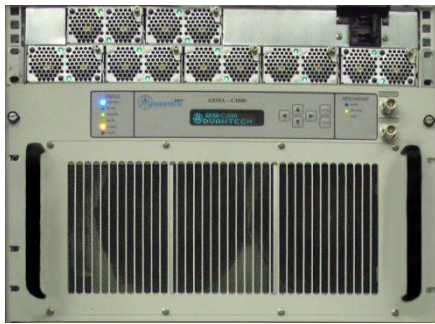# Advantech Wireless

*1250W*
*ARMA-C* 1250





## Features

- Remote Monitor & Control
- High gain and linearity
- Output power 1250W
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
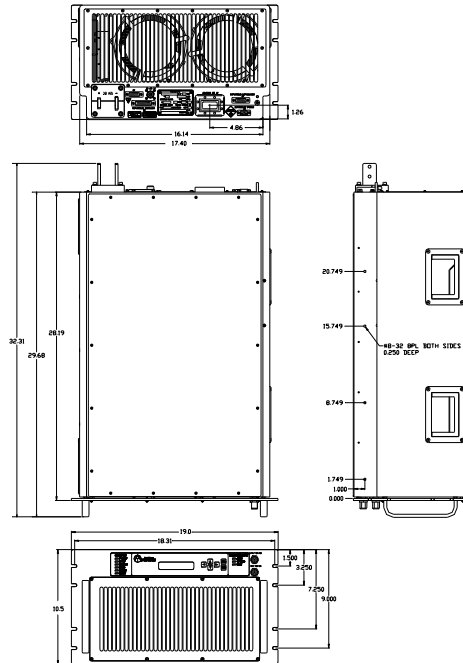- Power factor correction
- CE Marking

## Overview

The ARMA-C1250® is a rack-mount solid-state power amplifier (SSPAs), operating in C-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for indoor operation, the amplifiers are of compact size and occupy three rack-mounting spaces (8 RU – 14") of a standard 19-inch rack. Built-in microprocessor controller provides capability for serial port interfaces (RS485) for remote monitoring and control.

Advantech's SSPAs set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

## APPLICATION

The featured SSPAs are designed for C-Band satellite up-link applications. They are designed for 19-inch rack mounting in a protected environment. The ARMA-C series are available in output power from 20W to 1250W. For higher power Advantech provides phase-combined systems.

Other SSPAs are available for operation at other satellite frequency bands. With all the features of the ARMA-C, Advantech also offers a built-in converter.

## Options

- Integrated Block Up Converter
- RF input sample port
- Redundant system

## Accessories

- Redundancy Kit
- Shelf slides
- Remote M&C panel (Ethernet port optional)

## Redundancy

With the addition of the appropriate waveguide and switch kit, theARMA-C1250®amplifiers can be easily converted for the operation in 1:1 redundant configuration without the use of any external controller. Full remote Monitor and Control of the redundant system is accessible via the serial port (RS-485).

# C-Band Rack-mount SSPA ARMA-C-1250

| TECHNICAL SPECIFICATIONS | | 1250W | |
|---|---|---|---|
| **Electrical Characteristics** | | | |
| Availability in this series | | | |
| CS | | √ | |
| Output power (Psat) | | +61 dBm | |
| Output power (P1dB) | | +60 dBm | |
| Power gain @ maximum gain setting | | 70 dB min | |
| Operating frequency range | | 5.850 – 6.425 GHz | |
| Max input power without damage | | +10 dBm | |
| Gain slope | | 0.6 dB max over 40 MHz | |
| Gain flatness over 600MHz | | ±1.0 dB | |
| Gain variation over temperature | | ±1.5 dB over full operating temperature range | |
| Gain variation over 24 hours | | ±0.25 dB max @ constant temperature & drive level | |
| Gain adjustment range | | 20 dB min. (0.1 dB resolution) | |
| Input return loss | | 18 dB | |
| Output return loss | | 19 dB | |
| Noise power density | | -70 dBm/Hz max in TX band<br>-150 dBm/Hz max in 3.4 –4.2 GHz RX band | |
| Spurious at rated power | | -65 dBc, max | |
| Harmonics at rated power | | -60 dBc, max | |
| AM/PM conversion at rated power | | 2.5°/dB max. at P1dB,<br>1°/dB max. at 3 dB back-off | |
| Third order IMD (2 tones 5 MHz apart) | | -26 dBc max. at 3 dB total back-off from rated P1dB | |
| Group delay | | Linear: 0.02 nsec/MHz max.<br>Parabolic: 0.003 nsec/MHz$^2$ max.<br>Ripple: 1.0 nsec p-p max. | |
| Residual AM<br>(F* - frequency in kHz) | | 0-10 kHz<br>10 kHz - 500 kHz<br>500 kHz - 1 MHz | -45 dBc<br>-20 (1.25+log F*) dBc<br>-80 dBc |
| **Power Requirements** | | | |
| AC input voltage | | 220 VAC | |
| Power consumption (nominal) | | 6000W | |
| **Mechanical Characteristics** | | | |
| Panel height<br>Weight | | 8 RU of 19" rack (6 RU amplifier + 2 RU power supply unit)<br>90 kg (198 lbs) | |
| Interfaces: | RF input N-Type (F)<br>RF output CPR-137 contact<br>(for CL series – CPR187) | Redundancy D-sub 15S<br>RS-485 D-sub 9S<br>Discrete port D-sub 25S | AC Line IEC 309 inlet<br>Output sample port N-Type (F) |
| **Environmental Conditions** | | | |
| Operating temperature:<br>Humidity<br>Altitude | | 0°C to +50°C<br>5%-95%, non-condensing<br>10,000' AMSL, de-rated 2°C/1,000' from AMSL | |