



Static Frequency Converters

(SFC)



Key features

- 10kVA - 160kVA power range
- Designed for naval environment
- High power density
- Simple to operate
- Low through life costs
- High reliability
- Increased availability
- Low maintenance requirement
- Built-in diagnostics
- De-risked technology
- Modular design

Overview

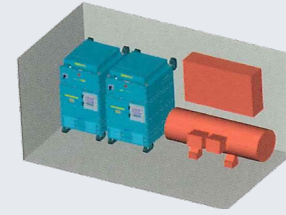
Ultra Signature Management & Power is an established supplier of innovative, high technology power conversion and control systems for defence applications worldwide.

Our range of 400Hz SFC's are designed specifically for naval ship-board applications, giving them a reliability and compatibility in this harsh environment well in excess of commercial equivalents. Key aspects of this design include; EMC compliance; climatic rating; mechanical construction to with stand severe shock and vibration; operational reliability; and a greater flexibility to meet non-standard requirements.



Technical Specification

40kVA Static Frequency Converter



Electrical		Mechanical	
Input:	440 V, 60 Hz, 3 phase. Related specs: STANAG 1008 and Def Stan 61-5	Dimensions:	1300 mm(h), 700 mm (w), 875 mm(d). If shock mounts are required, four X-mounts may be fitted on the bottom of the SFC. Two X-mounts are fitted at the rear of the cubicle
Output:	200V, 400Hz, 3 phase, 4 wire. Rating 40kVA. Related specs: BS 2G 219	Mass:	500 kg
ACH Supply:	115V, 60Hz, 1 phase		
Environment			
Temperature:	1 to 45°C	Maintenance Envelope:	Front access via fixed doors
Shock:	Designed for 15g operational	Instrumentation:	Option for voltage and current meters
EMC:	Def Stan 59-41 Part 4 (below decks)	Enclosure:	IP23
Parallel Capability:	The outputs of a pair of converters can be connected in parallel, without the need for external components, giving an 80kVA rated supply	Cable entry:	Top entry
		Lifting eyes:	Four lifting eyes at top of cubicle
		Cooling requirements:	The converter is forced air-cooled. No services are required
		Wild heat:	< 4 kW

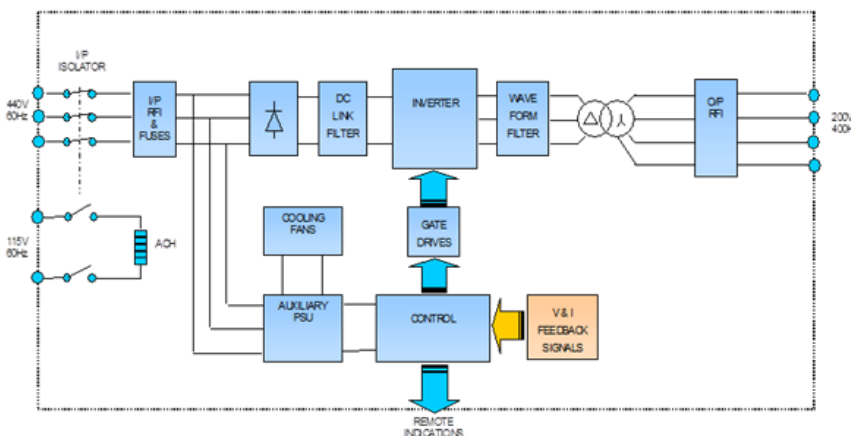
Space-saving or enhanced capability

The above illustration shows a pair of 40kVA SFC's, working in parallel to provide 80kVA of power in the same space envelope as a single 40kVA rotary set and its associated control panel. A single, like-for-like replacement SFC requires approximately half the floor and wall space that the equivalent rotary converter set occupies, and is roughly half the weight.

Superior technology

- The main advantages of a Static Converter compared to a Rotary Converter for marine applications include:
- Lower through-life costs with greatly reduced routine maintenance
- High availability (high MTBF and low MTTR)
- Simple to operate, plus in-built diagnostics to speed repair
- Modular construction: repair by interchangeable sub-module replacement
- Low weight (40kVA Rotary Converter 1060kg, Static Converter 550kg)
- Front access only (reduced maintenance envelope)
- Low audible and structure-borne noise profiles
- Flexibility of location in platform

Block diagram of 400Hz Static Frequency Converter



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