The AC/DC converter module has a total output power of 35 kW and is designed for 19” rackmount. The converter was a customer specific development for the APAR (Active Phased Array Radar) which is a shipborne Multifunction Radar (MFR) manufactured by THALES Nederland. It is the first active electronically scanned array MFR employed on an operational warship. 5 water-cooled converter modules are installed in a rack system and operate in parallel. Wärtsilä supplied the converter for the German F124 frigates, Dutch frigates Evertsen (F805), De-Zeven-Provinciën-class and the Danish frigates Iver Huitfeldt class.

For Surface Vessels

Standard features
- 19” Modular design
- High efficiency ≥ 92 %

Key features of the AC/DC module
- Input power factor of nearly “1” (sinusoidal input current waveform)
- High reliable design by paralleling up to 5 power units of 35 kW
- Hot replacement, spare unit changeable under full operational conditions
- High quality DC output voltage with galvanically insulation
- Integrated fault detection system (BIT)
- 1 x Operating unit & monitoring panel
- 1 x Redundant 35 kW power unit
- 1 x Heat exchanger
- 2 x Cooling water distribution units
- Aluminium cabinet including wiring
- High reliability
- STANAG 1008 /DNV/GL

Application
- Naval Radar System

Support service
- Complete integrated Logistic Support (ILS)
Electrical Specifications:

**Input**
- Voltage: 440 V, 3-phase
- Frequency: 60Hz ± 5%
- SHD: ≤ 3%
- THD: ≤ 5%
- MIL-STD-1399, section 300A, type I
- STANAG 1008, Edition 8

**Output**
- Output specification: STANAG 1008 e8
- Output voltage: 350 V DC ± 5%
- Power: 5 x 35 kW
- Efficiency: ≥ 92%
- Hold-up time: 5 m sec

Environmental Specifications:

- Max. ambient temperature: 0 ºC to +49 ºC
- Storage temperature: -30 ºC to +71 ºC
- Cooling water temperature: +5 ºC to +15 ºC
- Cooling water flow rate: 10-30 liter/min
- Shock: MIL-STD 810E
- RFI / EMI: 461C
- Protection: IP 23

Physical Characteristics:

- Dimension excluding shockmounts: 1830 x 651.5 x 902.5 mm (HxWxD)
- Shockmounts (unloaded):
  - Height: 145 mm
  - Weight: 960 kg ± 5% (for 175 kW version)

Design Characteristics:

- Modular, 19" Slide in modules
- Fault detection, fault analysing and display

Control & Monitoring
- PWR mod fault
- Temp fault
- Water flow fault
- Input voltage AVL
- PSU fault
- FAN fault