



2W to 12W  
 AWMT-2000K® 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

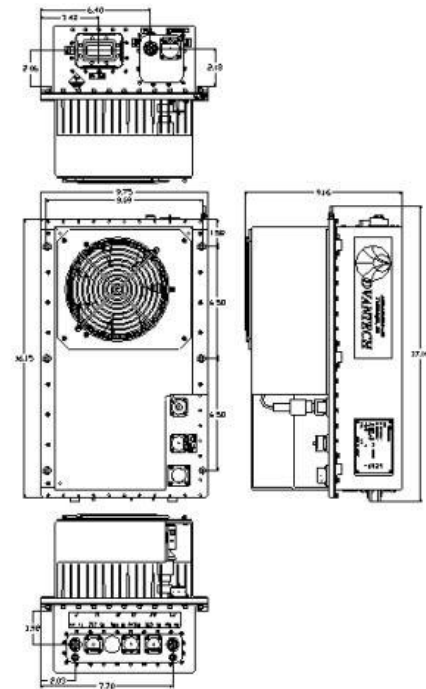
The Advantech range of transceivers uses the latest technology, thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-2000K® is a family of hub-mount transceivers operating in the Ku-band from 2W or 12 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 150W.

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-2000K® 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-2000K® 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	2W	4W	8W	10W	12W
P1dB min. (dBm)	33	36	38	39	40
Gain min @ max. gain set (dB)	54	57	59	60	61
Power Consumption	60	90	110	130	140
Unit Weight	16 Kg (35 lbs)			18 Kg (39 lbs)	
Dimensions (L x W x H)	16.2" x 9.8" x 6.3" (41 x 25 x 16 cm)			16.2" x 9.8" x 9.2" (41 x 25 x 23 cm)	
Transmit Path					
IF 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 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)	
			Gain flatness	±2.5 dB max over full RF band	
			Gain stability	±3.0 dB max over temp. range	
RF Input Interface	WR75		Spurious	-55 dBc	
Input VSWR	2.5:1 dB		Image Rejection	50 dB	
IF Output			LNB Parameters		
Frequency range	70 ± 18 MHz (140 ± 36 MHz optional)		LNB type	Phase locked to 10 MHz ref. (from Transceiver via cox. cable)	
Output Level	+10 dBm		Noise Temperature	65°K	
Output Connector	Type N female / 50 Ω		L-band Output Freq.	950-1750 MHz	
Output Return Loss	18 dB/50 Ω		L-band Output Interface	Type N female 50 Ω	
			Conversion Gain	60 dB	
			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 <sup>-8</sup> over 0°C to +50°C	± 2 x 10 <sup>-10</sup> / day		Operational	-30°C to +55°C standard (-40°C to +55°C option)	
Aging	± 5 x 10 <sup>-8</sup> / 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				
100 KHz	-90 dBc/Hz				
Monitor & Control			AC Connector	MS3102R10SL-3P	
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				

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