

Three-phase inverter specifications





Overview

What is a three-phase inverter reference design?

Three-phase inverter reference design for 200-480VAC drives (Rev. A) This reference design realizes a reinforced isolated three-phase inverter subsystem using isolated IGBT gate drivers and isolated current/voltage sensors.

What is the efficiency and power loss of three-phase inverter mode?

Figure 51 and Figure 52 display the measured efficiency and power loss under three-phase inverter mode operation at different line voltages. The peak efficiencies of 99.263%, 99.122%, and 98.855% and the full-load efficiencies of 99.166%, 98.938%, and 98.632% are measured for the high-line, nominal, and low-line conditions, respectively.

What is a three-phase full-bridge inverter?

Commonly the full-bridge topology is used for three-phase inverters. For three-phase applications including motor drives, UPSs, and grid-tied solar inverters, the three-phase full-bridge inverter topology is a frequently used design. The architecture is Figure 19: The Topology of a Three-Phase Full Bridge Inverter.

Why do three-phase inverters operate in 180-degree conduction mode?

The unexpected potential of the open terminal is determined by the load characteristics. The 120-degree conduction mode of each transistor results in underutilization when compared to the 180-degree conduction mode for the identical load state. Due to these reasons, three-phase inverters prefer to operate in the 180-degree conduction mode.



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