

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-2000KTM 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-2000KTM 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.

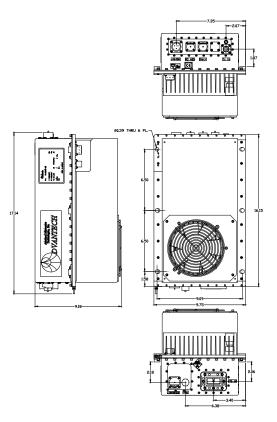


Table A									
Band	RF Band (GHz)	Output Power (W)							
KS	14.00 - 14.50	10-30							
KX	13.75 - 14.50	10-25							

*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		
Electrical C	haracteristics								
Availability in this series									
KS		\checkmark	√		\checkmark	√			
KX		√	√	\checkmark	\checkmark	√	Note 1		
Output power (P _{SAT})			+40 dBm	+41 dBm	+42 dBm	+43 dBm	+44 dBm	+45 dBm	
Output power (P1dB) 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						
•	it rated power		-60 dBc, max						
AM/PM Conversion at rated power			2.5°/dB max at P1dB 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_{1dB}							
Group delay		Linear: 0.02 ns /MHz, max Parabolic: 0.003 ns/MHz ² , max Ripple: 1.0 nsec p-p, max							
Residual AN	Λ		0-10 kHz -45 dBc						
(F* - frequency in kHz)		10 kHz - 500 kHz -20 (1.25+log F*) dBc 500 kHz - 1 MHz -80 dBc							
Power Requ	uirements								
AC input voltage			110 /220 VA	AC auto rangir	ng (47-63 Hz)				
Power consu	umption (nominal)		250W	225W	300W	350W	375W	400W	
Mechanical	Characteristics								
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 Output Sample Port AC Line		Female) I	Redundancy Discrete port RS-485	MS3112E14 MS3112E16 MS3112E10	-26P	RF output WF	R-75 contact	
Envir <u>onmer</u>	ntal Conditions								
Temperature: Operating Storage			-30°C to +55°C; Option 1: -40°C to +55°C; 2: -50°C to +50°C -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-3000KTM product datasheet

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Ref.: PB-AWMA-Ku-10-30-13150