



## Soft Starter Solutions for the Shipping and Marine Industry

For almost as long as SAF has been building solid state soft starters, SAF has supplied the marine industry with reliable, easy to service, solid state soft starter solutions. For decades, SAF OPAL Starters have been key to the successful operations of a wide range of shipping vessels and dock side electrical controls. SAF's solid state reduced voltage soft starters offer the marine industry a robust and long lasting dependable solution.

SAF's OPAL soft starters have been specified and commissioned for marine applications ranging from bow thrusters on Coast Guard and navel support ships to ferries and cargo ships. From hydraulic hoist pumps on research vessels, to refrigeration compressors on fishing trawlers, SAF soft starters have played an important role in keeping the marine industry moving.

SAF's robust soft starter design offers accurate overload protection, current monitoring and high torque surge protection capabilities to onboard equipment while reducing peak motor current demand on ship generators. This feature protects ship board electrical and mechanical equipment and reduces and often eliminates issues with other onboard electronics. Reduced torque starting helps lower maintenance costs of motors and gear boxes, while lowering peak power draw from an onboard electrical supply system during start up.

Proven on ships all across the world, SAF offers customizable 316 Stainless Steel and non-metallic enclosure options for many of its solid state soft starters to help protect and extend the life of your investment.

Industry applications experience includes:

- Bow Thrusters
- Winches and Hoists
- Chillers and Compressors
- Hydraulic Pumps
- Compressors