



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

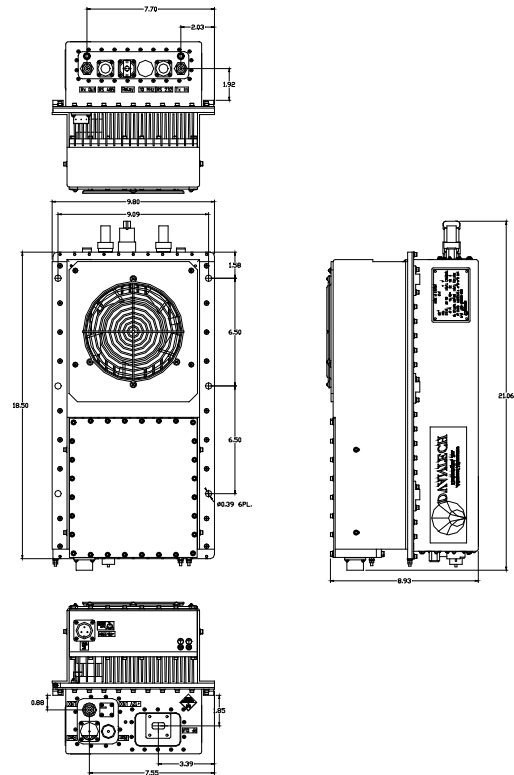
The **Advantech Wireless** range of transceivers uses the latest technology, thus providing the ultimate in performance and user friendly operation at a very competitive price.

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.

Ku-Band Transceiver

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	300	400	500	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
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 Frequency	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		Environmental	
Synthesizer step size	1 MHz (option 125 KHz)	Cooling	Forced Air
Frequency Stability		Operational	-30°C to +55°C standard (-40°C to +55°C option)
± 2 x 10 ⁻⁸ over 0°C to +50°C	± 2 x 10 ⁻¹⁰ / day	Storage	-55°C to +85°C
Aging	± 5 x 10 ⁻⁸ / year	Humidity	Up to 100% condensing
Phase Noise	(With internal 10MHz reference)	Altitude	3,000 m AMSL (derated 2°C/300m)
Offset frequency	Phase noise (max)	Power Requirements	
100 Hz	-60 dBc/Hz	AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
1000 Hz	-70 dBc/Hz	AC Connector	MS3102R16-10P
10 KHz	-80 dBc/Hz	Mechanical	
100 KHz	-90 dBc/Hz	Dimensions	See Table above
Monitor & Control		Packaging	Weatherproof for outdoor use
Serial port (RS-485)	MS3112E10-6P		
Serial port (RS-232)	MS3112E10-6P		
Redundancy Port	MS3112E16-26P		
Discrete Port	MS3112E12-10P		

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