

## ContainerPower Energy Solutions

# Inverter rectifier voltage is too high



## Overview

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Grid Overvoltage: The rectifier stage of the inverter converts AC line voltage to DC. If the input AC voltage is higher than nominal, the resulting DC bus voltage will also be higher. For a three-phase inverter, DC bus voltage  $\approx \sqrt{2} \times$  AC line-to-line RMS.

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A DC bus voltage higher than expected on an inverter typically indicates one or more of the following technical issues: Regenerative Braking or Overhauling Load: If the load is decelerating or being driven by external forces (e.g., a motor acting as a generator), energy is fed back into the DC bus.

This is caused by a high intermediate circuit DC voltage. This can arise from high inertia loads decelerating too quickly, the motor turns into a generator and increases the inverter's DC voltage. There are other causes of DC overvoltage, however. POSSIBLE FIXES: Turn the overvoltage controller is.

As for the "DC bus - too high", this is referring to the voltage of the link between rectifier and inverter. Usually caused by either a defective rectifier not switching the IGBTs to regulate the DC bus, or the supervisor circuit is reading the voltage incorrectly. Either way, it's a new enough.

My country's standard mains voltage is around 220 to 230V AC. I have noticed that some cell phone charger SMPS connected to the inverter has damaged with big bang (blast) back to back in past days. With a CCTV camera and a router load, its output is around 275V AC and with a desktop PC and a laser.

Transformer: Converts the voltage levels between the input and output.  
Oscillator: Generates the waveform. Cooling System: Prevents overheating of components. Control Circuit: Manages the overall operation of the inverter. Knowing these components will assist you in identifying where issues may.

The inverter is a 3KW 24v MPPT 50A/100V VPM hybrid from WCC Solar in Spain. At night (eg 4am when dark) the inverter was beeping with an error message: [03]'battery voltage is too high'. The first time the error message appeared the battery voltage was around or just over 30v. between the inverter.

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