

Auto-Transformer Rectifier Unit (ATRU)



Key Features

- High efficiency and power density
- Wide frequency operation
- Patented 30-pulse rectification scheme
- Designed to DO-160 requirements
- High reliability (> 100,000 hours MTBF)
- Custom designs available

Applications

- Commercial aircraft
- Military aircraft

Description

Excelitas' 1250 W ATRU is an AC/DC converter designed for applications where clean, reliable power is a must. Weighing in at less than 4 lbs, the space-saving design is ideal for airborne applications which do not require output isolation. The standard model converts 115/200 Vac, 3-Phase 400 Hz to unregulated 270 Vdc output.

Electrical Specifications

Input

Voltage 115/200 Vac, 3-phase
 Frequency 360 to 800 Hz (wild)
 Current Harmonics per DO-160, §16 to the 28th harmonic;
 nominal input and full, resistive load*
 Transients..... per DO-160, §16
 Power Factor > 0.99

Output

Voltage 270 Vdc, unregulated
 Current 4.6 A
 Ripple 5% Vp-p max
 Efficiency..... > 96%

Mechanical Specifications

Dimensions (H x W x D) 3.8" x 4.4" x 2.5"
 Weight..... 3.6 lbs (1.6 kg)
 Mounting..... Two surfaces, per figures
 Electrical Connections Terminal blocks with safety covers,
 metric M3 screws, chassis connection
 Baseplate Cooling Maintained below 70 °C

Environmental Specifications

Ambient Temperature -40°C to +70°C (operation)
 -55°C to +85 °C (storage)
 Altitude..... 15,000 ft (4,600 m) (DO-160, §4, A1)
 Shock..... 6g, 11 ms (DO-160, §7, Cat B)
 Vibration..... 6.4 grms random, tri-axial
 MTBF > 100,000 hours at 25°C ambient

* Extended current harmonic compliance available with custom filter design

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FIGURE 1. Side Mounting Surface

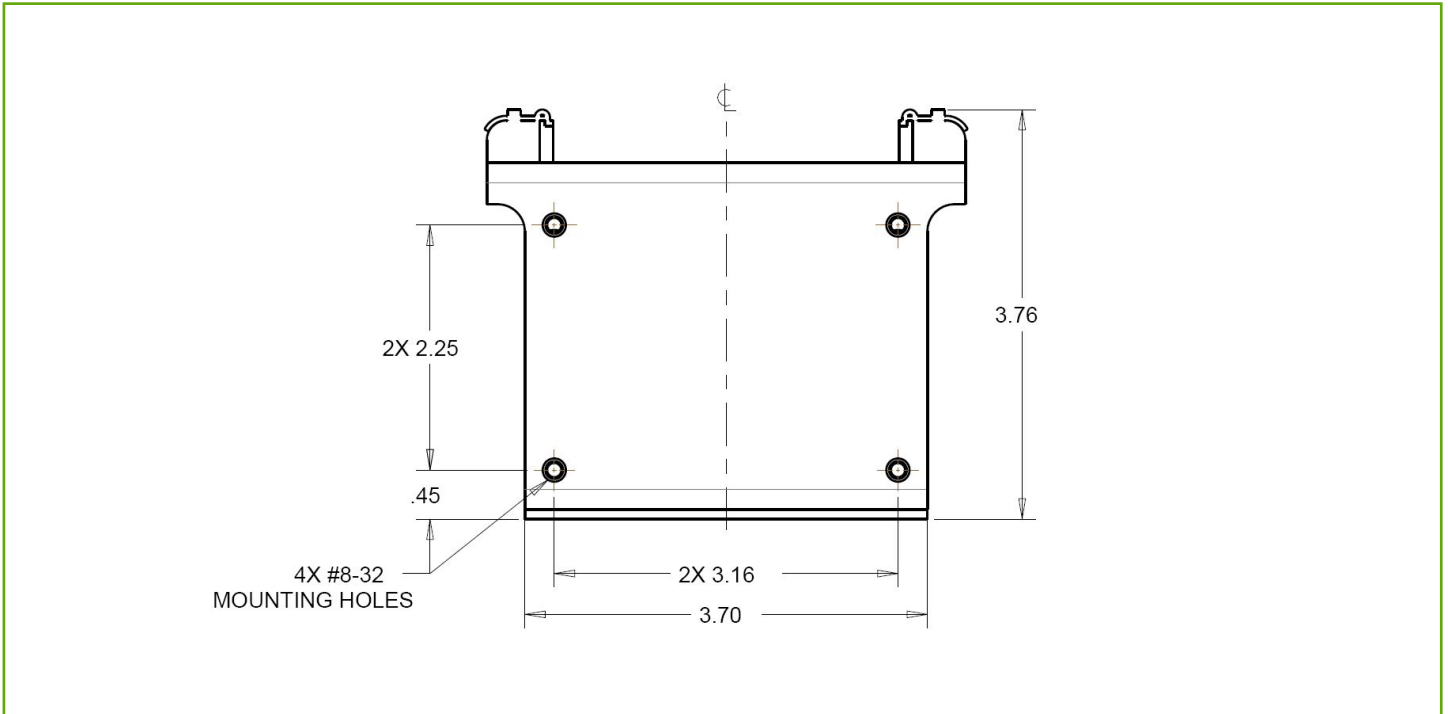


FIGURE 2. Bottom Mounting Surface

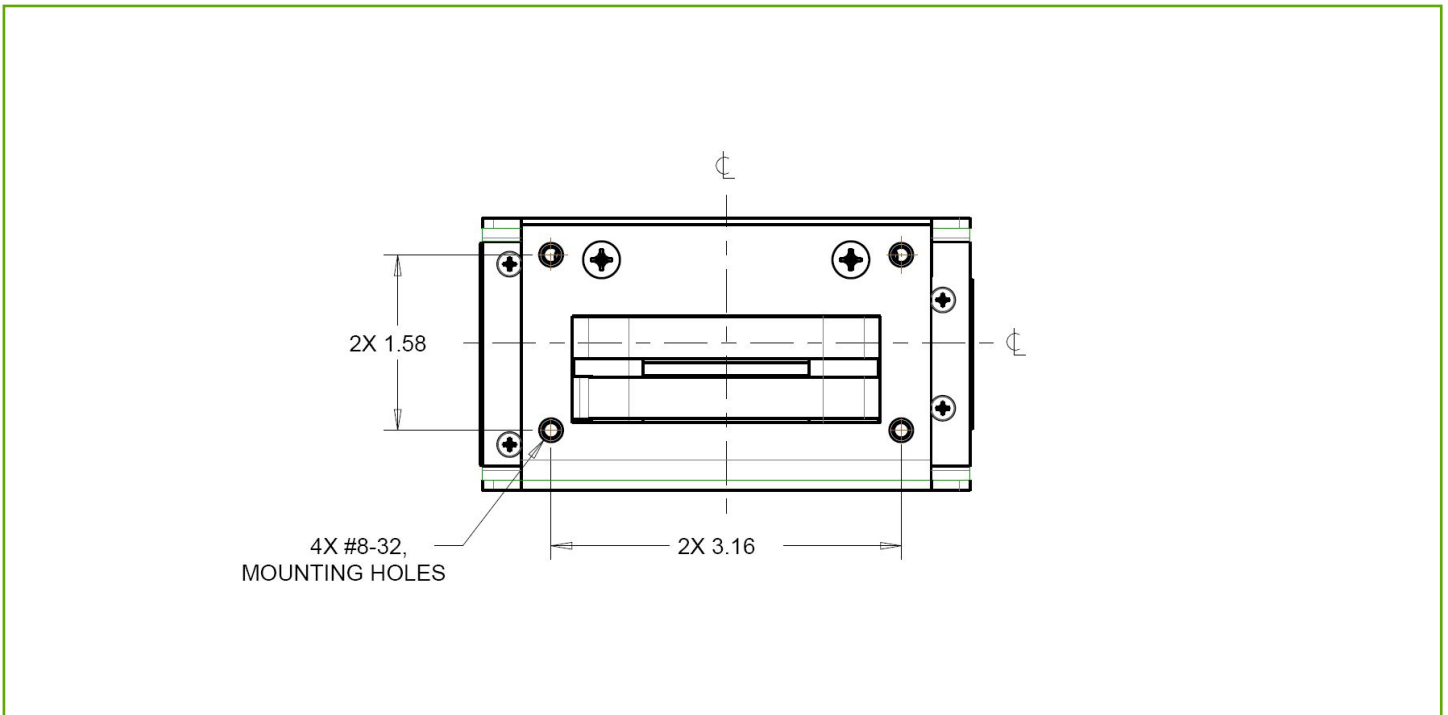
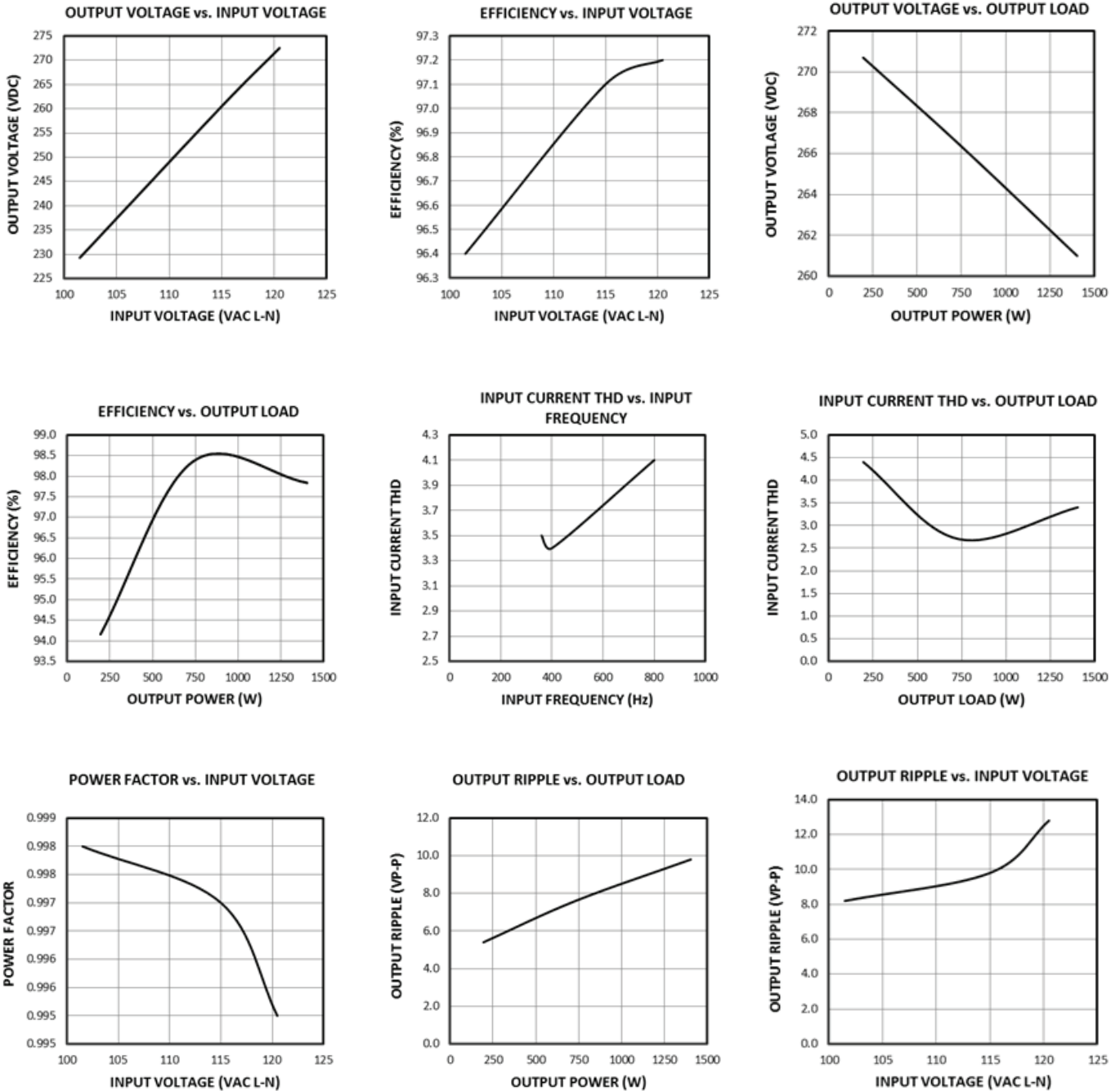


FIGURE 3. Typical Operating Characteristics

(115 VAC L-N, 400 Hz Input at Full Load unless otherwise noted)



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About Excelitas Technologies

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the lighting, detection, energetic, frequency standards and high-reliability power needs of OEM customers.

From aerospace and defense applications to industrial, safety and security, medical lighting, analytical instrumentation, and clinical diagnostics, Excelitas Technologies is committed to enabling our customers' success in their specialty end-markets. Excelitas Technologies has approximately 3,000 employees in North America, Europe and Asia, serving customers across the world.

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