

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



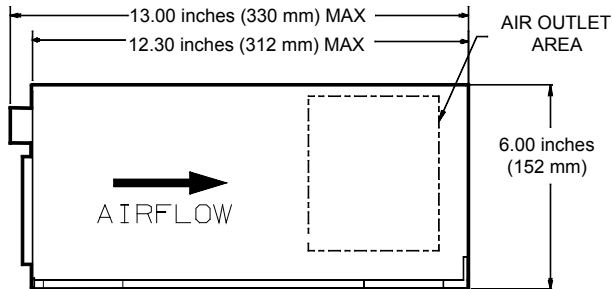
DESCRIPTION

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

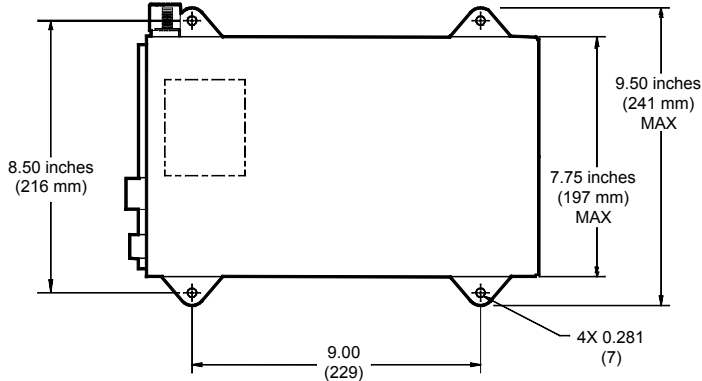
This proven design has been successfully operating in the field since 2000 and has an MTBF of 50,000 hours. Already in use on business aircraft, this unit can be used on a variety of other platforms.

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.

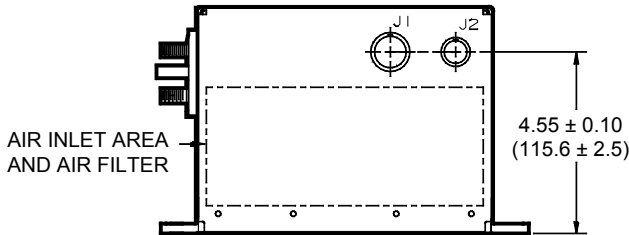
SIDE VIEW



TOP VIEW



FRONT VIEW



81-083 TRANSFORMER RECTIFIER UNIT

PERFORMANCE DATA

INPUT

Input Voltage: 115 VAC, 3 phase per RTCA/DO-160C, Section 16, Cat A.

Input Frequency: 400 Hz

Input Current: <24 Amps

Power Factor: >0.95% at 250 A load

Efficiency: >85% at 250 A load

Current THD: <5% at 250 A output

OUTPUT

Output Voltage: 28 Vdc

Output Current: 250 Amps

Output Ripple: <1.5 Vp-p at 250 A load

Overload Rating: 150% (375 amps) for 2 minutes
200% (500 amps) for 5 seconds
280% (700 amps) for 1 second

INTERFACE

Dimensions (not including external hardware):

Length: 13.00 inches (330.2 mm)

Width: 9.5 inches (241.3 mm)

Height: 6.0 inches (152.4 mm)

Weight: ≤ 25 lbs (<11.3 kg)

Cooling: Internal Fan

Connections:

Input: MS3470L14-4P

Signal: MS3470L10-6P

Output: MS25044-1

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

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

Operational Shock and Crash Safety: RTCA/DO-160D, Section 7, Category A

Explosion Proofness: RTCA/DO-160C, Section 9, Category E2

Waterproofness: RTCA/DO-160C, Section 10, Category W

Fluids Susceptibility: RTCA/DO-160C, Section 11, (except hydraulic fluids)

Fungus Resistance: RTCA/DO-160C, Section 13, Category F

Magnetic Effects: RTCA/DO-160C, Section 13, Category B

Voltage Spike: RTCA/DO-160C, Section 17, Category A

Audio Frequency Conducted Susceptibility - Power Inputs: RTCA/DO-160C, Section 18, Category A

Induced Signal Susceptibility: RTCA/DO-160C, Section 19, Category Z

Radio Frequency Susceptibility (HIRF): RTCA/DO-160C, Section 20, Category U

Emission of Radio Frequency: RTCA/DO-160C, Section 21, Category Z

Conducted Susceptibility: RTCA/DO-160C, Section 20 Category U

Radiated Susceptibility: 20 V/M, 30 to 400 MHz (AM-1KHZ square wave)
28 V/M, 400 MHz to 8 GHz (AM-1KHZ square wave)
150 V/M, 400 MHz to 8 GHz PM - 1μS, 1 KHz

Lightning Indirect Effects: RTCA/DO-160C, Section 22, Change Notice 2
Pin level test as shown

AC Lines:
WF 3, 1500 Voc/500 Asc
WF 4, 880 Voc/150 Asc

DC Lines:
WF 3, 1500 Voc/50 Asc
WF 4, 300 Voc/60 Asc

Design Life: > 20 years