

Improved power quality and reduced electric bill in an Australian shopping mall with Merus™ HPQ

Our customer's challenge

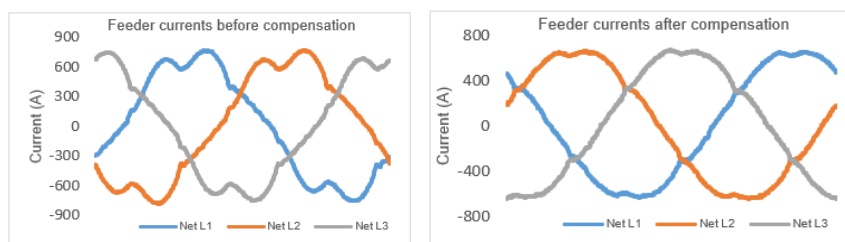
Our customer's shopping mall in Australia had gone through several expansions over time due to growth and population in the area. The quality of the electrical supply had gradually declined along with changes in the load profile. This all came to a head in 2018, when there was a noticeable detrimental effect on the plant and its equipment. This resulted in many power outages in the shopping mall, causing loss of revenue, trading hours, inconvenience to tenants and customers, security, and occupational health and safety issues.

As a result, a power quality audit was carried out across the 7 substations on the site to enable a risk mitigation strategy. The report confirmed the need to provide dynamic compensation and harmonic mitigation across all substations.

Our effective solution

An innovative Smart Hybrid Solution was designed and manufactured by Captech using Merus™ HPQ (Hybrid Power Quality)-modules.

The smart hybrid solution is a combination of traditional detuned capacitor banks and a modern Merus™ A2-Active Harmonic Filter using a single control system. This system provides a complete power quality solution that is fully programmable to provide dynamic reactive power compensation, harmonic mitigation, and unbalance mitigation.



Results with customer benefits

Seven hybrid solutions were installed in the shopping mall's electrical system. Each system was rated to suit the feeder based on the power quality measurements.

The power quality in the shopping mall has been improved after the hybrid installations: shopping mall has improved the stability of their electrical system, increased equipment lifetime and reduced the electrical bill. As a final note, the site engineering manager made a comment about how impressed and satisfied he was with the outcome of the project. The customer is now looking to implement the same solution for the other sites.

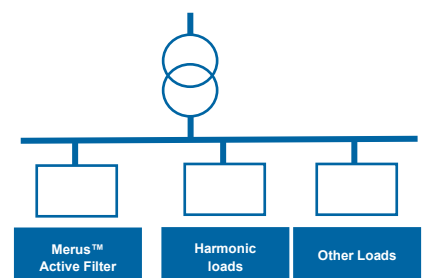


Application:
Commercial building

Location:
Australia

Power quality issues:
Harmonic distortion causing power outages, loss of revenue and OHS issues

Merus™ Solution:
Merus™ HPQ



Customer Benefits:

- Improved stability of the electrical system
- Longer equipment lifetime
- Smaller electric bills
- No more power outages