Advantech Wireless

C-Band Transceiver

300W to 500W
AWMT-4000C® series

Features

- 70 or 140 MHz 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

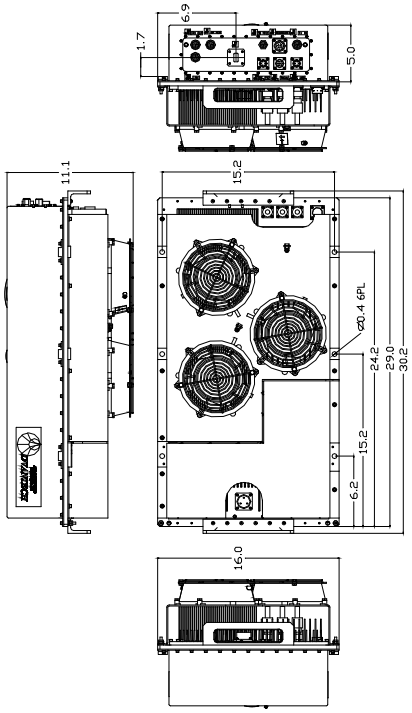
The Advantech range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-4000C® 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-C® 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-4000C® is designed to operate in the C-band with 70 MHz or 140 MHz IF 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)
- Additional L band interface
- LNA operation
- Step Size 125 KHz option
- 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-4000C® 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.

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 (128 lbs)			
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	70 ± 18 MHz (140 ± 36 MHz optional)	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 (N-Type option up to 150 W)
		Output Return Loss	20 dB
Gain Specification		Third order IMD (2 tones 5 MHz apart)	-26 dBc max at 3dB total back-off from rated P1dB
Gain control range	20 dB (0.1 dB step size)		
Gain flatness	3.0 dB p-p max over 36 MHz	Spurious (in band)	-55 dBc max
Gain stability	3.0 dB p-p max over temp range	Noise Power Density	-70 dBm/Hz max in TX band
			-155 dBm/Hz in max 3.4 – 4.2 GHz in RX band

Receive Path

RF Input		**Gain Specification**	
RF Input Frequency	3.625 – 4.2 GHz 3.400 – 3.700 GHz (CP) 4.5 – 4.8 GHz (CI)	Gain (LNB + Receiver)	75 dB @ max gain set
		Gain control range	20 dB (0.1 dB step size)
		Gain flatness	±3.0 dB max over full RF band
RF Input Interface	CPR-229G	Gain stability	3.0 dB p-p max over temp. range
Input VSWR	2.5:1	Spurious	-55 dBc
		Image Rejection	50 dB
IF Output		**LNB Parameters**	
Frequency range	70 ± 18 MHz (140 ± 36 MHz optional)	LNB type	Phase lock to 10 MHz ref. (from Transceiver via coax. cable)
Output Level	+5 dBm	Noise Temperature	25°K
Output Connector	Type N female / 50 Ω	L-band Output Frequency	950-1750 MHz
Output Return Loss	18 dB/50 Ω	L-band Output Interface	Type N female 50 Ω
		Conversion Gain	60 dB
		DC power	12÷18V DC (via coaxial cable)
		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)

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	220 VAC (47-63 Hz)
Serial port (RS-485)	MS3112E10-6P	AC Connector	MS3102R20-19P
Serial port (RS-232)	MS3112E10-6P	**Mechanical**	
Redundancy Port	MS3112E16-26P	Packaging	Weatherproof for outdoor use
Discrete Port	MS3112E12-10P		

NORTH AMERICA
USA
Tel: + 1 703 788-6882
Fax: +1 703 788-6511
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420-0045
Fax: +1 514 420-0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 967 1859
Fax: +7 495 967 30 24
info.russia@advantechwireless.com

SOUTH AMERICA
BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 5041 4026
info.brazil@advantechwireless.com

An ISO 9001 : 2008 Company

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