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These are constant input voltage inverters. Current varies according to load demand but voltage remains independent of the connected load i.e., constant. In this type, a voltage link in the form of capacitor is provided in between the dc source and the inverter. Voltage fed inverter carry the characteristics of buck-converter as the output rms voltage is always lower than the input DC voltage.

Current-fed inverters are those which have constant input current. Their current is independent of the connected load. However, their voltage does vary according to the load applied. In this type, a current link (inductor) is provided in between the dc source and the inverter.

Variable dc-link inverters are those whose input voltage is controllable by adjusting the values of inductor and capacitor used for DC link. In this type, DC current link and DC voltage link both are provided in between the DC source and the inverter. The output voltage can be adjusted accordingly.

The square wave inverter converts DC input into square wave AC output. Undeniably, conversion is easy but square wave contains high harmonic contents making it unsuitable for use in AC motors and transformers where high harmonic signals are strongly. However, it became a gateway to new and better emerging technologies.

Quasi square wave came as modification of square wave inverter. The output of a modified square wave, quasi square inverter, is similar to a square wave output except that the output goes to zero volts for a time before switching positive or negative. It is simple and low cost and is compatible with most electronic devices.

As name suggests, A sine wave inverter produces a nearly perfect sine wave output (less than 3% total harmonic distortion) enabling it compatible with utility-supplied grid power and with all AC electronic devices. This is the type used in grid-tie inverters. This application demands Its design to be more complex and it costs more per unit power.

This is the class of inverters in which output voltage or current is passed though zero to minimize switching losses. If the output voltage is passed through zero, it is called zero voltage switching and if the output current is passed through, it is called zero current switching. The required circuitry can be in series or parallel further dividing up into series resonant inverters and parallel resonant inverters.

As obvious from the name, this type of inverter is developed in which the output voltage is greater than the input DC voltage. Boost inverter has a DC-DC boost converter in between DC source and the inverter, which first amplifies the DC voltage level and then feeds it to the inverter.

A type of sine wave inverter designed to inject electricity into the electric power distribution system. Such

inverters are synchronized with the frequency and voltage level of the grid. They usually contain one or more maximum power point tracking features to extract the maximum amount of power, and also include more sophisticated safety features. A synchronous inverter connects to a grid and allows routing to or from the grid depending on need.

A stand-alone inverter is often used to translate direct current produced by renewable energy distributed generations sources like solar panels or small wind turbines to power the houses and small industries, mostly in remote locations lacking main utility grid. Solar inverters have special features adapted for use with photovoltaic arrays for maximum power point tracking and anti-islanding protection.

In need of high-power three-phase inversion applications, three-phase inverters are preferred. However, inversion in these types of inverters is more intricate than that of in single phase inverters.

Inverters are widely used in industries and home appliances and have become essential for our daily life. Some of the applications have been mentioned above in application base classification of inverters. Here are some other major applications of inverters: