EUROATLAS

28 VDC Helicopter Supply

The converter Model 2056 is designed to convert an AC voltage of 440V/60Hz into a 28V DC voltage. Output voltage control is maintaining the adjusted output voltage even at high pulse loads up to 1800A for 10 seconds. State-of-the-art control electronic is integrated utilising programmable logic devices and micro controllers and featuring on-board fault detection.

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

The input stage is formed by a galvanic separated transformer providing a delta and a star voltage on secondary side to build a 12 pulse rectifier for generating the DC link voltage. A post connected high power buck converter is used to stabilise the output voltage. The EMI suppression circuitry is used to fulfil the limits of the IEC 60945. Measures are provided to reduce differential mode and common mode interferences on input and output leads.

The converter is housed in a steel cabinet with a stainless steel frame containing fixed mounted units like transformers and slide-in drawers for power electronics. All assemblies are accessible from the front by opening the front door. The cooling of the converters is achieved by fans. The air inlet is distributed on the front panels of the cabinet. The air exhaust is located on the rear side of the cabinet. Mechanical assemblies are made of AlMg3, general construction according to BV 3100. The helicopter supply unit resists shocks, a wide operating temperature range, humidity and has a low structure borne noise.

For Naval Application

- Designed for naval vessels
- Output acc. MIL-STD 704F
- Overload capacity 1,8 kA / 10 sec
- Monitoring & Control TFT display
- DSP control electronic
- Integrated Logistic Support
- Customer specific modifications

EUROATLAS

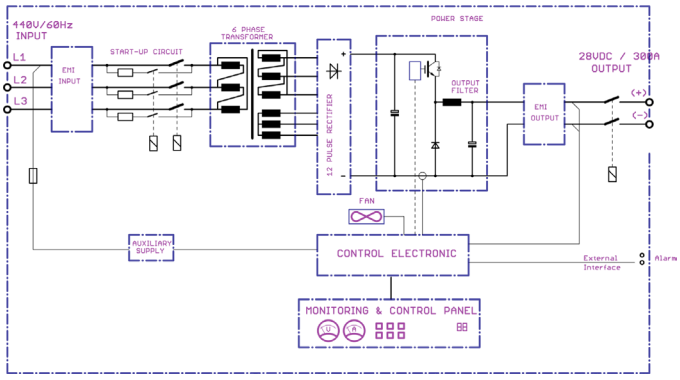
Electrical Specifications

Input

Voltage ..... 440 V, 3 ph according to STANAG 1008 e8
Frequency ..... 60 Hz ± 5%
Current, nominal ..... approx. 15 A at 440 V and nominal load, max. current = 75 A / 10 s
Current, inrush ..... less than nominal input current.
Power factor ..... > 0.9

Output

General ..... MIL-STD 704 F
Power ..... 9 kW
Voltage, nom ..... 28 Vdc (adjustable 24...32 VDC)
Static tolerance ..... < 3 % @ I out 10-1800 A
Ripple ..... < 1.5 Vpp
Overload capacity ..... 800 A / 2min., 1.8 kA / 10 s



Block Diagram AC/DC Converter

Overload protection ..... Shutdown @ 1.8 kA, t> 12 s
Short circuit protection .. Shutdown @ I out > 1,900 A
Efficiency ..... > 90 %

General Specification

Shock ..... acc. to BV 0430/1.89, category A, region 2
Vibration ..... acc. to BV NR/10.90, 2-13.2 Hz=0.25 mm, 13.2-100 Hz=0.2 g
RFI / EMI ..... acc. to IEC 60945 area EMC 2
Acoustic noise ..... ≤ 65 db(A) 20uPa in 1 m distance
Insulation resistance ..... Power leads > 10 MΩ, signal leads > 100 MΩ
Operating temperature . -5°C...45°C
Humidity ..... nominal 85%, max 100% for 1 h non-condensing
Protection ..... IP 23
Isolation ..... acc. to VDE 0110, Part 1
Roll and Pitch ..... arbitrary
General design ..... Det Norske Veritas (DNV) respectively Germanischer Lloyd (GL) Electrical Installation GL III-1-3a, 15.12.2003
MTBF ..... > 20,000 hrs

Physical Characteristics

Dimensions: ..... Depth 505 mm
Width 510 mm
Height 1010 mm
Weight (complete cabinet): approx. 200 kg ± 10% (including shock mounts)
Cable inlet ..... from bottom

EUROATLAS GmbH
Zum Panrepel 2 | 28307 Bremen | Germany | Tel. +49 421 486930 | sales@euroatlas.com | www.euroatlas.com