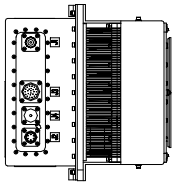
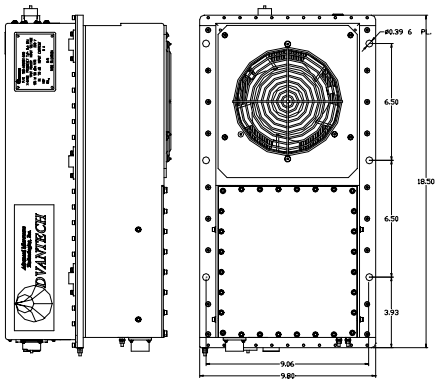
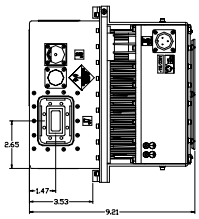
C-BAND HUB-MOUNT SSPA
UP TO 250W

AWMA-3000C® series







FEATURES

- Remote Monitor & Control
- High gain and linearity
- Output power up to 250W (see table A)
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- Field replaceable power supply
- CE Marking

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)

OVERVIEW

The AWMA-C series are the outdoor solid-state power amplifiers (SSPAs), operating in C-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for outdoor operation, the AWMA-3000C® is weatherproof. Built-in microprocessor controller provides the capability for serial port interfaces (RS485, RS232) 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 C-Band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. The AWMA-C series are available in output power from 20W to 1000W. 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-C, Advantech also offers a built-in converter.

Table A

Band	RF Band (GHz)	Output Power (W)
CL	4.400 - 5.000	60 – 200
CP	6.425 - 6.725	60 – 200
CI	6.725 - 7.025	60 – 200
CR	5.725 - 6.025	60 – 250
CS	5.850 - 6.425	60 – 250
CX	5.850 - 6.725	60 – 150

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

REDUNDANCY

With the addition of the appropriate waveguide and switch kit, the AWMA-3000C® 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. A single Monitor and Control interface is required to manage redundant system.

C-band Medium Power SSPA

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C-BAND HUB-MOUNT SSPA
UP TO 250W

AWMA-3000C® series

TECHNICAL SPECIFICATIONS	60W	80W	100W	125W	150W	200W	250W
Electrical Characteristics							
Availability in this series CS, CR CL,CP,CI,CX	 √ √	 √ √	 √ √	 √ √	 √ √	 √ *Note 1*	 √ *Note 1*
Output power (P_{SAT})	+48 dBm	+49 dBm	+50 dBm	+51 dBm	+52 dBm	53 dBm	54 dBm
Output power (P1dB) min.	+47 dBm	+48 dBm	+49 dBm	+50 dBm	+51 dBm	52 dBm	53 dBm
Power gain @ maximum gain setting	56 dB min	60 dB min				65	65
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 600 MHz	±1.0 dB max						
Gain variation over temperature	±1.5 dB over full operating temperature range						
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level						
Gain adjustment range	20 dB min (0.1 dB resolution)						
Input return loss	18 dB						
Output return loss	19 dB						
Noise power density	-70 dBm/Hz max in TX band -150 dBm/Hz max in 3.4 –4.2 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_{1dB}), 1°/dB max. at 3 dB back-off						
Third order IMD (2 tones 5 MHz apart)	-26 dBc max 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: 1.0 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						
Power Requirements							
AC input voltage	110/220 VAC auto ranging (47-63 Hz)						
Power consumption (nominal)	490W	550W	630W	710W	800W	950W	1100
Mechanical Characteristics							
Dimensions (L x W x H) Weight (with mounting frame)	18.50" x 9.80" x 9.21" (46.99 x 24.89 x 23.39 cm) 32 kg (70 lbs)						
Interfaces: RF input	Type N (Female)	Redundancy	MS3112E14-12P	RF output	CPR137 contact		
Output sample port	Type N (Female)	Discrete port	MS3112E16-26P	(for CL series - CPR187)			
AC Line	MS3102R16-10P	RS-485	MS3112E10-6P				
Environmental Conditions							
Temperature Operating Storage	-30°C to +55°C *Option 1: -40°C to +55°C; option 2: -50°C to +50°C* -55°C to +85°C						
Humidity	100%, condensing (2" rain/hour)						
Altitude	10,000' AMSL, derated 2°C/1,000' from AMSL						

Note 1: Please refer AWMA-4000C® product datasheet

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