



20W to 250W
AWMT-3000LX® series



Features

- Operating X-band Tx: 7.90 – 8.40 GHz
Rx: 7.25 – 7.75 GHz
- L-band Tx and Rx interface
- Easy to install and operate
- Compact light weight design
- Weatherproof package
- LNA operation
- Low phase noise
- Remote Monitor & Control (RS232 / RS485)
- Relay alarm indicators
- LED status indicators
- Automatic high power reflected power protection
- Harmonic Filter
- High stability internal 10 MHz reference
- Downloadable PC GUI
- Redundant ready operation

Overview

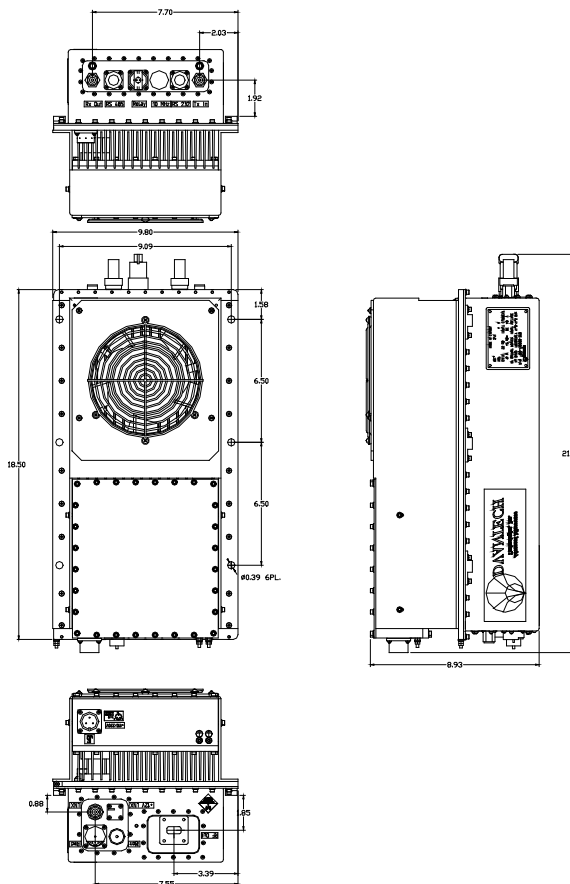
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000LX® is a family of hub-mount transceivers operating in the X-band with an output power ranging from 20W to 250W. 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-LX® series for up to 800W.

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-3000LX® is designed to operate in the X-band with L-Band Tx and Rx interface. The unit is self-contained and is intended for mounting outdoors, close to the OMT of an antenna.



Options

- Phase-locked LNB
- TX or RX Reject Filter
- 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-3000LX® 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.

X-Band Transceiver L-Band IF Interface

Technical Specifications

Transmit Path											
Power	20W	25W	30W	40W	50W	60W	80W	100W	150W	200W	250W
P1dB min. (dBm)	42	43	44	45	46	47	48	49	51	52	53
Gain min @ max. gain set (dB)	63	64	65	66	67	68	69	70	72	73	74
Power Consumption	150	200	250	300	400	500	800	1000	1100	1200	1300
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											
L-Band Input					RF Output						
Frequency range	950 – 1450 MHz				Frequency range (Non-inverting)			7.9 - 8.4 GHz			
Input Connector	Type N female				Output connector			CPR 112			
Input Return Loss	18 dB / 50 Ω				Output Return			20dB (18 dB for coaxial output)			
					Third order IMD (2 tones 5 MHz apart)			-25 dBc max at 3dB total back-off from rated P1dB			
Gain Specification					Spurious			-55 dBc max at rated power			
Gain control range	20 dB (0.1 dB step size)				Noise Power Density			-70 dBm/Hz max in TX band			
Gain flatness	3.0 dB p-p max							-110 dBm/Hz max in 7.25 – 7.75 GHz in RX band			
Gain stability	3.0 dB p-p max over temp range										
Receive Path											
RF Input					LNA Parameters						
RF Input Frequency	7.25 - 7.75 GHz				Noise Temperature			55°K without input isolator			
RF Input Interface	CPR-112							65°K with input isolator			
Input VSWR	2.5:1				Output Interface			Type N female 50 Ω			
	1.3:1 with input isolator				Gain			60 dB			
L-Band Output					DC power			12÷18V DC (via coaxial cable)			
Frequency range	950 – 1450 MHz 950 – 1700 MHz (optional)										
Output P1dB min	+10 dBm				LNB Parameters (optional)						
Output Connector	Type N female / 50 Ω				LNB type			Phase lock to 10 MHz ref. (from Transceiver via coax. cable)			
Output Return Loss	18 dB/ 50 Ω										
Gain Specification					Noise Temperature			90°K			
Gain (LNB+ Receiver)	80 dB @ max gain set				L-band Output Frequency			950-1450 MHz			
Gain control range	20 dB (0.1 dB step size)				L-band Output Interface			Type N female 50 Ω			
Gain flatness	±2.5 dB max over full RF band				Conversion Gain			60 dB			
Gain stability	±3.0 dB max over temp range				DC power			12÷18V DC (via coaxial cable)			
Spurious	-55 dBc max										
Image Rejection	50 dB										
Common Parameters (Tx & Rx)											
Frequency Stability					Environmental						
± 2 x 10 ⁻⁸ over 0°C to +50°C		± 2 x 10 ⁻¹⁰ / day			Cooling			Forced Air			
Aging		± 5 x 10 ⁻⁸ / year			Operational			-30°C to +55°C standard (-40°C to +55°C option)			
Phase Noise	(With internal 10MHz reference)				Storage			-55°C to +85°C			
Offset frequency	Phase noise (max)				Humidity			Up to 100% condensing			
100 Hz	-65 dBc/Hz				Altitude			3,000 m AMSL (derated 2°C/300m)			
1000 Hz	-73 dBc/Hz										
10 KHz	-83 dBc/Hz										
100 KHz	-100 dBc/Hz										
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		MS3112E16-26P									
					Mechanical						
Discrete Port		MS3112E12-10P			Packaging			Weatherproof for outdoor use			

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Ref.: PB-AWMT2000-LX-20-250-13150