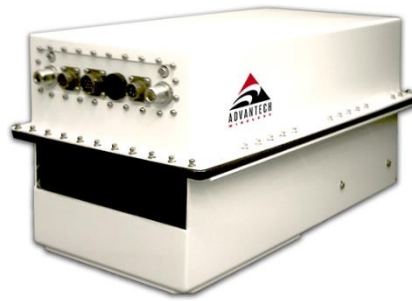


Ku-Band Transceiver

40W 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 and RS-485)
- Relay alarm indicators
- LED status indicators
- Automatic high reflected power protection
- Harmonic Filter
- High stability internal 10MHz reference
- Downloadable PC GUI
- Redundant operation ready

Overview

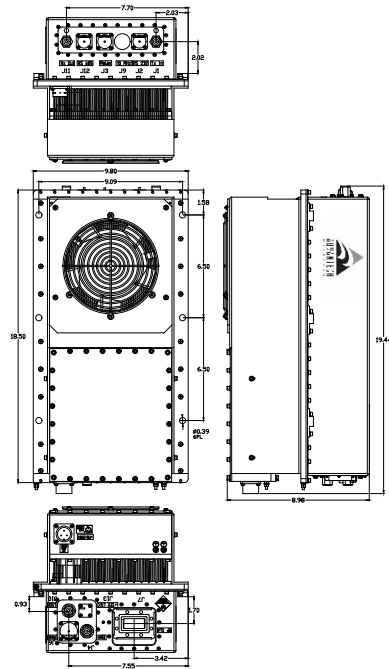
The Advantech Wireless range of transceivers uses the latest technology, thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000K is a family of hub-mount transceivers operating in the Ku-band from 40W 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-KTM series for up to 250W.

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.

Applications

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.

Ku-Band Transceiver

Technical Specifications						
Transmit Path						
Model	40W	50W	60W	80W	100W	125W
P1dB min. (dBm)	45	46	47	48	49	50
Gain min @ max. gain set (dB)	66	67	68	69	70	71
Power Consumption (W)	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 * Field selectable bands		Gain (LNB + Receiver)	75 dB @ max gain set		
Bands	1) 10.95 – 11.70 GHz 2) 11.70-12.20 GHz 3) 12.25-12.75 GHz		Gain control range	20 dB (0.1 dB step size)		
RF Input Interface	WR75		Gain flatness	±2.5 dB max over full RF band		
Input VSWR	2.5:1		Gain stability	±3.0 dB max over temp. range		
			Spurious	-55 dBc		
			Image Rejection	50 dB		
			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)		

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Ku-Band Transceiver

Common Parameters (Tx & Rx)			
Synthesizer step size	1 MHz (option 125 KHz)	Environmental	
Frequency Stability		Cooling	Forced Air
$\pm 2 \times 10^{-8}$ over 0°C to +50°C	$\pm 2 \times 10^{-10}$ / day	Operational	-30°C to +55°C standard (-40°C to +55°C option)
Aging	$\pm 5 \times 10^{-8}$ / 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	Power Requirements	
1000 Hz	-70 dBc/Hz	AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
10 KHz	-80 dBc/Hz	AC Connector	MS3102R16-10P
100 KHz	-90 dBc/Hz	Mechanical	
Monitor & Control		Dimensions	See Table above
Serial port (RS-485)	MS3112E10-6P	Packaging	Weatherproof for outdoor use
Serial port (RS-232)	MS3112E10-6P		
Redundancy Port	MS3112E16-26P		
Discrete Port	MS3112E12-10P		

Ref.: PB-AWMT3000-K-40-125-18226

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