

## SolarTech Power Solutions

# Inverter AC commutation



## Overview

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What is a line commutated inverter?

A line commutated inverter is an inverter that is tied to a power grid or line. The commutation of power is controlled by the power line, so that, if there is a failure in the power grid, the photovoltaic system cannot feed power into the line.

What are the different types of commutation methods used in inverters?

These inverters are further divided into two categories, depending on the commutation method used: 120° commutation primarily used for small motor applications and 180° commutation used for many motor and power supply applications. There are two PWM modulation methods for 180° commutation: two-phase and three-phase modulation.

What is commutation in an inverter?

In the context of an inverter, commutation refers to the switching of current polarity. It can be achieved through various methods such as using a switch with DC, a sine wave controlled by PWM, or a Hall sensor to detect rotor magnetic position.

What types of PWM inverters are used?

Voltage-type PWM inverters are most commonly used. These inverters are further divided into two categories, depending on the commutation method used: 120° commutation primarily used for small motor applications and 180° commutation used for many motor and power supply applications.

What are the modulation methods for 180° commutation?

There are two PWM modulation methods for 180° commutation: two-phase and three-phase modulation. Control and modulation methods are selected according to the type of motor used, and its application area and requirements. 3. Voltage source type and current source type inverters 3.1.

Voltage source type inverters.

What are inverter circuits used for?

This document describes inverter circuits used for motor control and other applications, focusing on PWM control. It also describes the differences between two-phase and three-phase modulation techniques as well as circuits for drive power supply and power losses in semiconductor devices. 1.1.

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