

Better welding quality by reducing flicker and load unbalance with real time reactive power compensation solution

Challenge

Welding is an important process of Meka Pro's plant. The welding cycle length was approximately 120ms. The demand for higher current for such a short period of time resulted in a power quality challenge commonly termed as flicker. As the distribution board was also supplying other customers in the industrial area, other plants were affected by flicker as well.

Apart from unpleasant human experience, the flicker also impacted sensitive equipment such as PLCs and computers. A detailed power quality analysis not only confirmed high flicker values but also revealed load unbalance.

Solution

Merus Power low voltage A-series Active Harmonic Filters were installed parallel to the loads. Excellent flicker reduction and load balance were key criteria for the customer's preference of Merus™ A-series Active Harmonic Filters over conventional technologies. While conventional technologies tend to respond too slowly to fast and instant reactive power compensation requirements, Merus™ Active Filters respond in less than 1 millisecond.

Merus™ Active Filters are configurable to various customer requirements. Configuration is simple and only a few clicks away, thanks to the modern touch screen Human Machine Interface (HMI).

Result

Meka Pro plant is now running smoothly without any sign of flicker, thanks to the effective and fast response time of Merus™ A-series Active Harmonic Filters. Flicker values are well below 1 and now in full compliance to parameters defined by global standards such as IEC 61000-2-2, EN 50160 and GOST 13109-97.

Merus™ Active Filters not only reduced flicker but also balanced currents in the 3-phase system. Sensitive equipment in the plant is now protected against any future damages and the plant runs at optimum efficiency.



Application:
Metal Industry (Welding)

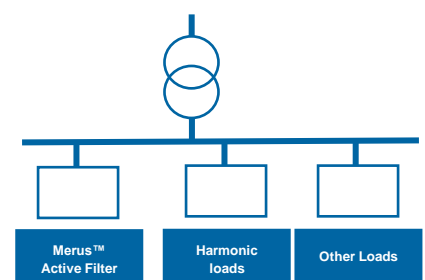
Location:
St. Petersburg, Russia

Power quality issues:

- High flicker values
- Load Unbalance

Merus™ Solution:

- Merus™ A-series Active Harmonic Filters



Customer Benefits:

- Improved weld quality
- Smooth plant operation
- Longer equipment service life
- Optimized plant operating costs
- No flicker or load unbalance