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Patent Search

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Abstract:

The present invention revolves around an advanced, efficient power supply system centered on a three-phase bidirectional meter. The system integrates solar panels facilitating a bidirectional flow of electricity between the two. The meter serves to measure the energy transferred in both directions - from grid to load and from load thereby supporting the implementation of net metering policies. Net metering credits owners of solar energy systems for the surplus electricity they contribute back registered through the bidirectional meter spinning backwards. Alternatively, when power needs exceed the energy produced by the solar panels, the meter allows for supplementary grid power to be drawn. A central component of the power supply system is the monitoring of electrical energy generation from the solar panel and set. Solar panels convert sunlight into direct current electricity, subsequently transformed into alternating current electricity by a microinverter attached to each panel. Microinverters are equipped with built-in monitoring systems that deliver real-time, module-level performance data, accessible typically via a web portal or mobile app. The interconnectedness of the solar panels, microinverter, three-phase bidirectional meter, and the grid results in an advanced, eco-friendly energy system capable of power, earning energy credits, and providing valuable data about energy usage and production. Accompanied Drawing [FIGS. 1-2]

Complete Specification

Description:[001] The present invention generally relates to the field of the system and working method for Three-phase bidirectional meter. The invention more particularly relates to Three-phase bidirectional meter interconnected to the grid with monitoring of the generation of electrical energy from the panel-microinverte

BACKGROUND OF THE INVENTION

[002] The following description provides the information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[003] Further, the approaches described in this section are approaches that could be pursued, but not necessarily approaches that have been previously conceived or pursued. Therefore, unless otherwise indicated, it should not be assumed that any of the approaches described in this section qualify as prior art merely by virtue of their inclusion in this section.

[004] A three-phase bidirectional meter is an integral part of the power supply system, especially when we have renewable energy sources like solar panels connect to the grid. It allows energy to flow in both directions (grid to load, and load to grid) and measures the power that flows in both directions.

[005] This kind of meter is essential for net metering, which is a billing mechanism that credits solar energy system owners for the electricity they add to the grid. When your solar panels produce more electricity than you need, that excess power is sent back into the power grid, which will spin your meter backwards. On the contrary, when you need more electricity than your solar panels are producing, then you can draw power from the grid.

[006] Now, speaking of the monitoring of the generation of electrical energy from the panel-microinverter set, this refers to the need for tracking how much electrical energy is being produced by your solar panel system. The solar panels convert sunlight into DC (direct current) electricity, which then needs to be converted into AC (alternating current) electricity.

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