

A denim factory reduces maintenance costs of electronic cards and machinery

Challenge

Loads at the factory were fed by several transformers, and a 2500kVA transformer feeding the yarn manufacturing machinery was facing high maintenance costs. The problems experienced by the customer included frequent burning of the electronic cards and excessive heating of the electrical equipment such as cables and transformers.

Power quality audit at the factory was conducted by Merus Power's local partner – ST Tekno. Power factor at the factory was reasonably ok and was above 0.94. Though voltage harmonic distortions were also within the limits, measurements revealed that the current harmonic distortions were excessively high and were exceeding 31% which are well above the safe limits set by IEEE 519 standards.

Solution

Active harmonic filtering solution was sized as per customer's requirements, which were to bring high current harmonic distortions under the IEEE 519 limits. Installation and commissioning of Merus™ A2-series Active Harmonic Filtering solution at the site was carried out by our local partner – ST Tekno.

As power quality data showed that there were several individual harmonics which were exceeding the limits, the Merus™ Active Harmonic Filtering solution was configured to selectable compensation mode.

Result

After the successful commissioning, Merus™ Active Harmonic Filtering solution brought current harmonic distortions well below the limits defined in IEEE – 519. Reduction of harmonic distortions provided safe environment for the reliable operation of the sensitive control circuitry of electronic cards.

Unexpected breakdown of the electronic cards reduced significantly which helped the plant optimize the maintenance costs. As harmonic currents from the network were mitigated, the I²R in the cables and transformers also went down. This helped to mitigate the excessive heating of equipment and extended their operational lifetime.



Application:
Textile, Denim manufacturing

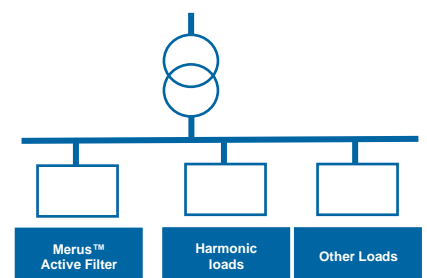
Location:
Malatya/Turkey

Power quality issues:

- High current harmonic distortion

Merus™ Solution:

- Merus™ A2-series Active Harmonic Filters



Customer Benefits:

- Reduced maintenance costs and burning of electronic cards
- Reduced heating of electrical equipment
- Long lifetime of electrical equipment
- No unexpected machinery breakdown