

# 81-107 TRANSFORMER-RECTIFIER UNIT

**TECHNICAL FEATURES**

- 115 Vac 3 phase 400 Hz input
- 28 Vdc output power
- 200 A in a pressurized environment, 150 A in an unpressurized environment
- >50,000 MTBF

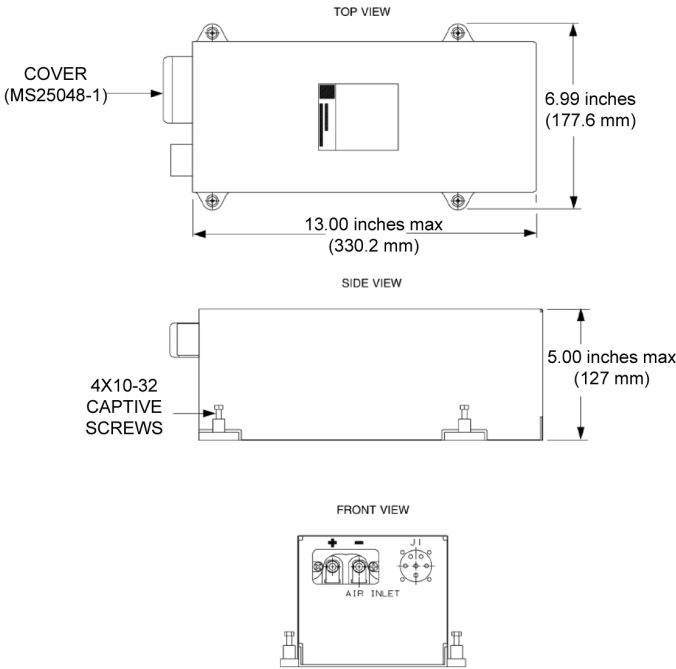


**PERFORMANCE**

Developed to meet RTCA/DO-160C & G

**APPLICATIONS**

Aircraft DC Bus Power

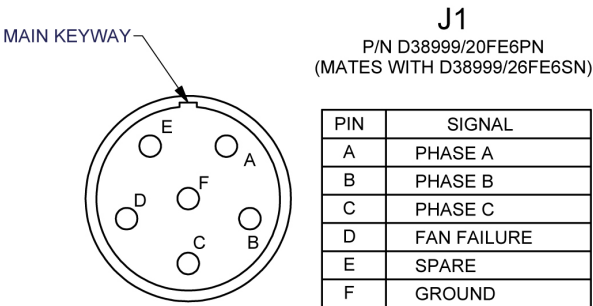


**DESCRIPTION**

This field proven Transformer Rectifier Unit (TRU) can deliver 150 amps of power in an unpressurized environment or up to 200 amps in a pressurized environment.

This design has been successfully operating in the field since 1997 and has an MTBF of greater than 50,000 operating hours. Already in use on business jets, this upgraded unit is finding new uses aboard many different platforms and can reliably provide you with the power that you need for your system.

This TRU is one of many that Crane Aerospace & Electronics provides as the world's leading supplier of TRUs and ATRUs 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 L-N / 200 Vac L-L, 3 Phase wye, Neutral not connected	Temperature Variation:	RTCA/DO-160C, Section 5, Category B
Input Frequency:	324-596 Hz	Humidity:	RTCA/DO-160C, Section 6, Category B
Input Current (at full load):	20 A <sub>rms</sub> max @ 200 A load, 25 °C ambient, sea level	Operation Shocks:	RTCA/DO-160C, Section 7
Power Factor:	>95% (50 to 100% load)	Random Vibration:	RTCA/DO-160C, Section 8, Test Curve C
Efficiency:	85% at 200 A load 86% at 150 A load	Waterproofness:	RTCA/DO-160C, Section 10, Category W
Current THD:	13% @ 200 A output 15% @ 150 A output	Fluids Susceptibility:	RTCA/DO-160C, Section 11, Category X

### OUTPUT

Output Voltage:	28 Vdc (nominal)	Sand and Dust:	RTCA/DO-160C, Section 12, Category X
Output Power:	200 A continuous, pressurized 150 A continuous, unpressurized	Fungus Resistance:	RTCA/DO-160C, Section 13, Category F
Output Ripple:	2.4 Vp-p	Salt Spray:	RTCA/DO-160C, Section 14, Category S
Overload Rating:	RTCA/DO-160C, Paragraph 2.1 300 A for 1 minute 600 A for 12 seconds	Magnetic Effects:	RTCA/DO-160C, Section 15, Class B

### INTERFACE

Dimensions: (not including external hardware)		Voltage Spike:	RTCA/DO-160C, Section 17, Category A
Length:	13.0 inches (330.2 mm)	Audio Frequency Conducted Susceptibility:	RTCA/DO-160C, Section 18, Category Z
Width:	6.99 inches (177.6 mm)	Induced Signal Susceptibility:	RTCA/DO-160C, Section 19, Category Z
Height:	5.0 inches (127.0 mm)	Radio Frequency Susceptibility Conducted:	RTCA/DO-160G, Section 20.4, Category W (power lines), Category R (signal lines)
Weight:	15.6 lbs (7.1 Kg)	Radiated:	RTCA/DO-160G, Section 20.5, Category Y
Cooling (fan failure signal provided):	Internal Fan	Emission of Radio Frequency Energy:	RTCA/DO-160C, Section 21, Category Z
Connections:		Lightning Indirect Effects:	RTCA/DO-160G, Section 22, Category AC3CL3
Input:	D38999/20FE6PN	MTBF:	>50,000 flight hours
Output:	MS25044-1	Design Life:	>20 years

### ENVIRONMENTAL

Temperature and Altitude:	<b>Nominal Load, 200 A</b> RTCA/DO-160C, Section 4 -40 to +70°C at sea level 25°C at 20,000 ft		
	<b>Reduced Load, 150 A</b> RTCA/DO-160C, Section 4 -40 to +70°C at sea level 25°C at 25,000 ft		
Ground Survival:	RTCA/DO-160C, Section 4 -55 °C to +85 °C		