

50W to 125W
ARMA-1000™ series



Features

- High gain and linearity
- Output power up to 125W
- Gain adjustment (Local & Remote)
- Remote Monitor & Control (Local & Remote)
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- Power factor correction
- CE Marking

Overview

The ARMA-1000S™ series are the rack-mount solid-state power amplifiers (SSPAs), operating in S-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for indoor operation, the amplifiers are of compact size and occupy three rack-mounting spaces (3 RU - 5¼") of a standard 19-inch rack. Built-in microprocessor controller provides 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 featured SSPAs are designed for S-Band satellite up-link applications. They are designed for 19-inch rack mounting in a protected environment. The ARMA-S series are available in output power from 50W 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 ARMA-S, Advantech also offers a built-in converter.

Redundancy

With the addition of the appropriate waveguide and switch kit, the ARMA-1000S™ amplifiers can be easily converted for the operation in 1:1 redundant configuration without the use of any external controller. Full remote Monitor and Control of the redundant system is accessible via the serial port (RS-485).

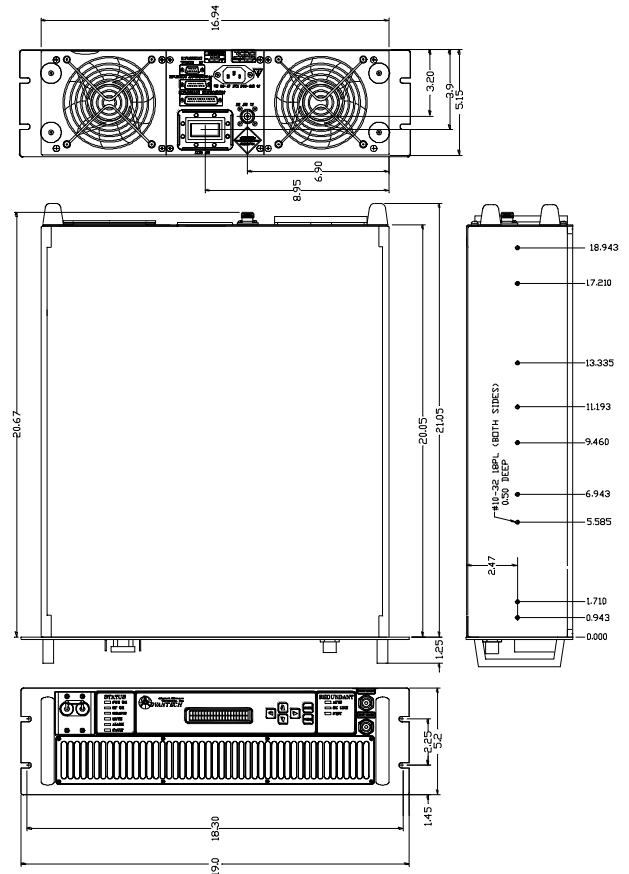


Table A

Band	RF Band (GHz)	Output Power (W)
S	2.025 - 2.120	50 - 125

Options

- Integrated Block Up Converter
- RF input sample port
- Redundant system

Accessories

- Redundancy Kit
- Shelf slides
- Band pass filter
- Remote M&C panel (Ethernet port optional)

S-Band Rack-mount SSPA

Technical Specifications	50W	60W	80W	100W	125W	
Electrical Characteristics						
Availability in this series						
S	√	√	√	√	√	
Output power (P _{SAT})	+47 dBm	+48 dBm	+49 dBm	+50 dBm	+51 dBm	
Output power (P1dB) min	+46 dBm	+47 dBm	+48 dBm	+49 dBm	+50 dBm	
Power Gain @ max setting	65 dB min					
Frequency range	2.025 - 2.120 GHz					
Gain adjustment range	20 dB					
Max input power w/out damage	+10 dBm					
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 over full operating range (temperature compensation mode)					
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level					
Input VSWR	1.3:1					
Output VSWR	1.4:1					
Noise Power Density	-100 dBm/Hz max in TX band					
Spurious at rated power	-65 dBc, max.					
Harmonics at rated power	-45 dBc, max					
AM/PM conversion at rated power	2.5°/dB max. at P1dB, 1°/dB max. at 3 dB back-off from rated P1dB					
Third order IMD (two equal tones 5 MHz apart)	-26 dBc max. at 3 dB total back-off from rated P1dB					
Group Delay	Linear: 0.01 nsec/MHz max. Parabolic: 0.002 nsec/MHz ² max. Ripple: 0.5 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	90-264 VAC auto ranging (47-63 Hz)					
Power consumption (nom.) (W)	200	250	300	400	500	
Mechanical Characteristics						
Panel Height	3 RU of 19" rack					
Weight	13 kg (29 lbs)					
Interfaces:	RF input RF output Output sample port	N-Type (F) N-Type (F) N-Type (F)	Redundancy RS-232 RS-485	D-sub 25S D-sub 9S D-sub 9S	Discrete port 9S AC Line	D-sub IEC 320 inlet
Environmental Conditions						
Temperature:	Operating Storage	0°C to +50°C -55°C to +85°C				
Humidity	5%-95%, non-condensing					
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL					

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Ref.: ARMA-S-50-125-17265