

than one of the following circuit structures, including:

1) Regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the reactive power conductivity angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) AC stabilizing transformer;

5) AC constant current output transformer;

-- Solid-state switch device for controlling AC conductivity phase angle (1000): constituted by one or more than one of the following circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a ~~field~~field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of multiphase power source, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the

member (LED) by increasing/decreasing the reactive power conductivity angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

2) One or more than one of resistant type impedance member,
5 induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

10 4) AC stabilizing transformer;

5) AC constant current output transformer;

-- Solid-state switch device for controlling AC conductivity phase angle (1000): constituted by one or more than one of the following circuit structures:

15 1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit,
20 the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a ~~field~~field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the
25 active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of multiphase power source, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the field effect
30 component

four-wire AC power wire (T);

--AC current limiting circuit device (Z10): constituted by one or more than one of the following circuit structures, including:

1) Regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the reactive power conductivity angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) AC stabilizing transformer;

5) AC constant current output transformer;

-- Solid-state switch device for controlling AC conductivity phase angle (1000): constituted by one or more than one of the following circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a ~~field~~field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of

conductivity phase angle (1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

5 3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) AC stabilizing transformer;

5) AC constant current output transformer;

10 --Solid-state switch device for controlling electric conduction phase angle (2000): connected in parallel between the positive and negative terminals of each set of single-phase bridge rectifier (BR100), controlled by the electric power control unit (ECU) for performing regulation of conducting phase angle, and the solid-state switch for controlling electric
15 conduction phase angle (2000) is constituted by one or more than one of the following electric circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active
20 component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a ~~field~~field effect power
25 component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of multiphase power source, the driving circuit of the field effect component is
30 controlled, so as to control the control timing of both or at least one of the

angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member
5 being connected in series, in parallel or in series and parallel;

3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) AC stabilizing transformer;

10 5) AC constant current output transformer;

--Solid-state switch device for controlling electric conduction phase angle (2000): connected in parallel between the positive and negative terminals of each set of single-phase bridge rectifier (BR100), controlled by the electric power control unit (ECU) for performing regulation of
15 conducting phase angle, and the solid-state switch for controlling electric conduction phase angle (2000) is constituted by one or more than one of the following electric circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon
20 Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

25 | 2) A solid-state switch device composed of a ~~field~~field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of
30 multiphase power source, the driving circuit of the field effect component is

CLAIMS

1. A solid-state light emitting device having controllable multiphase reactive power, which utilizes a three-phase or multiphase AC power source, and each phase power respectively drives individual solid-state light emitting members arranged adjacently or arranged with an overlapping means, so that the synthetic illumination brightness is overlapped through the illumination brightness waveforms generated by the AC power voltage of each phase, thereby the synthetic pulse rate of illumination brightness can be lowered, and the sine waveform voltages at different phases between each power source enable the individual solid-state light emitting members respectively driven by each phase power and arranged adjacently or arranged with an overlapping means generate the optical energy having different brightness with respect to the instant value of the voltage waveform; when the individual solid-state light emitting members having different brightness and arranged adjacently or arranged with an overlapping means emit light, the power passing through the individual solid-state light emitting member having a relatively low brightness is defined as reactive power; the solid-state light emitting device having controllable multiphase reactive power, provided by the present invention, utilizes a solid-state switch device for controlling AC conductivity phase angle (1000) for controlling the reactive power to be cut so as to save power, and to further regulate the current and voltage supplied to the individual solid-state light emitting member; wherein

Each phase power of the three-phase AC power source is regulated by the solid-state switch device for controlling AC conductivity phase angle (1000) then respectively drives individual solid-state light emitting members connected in a Delta (Δ) format and arranged adjacently or arranged with an overlapping means, which ~~mainly consist of~~comprises:

--AC solid-state light emitting member (101), (102), (103): constituted by two or more than two AC-power driven solid-state light emitting

members, including a light emitting diode (LED) or an organic light emitting diode (OLED) provided as a foundational light emitting member for being driven by AC power source, or including other solid-state light emitting member capable of being driven by AC power source;

The AC-power driven solid-state light emitting member (101) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), then connected in parallel between the three-phase AC power wire (R) and the three-phase AC power wire (S);

The AC-power driven solid-state light emitting member (102) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), then connected in parallel between the three-phase AC power wire (S) and the three-phase AC power wire (T);

The AC-power driven solid-state light emitting member (103) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), then connected in parallel between the three-phase AC power wire (T) and the three-phase AC power wire (R);

--AC current limiting circuit device (Z10): constituted by one or more than one of the following circuit structures, including:

- 1) Regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the reactive power conductivity angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

- 2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

- 3) The control circuit structured by a solid-state semiconductor circuit

which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

- 4) AC stabilizing transformer;
- 5) AC constant current output transformer;

-- Solid-state switch device for controlling AC conductivity phase angle (1000): constituted by one or more than one of the following circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a ~~field~~field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of multiphase power source, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the field effect component;

3) With properties of the zener voltage of the zener diode, or with the voltage forward drop feature of the diode, the zener diode or the diode is connected in series between the gate of the thyristor and the voltage source, so as to set the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component during the

power source performing the voltage variation in a sine waveform;

4) Through the voltage of the used AC power source, to set the operations of the turn-on phase angle and the turn-off phase angle of the solid-state light emitting member according to the voltage forward (VF) feature of the AC solid-state light emitting member itself (LED), during the power source performing the voltage variation in a sine waveform;

--Electric power control unit (ECU): according to the internal setting of the electric control unit (ECU) or receiving external controls, and referring to the voltage of power source and the current passing through the AC current limiting circuit device (Z10), for controlling the turn-on phase angle of the solid-state switch device for controlling AC conductivity phase angle (1000) is controlled, so as to regulate the voltage and current passing through the solid-state light emitting member.

2. A solid-state light emitting device having controllable multiphase reactive power ~~as claimed in claim 1~~, wherein each phase power of the three-phase AC power source is regulated by the solid-state switch device for controlling AC conductivity phase angle (1000) then respectively driving individual solid-state light emitting members connected in an Wye (Y) format and arranged adjacently or arranged with an overlapping means, which ~~mainly consist of~~ comprises:

--AC solid-state light emitting member (101), (102), (103): constituted by two or more than two AC-power driven solid-state light emitting members, including a light emitting diode (LED) or an organic light emitting diode (OLED) provided as a foundational light emitting member for being driven by AC power source, or including other solid-state light emitting member capable of being driven by AC power source;

--The AC-power driven solid-state light emitting member (101), the AC-power driven solid-state light emitting member (102) and the AC-power

driven solid-state light emitting member (103) are connected in the Wye (Y) format at the common connection end (COM);

The non-common connection end of the AC-power driven solid-state light emitting member (101) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), and after the series connection, one end thereof is connected to the three-phase AC power wire (R);

The non-common connection end of the AC-power driven solid-state light emitting member (102) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), and after the series connection, one end thereof is connected to the three-phase AC power wire (S);

The non-common connection end of the AC-power driven solid-state light emitting member (103) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), and after the series connection, one end thereof is connected to the three-phase AC power wire (T);

--AC current limiting circuit device (Z10): constituted by one or more than one of the following circuit structures, including:

- 1) Regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the reactive power conductivity angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

- 2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) AC stabilizing transformer;

5) AC constant current output transformer;

-- Solid-state switch device for controlling AC conductivity phase angle (1000): constituted by one or more than one of the following circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of multiphase power source, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the field effect component;

3) With properties of the zener voltage of the zener diode, or with the voltage forward drop feature of the diode, the zener diode or the diode is connected in series between the gate of the thyristor and the voltage source, so as to set the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component during the power source performing the voltage variation in a sine waveform;

4) Through the voltage of the used AC power source, to set the operations of the turn-on phase angle and the turn-off phase angle of the solid-state light emitting member according to the voltage forward (VF) feature of the AC solid-state light emitting member itself (LED), during the power source performing the voltage variation in a sine waveform;

--Electric power control unit (ECU): according to the internal setting of the electric control unit (ECU) or receiving external controls, and referring to the voltage of power source and the current passing through the AC current limiting circuit device (Z10), for controlling the turn-on phase angle of the solid-state switch device for controlling AC conductivity phase angle (1000) is controlled, so as to regulate the voltage and current passing through the solid-state light emitting member.

3. A solid-state light emitting device having controllable multiphase reactive power ~~as claimed in claim 1~~, wherein ~~each phase power of the three-phase~~ is a four-wire AC power source is regulated by the solid-state switch device for controlling AC conductivity phase angle (1000) then respectively driving individual solid-state light emitting members connected in an Wye (Y) format and arranged adjacently or arranged with an overlapping means, ~~which mainly consist of~~ comprises:

--AC solid-state light emitting member (101), (102), (103): constituted by two or more than two AC-power driven solid-state light emitting members, including a light emitting diode (LED) or an organic light emitting diode (OLED) provided as a foundational light emitting member for being driven by AC power source, or including other solid-state light emitting member capable of being driven by AC power source constituted by two or more than two AC-power driven solid-state light emitting members, including a light emitting diode (LED) or an organic light emitting diode (OLED) provided as a foundational light emitting member for being driven by AC power source,

or including other solid-state light emitting member capable of being driven by AC power source;

-- The AC-power driven solid-state light emitting member (101), the AC-power driven solid-state light emitting member (102) and the AC-power driven solid-state light emitting member (103) are connected in the Wye (Y) format at the common connection end (COM), and connected to the neutral wire (N) of the three-phase four-wire AC power source;

The non-common connection end of the AC-power driven solid-state light emitting member (101) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), and after the series connection, one end thereof is connected to the three-phase four-wire AC power wire (R);

The non-common connection end of the AC-power driven solid-state light emitting member (102) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), and after the series connection, one end thereof is connected to the three-phase four-wire AC power wire (S);

The non-common connection end of the AC-power driven solid-state light emitting member (103) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the solid-state switch device for controlling AC conductivity phase angle (1000), and after the series connection, one end thereof is connected to the three-phase four-wire AC power wire (T);

--AC current limiting circuit device (Z10): constituted by one or more than one of the following circuit structures, including:

1) Regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the reactive power conductivity

angle controlled by the solid-state switch device for controlling AC conductivity phase angle (1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) The control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) AC stabilizing transformer;

5) AC constant current output transformer;

-- Solid-state switch device for controlling AC conductivity phase angle (1000): constituted by one or more than one of the following circuit structures:

1) A thyristor power component capable of controlling conductivity phase angle, ~~for example~~including at least a TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) A solid-state switch device composed of a ~~field~~field effect power component, for example MOSFET (Metal Oxide Semiconductor Field Effect Transistor) or IGBT (Insulated Gate Bipolar Transistor) serving as the active component, and through the operations of the voltage comparison circuit between each phase voltage from the voltage detection circuit of multiphase power source, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the field effect component;

3) With properties of the zener voltage of the zener diode, or with the voltage forward drop feature of the diode, the zener diode or the diode is connected in series between the gate of the thyristor and the voltage source, so as to set the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component during the power source performing the voltage variation in a sine waveform;

4) Through the voltage of the used AC power source, to set the operations of the turn-on phase angle and the turn-off phase angle of the solid-state light emitting member according to the voltage forward (VF) feature of the AC solid-state light emitting member itself (LED), during the power source performing the voltage variation in a sine waveform;

--Electric power control unit (ECU): according to the internal setting of the electric control unit (ECU) or receiving external controls, and referring to the voltage of power source and the current passing through the AC current limiting circuit device (Z10), for controlling the turn-on phase angle of the solid-state switch device for controlling AC conductivity phase angle (1000) is controlled, so as to regulate the voltage and current passing through the solid-state light emitting member.

4. A solid-state light emitting device having controllable multiphase reactive power as claimed in claims 1-3, wherein when the AC solid-state light emitting members (101), (102), (103) are structured by light emitting diodes (LEDs) or organic light emitting diodes (OLEDs), including one or more than one of the following means:

1) two or more than two light emitting diodes (LEDs) or organic light emitting diodes (OLEDs) is reverse-polarity connected in parallel; or

2) two or more than two light emitting diodes (LEDs) or organic light emitting diodes (OLEDs) is reverse-polarity connected in series then respectively reverse-polarity connected in parallel with diodes; or

3) one or more than one light emitting diodes (LEDs) or organic light emitting diodes (OLEDs) is connected in series, or in parallel or in series and parallel and normal-

polarity connected to an DC output end of a bridge rectifying device.

5. A solid-state light emitting device having controllable multiphase reactive power as claimed in claims 1-3, wherein when the AC solid-state light emitting members (101), (102), (103) are structured by single-way conductivity solid-state light emitting members, including one or more than one of the following means:

1) two or more than two single-way conductivity solid-state light emitting members are reverse-polarity connected in parallel; or

2) two or more than two single-way conductivity solid-state light emitting members are reverse-polarity connected in series then respectively reverse-polarity connected in parallel with diodes; or

3) one or more than one single-way conductivity solid-state light emitting members are connected in series, or in parallel or in series and parallel and normal-polarity connected to a DC output end of a bridge rectifying device.

~~64. A solid state light emitting device having controllable multiphase reactive power as claimed in claim 1, wherein each phase of the three-phase AC power source is individually connected in parallel with a circuit device in series connected by the AC current limiting circuit device (Z10), the AC solid-state light emitting member and the AC terminal of single-phase bridge rectifier (BR100), then the DC output terminal of the single-phase bridge rectifier (BR100) of each phase is homo-polar connected in parallel with the solid-state switch device for controlling electric conduction phase angle (2000), and it mainly consists of:~~
A solid-state light emitting device having controllable multiphase reactive power, which utilizes a three-phase AC power source, each power phase respectively driving individual solid-state light emitting members arranged adjacently or arranged with an overlapping means, so that the synthetic illumination brightness is overlapped through the illumination brightness waveforms generated by the AC power voltage of each phase, lowering the synthetic pulse rate of illumination brightness, and the sine waveform voltages at different phases between each power

source enable the individual solid-state light emitting members respectively driven by each phase and arranged adjacently or arranged with an overlapping means generate optical energy having different brightnesses with respect to the instant value of the voltage waveform; such that when the individual solid-state light emitting members having different brightness and arranged adjacently or arranged with an overlapping means emit light, the power passing through the individual solid-state light emitting member having a relatively low brightness is defined as reactive power; the solid-state light emitting device having controllable multiphase reactive power that utilizes a solid-state switch device (2000) connected in parallel between positive and negative terminals of a respective single-phase bridge rectifier (BR100) to control an AC conductivity phase angle for controlling the reactive power to be cut so as to save power, and to further regulate the current and voltage supplied to the individual solid-state light emitting member; wherein

each power phase of the three-phase AC power source is regulated by the solid-state switch device (2000) for controlling the AC conductivity phase angle and then respectively driving individual solid-state light emitting members connected in a delta (Δ) format and arranged adjacently or arranged with an overlapping means, the solid-state light emitting device comprising:

--AC solid-state light emitting member (101), (102), (103): constituted by two or more than two AC-power driven solid-state light emitting members, including a light emitting diode (LED) or an organic light emitting diode (OLED) provided as a foundational light emitting member for being driven by AC power source, or including other solid-state light emitting member capable of being driven by AC power source, wherein:

~~The solid state light emitting member (101) driven by AC power is in series connected to the AC current limiting circuit device (Z10) and in series~~

~~connected to the AC terminal of single-phase bridge rectifier (BR100), then connected in parallel between the three phase AC power wire (R) and the three-phase AC power wire (T);~~

~~The solid-state light emitting member (102) driven by AC power is in series connected to the AC current limiting circuit device (Z10) and in-series connected to the AC terminal of single-phase bridge rectifier (BR100), then connected in parallel between the three phase AC power wire (S) and the three-phase AC power wire (R);~~

~~The solid-state light emitting member (103) driven by AC power is in series connected to the AC current limiting circuit device (Z10) and in-series connected to the AC terminal of single-phase bridge rectifier (BR100), then connected in parallel between the three phase AC power wire (T) and the three-phase AC power wire (S);~~

a first said AC-power driven solid-state light emitting member (101) is connected in series with an AC current limiting circuit device (Z10) and connected in series with the AC terminal of a first said single-phase bridge rectifier (BR100), and then connected in parallel between a first three-phase AC power wire (R) and a second three-phase AC power wire (S);

a second said AC-power driven solid-state light emitting member (102) is connected in series with the AC current limiting circuit device (Z10) and connected in series with AC terminal of a second said single-phase bridge rectifier (BR100), and then connected in parallel between the second three-phase AC power wire (S) and a third three-phase AC power wire (T);

a third said AC-power driven solid-state light emitting member (103) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the AC terminal of a third said single-phase bridge rectifier (BR100), and then connected in parallel

between the third three-phase AC power wire (T) and the first three-phase AC power wire (R);

--AC current limiting circuit device (Z10): constituted by one or more than one of the following circuit structures, including:

1) a current regulating circuit for regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the reactive power conductivity angle controlled by the solid-state switch device for controlling the AC conductivity phase angle(1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) ~~The~~a control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) an AC stabilizing transformer;and

5) an AC constant current output transformer;

~~--the solid-state switch device (2000) for controlling electric conduction phase angle (2000): connected in parallel between the positive and negative terminals of each set of~~respective single-phase bridge rectifier (BR100)and,
~~controlled by the electric power control unit (ECU) for performing regulation of conducting phase angle, and the solid state switch for controlling electric conduction phase angle (2000) is constituted by one or more than one of the following electric circuit structures:~~

1) a thyristor power component capable of controlling conductivity phase angle, for example TRIAC (Tri-Electrode AC Switch), SCR (Silicon Controlled Rectifier) or GTO (Gate Turn-off Thyristor) serving as an active component, and through the operations of the voltage comparison circuit between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the

turn-off phase angle of the thyristor component is enabled to be controlled;

2) a solid-state switch device composed of a ~~field~~field effect power component, ~~for example including at least a~~ MOSFET (Metal Oxide Semiconductor Field Effect Transistor), ~~or~~ IGBT (Insulated Gate Bipolar Transistor), and another type of field effect power component, the field effect power component serving as the active component, and such that through the operations of the voltage comparison circuits for comparing each voltage phase of the multiphase power source~~between each phase voltage from the voltage detection circuit of multiphase power source~~, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the field effect component;

3) ~~With properties of the zener voltage of the~~a zener diode or diode having a, ~~or with the voltage forward drop feature of the diode, the zener diode or the diode is connected in series between the gate of the thyristor and the voltage source, so as to set the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component during the power source performing the voltage variation in a sine waveform; and~~

4) ~~Through the voltage of the used AC power source, to a circuit for setting~~ the operations of the turn-on phase angle and the turn-off phase angle of the solid-state light emitting member according to the voltage forward (VF) feature of the AC solid-state light emitting member itself (LED), during the power source performing the voltage variation in a sine waveform; and

-- an electric power control unit (ECU): according to the internal setting of the electric control unit (ECU) or receiving external controls, and referring to the voltage of three-phase AC power source and the current passing through the AC current limiting circuit device (Z10), for controlling the turn-

on phase angle of the solid-state switch device for controlling electric conduction phase angle (2000) connected in parallel between the positive and negative terminals of each set of single-phase bridge rectifier (BR100), so as to regulate the voltage and current passing through the solid-state light emitting member.

~~75. A solid state light emitting device having controllable multiphase reactive power as claimed in claim 1, wherein a circuit device in series connected by the AC current limiting circuit device (Z10), the AC solid state light emitting member and the AC terminal of single phase bridge rectifier (BR100) is individually installed in parallel between each phase of R, S, and T of three phase four wire AC power source and the neutral wire of three phase four wire AC power source (N), then the DC output terminal of the single phase bridge rectifier (BR100) of each phase is homo-polar connected in parallel with the solid state switch device for controlling electric conduction phase angle (2000), and it mainly consists of:~~

A solid-state light emitting device having controllable multiphase reactive power, which utilizes a three-phase, four line AC power source, and each phase power respectively drives individual solid-state light emitting members arranged adjacently or arranged with an overlapping means, so that the synthetic illumination brightness is overlapped through the illumination brightness waveforms generated by the AC power voltage of each phase, lowering the synthetic pulse rate of illumination brightness, and the sine waveform voltages at different phases enable the individual solid-state light emitting members respectively driven by each phase power and arranged adjacently or arranged with an overlapping means generate optical energy having different brightnesses with respect to the instant value of the voltage waveform; such that when the individual solid-state light emitting members having different brightness and arranged adjacently or arranged with an

overlapping means emit light, the power passing through the individual solid-state light emitting member having a relatively low brightness is defined as reactive power; the solid-state light emitting device having controllable multiphase reactive power that utilizes a solid-state switch device (2000) connected in parallel between positive and negative terminals of a respective single-phase bridge rectifier (BR100) to control an AC conductivity phase angle for controlling the reactive power to be cut so as to save power, and to further regulate the current and voltage supplied to the individual solid-state light emitting member; wherein

each power phase of the three-phase AC power source is regulated by the solid-state switch device (2000) for controlling the AC conductivity phase angle and then respectively driving individual solid-state light emitting members connected in a delta (Δ) format and arranged adjacently or arranged with an overlapping means, the solid-state light emitting device comprising:

--AC solid-state light emitting member (101), (102), (103): constituted by two or more than two AC-power driven solid-state light emitting members, including a light emitting diode (LED) or an organic light emitting diode (OLED) provided as a foundational light emitting member for being driven by AC power source, or including other solid-state light emitting member capable of being driven by the AC power source; wherein:

~~The AC current limiting circuit device (Z10) is in series connected to the solid state light emitting member (101), and in series connected to the AC terminal of single phase bridge rectifier (BR100), then connected in parallel between the three phase four wire AC power wire (R) and the neutral wire of three phase four wire AC power source (N);~~

~~The AC current limiting circuit device (Z10) is in series connected to the solid state light emitting member (102), and in series connected to the AC terminal of single phase bridge rectifier (BR100), then connected in~~

~~parallel between the three phase four wire AC power wire (S) and the neutral wire of three phase four wire AC power source (N);~~

a first said AC-power driven solid-state light emitting member (101) is connected in series with an AC current limiting circuit device (Z10) and connected in series with the AC terminal of a first said single-phase bridge rectifier (BR100), and then connected in parallel between a first three-phase AC power wire (R) and a neutral wire (N);

a second said AC-power driven solid-state light emitting member (102) is connected in series with the AC current limiting circuit device (Z10) and connected in series with AC terminal of a second said single-phase bridge rectifier (BR100), and then connected in parallel between the second three-phase AC power wire (S) and a neutral wire (N);

a third said AC-power driven solid-state light emitting member (103) is connected in series with the AC current limiting circuit device (Z10) and connected in series with the AC terminal of a third said single-phase bridge rectifier (BR100), and then connected in parallel between the third three-phase AC power wire (T) and a neutral wire (N);

~~the AC current limiting circuit device (Z10) is in series connected to the solid state light emitting member (103), and in series connected to the AC terminal of single phase bridge rectifier (BR100), then connected in parallel between the three phase four wire AC power wire (T) and the neutral wire of three phase four wire AC power source (N);~~

~~--the~~ AC current limiting circuit device (Z10): constituted by one or more than one of the following circuit structures, including:

1) a current regulating circuit for regulating the driving current of the AC solid-state light emitting member (LED) by increasing/decreasing the

reactive power conductivity angle controlled by the solid-state switch device (2000) for controlling the AC conductivity phase angle (1000);

2) One or more than one of resistant type impedance member, induction type impedance member or capacitor type impedance member being connected in series, in parallel or in series and parallel;

3) ~~The~~a control circuit structured by a solid-state semiconductor circuit which performs analog or chopper type constant current or limiting current to the solid-state light emitting member;

4) an AC stabilizing transformer; and

5) an AC constant current output transformer;

~~--the solid-state switch device (2000) for controlling electric the AC conduction phase angle (2000); connected in parallel between the positive and negative terminals of each set of respective single-phase bridge rectifier (BR100) and, controlled by the electric power control unit (ECU) for performing regulation of conducting phase angle, and the solid state switch for controlling electric conduction phase angle (2000) is constituted by one or more than one of the following electric circuit structures:~~

1) a thyristor power component capable of controlling conductivity phase angle, ~~for example including at least a TRIAC (Tri-Electrode AC Switch), an SCR (Silicon Controlled Rectifier), a or GTO (Gate Turn-off Thyristor) and another type of thyristor power component,~~ the thyristor power components serving as an active component, and such that through the operations of the respective voltage comparison circuits for comparing respective voltage phases between each phase voltage from the each phase voltage detection circuit, the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component is enabled to be controlled;

2) a solid-state switch device composed of a ~~field~~field effect power component, ~~for example including at least a MOSFET (Metal Oxide~~

Semiconductor Field Effect Transistor), ~~or~~ IGBT (Insulated Gate Bipolar Transistor), and another type of field effect power component, the field effect power component serving as the active component, ~~and such that~~ through the operations of the voltage comparison circuits for comparing each voltage phase of the multiphase power source ~~between each phase voltage from the voltage detection circuit of multiphase power source~~, the driving circuit of the field effect component is controlled, so as to control the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the field effect component;

3) ~~With properties of the zener voltage of the zener diode, or with the voltage forward drop feature of the diode, the zener diode or the diode is connected in series between the gate of the thyristor and the voltage source~~ a zener diode or diode having a forward voltage drop feature connected in series between the gate of the thyristor and the voltage source, so as to set the control timing of both or at least one of the turn-on phase angle and the turn-off phase angle of the thyristor component during the power source performing the voltage variation in a sine waveform; and

4) ~~Through the voltage of the used AC power source, to a circuit for setting~~ the operations of the turn-on phase angle and the turn-off phase angle of the solid-state light emitting member according to the voltage forward (VF) feature of the AC solid-state light emitting member itself (LED), during the power source performing the voltage variation in a sine waveform; and

-- an electric power control unit (ECU): according to the internal setting of the electric control unit (ECU) or receiving external controls, and referring to the voltage of three-phase four-wire AC power source and the current passing through the AC current limiting circuit device (Z10), for controlling the turn-on phase angle of the solid-state switch device for controlling electric conduction phase angle (2000) connected in parallel

between the positive and negative terminals of each set of single-phase bridge rectifier (BR100) for controlling the AC conductivity phase angle, so as to regulate the voltage and current passing through the solid-state light emitting member.

86. A solid-state light emitting device having controllable multiphase reactive power as claimed in claims ~~1, 2, 3, 4 or 5~~ 6 or 7, wherein when the AC solid-state light emitting members (101), (102), (103) are structured by light emitting diodes (LEDs) or organic light emitting diodes (OLEDs), including one or more than one of the following means:

1) two or more than two light emitting diodes (LEDs) or organic light emitting diodes (OLEDs) is reverse-polarity connected in parallel; or

2) two or more than two light emitting diodes (LEDs) or organic light emitting diodes (OLEDs) is reverse-polarity connected in series then respectively reverse-polarity connected in parallel with diodes; or

3) one or more than one light emitting diodes (LEDs) or organic light emitting diodes (OLEDs) is connected in series, or in parallel or in series and parallel and normal-polarity connected to an DC output end of a bridge rectifying device.

97. A solid-state light emitting device having controllable multiphase reactive power as claimed in claims ~~1, 2, 3, 4 or 5~~ 6 or 7, wherein when the AC solid-state light emitting members (101), (102), (103) are structured by single-way conductivity solid-state light emitting members, including one or more than one of the following means:

1) two or more than two single-way conductivity solid-state light emitting members are reverse-polarity connected in parallel; or

2) two or more than two single-way conductivity solid-state light emitting members are reverse-polarity connected in series then respectively

reverse-polarity connected in parallel with diodes; or

- 3) one or more than one single-way conductivity solid-state light emitting members are connected in series, or in parallel or in series and parallel and normal-polarity connected to a DC output end of a bridge rectifying device.