

C-Band Transceiver

80W to 250W
AWMT-3000C™ 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

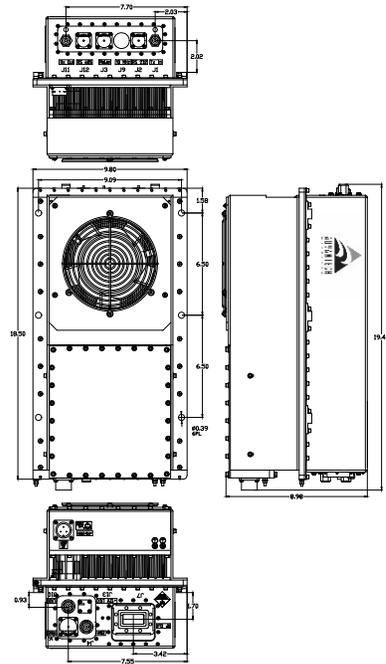
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-3000C 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-C series for up to 1,000W.

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. Control, using the Graphic User Interface (GUI) or the Monitor & Control Panel.

Applications

The AWMT-3000C 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-3000C 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

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						
IF 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		Output connector	CPR 137G (N-Type option up to 150 W)		
Input Return Loss	18 dB / 50 Ω		Output Return Loss	20dB (18 dB for coaxial cable)		
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)		Spurious (in band)	-55 dBc max		
Gain flatness	3.0 dB p-p max over 36 MHz		Noise Power Density	-70 dBm/Hz max in TX band -155 dBm/Hz max in 3.4 – 4.2 GHz in RX band		
Gain stability						
Receive Path						
RF Input			Gain Specification			
RF Input Frequency	3.4 – 4.2 GHz 4.2 – 4.5 GHz (CI)		Gain (LNB + Receiver)	80 dB @ max gain set		
RF Input Interface	CPR-229G		Gain control range	20 dB (0.1 dB step size)		
Input VSWR	2.5:1		Gain flatness	±2.5 dB max over full RF band		
			Gain stability	±3.0 dB max over temp. range		
			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	35°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)		

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LNA Parameters (optional)			
Noise Temperature	35°K (30°K optional)	Gain	60 dB
Output Interface	Type N female 50 Ω	DC power	12÷18V DC (via coaxial cable)
Common Parameters (Tx & Rx)			
Frequency Stability		Environmental	
± 2 x 10 ⁻⁸ over 0°C to +50°C	± 2 x 10 ⁻¹⁰ / day	Cooling	Forced Air
Aging	± 5 x 10 ⁻⁸ / year	Operational	-30°C to +55°C standard (-40°C to +55°C option)
Phase Noise (With internal 10MHz reference)		Storage	-55°C to +85°C
Offset frequency	Phase noise (max)	Humidity	Up to 100% condensing
100 Hz	-60 dBc/Hz -65 dBc/Hz typical	Altitude	3,000 m AMSL (derated 2°C/300m)
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	Power Requirements	
Monitor & Control		AC input voltage	Auto ranging 110/220±15% (47-63 Hz)
Serial port (RS-485)	MS3112E10-6P	AC Connector	MS3102R16-10P
Serial port (RS-232)	MS3112E10-6P	Mechanical	
Redundancy Port	MS3112E16-26P	Packaging	Weatherproof for outdoor use
Discrete Port	MS3112E12-10P		

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

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