

Solar inverter over-allocation





Overview

How do rooftop PV inverters work?

At the lower level, the rooftop PV inverters are aggregated through the consensus algorithm, and the droop controllers set the reactive power output of each PV inverter. At the higher level, to minimize the power loss, the reactive power of the PV inverters is dispatched. The distributed structure of this approach increases the system resilience.

Can PV inverters be optimally used for reactive power consumption?

In the second level, based on the partitioning of the distribution grid, an optimisation model is proposed to use RPC capability of PV inverters. By applying the proposed strategy, the capability of inverters located in the most critical partitions will be optimally used for reactive power consumption.

Why do inverters need less power factor 1?

In hours with less PV production, there is a need for less number of partitions to participate in the process of reactive power voltage control. In this way, other inverters can continue their operation with power factor 1.

What is reactive power compensation in PV inverters?

Second level: reactive power compensation In the second level, based on the partitioning of the distribution network, reactive power compensation capability of PV inverters is employed to fine-tune the voltage profile for the next hour.



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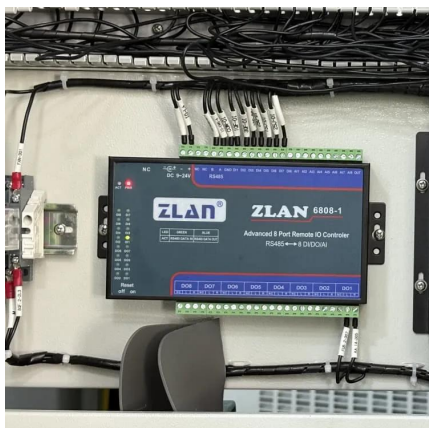
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