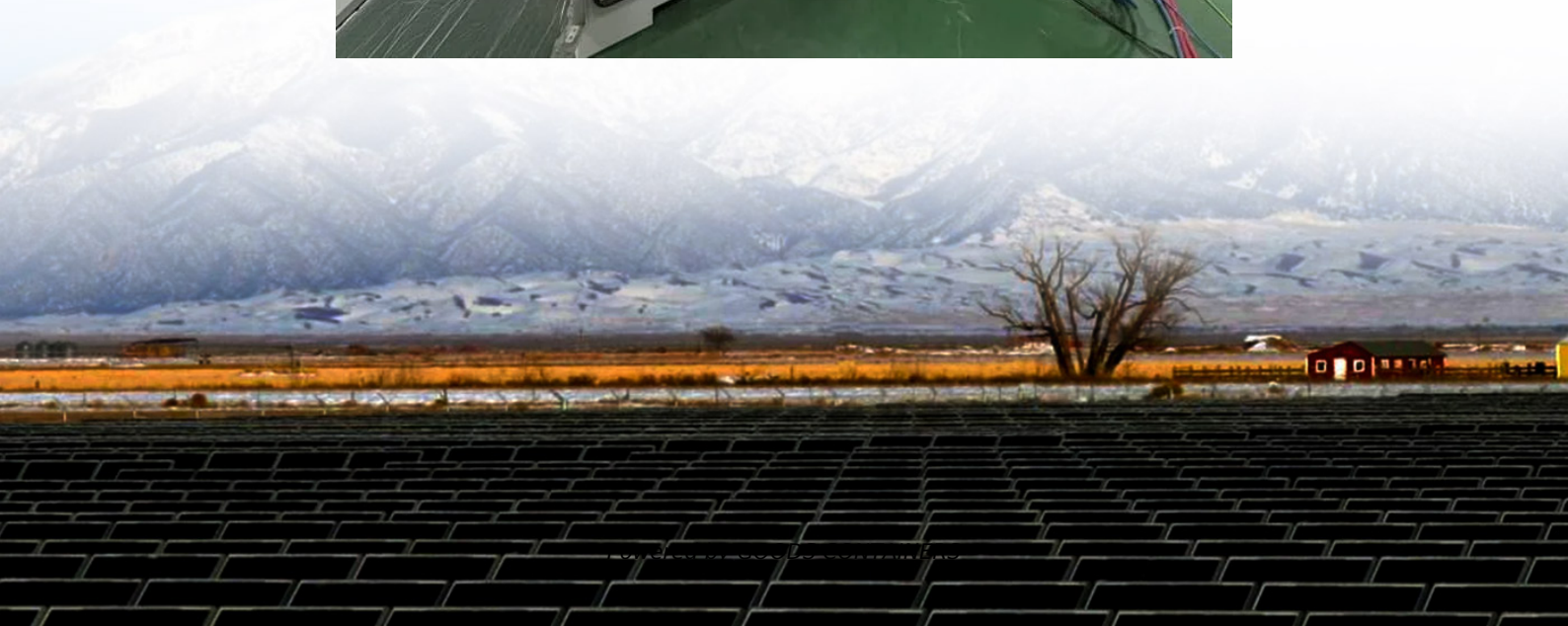


Russian single-phase high-efficiency inverter





Overview

What is the peak efficiency of a PFC inverter?

11 kW in both power-flow directions, i.e., either PFC mode or inverter mode, with peak efficiency of 99.15 % (PFC) and 99.122 % (inverter) with 230 VRMS grid voltage.

Which inverter has the highest efficiency?

Neti et al. 28 proposes a five-level inverter which provides no boosting, utilizes 6 switches and 2 capacitors and provides highest efficiency to be 97.6%. Meraj et al. 29 proposes a nine-level inverter providing an efficiency of 95.54% and quadruple boosting.

How much power can a single-phase grid convert?

When interfacing with single-phase grid, the design can convert steady state maximum power of 7.3 kW in both power-flow directions, with peak efficiency of 98.95 % (PFC) and 98.91 % (inverter).

What is the efficiency and power loss of three-phase inverter mode?

Figure 51 and Figure 52 display the measured efficiency and power loss under three-phase inverter mode operation at different line voltages. The peak efficiencies of 99.263%, 99.122%, and 98.855% and the full-load efficiencies of 99.166%, 98.938%, and 98.632% are measured for the high-line, nominal, and low-line conditions, respectively.



Russian single-phase high-efficiency inverter



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