81-083 TRANSFORMER RECTIFIER UNIT

TECHNICAL FEATURES

- 115 VAC, 3 phase, 400 Hz input
- 28 Vdc output power
- 250 Amps
- 24 pulse rectification
- Fan cooled
- Unregulated
- Very low current THD

PERFORMANCE

Developed to meet RTCA/DO-160

Application

- Aircraft DC Bus power

DESCRIPTION

This field proven Transformer Rectifier Unit (TRU) can provide up to 250 amps of power in a pressurized commercial aerospace environment.

This proven design has been successfully operating in the field since 2000 and has an MTBF of 50,000 hours. Already in use on business aircraft, this unit can be used on a variety of other platforms.

This TRU is one of many that Crane aerospace & Electronics provides as the world’s leading supplier of TRUs and Auto Transformer/Rectifier Units for commercial aircraft. We offer field proven, exceptionally reliable power solutions for both commercial aerospace and military applications.
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PERFORMANCE DATA

INPUT
Input Voltage: 115 VAC, 3 phase per RTCA/DO-160C, Section 16, Cat A.  Operational Shock and Crash Safety: RTCA/DO-160D, Section 7, Category A
Input Frequency: 400 Hz  Explosion Proofness: RTCA/DO-160C, Section 9, Category E2
Input Current: <24 Amps  Waterproofness: RTCA/DO-160C, Section 10, Category W
Power Factor: >0.95% at 250 A load
Efficiency: >85% at 250 A load  Fluids Susceptibility: RTCA/DO-160C, Section 11, (except hydraulic fluids)
Current THD: <5% at 250 A output  Fungus Resistance: RTCA/DO-160C, Section 13, Category F

OUTPUT
Output Voltage: 28 Vdc  Magnetic Effects: RTCA/DO-160C, Section 13, Category B
Output Current: 250 Amps  Voltage Spike: RTCA/DO-160C, Section 17, Category A
Output Ripple: <1.5 Vp-p at 250 A load  Audio Frequency Conducted Susceptibility - Power Inputs: RTCA/DO-160C, Section 18, Category A
Overload Rating: 150% (375 amps) for 2 minutes  Induced Signal Susceptibility: RTCA/DO-160C, Section 19, Category Z
200% (500 amps) for 5 seconds  Radio Frequency Susceptibility (HIF): RTCA/DO-160C, Section 20, Category U
280% (700 amps) for 1 second  Emission of Radio Frequency: RTCA/DO-160C, Section 21, Category Z

INTERFACE
Dimensions (not including external hardware):
Length: 13.00 inches (330.2 mm)  Conducted Susceptibility: RTCA/DO-160C, Section 20, Category U
Width: 9.5 inches (241.3 mm)  Radiated Susceptibility: 20 V/M, 30 to 400 MHz
Height: 6.0 inches (152.4 mm)  (AM-1KHZ square wave)
Weight: ≤ 25 lbs (<11.3 kg)  28 V/M, 400 MHz to 8 GHz
Cooling: Internal Fan  (AM-1KHZ square wave)
Connections:
Input: MS3470L14-4P  150 V/M, 400 MHz to 8 GHz
Signal: MS3470L10-6P  PM - 1
Terminal Block: Positive: 3/8-24 UNF 2A Stud
Negative: 5/16-24 UNF 2A Stud

ENVIRONMENTAL
Temperature and Altitude: RTCA/DO-160C, Section 4, Category A2, +15,000 feet  Lightning Indirect Effects: RTCA/DO-160C, Section 22, Change Notice 2
Ground Survival RTCA/DO-160C, Section 4 - 55 °C to +85 °C
Temperature Variation: RTCA/DO-160C, Section 5, Category B
Humidity: RTCA/DO-160C, Section 6, Category B  Design Life: > 20 years

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