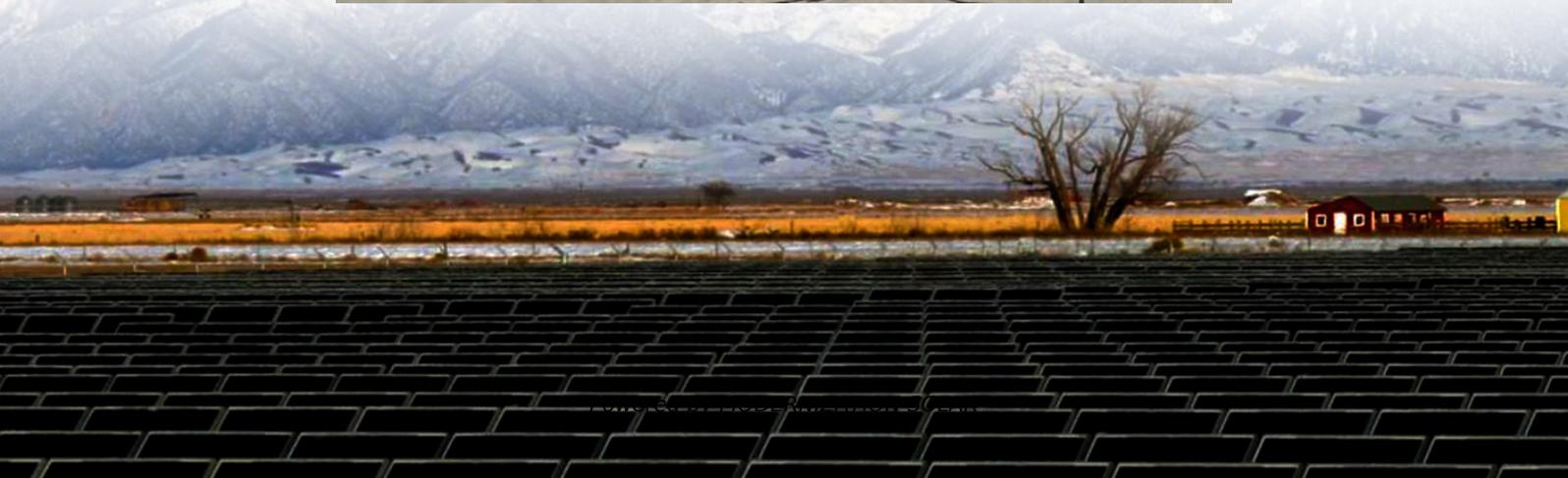


# Is it useful to replace the high voltage capacitor of the inverter





## Overview

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How much capacitor nameplate CV rating should a 3 phase inverter use?

For three-phase inverters at any DC bus voltage, for films and electrolytics, respectively, a rule of thumb is that about 5 and 50 millicoulombs of capacitor nameplate CV rating will be required per amp of ripple current.

Why does a DC link capacitor have a ripple current ICAP?

We may infer from Figure 2 that the DC link capacitor's AC ripple current  $I_{cap}$  arises from two main contributors: (1) the incoming current from the energy source and (2) the current drawn by the inverter. Capacitors cannot pass DC current; thus, DC current only flows from the source to the inverter, bypassing the capacitor.

What is a switched capacitor?

The method of utilizing switched capacitors stands as an effective approach to achieve elevated voltage levels while minimizing the requirement for numerous DC sources through efficient utilization of stored energy in capacitors.

Why does a capacitor have a higher ripple current than a load?

a bit higher in amplitude than the load current. This usually results in the capacitor's RMS ripple current being greater than the DC current delivered to the load. Generally, some amount of line inductance is added, or transformer leakage inductance is considered or recognized, for valid modeling and/or implementation.



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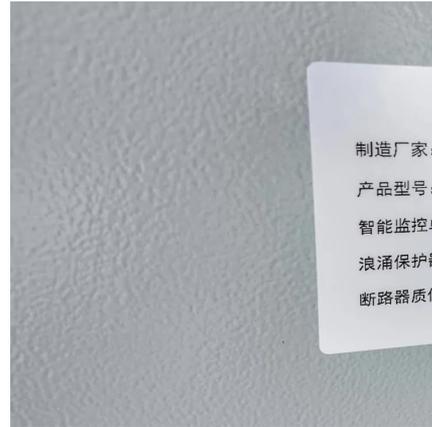


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