



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

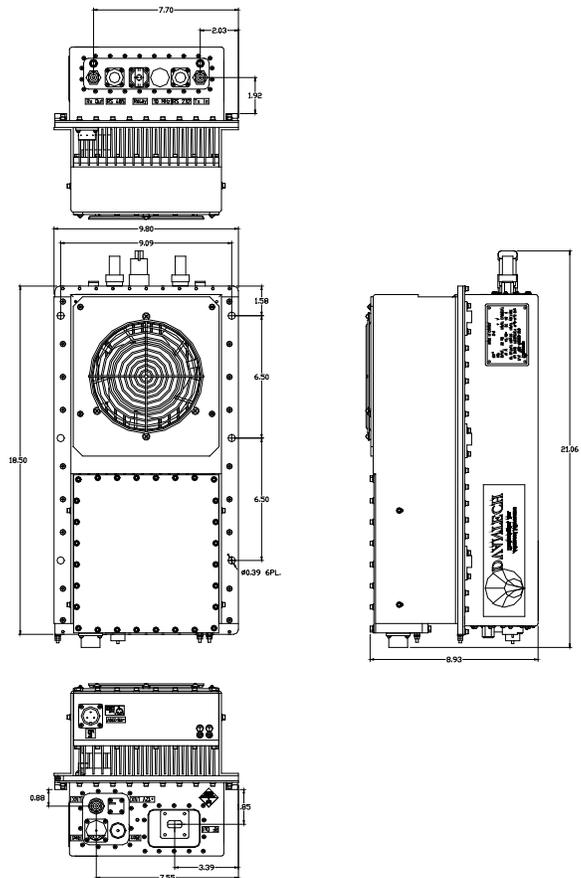
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

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				
						DC power	12÷18V DC (via coaxial cable)				
L-Band Output											
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					Noise Temperature	90°K				
Gain Specification						L-band Output Frequency	950-1450 MHz				
Gain (LNB+ Receiver)	75 dB @ max gain set					L-band Output Interface	Type N female 50 Ω				
Gain control range	20 dB (0.1 dB step size)					Conversion Gain	60 dB				
Gain flatness	±2.5 dB max over full RF band					DC power	12÷18V DC (via coaxial cable)				
Gain stability	±3.0 dB max over temp range										
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										
Discrete Port	MS3112E12-10P					Mechanical					
						Packaging	Weatherproof for outdoor use				

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