

## COMMON CAPACITORS IN SOLAR POWER CONVERSION SYSTEMS



Ongoing innovation in solar power electronics and rising interest in photovoltaic (PV) installations underscores the importance of robust and efficient electronic components. Capacitors play a key role in power conversion systems as they function to smooth and regulate power flow, protect against voltage surges and filter unwanted signals.

The four common types of capacitors found in power conversion applications are:

## DC Link Capacitors

These capacitors smooth ripples during power conversion, store surplus energy and suppress voltage surges. DC links can be positioned between a rectifier and a DC/DC converter or between a DC/DC converter and an inverter, for example, to balance the DC voltage lines.

## AC Harmonic Filter Capacitors

These capacitors are designed to filter unwanted harmonics out of the inverter output, and the end result is improved power quality, enhanced system efficiency and secure electrical equipment.

## Snubber Capacitors

Snubber capacitors (i.e., RC circuits, in conjunction with resistors) can defend switching devices against overvoltage during switching functions. Many modern electronic systems feature high-speed switching. These capacitors use their damping capabilities to manage transients and reduce ringing for more efficient operation.

## AC and DC Input/Output Filter Capacitors

Input/output filter capacitors are also responsible for energy absorption and voltage smoothing, but they function on the supply or load side. The presence of the right filter capacitor improves power quality and protects sensitive components.

For more information on power conversion capacitors and how they're impacted by environmental conditions in the field, read our white paper, [Power Conversion Capacitors for Harsh Environments](#).

[Learn More](#)

If you need help selecting from our portfolio please contact us and we can guide you through the selection process.



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