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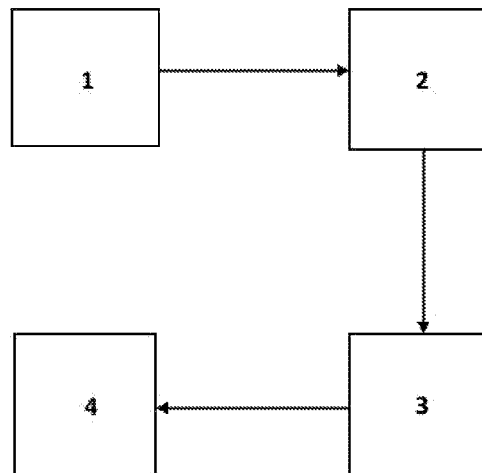


Figure 1

(57) Abstract: The invention is an illumination adjustment method for allowing time relays (1) to be used as a signal generator in dimming/lighting control of illumination without requiring any technical modification in light control mechanisms.



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Illumination Adjustment Method

The Related Art

The invention relates to an illumination adjustment method for allowing time relays to be used as a signal generator in dimming/brightening control of illumination without requiring any technical modification in light control mechanisms.

The Prior Art

The methods found in the prior art are as follows:

1. Light dimming/brightening method by using 1-10V Driver: The deficiency of this application is the requirement of connecting the control cables to the fixture in addition to the energy cables in LED lighting fixtures. This requirement increases the installation time and brings significant additional costs.
2. Light dimming/brightening method by using Dali Driver: The deficiency of this application is the requirement of connecting the control signal cables to the fixture in addition to the energy cables. This requirement increases the installation time and brings significant additional costs.
3. Light dimming/brightening method by using wireless communication modules: The deficiency of this application is the high installation cost and constant membership and maintenance expenses during use. This method is required to be applied by a person who has technical qualification.
4. Light dimming/brightening method by PLC system: The deficiency of this application is the signals sent through the power line for light dimming/brightening purposes being affected negatively from the distance and the unstable fluctuations of the power line voltage. This causes non-proper operation. This method is required to be applied by a person who has technical qualification.

As a result, the above said drawbacks and the inadequacy of the prior art solutions about the subject have necessitated an improvement in the related technical field.

Purpose of the Invention

The invention is formed with the inspiration from the prior art situations and aims to solve the above said problems.

The main purpose of the invention is to allow use of time relays as a signal generator in dimming/brightening control of illumination without requiring any technical modification in light control mechanisms.

Other purposes of the invention are as follows:

- Since there is no need for a control line, installation can be made rapidly and easily.
- It provides a solution that is much cheaper than wireless light dimming/brightening options.
- It works much more stable and smoother than the light dimming/brightening methods via signals sent through power line.
- It generates the light dimming/brightening signal by means of turning the power line on and off for a short while and thus allows use by a user who does not have any technical qualification.

The structural and characteristic features of the invention and all of its advantages shall be understood better with the figures and the detailed description given below in reference to the figures, and therefore, the assessment should be made by taking into account the said figures and detailed explanations.

Figures for Better Understanding of the Invention

Figure 1 is a schematic view used in performing the method according to the invention. Drawings do not have to be scaled and details not necessary for understanding the present invention may be neglected. Moreover, components which are at least widely equal or which have at least widely equal functions are shown with the same number.

Description of Parts References

1. Time relay
2. Signal adjuster
3. Driver
4. Light source

Detailed Description of the Invention

In this detailed description, the preferred embodiments of the invention are only disclosed for better understanding of the subject without forming any limiting effect.

A time relay (1) found at the outlet of a power source is a device that performs the task of automatically turning the power on or off at predetermined hours. Users can enter the brightness setting and the time when the brightness setting should be applied, via keys preferably found on the time relay (1). Square waves can be created by making use of this characteristic of the time relay (1). The time relay (1) forms a pulse by transmitting the commands found in its memory, by stopping and starting the electric current transmitted from the power source, at the hours determined by the users. Depending on the time differences between these square waves, the outlet current of the driver (3) can also be adjusted by a signal adjuster (2) that is a control module converting the square waves between 1-10V to DC voltage. With this method, the time relay (1) is used as a signal generator. The time relay (1) also sends control signal to the driver (3). The signal adjuster (2) converts the signal transmitted thereto into another signal that would be understood by the driver (3). In order to control the light emitted by a light source (4), it is necessary to send a signal to the driver (3) (power source) which can be understood by the driver. With this method, signals changing between 1V-10V, which are preferably simply understood and commonly used, can be sent to the driver (3). In cases where the light source (4) is a LED illumination, then a LED driver (3) is used.

The method according to the invention is to be used for light dimming/brightening in light control mechanisms according to user preference without requiring technical modification, and it comprises the operation steps of:

- signals and timings are entered to the time relay (1) according to the desired light levels,
- the time relay (1) provides or cuts the power flow automatically,
- the time relay (1) generates a signal and the signal adjuster (2) detects said signal so as to provide voltage to the driver (3) inlet according to the level of light dimming/brightening determined by the user,
- the driver (3) adjusts the outlet current depending on the transmitted voltage/signal and thus reduces (dims) or increases (brightens) the illumination level of the light source (4).

CLAIMS

1. A method for light dimming/brightening in light control mechanisms according to user preference without requiring technical modification, and it is characterized in that; it comprises the operation steps of:

- signals and timings are entered to the time relay (1) according to the desired light levels,
- the time relay (1) provides or cuts the power flow automatically,
- the time relay (1) generates a signal and the signal adjuster (2) detects said signal so as to provide voltage to the driver (3) inlet according to the level of light dimming/brightening determined by the user,
- the driver (3) adjusts the outlet current depending on the transmitted voltage/signal and thus reduces (dims) or increases (brightens) the illumination level of the light source (4).

2. A method according to Claim 1, and it is characterized in that; the level of the voltage provided to the inlet of the driver (3) is between 1 V and 10 V.

3. A Method according to Claim 1 or 2, and it is characterized in that; said light source (4) is LED and said driver (3) is a LED driver (3).

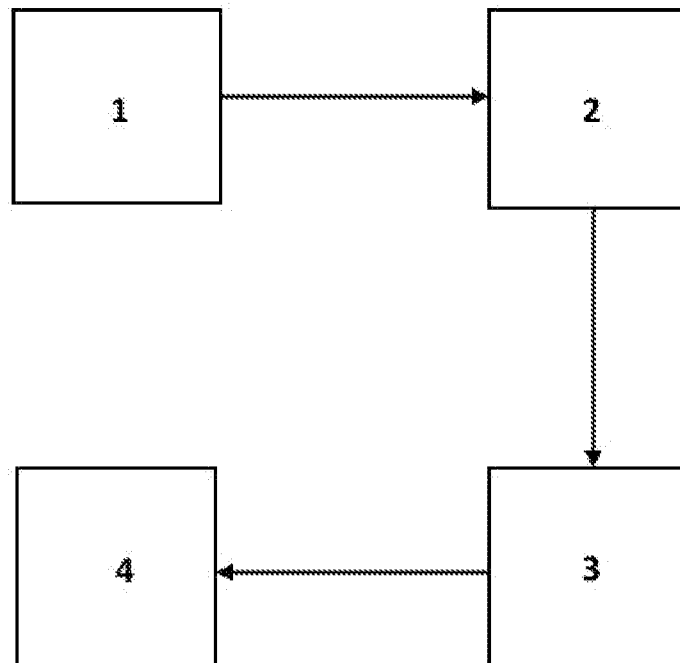


Figure 1