

The role of low-frequency and high-frequency inverters

What is the difference between low frequency and high frequency inverters?

The low frequency inverters typically operate at ~60 Hz frequency. To produce a sine wave output, high-frequency inverters are used. These inverters use the pulse-width modification method: switching currents at high frequency, and for variable periods of time.

What are the advantages of a high frequency inverter?

The advantages of high frequency inverter are: light weight, small size, small standby power and high efficiency. The working frequency of high-frequency transformers is generally above 1KHz, even tens or hundreds of KHz.

How does a low frequency inverter work?

A low frequency inverter works by first converting DC current into low frequency, low voltage AC, and then using a power frequency transformer to boost it into 220V 50Hz AC for load use. It adopts a low frequency transformer to achieve this, with a working frequency generally around 50Hz or 60Hz.

What are the advantages and disadvantages of a low frequency inverter?

The advantages of a low frequency inverter include: relatively simple structure, stable and reliable operation, strong overload capacity, and impact resistance. However, its disadvantages are: heavier, larger, more expensive, and less efficient than high-frequency inverters of the same power.

What is a high frequency inverter?

The large majority of inverters available in the retail market are high frequency. They are typically less expensive, have smaller footprints, and have a lower tolerance for industrial loads. HF inverters have over twice the number of components and use multiple, smaller transformers.

Why are low frequency inverters more expensive?

Low frequency inverters are more expensive than high-frequency inverters of the same power. This is because they are relatively simple in structure, stable and reliable in operation, and have strong overload capacity and impact resistance. However, they are also heavier and larger.

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