



C-BAND TRANSCEIVER 16 W TO 200 W L-BAND INTERFACE AWMT-3000CL® 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

OPTIONS

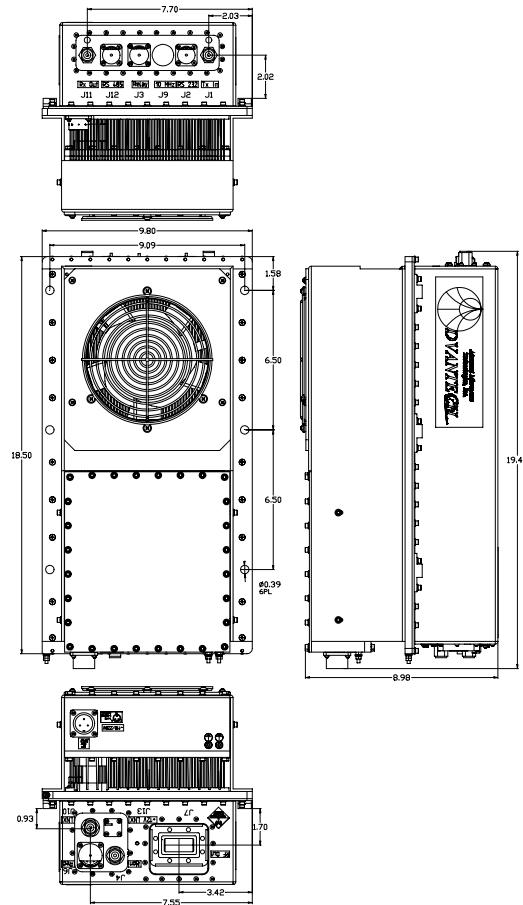
- Extended C-Band (5.85 – 6.725 GHz)
- LNA operation
- Remote M&C panel (Ethernet port optional)
- External 10 MHz reference with auto sensing

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-3000CL® is a family of hub-mount transceivers operating in the C-band from 16W to 200W. 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-CL® 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-3000CL® 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.

REDUNDANCY

The AWMT-3000CL® 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.

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



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| Transmit Path | | | | | | | | | | | | |
|--|---|-----|-----|--|---|-----|-----|-----|------|------|------|------|
| Model | 16W | 20W | 25W | 30W | 40W | 50W | 60W | 80W | 100W | 125W | 150W | 200W |
| P1dB min. (dBm) | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| Gain min @ max. gain set (dB) | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 74 |
| Power Consumption | 145 | 170 | 200 | 300 | 350 | 400 | 500 | 700 | 900 | 1100 | 1300 | 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 | | | | RF Output | | | | | | | | |
| Frequency range | 950-1525 MHz | | | Frequency range | 5.850 – 6.425 GHz | | | | | | | |
| Input Connector | Type N female | | | (Non-inverting) | 6.425 – 6.725 GHz | | | | | | | |
| Input Return Loss | 18 dB / 50 Ω | | | Output connector | CPR 137G (N-Type option up to 100 W) | | | | | | | |
| Gain Specification | | | | Output Return Loss | 20 dB (18 dB for coaxial output) | | | | | | | |
| Gain control range | 20 dB (0.1 dB step size) | | | Third order IMD (2 tones 5 MHz apart) | -26 dBc max at 3dB total back-off from rated P1dB | | | | | | | |
| Gain flatness | 2.0 dB p-p max | | | Spurious | -55 dBc max at rated power | | | | | | | |
| Gain stability | 3.0 dB p-p max over temp. range | | | Noise Power Density | -70 dBm/Hz max in TX band -155 dBm/Hz max in 3.4 – 4.2 GHz | | | | | | | |
| Receive Path | | | | | | | | | | | | |
| RF Input | | | | LNB Parameters | | | | | | | | |
| RF Input Frequency | 3.4 – 4.2 GHz 4.2 – 4.5 GHz (CI) | | | LNB type | Phase lock to 10 MHz ref. (from Transceiver via coax. cable) | | | | | | | |
| RF Input Interface | CPR-229G | | | Noise Temperature | 35°K | | | | | | | |
| Input VSWR | 2.5:1 | | | L-band Output Frequency | 950-1750 MHz | | | | | | | |
| L-band Output | | | | L-band Output Interface | Type N female 50 Ω | | | | | | | |
| Frequency range | 950 – 1750 MHz | | | Conversion Gain | 60 dB | | | | | | | |
| Output P1dB min | +5 dBm | | | DC power | 12±18V DC (via coaxial cable) | | | | | | | |
| Output Connector | Type N female / 50 Ω | | | LNA Parameters (optional) | | | | | | | | |
| Output Return Loss | 18 dB / 50 Ω | | | Noise Temperature | 35°K (30°K optional) | | | | | | | |
| Gain Specification | | | | Output Interface | Type N female 50 Ω | | | | | | | |
| Gain (LNB + Receiver) | 80 dB @ max gain set | | | Gain | 60 dB | | | | | | | |
| Gain control range | 20 dB (0.1 dB step size) | | | DC power | 12±18V DC (via coaxial cable) | | | | | | | |
| 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) | | | | | | | | | | | | |
| Synthesizer step size | 1 MHz (option 125 KHz) | | | | | | | | | | | |
| Frequency Stability | -40°C to +55°C ±2 x 10 ⁻⁸ | | | | | | | | | | | |
| Aging | ±1 x 10 ⁻⁷ /year | | | | | | | | | | | |
| Phase Noise | <i>(With internal 10MHz reference)</i> | | | | | | | | | | | |
| 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 | | | | | | | | |
| Monitor & Control | | | | Environmental | | | | | | | | |
| Serial port (RS-485) | MS3112E10-6P | | | Cooling | Forced Air | | | | | | | |
| Serial port (RS-232) | MS3112E10-6P | | | Operational | -30°C to +55°C standard (-40°C to +55°C option) | | | | | | | |
| Redundancy Port | MS3112E16-26P | | | Storage | -55°C to +85°C | | | | | | | |
| Discrete Port | MS3112E12-10P | | | 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 | | | | | | | |
| | | | | Mechanical | | | | | | | | |
| | | | | Packaging | Weatherproof for outdoor use | | | | | | | |

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