

The Cooling Tower Dilemma Fried Motors or Rooftop Headaches?

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Traditional VFDs force a choice: expensive cable runs or risky outdoor installs.
SmartD lets you choose neither.



Option A The Long Run Risk

You keep the VFD in the clean, dry electrical room.

The Result: Long cables act as antennas. Reflected voltage spikes destroy motor insulation, and stray currents eat your bearings.

You pay extra for bulky filters just to keep the motor running.

Option B The Rooftop Risk

You move the VFD to the tower to save the motor.

The Result: Your expensive electronics bake in the sun, freeze in the winter, and corrode in the humidity.

Maintenance becomes a dangerous, high-altitude chore.

There is a third option

Keep the VFD in the electrical room, run long cable, and deliver a cleaner waveform to the motor —
No rooftop install, No external filters.



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Cooling Tower Application
AHR Expo 2026
Special Edition

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The Clean Power Fix
Pure sine wave.
No filters. No limits.

**Run Unlimited Cables.
No Filters**

Keep your VFD in the climate-controlled electrical room. Our SiC-based technology outputs a pure sine wave, eliminating the dV/dt spikes that cause reflected waves. Run cables 1,000m+ with zero risk to the motor insulation. No output chokes or dV/dt filters required.

Double your Motor Life

Standard VFDs kill motors through bearing currents and heat. SmartD eliminates harmful harmonics and common-mode voltage at the source. Your cooling tower motor runs cooler, quieter, and vibration-free—extending bearing and insulation life significantly.

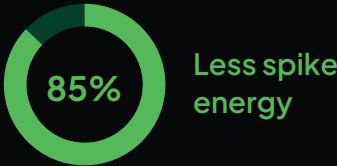
Retrofit-ready by design

Don't rewire the building. Use existing unshielded cabling and standard motors. The compact footprint (50% smaller than traditional drives with filters) fits easily into your existing MCC or electrical room space.



Motor Preservation
at Énergir

We deployed SmartD at Énergir's energy plant to solve recurring bearing failures on critical pumps. The physics of motor preservation apply directly to your cooling tower fans.



“By eliminating the PWM switching noise, we didn't just spin the motor; we stopped the electrical wear that kills bearings.”

Feature	Traditional	Rooftop	SmartD
Install location	Electrical room	Rooftop	Electrical room (safe)
Cable limits	Short (w/o filters)	Short	Long runs
Output filters	Required (bulky)	None	Not needed
Motor stress	High	High	Minimal (sine wave)