Voltage	10V - 30V (Suitable for 12V and 24 V System)
Operating Current	0.300 Amps (No Load Condition) 15 Amps(with Load)
Low Lux Threshold	0.35 Lux (Adjustable)
High Lux Threshold	0.5 Lux (Adjustable)
PC Interface	RS232

Advantages of Auto Dipper System

- ✧ Enhanced safety
- ✧ Reduced driver fatigue
- ✧ Increased visibility
- ✧ Adaptability to varying conditions
- ✧ This prevents the momentary blindness of the two drivers and thus avoids road accidents

