

# 81-014-02 TRANSFORMER RECTIFIER UNIT

**FEATURES**

- 115 VAC 3 phase 400Hz input
- 125A output
- 28 Vdc output voltage (unregulated)
- Fan cooled

**PERFORMANCE**

- Developed to meet RTCA/DO-160D

**APPLICATIONS**

- DC Bus Power
- Aircraft and Helicopter platforms

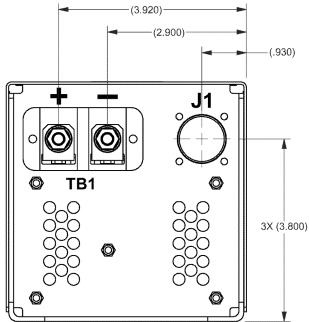
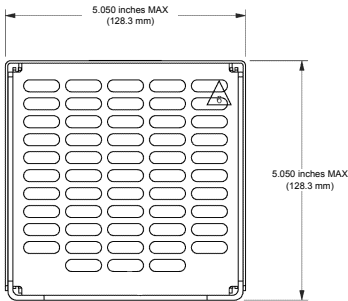
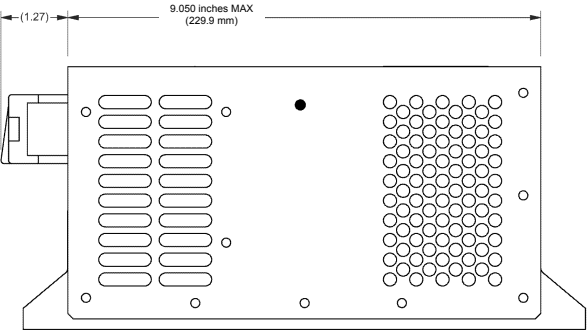
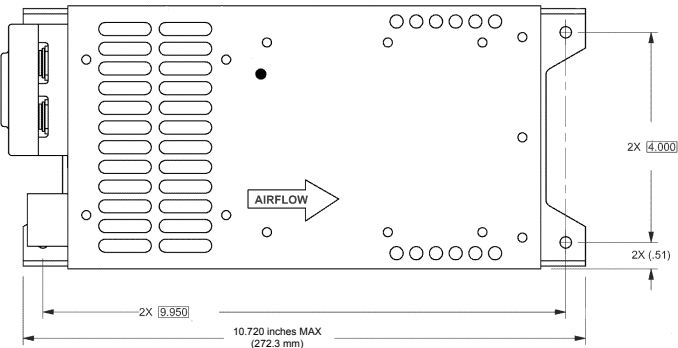


**DESCRIPTION**

This unregulated Transformer Rectifier Unit (TRU) converts 115 VAC 3 phase 400 Hz into 28 Vdc and can deliver up to 125 amps of power. It has been successfully in use in a commercial helicopter application since 2008.

The well established, fan cooled design meets RTCA/DO-160D and has an MTBF of over 125,000 hours.

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: 115/200 VAC, 3 phase

Input Frequency: 400-440 Hz

Power Factor: >95% (50-100% load)

Efficiency: >87% (50-100% load)

### OUTPUT

Output Voltage: 28 Vdc (unregulated)

Output Current: 125 Amps

Output Ripple: <1.5 Vp-p maximum

Overload Rating: 187A (150%) for 5 minutes  
312A (250%) for 1 minute  
625A (500%) for 1 second

### INTERFACE

Dimensions (L x W x H)

Length: 10.72 inches

Width: 5.05 inches

Height: 5.05 inches

Weight: 10.42 lbs (4.72kg) (max)

Cooling: Internal Fan

Connections:

Input (J1): D38999/20WD5AN

Output (TB1): MS25044-1,  
2X ¼-28 UNF-2A Thread

### ENVIRONMENTAL

Operating Temperature: -40°C to +70°C

Ground Temperature: -55°C to +85°C

Temperature and Altitude: RTCA/DO-160D, Section 4,  
Category B2

Temperature Variation: RTCA/DO-160D, Section 5,  
Category B

Humidity: RTCA/DO-160D, Section 6,  
Category B

Operational Shock  
and Crash Safety: RTCA/DO-160D, Section 7,  
Category C, Aircraft Type 1,  
Test Type F

### ENVIRONMENTAL (continued)

Vibration: RTCA/DO-160D, Section 8,  
Category U

Explosion Proofness: RTCA/DO-160D, Section 9,  
Environmental II, Category E

Waterproofness (Rain) RTCA/DO-160D, Section 10,  
Category W

Fluid Susceptibility: RTCA/DO-160D, Section 11,  
Category F

Sand and Dust: RTCA/DO-160D, Section 12,  
Category D

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

Salt Spray: RTCA/DO-160D, Section 14,  
Category S

Magnetic Effect: RTCA/DO-160D, Section 15,  
Class A

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

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

Induced Signal Susceptibility (HIRF): RTCA/DO-160D, Section 19,  
Category C

Radio Frequency Susceptibility: RTCA/DO-160D, Section 20,  
Category YYP

Emission of Radio Frequency  
Energy: RTCA/DO-160D, Section 21,  
Category H

Lightning Direct Effects: RTCA/DO-160D, Section 22,  
Category A3C3

Electrostatic Discharge (ESD) RTCA/DO-160D, Section 25,  
Category A

MTBF: 125,000 operating hours in a  
pressurized aircraft protected  
environment.

Design Life: > 20 years