

Anti-backflow function for grid-connected and off-grid inverters





Overview

A photovoltaic system with anti backflow function can timely reduce the output power of the inverter when the power generation exceeds the load power, in order to reduce the overall power generation of the system, ensure that the electricity generated by the photovoltaic is only used by the load, and avoid excess electricity flowing into the grid. How does an anti-backflow inverter work?

If any energy feeding into the grid is detected, the anti-backflow device immediately provides feedback to the inverter. The inverter then quickly reduces its output power, achieving a state of zero feeding to the grid. This function is critical for maintaining the safety and compliance of PV systems in regions with strict regulations.

How does anti-backflow work?

If the generation exceeds the consumption, the surplus electricity flows back into the grid, creating backflow. Systems with anti-backflow functionality can adjust the inverter's output to ensure that the electricity generated is fully consumed by local loads, preventing excess power from entering the grid. Why Install Anti-Backflow?

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What is a reverse current & backflow function?

When a PV system generates more electricity than the local load consumes, the excess power flows onto the grid. This reverse flow of energy, originating from PV modules → inverter → load → grid, is referred to as reverse current or backflow. The anti-backflow function is specifically designed to prevent this reverse energy flow.

Does a photovoltaic system have anti-backflow?

The photovoltaic system with CT (Current Transformer) has anti-backflow function, which means that the electricity generated by photovoltaics is only



supplied to loads, preventing excess electricity from being sent to the grid. 2. Why do you need anti-backflow?

There are several reasons for installing an anti-backflow prevention solution:.

How does a grid-connected inverter work?

Install a CT (Current Transformer) or meter on the grid-connected busbar to monitor real-time current direction and magnitude, which is then communicated to the inverter. Upon detecting current flow towards the grid, the inverter will reduce its output power until the countercurrent is eliminated, thereby achieving anti-backflow.

How does a Deye inverter anti-backflow work?

4. The solution?

Deye inverter anti-backflow working principle: install an meter with CT or current sensor at the grid-connected point. When it detects that there is current flowing to the grid, it will feed back to the inverter, and the inverter will immediately change its working mode and track from the maximum power point of MPPT.



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[Analysis and Suppression of Active Power Backflow of](#)

Featured with the expandable modular structure, three-phase isolated cascaded H-bridge (CHB) inverters are capable of directly connecting to medium voltage power grid without bulky and ...

[4 Ways of reverse power flow protection in grid-connected PV ...](#)

When the grid side current measured by the CT is negative, the electric current will flow back into the grid. Before the backflow occurs or the backflow power is greater than the ...



[Off Grid Solar Energy Storage Inverter Suppliers](#)

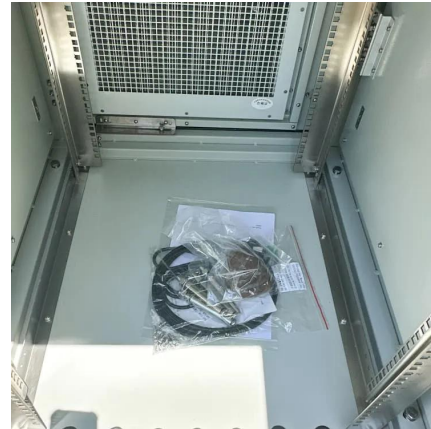
It has two-level anti-backflow function to protect the power grid from being affected and impacted. Bypass output is available even without a battery, ensuring that critical loads remain powered ...

[Anti Backflow Grid Tie Inverter Battery PV Multi Purpose Solar](#)

1000w Grid Tie Inverter for Solar Panels or Battery. In the inverter LCD, enter the "battery grid connection", through the SET {Bat AutoLimit



Grid} for Y. 1x 1000W Solar Grid ...



Principle and implementation of photovoltaic inverter anti-reverse ...

After receiving the command, the inverter responds in seconds and reduces the inverter output power, so that the current flowing from the photovoltaic power station to the grid is always kept ...

Questions Related to C& I ESS Performance Specifications and ...

The 2s backflow prevention function means that the function is implemented within 2 seconds. The 2s backflow prevention function (also named as zero power grid-tied feature) mainly ...



What is anti-backflow in a solar system & How to realize the function?

This mechanism ensures no surplus power is fed into the grid. If any energy feeding into the grid is detected, the anti-backflow device immediately provides feedback to the ...



[Anti-Backflow Principles and Solutions for Solar Inverters](#)

Systems with anti-backflow functionality can adjust the inverter's output to ensure that the electricity generated is fully consumed by local loads, preventing excess power from entering ...



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In off grid mode, if the inverter is connected to the DG and the DG enable is set to 1, when the battery discharges to the stop discharge setting point, the inverter sends a dry contact signal ...

[Battery Grid Tie Inverter Anti Backflow Inverter Solar Inverter](#)

1000w Grid Tie Inverter for Solar Panels or Battery. Anti-reverse current inverter. In the inverter LCD, enter the "battery grid connection", through the SET {Bat AutoLimit Grid} ...



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