

**SOLID STATE FREQUENCY CONVERTER  
FOR SHIPBOARD OPERATION**

ELIT-SEA Static Frequency Converters are designed to feed the optimum electrical power system to vessel's equipment.

ELIT-SEA is available in two configuration: at the harbour (DOCK series) and on board (NAVY series). The first one, DOCK series, has a fixed input voltage (the harbour's voltage) and a settable output voltage in order to supply power to vessels that are not compatible with the locally available dockside power; the second type, NAVY series, has an input settable voltage and a fixed output voltage to feed and clean on board power from a dockside connection, anywhere in the world.

Static frequency converters, ELIT-SEA series, are outcome of a long experience static frequency converter both civil and military field (receiving the NATO code for the quality of his supplies), of UPS and of static Constant Current Regulators for series lighting.

All of our equipments distinguish themselves by the employment of advanced technological components, excellent reliability and easy maintenance.

The simplicity of working is the main feature of all of our products.

## PRINCIPLES OF WORKING

### Static Frequency Converter DOCK series:

Fixed input voltage (the harbour's voltage) and a settable output voltage and frequency.

A diode rectifier transforms the AC voltage into a continuous stabilized DC link voltage, to power the IGBT inverter that transforms the continuous voltage into an alternating sinusoidal stabilized voltage with a PWM modulation. The output inverter voltage feeds a transformer which on its output have the filter capacitors.

The output voltage is sinusoidal with a distortion of 3%. The output has an electronic stabilization both in voltage and in frequency.

### Static Frequency Converter NAVY series:

Input voltage and frequency settable, fixed output voltage.

Dockside connected it is a device that in automatic way allows to perform the conversion stage. The principle of working of the conversion stage is the same of Dock version.

It is possible to count the delivered energy.

## FEATURES

- High efficiency > 93%
- Filtered, stabilized and regulated sine wave supply;
- High input power factor;
- Automatic working;
- Superior overload capability;
- LCD display;
- Trasformatore di isolamento;
- Remote control as option;
- Drop line compensation as option;
- Battery version (UPS) as option;
- IP55 as option;
- Mobile or horizontal version as option;
- Low audible noise;
- Dry contact interface standard , RS232, USB, RS485 and SNMP as option;
- Emergency Power Off.

**ELIT CONVSEA - DOCK SERIES**

Model	DOCK 7.5	DOCK 10	DOCK 15	DOCK 20	DOCK 30	DOCK 40	DOCK 60	DOCK 80
Rated power kVA/kW	7.5/6	10/8	15/12	20/16	30/24	40/32	60/48	80/64

<b>INPUT</b>	
Nominal voltage	400Vac $\pm 20\%$ , 3F (as option 110V, 208V, 220V, 440V & 480V 50-60Hz)
Nominal Frequency	50Hz or 60Hz
Power factor	$> 0.95$
Cycle wise	Any
Inrush current	Absent

<b>OUTPUT</b>	
Load power factor	0.8 lagging
Working	Continuous
Voltage	190 ~ 520Vac (Standard) 100 ~ 600Vac (Extended range)
Frequency	39 $\div$ 70Hz
Frequency stability	$\pm 0.5\%$
User power factor	Ind./cap.
Waveform	Sinusoidal
Static stability	$\pm 1\%$
Dynamic stability	$\pm 8\%$
Recovery time	20 msec.
Overload	125% for 10 minutes, 150% for 1 minute
Crest factor	1.41
Phase voltage symmetry with balanced load	$\pm 1\%$
Phase voltage symmetry with unbalanced load (Ir; 0.3Ir; 0.3Ir)	$\pm 2\%$

MISCELLANEOUS								
Relative humidity	< 95% without condensing							
Operating temperature	-15°C ÷ +50°C							
Storage temperature	-25°C ÷ +60°C							
Audible noise	65dBA							
Protection degree	IP 20 standard (as option up to IP55)							
Colour	RAL 7035							
Dimensions (mm)	600x800x1200						800x600x1800	
Weight (kgs)	110	120	180	250	300	400	550	650

<b>STANDARDS</b>	
Safety	EN 62040-1-1, EN 60950-1
EMC	EN 61000-6-4, EN62040-2, EN 61000-6-2, EN 61000-4-3/4/5
Performance	EN 62040-3

**ELIT CONVSEA - NAVY SERIES**

Model	NAVY 7.5	NAVY 10	NAVY 15	NAVY 20	NAVY 30	NAVY 40	NAVY 60	NAVY 80
Rated power kVA/kW	7.5/6	10/8	15/12	20/16	30/24	40/32	60/48	80/64

**INPUT**

Nominal voltage	190 ~ 520 Vca (Standard) 100 ~ 600 Vca (Extended range)							
Nominal frequency	39 ÷ 70Hz							
Power factor	>0.95							
Cycle wise	Any							
Inrush current	Absent							

**OUTPUT**

Load power factor	0.8 lagging							
Working	Continuous							
Voltage	400Vca, 3F or 230V 1F (as option 110V, 208V, 220V, 440V & 480V 50-60Hz)							
Frequency	50Hz or 60Hz							
Frequency stability	±0.5%							
User power factor	Ind./cap.							
Waveform	Sinusoidal							
Static stability	±1%							
Dynamic stability	±8%							
Recovery time	20 msec.							
Overload	125% for 10 minutes, 150% for 1 minute							
Crest factor	1.41							
Phase voltage symmetry with balance load	±1%							
Phase voltage symmetry with unbalanced load (Ir; 0.3Ir; 0.3Ir)	±2%							

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Operating temperature	-15°C ÷ +50°C							
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