



2W to 10W  
AWMT-1000LX® 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

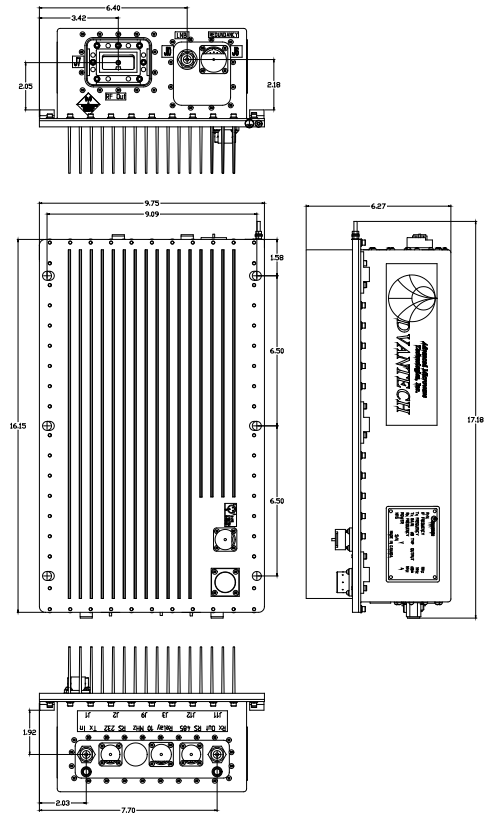
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-1000LX® is a family of hub-mount transceivers operating in the X-band with an output power ranging from 2W to 10W. 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 400W.

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-1000LX® 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-1000LX® 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			
<b>Transmit Path</b>			
Power	<b>2W</b>	<b>5W</b>	<b>10W</b>
P1dB min. (dBm)	33	37	40
Gain min @ max. gain set (dB)	54	58	61
Power Consumption	70	100	150
Unit Weight	55 lbs (25 kg)		
Dimensions (L x W x H)	16.15" x 9.75" x 9.16" (41.02 x 24.77 x 23.27 cm)		
<b>Transmit Path</b>			
<b>L-Band Input</b>		<b>RF Output</b>	
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)
<b>Gain Specification</b>		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	-55 dBc max at rated power
Gain flatness	3.0 dB p-p max	Noise Power Density	-70 dBm/Hz max in TX band -110 dBm/Hz max in 7.25 – 7.75 GHz in RX band
Gain stability	3.0 dB p-p max over temp range		
<b>Receive Path</b>			
<b>RF Input</b>		<b>LNA Parameters</b>	
RF Input Frequency	7.25 - 7.75 GHz	Noise Temperature	55°K without input isolator 65°K with input isolator
RF Input Interface	CPR-112	Output Interface	Type N female 50 Ω
Input VSWR	2.5:1 1.3:1 with input isolator	Gain	60 dB
<b>L-Band Output</b>		DC power	12÷18V DC (via coaxial cable)
Frequency range	950 – 1450 MHz 950 – 1700 MHz (optional)	<b>LNB Parameters (optional)</b>	
Output P1dB	+10 dBm	LNB type	Phase lock to 10 MHz ref. (from Transceiver via coax. cable)
Output Connector	Type N female / 50 Ω	Noise Temperature	90°K
Output Return Loss	18 dB/ 50 Ω	L-band Output Frequency	950-1450 MHz
<b>Gain Specification</b>		L-band Output Interface	Type N female 50 Ω
Gain (LNB+ Receiver)	80 dB @ max gain set	Conversion Gain	60 dB
Gain control range	20 dB (0.1 dB step size)	DC power	12÷18V DC (via coaxial cable)
Gain flatness	±2.5 dB max over full RF band		
Gain stability	3.0 dB max over temp range		
Spurious	-55 dBc max		
Image Rejection	50 dB		
<b>Common Parameters (Tx &amp; Rx)</b>			
<b>Frequency Stability</b>		<b>Environmental</b>	
± 2 x 10 <sup>-8</sup> over 0°C to +50°C	± 2 x 10 <sup>-10</sup> / day	Cooling	Forced Air
Aging	± 5 x 10 <sup>-8</sup> / year	Operational	-30°C to +55°C standard (-40°C to +55°C option)
<b>Phase Noise</b> (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		
<b>Monitor &amp; Control</b>		<b>Power Requirements</b>	
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	MS3102R10SL-3P
Redundancy Port	MS3112E16-26P		
Discrete Port	MS3112E12-10P	<b>Mechanical</b>	
		Packaging	Weatherproof for outdoor use

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