EcoStruxure™
Innovation At Every Level

Power quality for on-board electrical networks

AccuSine PCS+ Active Harmonic Filters installed in 3800TEU reefer cargos owned by Hamburg Süd

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Customer profile

Hamburg Süd is a premium carrier with 116 container ships, a slot capacity of some 590,000 TEU, and around 50 liner services.

As a market leader in global North-South trade routes, Hamburg Süd was awarded the title of “Best Green Shipping Line” in 2017.

Project context

As one of the top five providers of refrigerated transportation in the world, Hamburg Süd leverages its entire spectrum of expertise to ensure that cargo arrives at its destination in the desired condition.

Four times 3800 TEU reefer cargos, built by Yangzi Jiang Shipyard in China, are equipped with highly advanced reefers which require safe, reliable, efficient, and sustainable power supplies.

In order to ensure an unbroken cold supply chain to maintain quality of temperature-sensitive goods while optimising energy consumption, Schneider Electric successfully delivered an innovative solution – 55 Variable Frequency Drives (VFD) control systems for cargo hold fans per vessel – which leads to energy savings of up to 40%.

However, Variable Frequency Drives (VFD) create harmonic currents that has to be contained to prevent voltage distortion from exceeding 8%. High voltage distortion may affect all the devices connected to the system, leading to both instantaneous and long term effects on the electronic and electrical devices, as well as the system.

Thanks to Accusine PCS+ solution, it has been possible to keep the voltage distortion within a safe range, whatever the operating conditions. As Accusine is an active filter, the correction is regulated on actual harmonic current level.

Our solutions

AccuSine PCS+ Active filter
(300A*2+200A*1/Vessel)

Result

THDv < 3%

Class

ABS

Customer benefits

√ Best-in-class harmonic mitigation: down to 3% THDv

√ Ensures transformers, cables, busways, motors and generators are not overheated by harmonic currents

√ Auto-adaptive correction level

√ Optimised footprint of the overall solution as standard VFDs are used

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