



Onboard a luxury yacht, every inch of space becomes essential – especially when building the vessel’s control systems

Summary

- A fabricator of high-functioning, self-sustainable luxury yachts needed to create self-contained systems able to operate independently at sea
- Vessels of this size house systems/ services typically provided by utility companies, as well as propulsion and navigation – and each must be continuously monitored and controlled
- Phoenix Contact’s lineup of controllers, switches, relays, and power, as well as its ability to reduce component size, played a major role in the fabricator’s decision

Customer profile

S3 Maritime is a total yacht systems, service, and support company headquartered in Seattle, Washington. They install and integrate today’s high-tech marine products into sophisticated yacht systems.

Challenge: Space comes at a premium on the high seas

While clients want to devote their attention to the comforts of luxury living on the high seas, the team at S3 Maritime was faced with the challenge of building and installing very complex, high-capability systems. With the requirements of the on-board systems, maximizing the use of each yacht’s space is critical. The installers and component housings are forced to operate within very tight constraints.

These self-sustaining, floating homes contain multiple, integrated systems that must be synchronized and monitored continuously. Systems needed include: power generation, distribution, monitoring, control, HVAC and utilities, navigation tools, food and water production, overall system communication, and remote servicing.

“These boats are floating homes, in a lot of ways. You’re your own independent island; we have power generation, power distribution, monitoring, control, and propulsion.”

**Josh Nolte, Automation
Department Head, S3 Maritime**



Solution: Small, modular components with proven reliability

S3 Maritime focused their engineering and design skills on implementation, function, and maintenance of each supporting system. Because these high-end vessels can end up literally anywhere in the world, S3 Maritime's team also wanted to provide comprehensive, global support.



To achieve a self-sustainable vessel, S3 Maritime brought Phoenix Contact's full product line aboard.

S3 Maritime chose to partner with Phoenix Contact, an innovative market leader of industrial connection and automation technology and electronic interface systems. In order to achieve a totally self-sustainable vessel, S3 Maritime brought Phoenix Contact's full product line aboard: controllers, switches, relays, and power. These modular, compact components created maximum benefit for the many large, distributed networks that S3 Maritime needed to install.

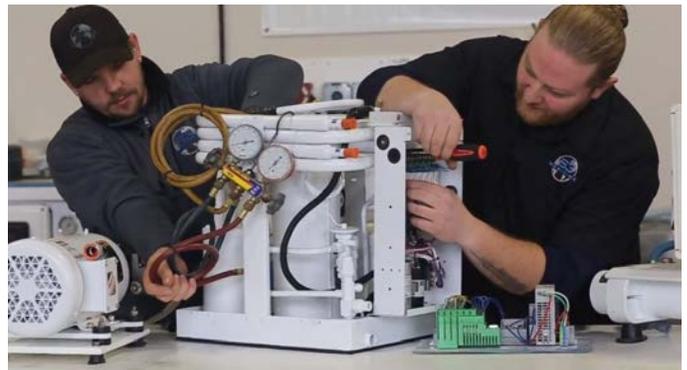
System highlights include:

- Switchboard – I/O provides a broad scope overview of each of the yacht's working areas
- PROFINET MRP ring created with Smart Managed Narrow Switch – Monitors diagnostics of the on-board network
- PLC relays – Maintain accurate signaling on multiple connection systems
- Remote I/O – Inline PROFINET bus couplers at 10 remote locations include about 200 digital and 120 analog I/O points
- ILC controllers – These are used to program and communicate via PROFINET and Modbus
- QUINT power supplies/QUINT diodes – For providing power, and a power boost, in a compact design; units can also be mounted on their sides to optimize space



S3 Maritime uses Phoenix Contact's ILC controllers to program and communicate via PROFINET and Modbus.

- IPC – This robust design features touch-screen accessibility
- PROFINET cables – Transfer data quickly and efficiently
- mGuard – Satellite network capability enables accurate location of the vessel, and allows remote, secure access for diagnosing any issues



Phoenix Contact's modular, compact components created maximum benefit for the many large, distributed networks that S3 Maritime needed to install.

Results: Efficient installation, seamless serviceability, and ease-of-use

The technicians responsible for building and setting up the monitoring of the yacht's system found that each of these modular devices allowed for easy replacement, design, commissioning, and troubleshooting.

This particular vessel, and others like it, now boast complex and fully integrated automation capabilities, not only for top-of-the-line luxury, but also for remote troubleshooting capabilities, regardless of where the yacht is located.