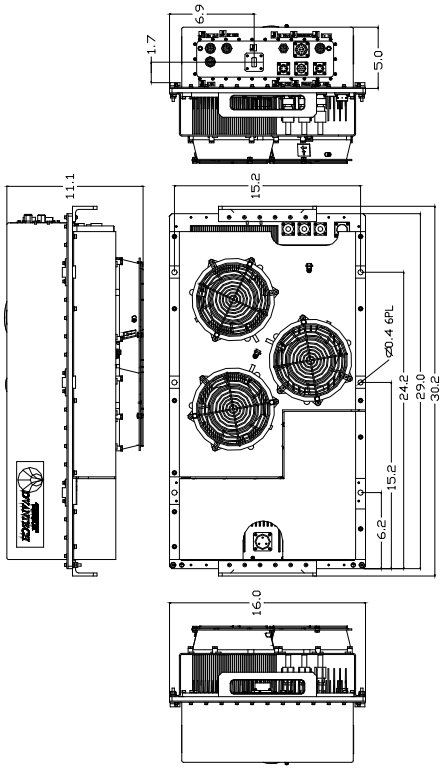
C-Band Transceiver
L-Band IF Interface

300W to 500W
AWMT-4000LC® 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 and 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 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-4000LC® is a family of hub-mount transceivers operating in the C-band from 300W to 500W. 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.

Application

The AWMT-4000LC® 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

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-4000LC® 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.

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Technical Specifications

Transmit Path				
Model	**300W**	**350W**	**400W**	**500W**
P1dB min. (dBm)	54	54.5	55	56
Gain min @ max. gain set (dB)	75	76	76	77
Power Consumption	1700	2000	2200	2700
Unit Weight	58 Kg (128lbs)			
Dimensions (L x W x H)	30.00” x 16.00” x 11.00” (76.20 x 40.60 x 28.00 cm)			

Transmit Path			
L-Band Input		**RF Output**	
Frequency range	950-1525 MHz	Frequency range (Non-inverting)	5.850 – 6.425 GHz 6.425 – 6.725 GHz 6.725 – 7.025 GHz
Input Connector	Type N female		
Input Return Loss	18 dB / 50 Ω		
		Output connector	CPR 137G
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 dB max	Spurious	-55 dBc max at rated power
Gain stability	3.0 dB p-p max over temp. range	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	950 – 1750 MHz	L-band Output Interface	Type N female 50 Ω
Frequency range	+5 dBm	Conversion Gain	60 dB
Output P1dB min	Type N female / 50 Ω	DC power	12÷18V DC (via coaxial cable)
Output Connector	18 dB/ 50 Ω		
Output Return Loss		**LNA Parameters *(optional)***	
		Noise Temperature	35°K (30°K optional)
Gain Specification		Output Interface	Type N female 50 Ω
Gain (LNB + Receiver)	75 dB @ max gain set	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		

Common Parameters (Tx & Rx)			
Frequency Stability		**Environmental**	
-40°C to +55°C	±2 x 10^{-8}	Cooling	Forced Air
Aging	±1 x 10^{-7}/year	Operational	-30°C to +55°C standard (-40°C to +55°C option)
Phase Noise	(*With internal 10MHz reference)*		
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		
100 KHz	-90 dBc/Hz -95 dBc/Hz typical	**Power Requirements**	
Monitor & Control		AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
Serial port (RS-485)	MS3112E10-6P		
Serial port (RS-232)	MS3112E10-6P	AC Connector	MS3102R20-19P
Redundancy Port	MS3112E16-26P	**Mechanical**	
Discrete Port	MS3112E12-10P	Packaging	Weatherproof for outdoor use

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Ref.: PB-AWMT4000-LC-300-500-11045