

30W to 1000W
AWMA-S™ series



Features

- Full range of output power up to 1000W in a single package
- High linearity
- Unconditionally stable at any load VSWR
- Redundant ready with no external controller
- Full M&C capability via RS485 or Ethernet port
- Infinite VSWR protection with automatic high reflected power shutdown
- Forward and Reflected power monitoring
- Output Sample Port
- Redundant Systems shipped fully tested, assembled and tested
- Weatherproof construction

Overview

Advantech AMT S-Band line of Amplifiers is intended for satellite up-link applications. The design of these units is based on Advantech's proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the high MTBF for these units. Full monitor and control is provided via the serial or Ethernet ports. Special features such as automatic over-temperature shutdown and high-reflected power protection contribute to a trouble free operation.

The AWMA-S series is available in output power from 30W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 1500W. Please contact factory for more details.

The full set of accessories made available will facilitate the integration of these units in any application.

Table A

| Band* | RF Band (GHz) | Output Power (W) |
|-------|---------------|------------------|
| S | 2.025 – 2.120 | 30 - 1000 |

**Other frequency sub-bands are available. Please consult factory.*

Options

- 1:1 or 1:2 Redundant configuration
- Phase combined systems for higher power

Accessories

- Mounting kits
- Remote M&C panel
- Handheld terminal

Redundancy

Advantech AMT S-Band line of Amplifiers may be configured to operate in 1:1 or 1:2 redundancy mode. No extra controller is required for the redundancy operation as the built-in controller in each unit provides this function. For 1:1 redundancy operation, in addition to the two units (operating and standby) a special redundancy kit is required. For 1:2 redundancy operation another redundancy kit is needed in addition to the three units. The kits include the switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

All redundancy systems are delivered fully assembled, integrated, and tested.

S-Band Hub-mount SSPA



Technical Specifications

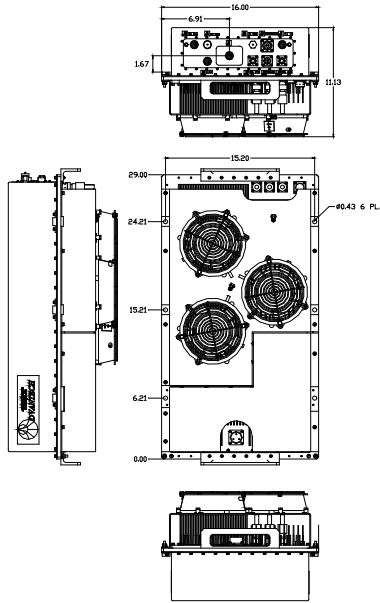
Table B

| SSPA Line | | | | | Weight | Dimensions | Voltage | Outline |
|---------------|----------|----------|---------------------|-------------------------------|---------------------|--------------------------------------|--|---------|
| Rated Power W | Psat dBm | P1dB dBm | Gain (dB) (minimum) | Power consumption W (nominal) | | | | |
| 30W | +45 | +44 | +55 | 200W | 36 lbs (16 kg) | 16"x10"x9" 406x254x229 mm | 110/220 Auto ranging Option 48V | 1 |
| 40W | +46 | +45 | +56 | 250W | | | | |
| 50W | +47 | +46 | +57 | 300W | | | | |
| 60W | +48 | +47 | +58 | 350W | | | | |
| 100W | +50 | +49 | +59 | 400W | 48.5 lbs (22 kg) | 18.5"x10"x9" 470x254x229 mm | 110/220 Auto ranging | 2 |
| 125W | +51 | +50 | +60 | 500W | | | | |
| 150W | +52 | +51 | +62 | 600W | | | | |
| 200W | +53 | +52 | +63 | 800W | | | | |
| 250W | +54 | +53 | +64 | 850W | 98 lbs (44.5 kg) | 30"x16"x11" 762x406x280 mm | 220V | 3 |
| 300W | +55 | +54 | +65 | 1400W | | | | |
| 400W | +56 | +55 | +66 | 1500W | | | | |
| 500W | +57 | +56 | +67 | 1600W | | | | |
| 600W | +58 | +57 | +68 | 2500W | 176 lbs (80 kg) | 39"x18.5"x12.1" 990x470x307 mm | 220V | 4 |
| 700W | +58.5 | +57.5 | +69 | 2700W | | | | |
| 800W | +59 | +58 | +69 | 3000W | | | | |
| 1000W | +60 | +59 | +70 | 3200W | | | | |

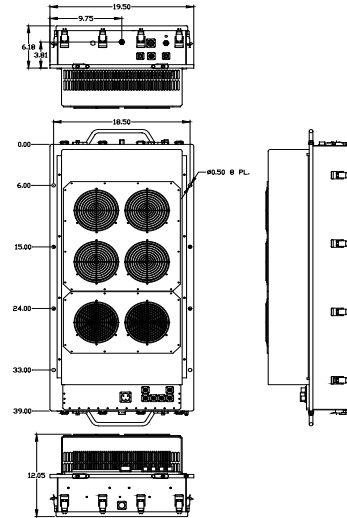
General Specifications

| | | | |
|---------------------------------|---|---------------------------------|--|
| Operating Frequency | 2.025 – 2.120 GHz | | |
| Output Power | See table B | | |
| Gain | See table B | | |
| Gain adjustment range | 20 dB in 0.1 dB steps | | |
| Gain flatness | 1.5 dB p-p max over full band 0.5 dB p-p over 10 MHz at 25°C | | |
| Gain slope | 0.06 dB/ MHz max. | | |
| Gain variation over temperature | ± 1.5 dB max | | |
| Input Impedance and VSWR | 50 Ω | 1.3:1 | |
| Output Impedance/VSWR | 50 Ω | 1.3:1 | |
| Noise power density | -80 dBm/Hz in Transmit Band | | |
| Spurious at P1dB | -60 dBc max | | |
| Harmonics | -60 dBc at P1dB | | |
| AM/PM conversion | 2.5°/dB at P1dB | | |
| Third order intermod (2- tones) | -24 dBc at 3 dB total back-off from rated P1dB | | |
| Group delay | Linear | 0.02 nsec/MHz max | |
| | Parabolic | 0.003 nsec/MHz ² max | |
| | Ripple | 1 nsec p-p max | |
| Residual AM Noise | 0 – 10 kHz | -45 dBc | |
| | 10 kHz – 500 kHz | -20 (1.25 + log F) dBc | F = Frequency in kHz |
| | 500 kHz – 1 MHz | -80 dBc | |
| Weight & Dimensions | See table B | | |
| Input voltage | See table B | | |
| Interfaces | Input (RF or L-Band) | N type female | |
| | Output Sample Port | N type female | |
| | RF output | N type female | |
| | AC line | MS3102 type | |
| | RS232 serial port | MS3112E10-6P | |
| | RS485/Ethernet | MS3112 type | |
| Environmental | Temperature | Operating -30°C to +55 °C | Option 1 -40°C to +55 °C Option 2 -50°C to +50 °C |
| | | Storage | -55°C to +85 °C |
| | Humidity | 100% condensing | |
| Altitude | 10,000' AMSL, derated by 2 °C/1000' from AMSL | | |

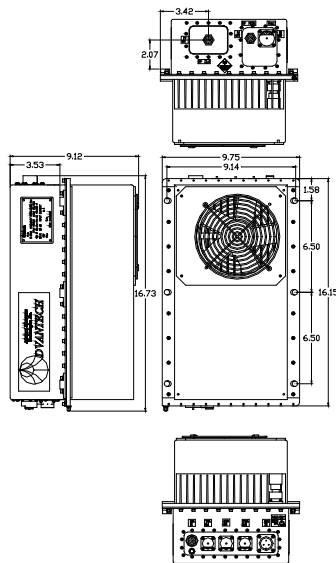
S-Band Hub-mount SSPA



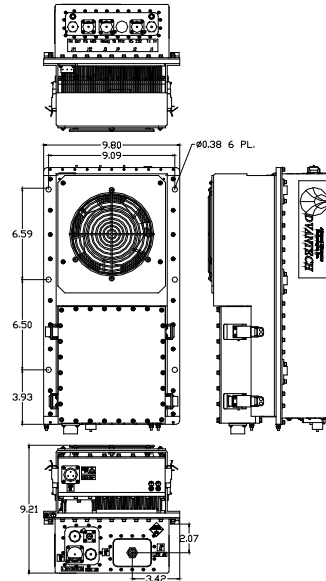
Outline 3



Outline 4



Outline 1



Outline 2

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