



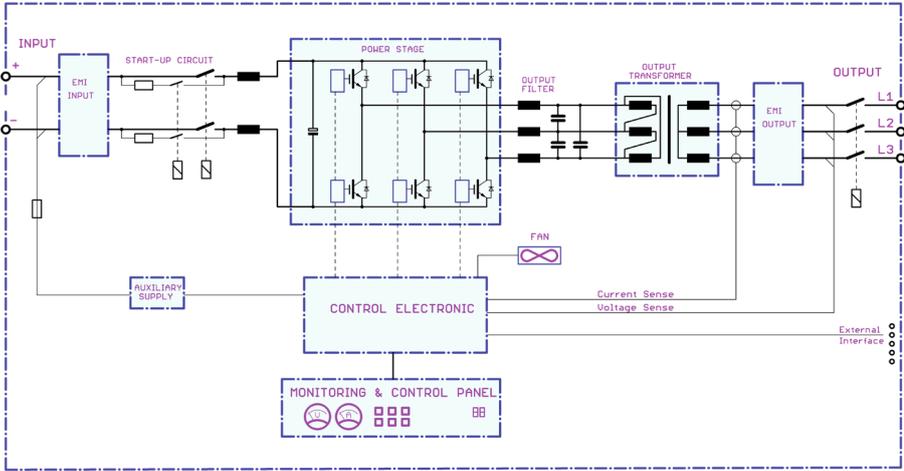
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DC/AC INVERTER FAMILY FOR NAVAL APPLICATIONS

The inverter family was especially designed for the 209 Submarine Class.

The static inverters convert a submarine battery voltage of 160 Vdc...320 Vdc into a high quality 120 V / 60 Hz, 120 V / 400 Hz and 230 V / 50 Hz voltage

Our products consist of static power conversion equipment of the latest available technology. All components fulfill the requirements of naval standards. The electronic is integrated in a stainless steel frame cabinet with steel walls according to the general requirements of naval ships. The topology of all three inverter types is equivalent.



Inverter block diagram

For Submarine Type 209

Key Features of the Inverters

- High efficiency
- Low noise
- Built-in self test feature
- High reliability (MTBF)
- Modular design
- Low lifecycle cost
- Complete integrated logistic support (ILS)

Custom Options

- Different output power available as required by the onboard loads
- Input voltage range can be adapted to the submarine type and battery voltage
- Cabinet design can be modified according to the available space
- Output configuration either single phase or three phases
- Various output frequencies available



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209 Submarine DC/AC Inverter Family

Model No.	3396	3397	3398
Input			
Static range	160 Vdc - 330 Vdc, 245 V nominal		
Spikes	1.1 kV for 0.4 ms		
Ripple voltage	< 3%		
Inrush current	less than nominal current		
Output			
General	120 V / 60 Hz 3 phases	120 V / 400 Hz 3 phases	230 V / 50 Hz single phases
Power	27 kVA	15 kVA	7 kVA
Power factor	PF 0,95 cap. to 1 to 0.8 ind.		
Voltage adjustment	± 5.0% (by int. potentiometer)		
Distortion	THD ≤ 3%, SHD ≤ 2%, at linear load		
Overload capacity	150% for 5 min		
Short circuite current	200% of nominal current for 5 seconds		
Frequency	60 Hz / 0.1%	400 Hz / 0.1%	50 Hz / 0.1%
Start-up time	< 5 seconds		
Control	Start/stop, local/remote, lamp test		
Monitoring	Standby, online, local/remote, time counter, voltage, current, power, frequency		
Alarm	Master alarm, individual alarms & warnings		
General			
Efficiency	≥ 92%		
Shock	acc. to BV 043 (half sine)		
RFI / EMI	acc. to MIL-STD 461 E, CE101,CE102 and RE102		
Operating temperature	0°C up to +45°C		
Protection	IP 43		
MTBF	> 25,000 h		
Dimensions	W: 981 H: 790 D: 580 mm	W: 981 H: 492 D: 480 mm	W: 981 H: 490 D: 480 mm
Weight	377 kg	225 kg	192 kg
Enclosure	Stainless steel frame cabinet with steel walls and aluminium drawers		
Standards	BV3100, DIN VDE 0160, MIL-STD 461E, MIL-STD1310, BV043		



Model: 3396, 27 kVA



Model: 3397, 2 x 15 kVA



Model: 3398, 7 kVA

