



Your CONDUIT to Performance.™

## 28VDC Transformer Rectifier Assembly

### Introduction

The Transformer-Rectifier provides 28.5-volts DC (nominal) to supply necessary energy for aircraft with 28-volt DC power requirements. The DC voltage is derived from a 400 Hz source (furnished by others), which is connected to the input of the Transformer-Rectifier unit. A massive 12 pulse, silicon rectifier/heat sink assembly with a sophisticated, controlled step down transformer provides smooth DC for the load. Four highly reliable fans provide efficient forced cooling for all components within the Transformer-Rectifier unit.



The Transformer-Rectifier may be connected to the external 400 Hz source via a standard aircraft receptacle mounted on the rear of the Transformer-Rectifier or, alternately, via hard wired conduit connection in place of the receptacle. The Transformer-Rectifier could be mounted on a portable generator, portable cart, or upon a passenger loading bridge. The low profile of the Transformer-Rectifier unit allows mounting to the underside of a passenger loading bridge cab next to a point of use converter without causing ground

clearance problems. In addition, if the Transformer-Rectifier is mounted under the passenger loading bridge, it may be conveniently connected to the 400 Hz source by means of the existing 400 Hz aircraft ground power cable. This allows maximum flexibility at bridges servicing aircraft with different power requirements.

### Standard Features

- ◇ AC Input 204Y/118 volts, 3 phase-4 wire, 400Hz
- ◇ DC Output 28.5 volts nominal, in accordance with MIL-STD-704E voltage limits
- ◇ Control panel with Digital Voltmeter, Digital Ammeter, Output ON/OFF Buttons, Output ON Indicator, 400Hz Input Indicator, Current Limit (Soft start) Adjustment, Current Limit Disabled Indicator, Current Limit ON/OFF Control
- ◇ Four Fans in high performance push-pull configuration
- ◇ Over Temperature Protection Self-resetting thermal switches on rectifier heat sinks
- ◇ Output Bus Bars at rear of unit, Plated Copper with Bolted Connections
- ◇ Weather Resistant Construction
- ◇ Powder Coat Finish in High Gloss White or PAGE Green

## Performance Specifications

### Output Ratings

1100 amps continuous, 1500 amps for at 50% duty cycle, 5 minutes on/5 minutes off, 2000 amps for 5 minutes, 2500 amps for 30 seconds

### Overvoltage Protection

Absolute limit of 32 volts

### Overload Protection

Instantaneous cutoff on short circuit, instantaneous voltage foldback and crossover to current regulation (with self restoral) at current limit settings

### Ripple

1.5 volts RMS maximum

### Input Protection

225 amp fuses on input phases

### Input Source Control

E/F feedback to drive E/F circuit on Converter, Gatebox, etc. Transformer-Rectifier 28 Volt ON/OFF control will generally operate the source 400Hz ON/OFF circuit if required

### Operating Environment

Temperature range is -25 °F to +125 °F (-31°C to +52°C) Relative humidity is 0-100% non-condensing

## ***TRANSFORMER-RECTIFIER ASSEMBLY UNIT***

***PART NUMBER 900-30003-01***

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