



16W 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

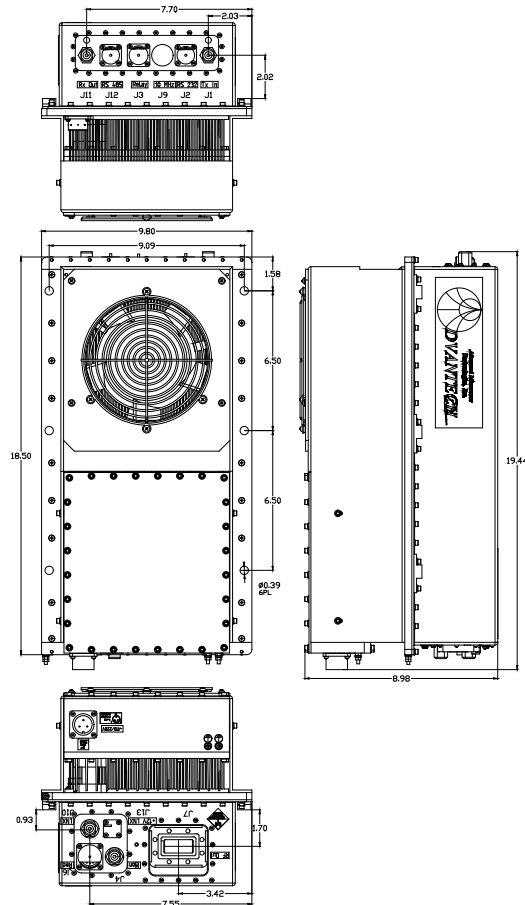
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000LC™ is a family of hub-mount transceivers operating in the C-band from 16W 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 500W.

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-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-3000LC™ 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	16W	20W	25W	30W	40W	50W	60W	80W	100W	125W	150W	200W	250W
P1dB min. (dBm)	41	42	43	44	45	46	47	48	49	50	51	52	53
Gain min @ max. gain set (dB)	62	63	64	65	66	67	68	69	70	71	72	73	74
Power Consumption	145	170	200	300	350	400	500	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

Frequency range	950-1525 MHz
Input Connector	Type N female
Input Return Loss	18 dB / 50 Ω

RF Output

Frequency range (Non-inverting)	5.850 – 6.425 GHz 6.425 – 6.725 GHz 6.725 – 7.025 GHz
Output connector	CPR 137G (N-Type option up to 100 W)
Output Return Loss	20 dB (18 dB for coaxial output)
Third order IMD (2 tones 5 MHz apart)	-26 dBc max at 3dB total back-off from rated P1dB
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

Gain Specification

Gain control range	20 dB (0.1 dB step size)
Gain flatness	2.0 dB p-p max
Gain stability	3.0 dB p-p max over temp. range

Receive Path

RF Input

RF Input Frequency	3.4 – 4.2 GHz 4.2 – 4.5 GHz (CI)
RF Input Interface	CPR-229G
Input VSWR	2.5:1

LNB Parameters

LNB type	Phase lock to 10 MHz ref. (from Transceiver via coax. cable)
Noise Temperature	25°K
L-band Output Frequency	950-1750 MHz
L-band Output Interface	Type N female 50 Ω
Conversion Gain	60 dB
DC power	12÷18V DC (via coaxial cable)

L-band Output

Frequency range	950 – 1750 MHz
Output P1dB min	+5 dBm
Output Connector	Type N female / 50 Ω
Output Return Loss	18 dB/ 50 Ω

LNA Parameters (optional)

Noise Temperature	35°K (30°K optional)
Output Interface	Type N female 50 Ω
Gain	60 dB
DC power	12÷18V DC (via coaxial cable)

Gain Specification	
Gain (LNB + Receiver)	80 dB @ max gain set
Gain control range	20 dB (0.1 dB step size)
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

± 2 x 10 ⁻⁸ over 0°C to +50°C	± 2 x 10 ⁻¹⁰ / day
Aging	± 5 x 10 ⁻⁸ / year

Phase Noise

	(With internal 10MHz reference)
Offset frequency	Phase noise (max)
100 Hz	-60 dBc/Hz -65 dBc/Hz typical
1000 Hz	-70 dBc/Hz -73 dBc/Hz typical
10 KHz	-80 dBc/Hz -85 dBc/Hz typical
100 KHz	-90 dBc/Hz -95 dBc/Hz typical

Environmental

Cooling	Forced Air
Operational	-30°C to +55°C standard (-40°C to +55°C option)
Storage	-55°C to +85°C
Humidity	Up to 100% condensing
Altitude	3,000 m AMSL (derated 2°C/300m)

Power Requirements

AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
AC Connector	MS3102R16-10P

Monitor & Control

Serial port (RS-485)	MS3112E10-6P
Serial port (RS-232)	MS3112E10-6P
Redundancy Port	MS3112E16-26P
Discrete Port	MS3112E12-10P

Mechanical

Packaging	Weatherproof for outdoor use
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