Square Wave Inverter

Any electrical inverter is a device that has the ability to convert a direct current (DC) waveform, to an alternating current (AC) waveform. These devices are crucial for a variety of applications. This is because most of these applications are at the houses of people in the form of electrical appliances and they require an AC waveform to operate. Inverters find their use as an emergency backup for power supplies and sometimes even in aircrafts, which employ them to convert some DC waveforms to AC waveforms. There is, of course, not just one type of inverter circuit. A sine wave, modified sine wave, square wave, multilevel inverter, are just some of the types of inverters, to name a few. The beauty of living in today’s world is that with the robust and breakneck communication systems set up, anyone on the planet could potentially **buy online square wave inverters**, that can be used to power all sorts of devices as needed by them.

Applications

Most of the **best square wave inverters online in India** are manufactured with specifications that match the requirements of Indian power outlets.

* As this circuit is a subset of archaic designs of inverters, it is generally used in small applications such as heating and lighting. Since sensitive electronics can produce a humming sound of some sort through any audio output, when a square wave is passed through it, these inverters are not always the first choice in these applications.
* The voltage source inverters, that are another type of inverter circuits, actually use square wave inverters to power themselves. These are used in cheap drives for AC motors.
* Uninterrupted Power Supplies (UPSs) are the main, important and most well-known applications of inverters. A resonance phenomenon caused by choosing a particular capacitor and inductor combination is at the heart of this design. With these inverters, one could also find applications in induction heating units and also in fluorescent lamps as electronic ballasts.

Drawbacks of square wave inverters

* Though cheap, these inverters suffer from a major problem. Harmonics. The strength of the third and the fifth harmonics of this waveform, on account of it being square in nature, is really high. Although electrical filters can be used to mitigate them, the main problem lies in the fact that inverters are a power supplier. These harmonics would then chew through this power and thus bring down the efficiency of the entire circuit, if filters were to be used, which is unacceptable. Thus, they are said to produce the lowest quality of electrical power.
* The choppy and discontinuous nature of the electrical waveform of the square type, can damage sensitive electronic devices. This is undesirable in such applications, and sine wave inverters are used instead. This is because a sinusoidal waveform is one of the smoothest and most fundamental waveform in existence, literally. It is the basis for all other waveforms and so, can be used with delicate electronics, harmlessly.
* The only problem with sine wave inverters is that they are expensive to construct and design.