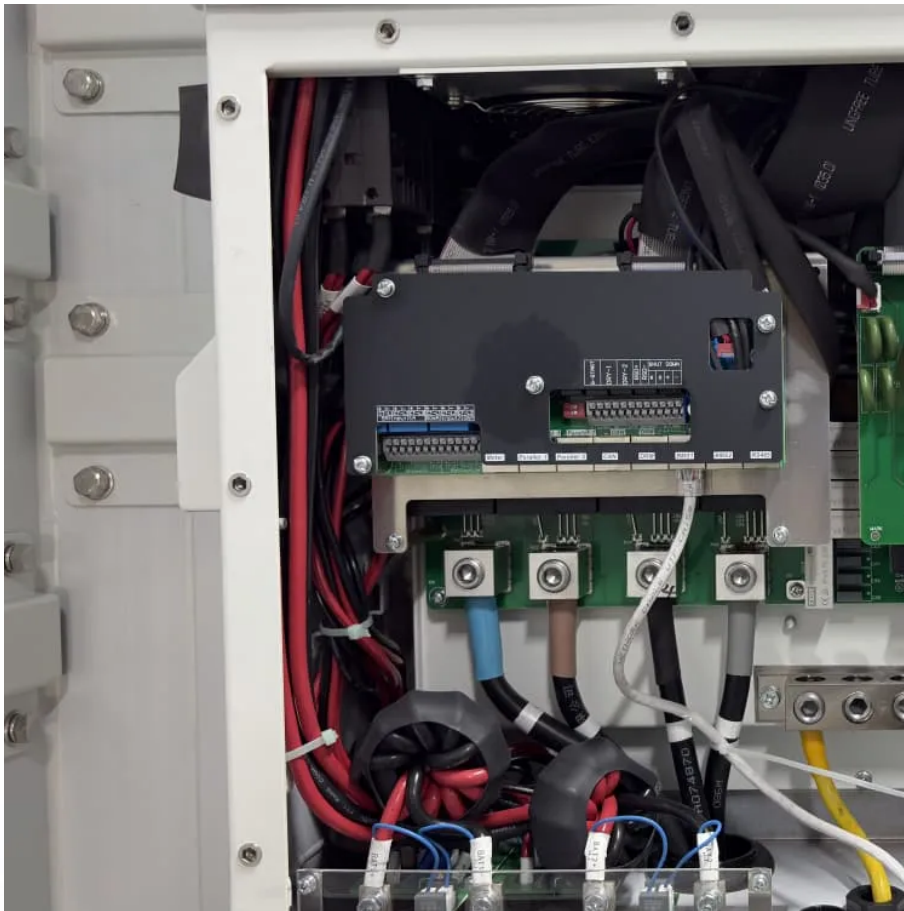


Vsc grid-connected inverter





Overview

How does a VSG control a power inverter?

By use of the interface mechanism of the inverter, the VSG controls the power input and output. Figure 7 shows typical control techniques including droop control, voltage and frequency control, and power control. VSG and grid-connected control mechanism.

How do you connect a VSC to a grid?

When connecting a VSC to a grid, an inductor must be mounted between the VSC, which is operating as a stiff voltage source, and the grid, which also operates as a stiff voltage source. The simplest and most common grid filter is the L-filter, which has three series connected inductors, one in each phase.

Should a grid-connected VSC be used instead of a thyristor inverter?

If high power quality is demanded, a grid-connected VSC should be used instead of a grid-commutated thyristor inverter. By utilizing the high current control bandwidth of the VSC in a hybrid wind farm, consisting of wind turbines having different electrical systems, a cost-efficient solution is obtained.

Is a VSC a thyristor inverter?

A VSC connected to the grid has several advantages in comparison with a thyristor inverter: The reactive power can be chosen freely, often set to zero to obtain the unity power factor. Grid currents become sinusoidal with no low-frequency harmonics, at least if a proper controller is used.



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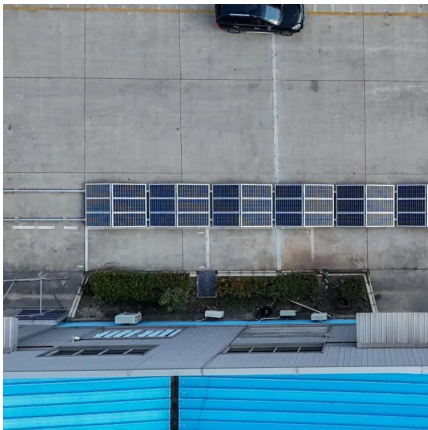
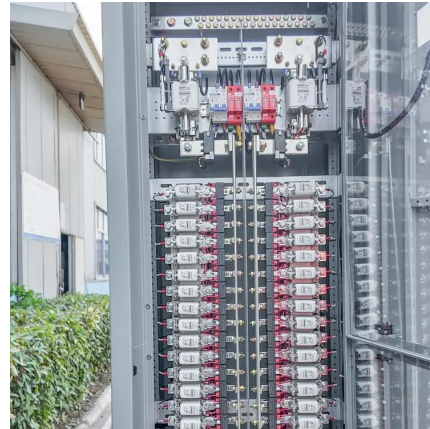
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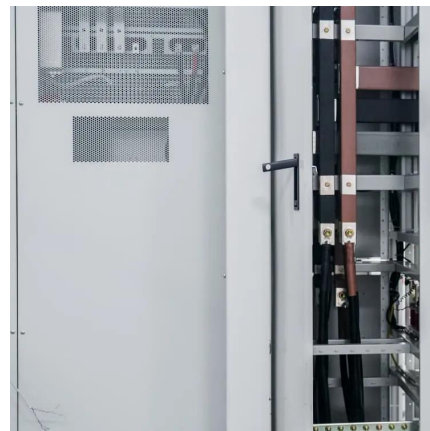


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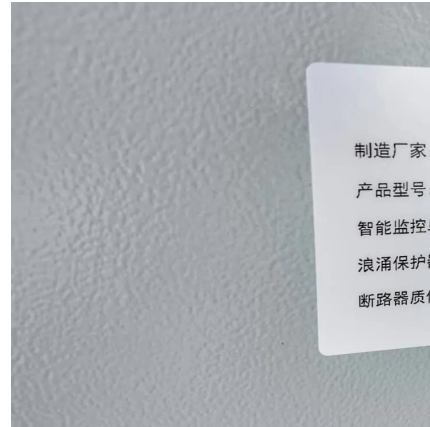
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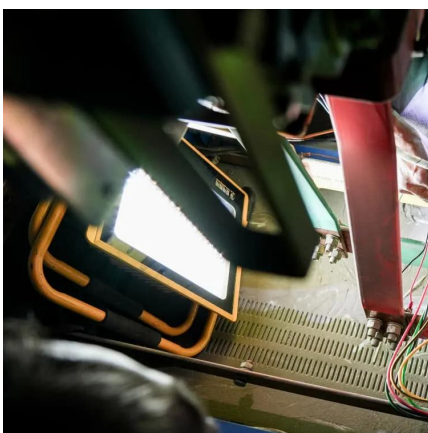
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 (VSC) connected to a grid in a wind energy
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