Three-phase four-arm NPC grid-connected inverter

In these studies, traditional two-level inverters are used as grid-connected inverters (GCIs). Current control in inverters is carried out on the d and q axes with a PI control technique.

The control objectives of the NPC inverter are carried out by a single ANN in ANN-1 and by three independent ANNs in ANN-3. The training results for ANN-1 and ANN-3 are approximately the ...

Critical parameters such as DC bus voltage, filter inductance, and capacitor values were selected to optimize converter efficiency and stability in both islanded and grid-connected modes.

This paper proposes a robust Artificial Neural Network (ANN) controller based on Multilayer Perceptron (MLP) topology to control three-phase Neutral Point Clamp

This paper compares two- and three-level AC/DC converters for three-phase industrial applications, focusing our analysis on two-level, T-type, active neutral point clamped (ANPC), neutral point ...

In this study, two different control systems are proposed for a three-phase, three-level, three-leg, three-wire (3P3L3L-3 W), grid-connected (GC) neutral point clamped (NPC) voltage ...

This article presents a comprehensive analysis and implementation of a control strategy for a three-phase, three-level NPC solar inverter. Our approach integrates several key techniques: a grid ...

In the control strategy of photovoltaic grid connected inverters, traditional centralized control is difficult to cope with grid imbalance and harmonic interference. This study focuses on three-phase T-type three ...

This demo model shows the simulation of a grid-connected NPC inverter in closed current loop using SVPWM (Space-Vector PWM) and a neutral-point balancing technique. It provides an explanation of ...

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