

# C-Band Transceiver L-Band IF Interface

80W to 250W  
AWMT-3000LC™ series



## Features

- 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

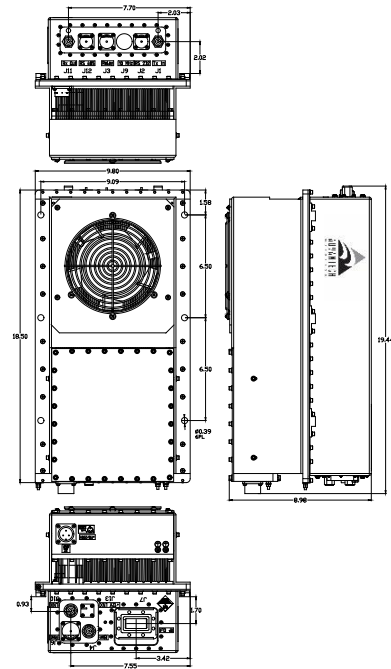
The Advantech Wireless range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000LC is a family of hub-mount transceivers operating in the C-band from 80W 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- LC series for up to 1000W.

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-3000LC is designed to operate in the C-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 C-Band (5.85 – 6.725 GHz)
- LNA operation
- Remote M&C panel (Ethernet port optional)
- External 10 MHz reference with auto sensing
- 48 VDC main power on separate connector

## 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-3000LCTM 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.

## C-Band Transceiver L-Band IF Interface

Technical Specifications						
Transmit Path						
Model	80W	100W	125W	150W	200W	250W
P1dB min. (dBm)	48	49	50	51	52	53
Gain min @ max. gain set (dB)	69	70	71	72	73	74
Power Consumption (W)	700	900	1100	1300	1400	1500
Unit Weight	32 kg (70 lbs)					
Dimensions (L x W x H)	18.50" x 9.80" x 9.21" (46.99 x 24.89 x 23.39 cm)					
Transmit Path						
L-Band Input			RF Output			
Frequency range	950-1525 MHz		Frequency range (Non-inverting)	5.850 – 6.425 GHz		
Input Connector	Type N female			6.425 – 6.725 GHz		
Input Return Loss	18 dB / 50 Ω			6.725 – 7.025 GHz		
			Output connector	CPR 137G (N-Type option up to 100 W)		
Gain Specification			Output Return Loss	20 dB (18 dB for coaxial output)		
Gain control range	20 dB (0.1 dB step size)		Third order IMD (2 tones 5 MHz apart)	-26 dBc max at 3dB total back-off from rated P1dB		
Gain flatness	2.0 dB p-p max					
Gain stability	3.0 dB p-p max over temp. range		Spurious	-55 dBc max at rated power		
			Noise Power Density	-70 dBm/Hz max in TX band -155 dBm/Hz max in 3.4 – 4.2 GHz		
Receive Path						
RF Input			LNB Parameters			
RF Input Frequency	3.4 – 4.2 GHz 4.2 – 4.5 GHz (CI)		LNB type	Phase lock to 10 MHz ref. (from Transceiver via coax. cable)		
RF Input Interface	CPR-229G		Noise Temperature	25°K		
Input VSWR	2.5:1		L-band Output Frequency	950-1750 MHz		
L-band Output			L-band Output Interface	Type N female 50 Ω		
Frequency range	950 – 1750 MHz		Conversion Gain	60 dB		
Output P1dB min	+5 dBm		DC power	12±18V DC (via coaxial cable)		
Output Connector	Type N female / 50 Ω					
Output Return Loss	18 dB/ 50 Ω		LNA Parameters (optional)			
Gain Specification			Noise Temperature	35°K (30°K optional)		
Gain (LNB + Receiver)	80 dB @ max gain set		Output Interface	Type N female 50 Ω		
Gain control range	20 dB (0.1 dB step size)		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					

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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
<b>Phase Noise</b>	<i>(With internal 10MHz reference)</i>		(-40°C to +55°C option)
Offset frequency	Phase noise (max)	Storage	-55°C to +85°C
100 Hz	-60 dBc/Hz -65 dBc/Hz typical	Humidity	Up to 100% condensing
1000 Hz	-70 dBc/Hz -73 dBc/Hz typical	Altitude	3,000 m AMSL (derated 2°C/300m)
10 KHz	-80 dBc/Hz -85 dBc/Hz typical	<b>Power Requirements</b>	
100 KHz	-90 dBc/Hz -95 dBc/Hz typical	AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
<b>Monitor &amp; Control</b>		AC Connector	MS3102R16-10P
Serial port (RS-485)	MS3112E10-6P	<b>Mechanical</b>	
Serial port (RS-232)	MS3112E10-6P	Packaging	Weatherproof for outdoor use
Redundancy Port	MS3112E16-26P		
Discrete Port	MS3112E12-10P		

Ref.: PB-AWMT3000-LC-80-250-18226

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