



16W to 125W
AWMT-3000K® series



Features

- Operating Ku-Band Tx: 14.00 - 14.50 GHz
13.75 - 14.50 GHz (optional)
Rx: 10.95 - 12.75 GHz
- 70 or 140 MHz Tx and Rx interface
- Easy to install and operate
- Compact light weight design
- Weatherproof package
- Phase Locked LNB
- Low phase noise
- Remote Monitor & Control (RS-232/RS-485)
- Relay alarm indicators
- LED status indicators
- Automatic high reflected power protection
- Harmonic Filter
- High stability internal 10MHz reference
- Downloadable PC GUI
- Redundant ready operation

Overview

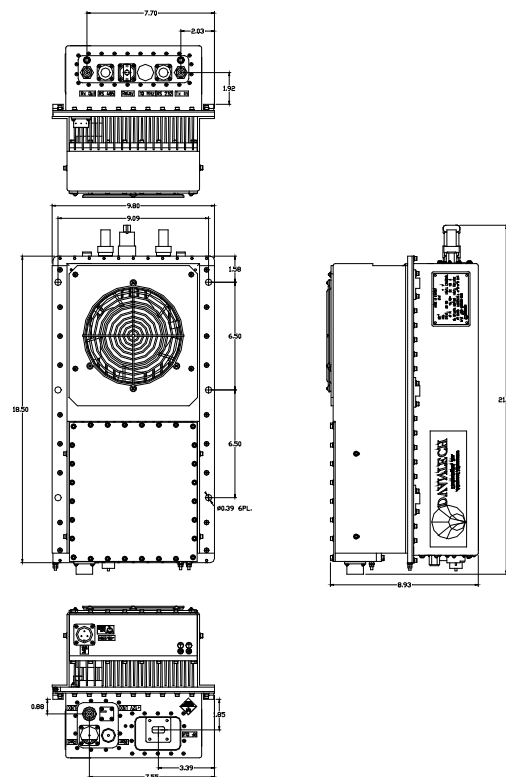
The **Advantech Wireless** range of transceivers uses the latest technology, thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000K® is a family of hub-mount transceivers operating in the Ku-band from 16W to 125 W. These transceivers are designed for continuous operation in the harshest outdoor environment. The built-in microprocessor controller provides for external monitoring and control of the operating parameters, and for the redundancy control. The LNB is connected to the transceiver with a single coaxial cable. Apart from the LNB, the complete unit is available in a single integrated package. Higher power transceivers are also available in the AWMT-K® series for up to 500W.

The flexible and comprehensive monitor and control features on the transceiver ensure that it will fit into any network management system architecture. The user-friendly RS-232 interface will provide full set-up and fault monitoring facilities via a PC terminal mode communication or a hand-held terminal. The RS-485 interface will provide functional remote Monitor & Control, using the Graphic User Interface (GUI) or the Monitor & Control Panel.

Application

The AWMT-3000K® is designed to operate in the Ku-band with 70 MHz or 140 MHz IF interface. The unit is self-contained and is intended for mounting outdoors, close to the OMT of an antenna.



Options

- Extended Ku-band (13.75 – 14.5 GHz)
- Additional L band interface
- LNA operation
- Step Size 125 KHz option
- Remote M&C panel (Ethernet port optional)
- External 10 MHz reference with auto sensing

Accessories

- Mounting kits for transceiver installation
- Redundancy kits
- Mounting frame for redundancy applications
- Transmit Reject Filter and/or Receive Reject Filter (external)
- Remote Control Panel
- Hand-Held terminal

Redundancy

The AWMT-3000K® series of transceivers may be configured to operate in 1:1 redundancy mode. No extra controller is required for redundancy operation, as the built-in controller in each amplifier provides this function. Redundancy kits are required for redundant operation.

Technical Specifications

Transmit Path										
Model	16W	20W	25W	30W	40W	50W	60W	80W	100W	125W
P1dB min. (dBm)	41	42	43	44	45	46	47	48	49	50
Gain min @ max. gain set (dB)	62	63	64	65	66	67	68	69	70	71
Power Consumption	200	250	350	560	580	600	700	800	900	1000
Unit Weight	32 kg (70 lbs)									
Dimensions (L x W x H)	18.50" x 9.80" x 8.93" (46.99 x 24.89 x 22.68 cm)									
Transmit Path										
IF Band Input					RF Output					
Frequency range	70 ± 18 MHz (140 ± 36 MHz optional)				Frequency range (Non-inverting)		14.00 – 14.50 GHz 13.75 – 14.50 GHz (optional)			
Input Connector	Type N female				Output connector		WR 75			
Input Return Loss	18 dB / 50 Ω				Output Return Loss		20 dB (18 dB for coaxial output)			
Gain Specification					Third order IMD (2 tones 5 MHz apart)		-25 dBc max at 3dB total back-off from rated P1dB			
Gain control range	20 dB (0.1 dB step size)				Spurious (in band)		-55 dBc max			
Gain flatness	3.0 dB p-p max over 36 MHz				Noise Power Density		-70 dBm/Hz max in TX band -135 dBm/Hz max in 10.95 – 12.75 GHz in RX band			
Gain stability	3.0 dB p-p max over temp. range									
Receive Path										
RF Input					Gain Specification					
RF Input Frequency	10.95 – 12.75 GHz				Gain (LNB + Receiver)		75 dB @ max gain set			
	* Field selectable bands				Gain control range		20 dB (0.1 dB step size)			
Bands	1) 10.95 – 11.70 GHz				Gain flatness		±2.5 dB max over full RF band			
	2) 11.70-12.20 GHz				Gain stability		±3.0 dB max over temp. range			
	3) 12.25-12.75 GHz				Spurious		-55 dBc			
RF Input Interface	WR75				Image Rejection		50 dB			
Input VSWR	2.5:1				LNB Parameters					
					LNB type		Phase locked to 10 MHz ref. (from Transceiver via cox. cable)			
IF Output					Noise Temperature		65°K			
Frequency range	70 ± 18 MHz (140 ± 36 MHz optional)				L-band Output Frequency		950-1750 MHz			
Output Level	+10 dBm				L-band Output Interface		Type N female 50 Ω			
Output Connector	Type N female / 50 Ω				Conversion Gain		60 dB			
Output Return Loss	18 dB/50 Ω				DC power		12±18V DC (via coaxial cable)			
					LNA Parameters (optional)					
					Noise Temperature		85°K			
					Output Interface		Type N female 50 Ω			
					Gain		60 dB			
					DC Power		12±18V DC (via coaxial cable)			
Common Parameters (Tx & Rx)										
Synthesizer step size		1 MHz (option 125 KHz)			Environmental					
Frequency Stability					Cooling		Forced Air			
± 2 x 10 ⁻⁸ over 0°C to +50°C		± 2 x 10 ⁻¹⁰ / day			Operational		-30°C to +55°C standard (-40°C to +55°C option)			
Aging		± 5 x 10 ⁻⁸ / year			Storage		-55°C to +85°C			
Phase Noise		(With internal 10MHz reference)			Humidity		Up to 100% condensing			
Offset frequency		Phase noise (max)			Altitude		3,000 m AMSL (derated 2°C/300m)			
100 Hz		-60 dBc/Hz								
1000 Hz		-70 dBc/Hz								
10 KHz		-80 dBc/Hz			Power Requirements					
100 KHz		-90 dBc/Hz			AC input voltage		Auto ranging 110/220±15% (47-63 Hz)			
Monitor & Control					AC Connector		MS3102R16-10P			
Serial port (RS-485)		MS3112E10-6P			Mechanical					
Serial port (RS-232)		MS3112E10-6P			Dimensions		See Table above			
Redundancy Port		MS3112E16-26P			Packaging		Weatherproof for outdoor use			
Discrete Port		MS3112E12-10P								

NORTH AMERICA
USA
Tel: +1 703 659 9796
Fax: +1 703 635 2212
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 971 59 18
info.russia@advantechwireless.com

INDIA
Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

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