



16W 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

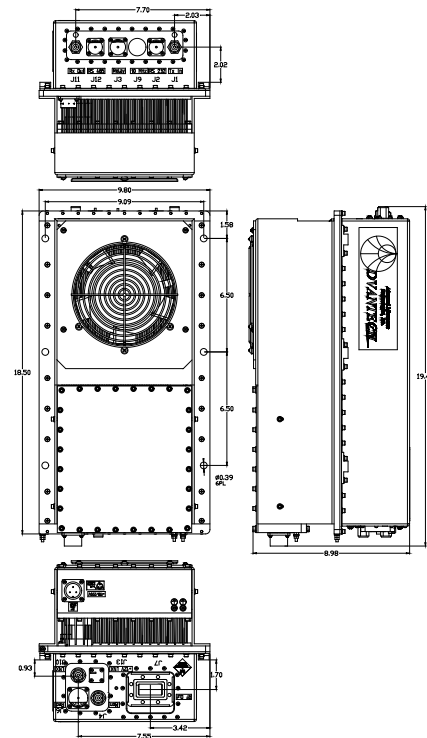
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

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

Application

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.

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													
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				
						Spurious (in band)			-55 dBc max				
						Noise Power Density			-70 dBm/Hz max in TX band -155 dBm/Hz max in 3.4 – 4.2 GHz in RX band				
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)				
						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							
± 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											

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