

Single chip microcomputer production three-phase inverter





Overview

What is STM32F103 inverter?

Its main controller uses 32-bit arm series single chip microcomputer STM32F103. The inverter part uses three-phase half bridge. The modulation mode selects SPWM modulation technology of third harmonic injection, and uses average value feedback control at the same time.

What is a multi-port three-phase inverter?

The present research paper sets forth a multi-port three-phase inverter. This structure is based on single-stage conversion, and besides employing six switches of the classic single-input inverter, it only uses one extra switch. This structure suits such applications as hybrid renewable energy systems as it boosts voltage.

Does a microcontroller based inverter incorporate machine intelligence into its design?

The inverter described in Ref. 24 is a single-stage, microcontroller-based inverter with a high voltage gain, but it does not incorporate machine intelligence into its design. At the end, only the inverter presented in Ref. 1 has all the same features mentioned for the proposed inverter in this paper.

What is a dual-input single-output three-phase inverter?

Two dual-input single-output three-phase inverters are discussed in Refs. 1, 2. In the topology developed by Ref. 2, replacing the two inductors of the classic impedance source inverter with two transformers forms a new multi-port inverter. In this inverter, the DC-link voltage is a three-level signal with a specific switching frequency.



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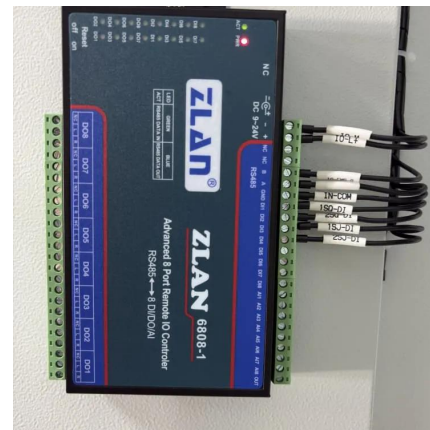


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