



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

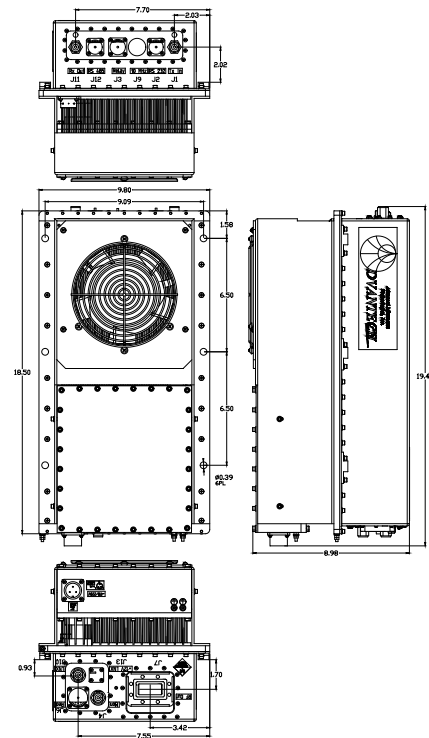
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

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.

# C-Band Transceiver

## Technical Specifications

Transmit Path													
Model	<b>16W</b>	<b>20W</b>	<b>25W</b>	<b>30W</b>	<b>40W</b>	<b>50W</b>	<b>60W</b>	<b>80W</b>	<b>100W</b>	<b>125W</b>	<b>150W</b>	<b>200W</b>	<b>250W</b>
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					
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)	75 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 <sup>-8</sup> over 0°C to +50°C			± 2 x 10 <sup>-10</sup> / day				Cooling	Forced Air					
Aging			± 5 x 10 <sup>-8</sup> / 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										
Monitor & Control							Power Requirements						
Serial port (RS-485)	MS3112E10-6P						AC input voltage	Auto ranging 110/220±15% (47-63 Hz)					
Serial port (RS-232)	MS3112E10-6P						AC Connector	MS3102R16-10P					
Redundancy Port	MS3112E16-26P						Mechanical						
Discrete Port	MS3112E12-10P						Packaging	Weatherproof for outdoor use					

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