

## Ku-Band Transceiver L-Band IF Interface

40W to 125W  
AWMT-3000LK™ series



### Features

- Operating Ku-Band Tx: 14.00 - 14.50 GHz  
13.75 - 14.50 GHz (optional)  
12.75-13.25 GHz (optional)  
Rx: 10.95 - 12.75 GHz (sub-bands)
- L-band 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 operation ready

### Overview

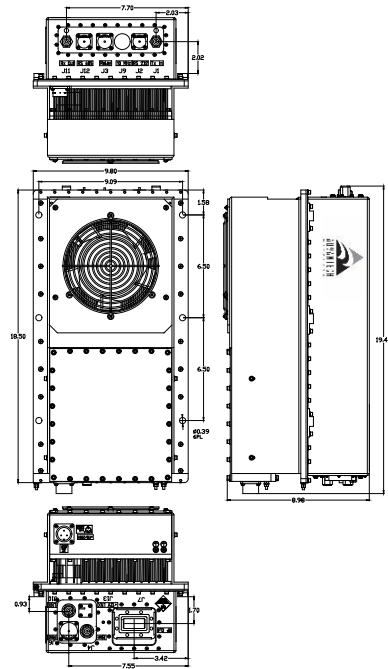
The Advantech Wireless range of transceivers uses the latest technology, thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000LK 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-LK 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-3000LK is designed to operate in the Ku-band with L-band 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)
- Low Ku-band (12.75-13.25 GHz)
- LNA operation
- 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-3000LK 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 L-Band IF Interface

Technical Specifications						
Transmit Path						
Model	40W	50W	60W	80W	100W	125W
P1dB min. (dBm)	45	46	47	48	49	50
IF Input	950 – 1450 MHz or 950 – 1700 MHz					
RF Output	14.0 – 14.5 GHz or 13.75 – 14.5 GHz					
Gain min @ max. gain set (dB)	66	67	68	69	70	71
Power Consumption (W)	580	600	700	800	900	1000
Unit Weight	24 kg (53 lbs)					
Dimensions (L x W x H)	18.50" x 9.80" x 8.93" (46.99 x 24.89 x 22.68 cm)					

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 2) 11.70-12.20 GHz 3) 12.25-12.75 GHz	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 max
Input VSWR	2.5:1	Image Rejection	50 dB
L-band Output		LNB Parameters	
Frequency range	950 – 1450 MHz 950 – 1700 MHz (optional)	LNB type	Phase locked to 10 MHz ref. (from Transceiver via coax. cable)
		Noise Temperature	65°K
Output P1dB, min	+10 dBm	L-band Output Frequency	950-1750 MHz
Output Connector	Type N female / 50 Ω	L-band Output Interface	Type N female 50 Ω
Output Return Loss	16 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 L-Band IF Interface

Common Parameters (Tx & Rx)			
Frequency Stability		Environmental	
$\pm 2 \times 10^{-8}$ over 0°C to +50°C	$\pm 2 \times 10^{-10}$ / day	Cooling	Forced Air
Aging	$\pm 5 \times 10^{-8}$ / year	Operational	-30°C to +55°C standard (-40°C to +55°C option)
Phase Noise		Storage	-55°C to +85°C
<i>(With internal 10MHz reference)</i>			
Offset frequency	Phase noise (max)		
100 Hz	-63 dBc/Hz		
1000 Hz	-73 dBc/Hz		
10 KHz	-83 dBc/Hz	Humidity	Up to 100% condensing
100 KHz	-93 dBc/Hz	Altitude	3,000 m AMSL (derated 2°C/300m)
Monitor & Control		Power Requirements	
Serial port (RS-485)	MS3112E10-6P	AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
Serial port (RS-232)	MS3112E10-6P	AC Connector	MS3102R16-10P
Redundancy Port		Mechanical	
Redundancy Port	MS3112E16-26P	Dimensions	See Table above
Discrete Port	MS3112E12-10P	Packaging	Weatherproof for outdoor use

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

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