



Filtering harmonic currents of DC drives and improving process reliability at an amusement park

Challenge

AC and DC drives are commonly used in amusement park rides, but they cause power quality problems such as harmonics and commutation notches. The Dragon Tower ride offering freefall experiences has DC drives which disturbed other rides and devices in the amusement park. For this reason, a third party performed power quality measurements, and found out that voltage fluctuations and harmonics deriving from the Dragon Tower were the reason for power quality problems.

Such power quality issues lower the equipment lifetime and have an effect on the reliability of their function. In the end it was clear to the customer that they wanted to ensure the reliability of the Dragon Tower ride.

Solution

Power Park was supplied with low voltage Merus™ A-Series Active Harmonic Filters through a third party, who performed the power quality measurements. Due to reliability, excellent performance and short delivery time, Merus Power was chosen.

Merus™ Active Filters were installed in parallel with the loads. Merus™ Active Filters are configurable to meet various customer requirements. Thanks to the modern touch screen human-machine-interface (HMI) configuration is simple and just a few clicks away.

Result

Merus™ Active Filter have proved their reliability with effective and fast response time. Harmonic distortions were compensated up to the 25th and the power quality issues have been resolved. Other rides and devices now function without disturbances and people who visit Power Park are able to safely enjoy the reliable rides of the Dragon Tower.

“We have been very pleased with the performance of Merus Power Active Filters. The Dragon Tower no longer causes power quality problems and the park operations now run smoothly. “

Mr. Petri Sariola - Technical Manager
Power Park



Application:
Amusement Park

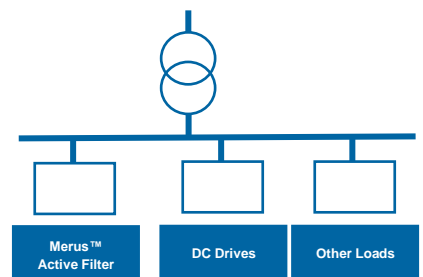
Location:
Alahärmä, Finland

Power quality issues:

- Voltage fluctuations and harmonics deriving

Merus™ Solution:

- Merus™ A-series Active Harmonic Filters



Customer Benefits:

- Reliable functions of ride
- Stabilized voltage and improved power factor
- Reduction in harmonic distortions