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Vehicle Lighting Energy Controllers
載具照明節能控制器

隊伍名稱

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作品摘要 Abstract

汽車的數量越來越多，不僅交通擁擠現象越來越嚴重，也意味著將會消耗更多的能源，在當今高度重視節能減碳的環境下，必須隨時隨處注意節能的可能性。汽車的各種電燈裝置中，以大燈的消耗功率最大，本專題針對汽車大燈照明提出節能的改進作法，當交通號誌變成紅燈，車子在停紅燈的時候，由於這時候車子是在停止狀態，並不需要高亮度的照明，所以控制電路會自動降低大燈的亮度與耗能。其次是汽車在擁擠車陣中走走停停的時候，由於車速很慢，並且車與車之間的距離通常僅有數公尺之遠，此時也可以降低大燈的亮度，等前車距離變遠之後，再讓大燈恢復正常亮度，因此能夠在不影響行車安全的情況下達到節能效果。目前市區有許多地下停車場，汽車上下坡時，車頭燈的燈光往往不能照射到正確的位置，導致駕駛者無法看清楚前方路面，本專題利用二個紅外線感測器來偵測汽車前方路面的傾斜度，進而控制車頭大燈的照射角度，使駕駛者能夠看清楚上下坡路面，提高行車安全。

The number of cars is increasing, not only the phenomenon of increasingly serious traffic congestion also means that will consume more energy , attention in today 's environment, energy saving and carbon reduction , we must pay attention to the possibility of saving anywhere at any time . Various lamp device in the car to the maximum power consumption headlights, car headlights illuminated the topic proposed for energy efficiency improvements in practice, when it becomes red traffic lights, red light when the car stopped , because this time the car is in stop state , does not require high brightness lighting , the control circuit will automatically reduce the brightness of the headlights and energy . Followed by a car in a crowded car stop and go in front, because of the speed is very slow, and the distance between the car and the car is usually only a few meters away, then you can also reduce the brightness of the headlights of the vehicle in front, such as distance becomes after far , let the brightness of the headlights back to normal , so to achieve energy savings without compromising road safety. Currently there are many urban underground parking, when the car downhill, headlights illuminated lights are often not the correct position , causing the driver can not see the road ahead , the topic of two infrared sensors to detect the use of the car in front of the road tilt, and then control the irradiation angle headlamps , so the driver can see on the downhill side , improve traffic safety .