

# UPS capacitor & fan replacement

Maintenance services



## Benefits of replacement

Extend the Service Life of Your UPS

- Offering uptime and reliability of your critical system.
- Extend UPS unit lifetime.
- Achieve longer mean time between failures (MTBF).
- Planned maintenance service program.
- Accurate long-term budget allocation for maintenance programs.

## Extend the lifetime of UPS equipment

Vertiv offers a proactive and programmed service replacement of capacitor and fan components, offering extension of UPS unit life and protection of your business critical systems. Capacitors are UPS components that operate steadily in a circuit, where electrical and environmental factors slowly lead to characteristic changes, gradually increasing the probability of a capacitor failure. This process is known as capacitor aging and can be identified as a gradual capacitance decrease with simultaneous resistance increase, taking place on both UPS capacitor types: DC (electrolytic) as well as AC (polymeric). Aging of fans may lead to overheating and cause the load to be transferred to bypass, leaving it unprotected.

Replacement of capacitors and fans is a best practice in order to offer the reliability and availability of your critical system.

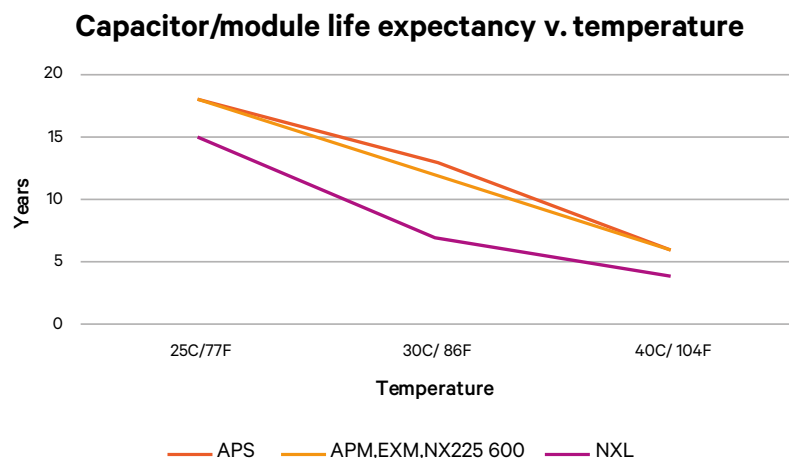
## Proactive Maintenance Services

UPS capacitor and fan replacement form part of our maintenance programs and are based on years of field-data-analysis and experience, designed to achieve the highest reliability of your business critical systems and prevent the aging of these components. Accurate planning of these maintenance activities protects your system from ever changing environmental conditions and supports that it is in the best health to operate.

Vertiv's certified Customer Engineers perform on-site component analysis to verify their health status. Gathering data on data center electrical and environmental conditions, and combining them with expected components lifetime, allows to design a tailored maintenance plan to:

- Enhance system's efficiency by reducing downtime risks.
- Support system's safety and security.

Full bank capacitor replacement performed by Vertiv™ technicians starts with an inspection of critical components to verify age, UPS system performance, and capacitor health. This information can then be compared to our extensive UPS portfolio and serve as a baseline when determining future capacitor replacement.





# How Replacement Works

Our service maintenance program provides a reliable approach to offering a long service life for your UPS, without encountering uncontrolled downtime. Our approach to safely scheduling capacitor replacement consists of replacing the bank of AC and DC capacitors (or power & booster modules) before they age to the point where there is a significant probability of a capacitor short circuit.

## Component inspection

Inevitably, the capacitors in your UPS will fail due to several influential factors. Timely replacement is the key to avoiding downtime. Therefore, full bank capacitor replacement performed by Vertiv™ technicians starts with an inspection of critical components to verify age, UPS system performance, and capacitor health. This information can then be compared to our extensive UPS portfolio and serve as a baseline when determining future capacitor replacement.

## Installation

Our factory-trained technicians install capacitors that meet the engineering and safety standards of the original equipment manufacturer (OEM). They have extensive experience with Liebert® UPS systems. Having these data center infrastructure experts handle your full bank capacitor installation supports optimal performance for your peace of mind.

## Equipment restart

Vertiv's capacitor replacement services are not complete until your UPS is operating properly. Our technicians restart your power equipment with the newly installed capacitors to offer there are no anomalies when supporting your business-critical equipment.

# Environmental stewardship

At Vertiv, we strive to advance the principles of environmental responsibility, fostering a safe, inclusive and engaging workplace, and conducting our business responsibly. As part of our efforts to reduce environmental impacts, Vertiv has implemented a program to recycle used components, including capacitors and fans, as well as re-certifying used modules.