

SmartSAT's 100 Watt Exciter-Power Amplifier (EPA) is suitable for use in both line-of-site (LOS) and SATCOM applications. Ruggedized and tested to operate in harsh environments, the EPA provides complete upconversion of a phase modulated 70 MHz IF input to the UHF band (225-400 MHz). The well-defined serial interface allows for complete remote control and status of the EPA, including frequency tuning, power output level, and Built-In-Test (BIT). The ruggedized  $\frac{3}{4}$  ATR EPA weighs less than 25 pounds and is designed to operate with military platforms including aircraft and tracked vehicles. The EPA is easily integrated with radios operating with a 70 MHz IF interface and can utilize either external or an internal 10 MHz reference. This versatile UHF amplifier operates on 120-250 VAC or 28 VDC and can be configured to auto select based on power available.

## 100 WATT EXCITER-POWER AMPLIFIER EPA-002M



### Features:

- Lightweight
- Ruggedized
- Versatile UHF Amplifier

### SPECIFICATIONS:

#### Mechanical Specifications:

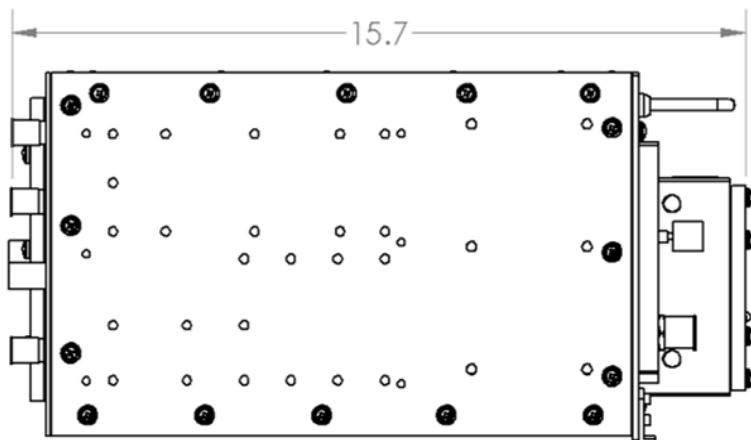
Weight: <25 lbs  
Form Factor:  $\frac{3}{4}$  ruggedized ATR

#### Electrical Specifications:

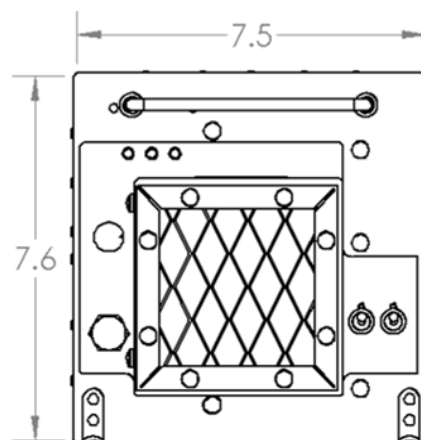
Input Voltages: 100-132, 200-264 VAC  
from 47-400 Hz, single phase  
21-32 VDC (28 VDC nominal)

#### Environmental Specifications:

Operating Temps: -22°C to +45°  
MIL-STD-810F  
Over temperature protection



Dimensions in inches



## Operating Characteristics:

70 MHz IF signal unconverted to filtered UHF signal then amplified to provide the RF Out signal

Output level adjustable from 10 dBW to 20 dBW in 1 dB increments

Output frequency is adjustable from 225 MHz to 400 MHz in 500kHz increments

Compatible with TDMA waveforms

Nominal 50 Ohms output impedance

Features a self-running Built-In-Test (BIT) diagnostic function

Over-temperature protection

Temperature controlled cooling fan

Provides separate non-amplified (-70 dBm), unconverted output signal for loopback and testing

RF output VSWR protected

## Environments:

Tested and compliant to applicable sections of the following MIL standards:

MIL-STD-461E

MIL-STD-704E

MIL-STD-810F

Operational from -22°C to +45°C

Explosive atmosphere

MBTF calculated at greater than 15,000 hours

## Mechanical:

¾ ruggedized ATR

Under 25 pounds

Integrated, temperature controlled multi-speed cooling fan

Power, transmit, and fault indicator LEDs on front panel

## Interfaces:

Control/Status interface with PC control suite

TIA-422/485 balanced (differential) interface

RS-232 Interface available

Daisy chain multiple amplifiers on control/status interface

## Input Power:

Compliant with MIL-STD-704E

100-132 VAC and 200-264 VAC from 47-440 Hz single phase

21-32 VDC (28 VDC nominal)

Auto-switching between AC and DC inputs

Keyline interface with status fault protection on keyline

## RF Interfaces:

70 MHz IF input

Nominal 0 dBm input with wide dynamic range

Nominal 50 Ohms input impedance

10 MHz reference input

Optional internal 10 MHz reference available

Low level 70 MHz loopback signal provide for system BIT

100W UHF output