CLAIMS

1. A startup method of a photovoltaic air conditioning system, comprising:

controlling a bidirectional inverter to enter an operating state under a condition that a photovoltaic device meets a preset power generation condition; and

controlling a direct current - direct current converter connected with the photovoltaic device to enter an operating state under a condition that the bidirectional inverter enters the operating state to transmit electric power from the photovoltaic device to an air conditioning device under a condition that the bidirectional inverter enters the operating state, wherein the controlling the bidirectional inverter to enter the operating state under a condition that the photovoltaic device meets the preset power generation condition comprises:

determining whether electrical parameters of the photovoltaic device meet the preset power generation condition under a condition that an outdoor unit of the air conditioning device is in a standby state; and

setting a startup identifier of the direct current - direct current converter and controlling the bidirectional inverter to enter the operating state under a condition that the electrical parameters of the photovoltaic device meet the preset power generation condition.

2. The startup method according to claim 1, wherein the controlling the bidirectional inverter to enter the operating state under a condition that the photovoltaic device meets the preset power generation condition further comprises:

determining whether an indoor unit of the air conditioning device receives a startup instruction under a condition that the electrical parameters of the photovoltaic device do not meet the preset power generation condition; and

controlling the indoor unit of the air conditioning device to enter an operating state and controlling the bidirectional inverter to enter the operating state under a condition that the indoor unit of the air conditioning device receives the startup instruction.

3. The startup method according to Claim 1, wherein the controlling the bidirectional inverter to enter the operating state comprises:

sending a first control signal to the bidirectional inverter to startup the bidirectional inverter.

4. The startup method according to any one of Claims 1 to 3, wherein the controlling the direct current - direct current converter connected with the photovoltaic device to enter the operating state under a condition that the bidirectional inverter enters the operating state comprises:

detecting whether there is a startup identifier of the direct current - direct current converter under a condition that the

bidirectional inverter enters the operating state; and

controlling the direct current - direct current converter to enter the operating state under a condition that there is a startup identifier of the direct current - direct current converter.

5. The startup method according to claim 4, further comprising:

determining whether an indoor unit of the air conditioning device is in a startup state after the bidirectional inverter enters the operating state; and

controlling an outdoor unit of the air conditioning device to enter the operating state under a condition that the indoor unit of the air conditioning device is in a startup state.

6. The startup method according to Claim 4, wherein the controlling the direct current - direct current converter to enter the operating state comprises:

sending a second control signal to the direct current - direct current converter to startup the direct current - direct current converter.

7. The startup method according to Claim 1, wherein the preset power generation condition comprises that an output voltage of the photovoltaic device is larger than a voltage threshold value, and an insulation impedance of the photovoltaic device is larger than an impedance threshold value.

8. A controller, comprising:

an bidirectional inverter control unit, configured to control an bidirectional inverter to enter an operating state under a condition that a photovoltaic device meets a preset power generation condition, wherein the bidirectional inverter control unit is configured to determine whether electrical parameters of the photovoltaic device meet the preset power generation condition under a condition that an outdoor unit of the air conditioning device is in a standby state, set a startup identifier of the direct current - direct current converter and control the bidirectional inverter to enter the operating state under a condition that the electrical parameters of the photovoltaic device meet the preset power generation condition; and

a direct current - direct current converter control unit, configured to control a direct current - direct current converter connected with the photovoltaic device to enter an operating state under a condition that the bidirectional inverter enters the operating state to transmit electric power from the photovoltaic device to an air conditioning device under a condition that the bidirectional inverter enters the operating state.

9. The controller of claim 8, wherein the preset power generation condition comprises that an output voltage of the photovoltaic device is larger than a voltage threshold value, and an insulation impedance of the photovoltaic device is larger than an impedance threshold value.

10. A controller, comprising:

a processor; and

a memory coupled to the processor, storing program instructions which, when executed by the processor, cause the processor to implement the startup method of a photovoltaic air conditioning system of any of Claims 1 to 7.

11. A photovoltaic air conditioning system comprising:

a controller of any one of Claims 8-10;

a photovoltaic device;

a direct current - direct current converter and a bidirectional inverter connected with a direct current bus, wherein the direct current - direct current converter is configured to convert a direct current power output by the photovoltaic device into a direct current power transmitted on the direct current bus and send electrical parameters to the controller;

an outdoor unit of the air conditioning device, configured to receive electric power from the direct current bus and send a state of the outdoor unit to the controller; and

an indoor unit of the air conditioning device, configured to receive electric power from the direct current bus or receive electric power from an alternating current power supply through the bidirectional inverter and send the state of the indoor unit to the controller.

12. A computer readable storage medium having stored thereon computer program instructions which, when executed by a processor, implement the startup method of a photovoltaic air conditioning system of any of claims 1 to 7.