URN etd-0407109-183721-1758
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Statistics This thesis had been viewed 79 times. Download 39 times.
Department
Year 2004
Semester 2
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title The Universal Dimming Technology of Pulse Density Modulation (PDM) Mechanism
Date of Defense 0000-00-00
Page Count 67

Keyword
fluorescent lamp
universal
white light emitting diode
PDM

Abstract
The universal dimming technology have already been researched and developed successfully by using pulse density modulation (PDM) mechanism.
The dimming mechanism is applicable in various types of lighting lamps like incandescent lamp, fluorescent lamp with traditional ballast, fluorescent lamp with electronic ballast, white light emitting diode lamp, high-intensity discharge (HID) lamp, etc……
Bellow are advantages by using the PDM mechanism:
(1)The circuit is simple, the cost is cheap. (2)The dimming effect is obvious. (3)System stability is high, and efficiency is good. (4)The operation interface is fully digitalized, friendly and remotely controllable. (5)The darker the luminance, the lower the power is consumed for all kinds of lamps. (6)While using, it will not quite cause the harmonic distortion (THDi(%)) of electricity to increase sharply. (7)Range of adjusting luminance is broad, very practical.
Because of a great deal of advantage of this method, so patents for invention of relevant technology have already been obtained from two countries, and a new-type patent from another country.
But the relevant technology actually still has two shortcomings: (1)The power factor has not reached expectancy. (2)The total power consumption has not reached expectancy.
We should make greater efforts to improve these shortcomings in order to commercialize as soon as possible and to make better contributions to the general public.
Advisory Committee Yu-Hung Hsieh - advisor

Files etd-0407109-183721-1758-001.pdf

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Date of Submission 2005-07-22