

10W to 30W  
AWMA-2000K® series



### Features

- Remote Monitor & Control
- High gain and linearity
- Output power up to 30W (see table A)
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- CE Marking

### Overview

The AWMA-K series are the outdoor solid-state power amplifiers (SSPAs), operating in Ku-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for outdoor operation, the AWMA-2000K® is weatherproof. Built-in microprocessor controller provides the capability for serial port interfaces (RS485) for remote monitoring and control.

Advantech's SSPAs set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

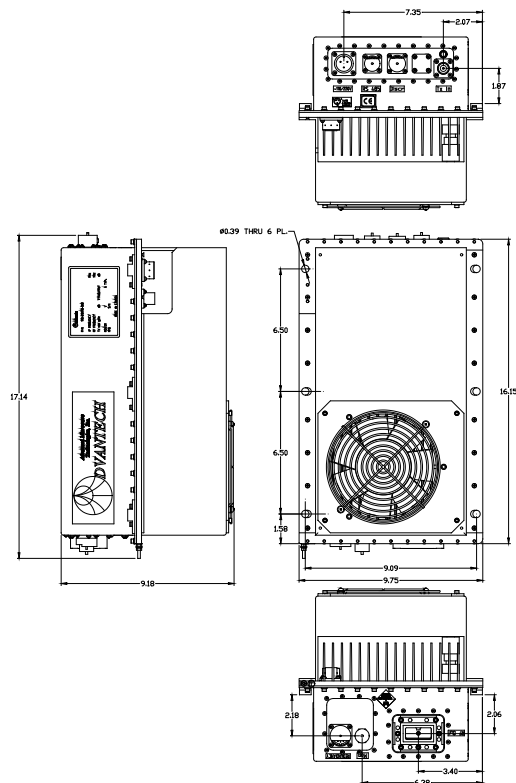
### Application

The SSPAs are designed for Ku-Band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. The AWMA-K series are available in output power from 10W to 250W. For higher power Advantech provides phase-combined systems.

Other SSPAs are available for operation at other satellite frequency bands. With all the features of the AWMA-K, Advantech also offers a built-in converter.

### Redundancy

With the addition of the appropriate waveguide and switch kit, the AWMA-2000K® amplifiers can be easily converted for the operation in 1:1 redundant configuration with full remote Monitor and Control capability of the redundant system via serial interface. Single Monitor and Control interface is required to manage redundant system.



**Table A**

Band	RF Band (GHz)	Output Power (W)
KS	14.00 - 14.50	10-30
KX	13.75 - 14.50	10-25

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

### Options

- Integrated Block Up Converter
- Additional harmonic filter
- Extreme temperature operation
- Redundant system

### Accessories

- Redundancy Kit
- Mounting Frames
- Remote M&C panel (Ethernet port optional)

# Ku-Band Hub-mount SSPA

Technical Specifications	10W	12W	16W	20W	25W	30W
<b>Electrical Characteristics</b>						
Availability in this series						
KS	√	√	√	√	√	√
KX	√	√	√	√	√	Note 1
Output power (P <sub>SAT</sub> )	+40 dBm	+41 dBm	+42 dBm	+43 dBm	+44 dBm	+45 dBm
Output power (P <sub>1dB</sub> ) min	+39 dBm	+40 dBm	+41 dBm	+42 dBm	+43 dBm	+44 dBm
Power gain @ maximum gain setting	50 dB min			54 dB min		
Operating frequency range	See table A on front page					
Max input power without damage	+10 dBm					
Gain slope	0.6 dB max over 40 MHz					
Gain flatness over 500 MHz	±1.0 dB					
Gain variation over temperature	±1.5 dB over full operating temperature range					
Gain variation over 24 hours	±0.25 dB max @ constant temperature & drive level					
Gain adjustment range	20 dB (0.1 dB resolution)					
Input return loss	18 dB, min					
Output return loss	19 dB, min					
Noise power density	-70 dBm/Hz max in TX band -145 dBm/Hz max in 10.95-12.75 GHz RX band					
Spurious at rated power	-65 dBc, max					
Harmonics at rated power	-60 dBc, max					
AM/PM Conversion at rated power	2.5°/dB max at P <sub>1dB</sub> 1.0°/dB max, at 3 dB back-off					
Third order IMD (two equal tones 5 MHz apart)	-25 dBc, max at 3 dB back-off from P <sub>1dB</sub>					
Group delay	Linear: 0.02 ns /MHz, max Parabolic: 0.003 ns/MHz <sup>2</sup> , max Ripple: 1.0 nsec p-p, max					
Residual AM (F* - frequency in kHz)	0-10 kHz		-45 dBc			
	10 kHz - 500 kHz		-20 (1.25+log F*) dBc			
	500 kHz - 1 MHz		-80 dBc			
<b>Power Requirements</b>						
AC input voltage	110 /220 VAC auto ranging (47-63 Hz)					
Power consumption (nominal)	250W	225W	300W	350W	375W	400W
<b>Mechanical Characteristics</b>						
Dimensions (L x W x H)	16.15" x 9.75" x 9.16" (41.02 x 24.77 x 23.27 cm)					
Weight	25 Kg (55 lbs)					
Interfaces:	RF input	Type N (Female)	Redundancy	MS3112E14-12P		
	Output Sample Port	Type N (Female)	Discrete port	MS3112E16-26P	RF output WR-75 contact	
	AC Line	MS3102R16-10P	RS-485	MS3112E10-6P		
<b>Environmental Conditions</b>						
Temperature:	Operating	-30°C to +55°C; Option 1: -40°C to +55°C; 2: -50°C to +50°C				
	Storage	-55°C to +85°C				
Humidity	100%, condensing (2" rain/hour)					
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL					

Note 1: Please refer AWMA-3000K<sup>®</sup> product datasheet

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