



## 4000SP1z2G1z4

- 4000 Watts Pulse
- 1.2GHz–1.4GHz

### Features

The Model 4000SP1z2G1z4 is a self-contained, forced-air-cooled, broadband solid-state microwave amplifier designed for pulse applications at low duty factors where instantaneous bandwidth and high gain are required. The unit provides a conservative 4000 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at the fundamental frequency.

The Model 4000SP1z2G1z4 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a color LCD touch screen and a single rotary knob to offer status reporting and control capability. The display provides Forward Power and Reflected Power values plus amplifier status. Special features include a gain control and RF output level protection.

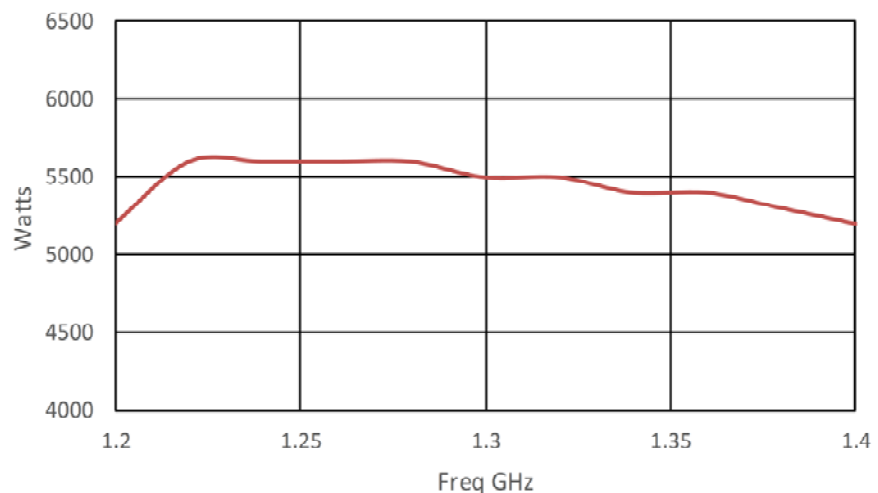
All amplifier control functions and status indications are available remotely in GPIB/IEEE-488

format, and Ethernet. The buss interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

Housed in a stylish contemporary cabinet, the amplifier provides readily available pulsed RF power for a variety of applications in Test and Measurement, (including EMC RF pulse susceptibility testing), Industrial and University Research and Development, and Service applications. AR also offers a broad range of amplifiers for CW (Continuous Wave) applications.

The export classification for this equipment is 3A999.d. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

4000SP1z2G1z4 Typical Power Output



AR RF/Microwave  
Instrumentation  
160 School House Rd  
Souderton, PA 18964  
215-723-8181

For an applications engineer call: 800.933.8181

[www.arworld.us](http://www.arworld.us)



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## Specifications

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**RATED POWER OUTPUT:** 4000 watts minimum

**INPUT FOR RATED OUTPUT:** 1.0 milliwatt maximum

**POWER OUTPUT @ 3dB COMPRESSION:** Nominal 4000 watts; Minimum 3600 watts

**POWER OUTPUT @ 1dB COMPRESSION:** Nominal 3200 watts; Minimum 2800 watts

**FLATNESS:**  $\pm 1.5$  dB typical;  $\pm 2.5$  dB maximum

**FREQUENCY RESPONSE:** 1.2–1.4 GHz instantaneously

**GAIN (at maximum setting):** 66 dB minimum

**GAIN ADJUSTMENT:** Continuous Range 20 dB minimum, (4096 steps remote)

**INPUT IMPEDANCE:** 50 ohms, VSWR 2.0:1 maximum

**OUTPUT IMPEDANCE:** 50 ohms, nominal

**MISMATCH TOLERANCE:** Output pulse width foldback protection at peak reflected power exceeding 2000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.

### PULSE CAPABILITY:

Pulse Width	0.07–40 microseconds
Pulse Rate (PRF)	50 kHz maximum
Duty Cycle	1% maximum
RF Rise and Fall	30 ns max (10% to 90%).
Delay	2 $\mu$ s maximum from pulse input to RF 90%
Pulse Width Distortion	$\pm 100$ ns maximum (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60 dB minimum
Pulse Input	TTL level, 50 ohm nominal termination

**NOISE FIGURE:** 15 dB typical

**HARMONIC DISTORTION:** Minus 30 dBc max at 2800 watts

**SPURIOUS:** Minus 60 dBc Typ.

**PRIMARY POWER:** 100-264 VAC, 50/60 Hz, single phase, 600 watts maximum

### CONNECTORS:

RF: See Model Configurations

RF output forward and reflected sample ports: Type N female, rear

PULSE INPUT: Type BNC female, rear

### REMOTE INTERFACES:

IEEE-488: 24 pin

Ethernet: RJ-45

**SAFETY INTERLOCK:** 15 pin Subminiature D

**COOLING:** Forced air (self contained fans)

**SIZE & WEIGHT:** See Model Configurations

**EXPORT CLASSIFICATION:** 3A999.d

## MODEL CONFIGURATIONS

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
4000SP1z2G1z4	N (f), front	7-16 DIN (f), front	50 kg (110 lbs)	50.3 x 29.5 x 80 cm, 19.8 x 11.6 x 31.5 in
4000SP1z2G1z4M1	N (f), rear	7-16 DIN (f), rear	50 kg (110 lbs)	50.3 x 29.5 x 80 cm, 19.8 x 11.6 x 31.5 in
4000SP1z2G1z4M2	Same as 4000SP1z2G1z4 with enclosure removed for rack mounting		45 kg (100 lbs)	48.3 x 26.5 (6U) x 80 cm, 19 x 10.43 (6U) x 31.5 in
4000SP1z2G1z4M3	Same as 4000SP1z2G1z4M1 with enclosure removed for rack mounting		45 kg (100 lbs)	48.3 x 26.5 (6U) x 80 cm, 19 x 10.43 (6U) x 31.5 in