

Inverter parallelization to achieve three-phase output





Overview

How does a 3 phase inverter work?

However, most 3-phase loads are connected in wye or delta, placing constraints on the instantaneous voltages that can be applied to each branch of the load. For the wye connection, all the “negative” terminals of the inverter outputs are tied together, and for the delta connection, the inverter output terminals are cascaded in a ring.

What are the control parameters of a 3p2l inverter?

The control parameters are directly obtained by the discrete model. The configuration of carrier phase is optimized to reduce common-mode voltage. The paralleled configuration of three-phase two-level (3P2L) inverters has been put forward to increase the output power rating, operating efficiency, and system reliability.

What are the problems with parallel 3p2l inverters?

Another problem is the common-mode voltage (CMV), which causes electromagnetic interference and threatens the safe operation of the system. There exists interconnection between these two issues in the paralleled 3P2L inverters. To suppress the CMV and circulating current simultaneously, an improved control method is presented.

What is a discrete model of paralleled 3p2l inverters?

(1) The discrete model of paralleled 3P2L inverters is established, based on which the improved control scheme is designed in detail. The output variables of the controllers for circulating current suppression are directly generated by the modified model, while the tedious tuning process for control parameters is avoided.



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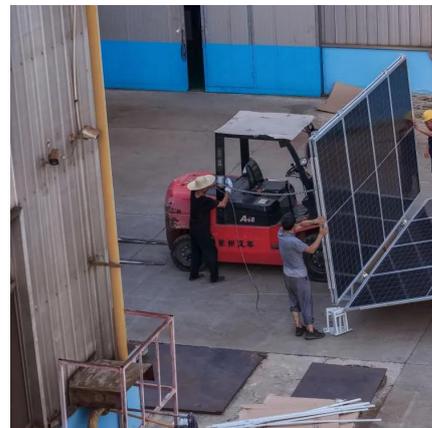


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