



The Challenge

- Two large data centres reported malfunction of UPS systems
- Fault finding on site with portable monitoring equipment required without switching of the UPS or variable frequency drives during the survey.

How We Helped

- We conducted an extensive power quality metering assessment to identify vulnerable points on the network. Voltage total harmonic distortion (5%) and individual harmonic levels recorded at the sites did not exceed the maximum recommended limit under IEC61000-2-4.
- While IEC61000 doesn't specify limits for harmonics above the order of 50, we found that content of high frequency harmonics contained in the voltage waveform was excessive and may have been impairing performance of sensitive equipment.

Client Profile

- World Renowned Data Centre
- Variable speed drive & UPS issues
- Project Date: Summer 2015

Sensitive devices such as P-N-P transistors use zero crossing detection for switching operation. With multiple zero crossings appearing on the voltage waveform those devices are forced to operate with higher frequency, which may ultimately fail.

The Result

- Recommendations given to reduce the occurrence of the high frequency harmonics.
- Budget pricing for design, supply, and installation and commissioning of the required filtration devices costed.
- This price was deemed by the client as a tiny fraction of the cost of potential downtime to the data centre and a budget was immediately allocated for the work.