The 140 W converter was designed for the AIRBUS A320 program and supplies the air-chiller control electronics inside the galley, converting a single-phase voltage of 115 V/360-800 Hz into a voltage of 28 VDC. The technology is based on the pulse width modulation (PWM) technique and uses power MOSFETs for the power stage.

State-of-the-art control electronics are used by an integrated circuit providing factor correction of enhanced transition mode power.

Overload and short circuit situations are managed by accordant derating of the power stage.

Wärtsilä introduces state-of-the-art static power conversion equipment designed using the latest available technology and provides significant environmental features, such as vibration resistance, a wide operating temperature range, and humidity. Furthermore, EMI measures are provided in order to operate the equipment together with sensitive equipment. The static power conversion equipment fulfills the requirements of the RTCA DO160 and the ABD 100.1.8, providing measures to reduce the differential mode and common mode interferences on input and output leads.

**For Commercial Aircraft**

**Standard Features**
- Input Power Factor Correction
- Short-circuit protected
- Low weight and dimension
- MTBF >100,000h
- Low noise

**Application**
- Civil Aircraft

**Support Service**
- Full Product Support
- AOG Service
Electrical Specifications

Input voltage
Voltage ..................... 97-134 Vac / 360-800 Hz acc. to RTCA DO 160G and ABD100.1.8
Current, nominal .......... approx. 1.5 A max. @ 115 Vac

Output voltage
Power ...................... 140 W continuously
Voltage ..................... 28 Vdc
Ripple ...................... < 2 V peak-to-peak @ 140 W
Static tolerance .......... < 5% at any static and balanced load
Short circuit ................ Protection

Environmental Specifications

Efficiency ................... ≥ 80% at full load
Vibration .................... acc. to RTCA DO160 G, Ch8.0, Cat S /B
RFI / EMI .................... acc. to RTCA DO160
Acoustic noise .............. ≤ 55 dB(A)_{20;P3} in 1 m distance & temperature > 55 °C
Insulation resistance ..... Power leads > 10 MΩ, signal leads > 100 MΩ
Operating temperature .... acc. to RTCA DO160 G, Ch4.0, Cat A1
Humidity ..................... acc. to RTCA DO160 G, Ch6.0, Cat A

Physical Characteristics

The 140 W converter is housed in an aluminium enclosure.
The air inlet is distributed on the front side of the converter.
The air exhaust is on the rear side of the converter.
Weight ...................... 500g

Housing dimensions ..... 120 x 50 x 160 mm
(CxWxD without connector)

Cable inlet .................. from front side by MIL-STD 38999 connector

Design Characteristics

MTBF: ...................... > 100,000 h
Cooling by internal fan, activated when temperature is above 55 °C.
Power supply switched off when temperature is above 85 °C
Protection .................. IP 21
Remote monitoring
by open collector optical coupler. Status DC available.