

30W to 125W
AWM-3000K® series



Features

- Full range of output power up to 125W in a single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS485 or Ethernet port
- Forward and Reflected power monitoring
- Output Sample Port
- Field-Replaceable Power Supply
- Redundant Systems shipped fully tested, assembled and tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in Receiver Reject Filter
- Weatherproof construction

Overview

Advantech AMT Ku-Band line of Amplifiers and BUCs are 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 AWM-K series is available in output power from 16W to 500W. Higher power operation may be provided using external phase combining techniques offering an output power up to 800W. Please contact factory for more details.

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

Redundancy

Advantech AMT Ku-Band line of Amplifiers and BUCs 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 waveguide switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

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

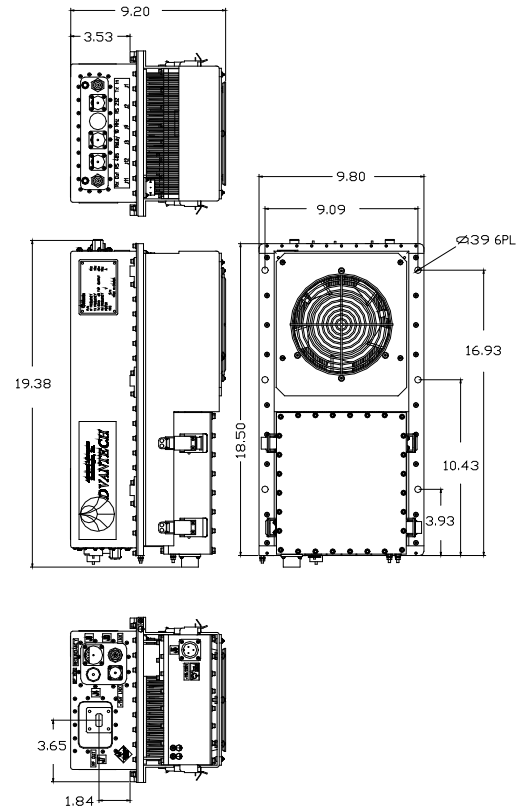


Table A

Band*	RF Band (GHz)	L-Band Input for BUC (MHz)	LO for BUC (GHz)	Output Power (W)
KS	14.00 - 14.50	950-1450	13.05	30 - 125
KX	13.75 - 14.50	950-1700	12.80	30 - 125
KL	12.75 - 13.25	950-1450	11.80	30 - 125

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

Options

- 1:1 or 1:2 Redundant configuration
- Phase combined systems for higher power
- L-Band input (SSPB/BUC operation)

Accessories

- Antenna Mounting kits
- External Receive Reject Filter
- Remote M&C panel
- Handheld terminal

Ku-Band Hub-mount SSPB

Technical Specifications

Table B

SSPA/SSPB (BUC) Line

Rated Power W	Psat dBm	P1dB dBm	Gain (dB) (minimum)		Power consumption W (nominal)	Weight	Dimensions
			SSPA	BUC			
30W	+45	+44	+55	+65	250	44 lbs (20 kg)	18.5"x10"x9" 470x254x229mm
40W	+46	+45	+56	+66	350		
50W	+47	+46	+57	+67	400		
60W	+48	+47	+58	+68	450		
80W	+49	+48	+59	+69	650	48.5 lbs (22 kg)	
100W	+50	+49	+60	+70	950		
125W	+51	+50	+61	+71	1000		

The specifications on this table applies only for the Ku-Band and Extended Ku-Band

General Specifications

Operating Frequency	See table A		
L-Band input (BUC)	See table A		
Output Power	See table B		
Gain	See table B		
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	± 1dB max		
Gain slope over 40 MHz	± 0.3 dB max		
Gain variation over temperature	± 1 dB max		
Input Impedance and VSWR	50 Ω	SSPA 1.3:1	SSPB (BUC) 1.4:1
Output VSWR	1.25:1		
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive band (10.95 – 12.75 GHz)		
Spurious at P1dB	-65 dBc max		
Harmonics	-40 dBc @ P1dB, -50 dBc @ P1dB -3 dB max		
AM/PM conversion	2.5°/dB at P1dB		
Third order intermod (two tones)	-25 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	F = Frequency in kHz
	10 kHz – 500 kHz	-20 (1.25 + log F) dBc	
	500 kHz – 1 MHz	-80 dBc	
SSPB (BUC)			
Local Oscillator frequency	See table A		
Reference frequency	10 MHz		
Phase Noise	-50 dBc/Hz at 10Hz	-85 dBc/Hz at 10 kHz	
	-65 dBc/Hz at 100Hz	-95 dBc/Hz at 100 kHz	
	-75 dBc/Hz at 1000Hz		
External Reference Frequency phase noise (max)	-115 dBc/Hz at 10Hz	-150 dBc/Hz at 10 kHz	
	-135 dBc/Hz at 100Hz	-160 dBc/Hz at 100 kHz	
	-148 dBc/Hz at 1000Hz		
Weight & Dimensions	See table B		
AC input voltage	110/220 VAC auto-ranging 47-63 Hz, option 48V DC		
Interfaces	Input (RF or L-Band)	N type female	
	Output Sample Port	N type female	
	RF output	WR75 cover	
	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	

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