



High Power Amplifier

Model:RPA-4G-8G-316

4-8GHz 316W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 4-8GHz
- High output power at saturation, 55dBm Min.
- High gain, 57dB Min.
- Operates from AC line power: 220V

Applications:

- Laboratory test instrument
- RF Power stress test
- EMI and antenna testing
- Reliability testing

Product Overview:

The RPA-4G-8G-316 is a high power, rack mount amplifier with a self-contained AC power supply which can be used for a wide variety of laboratory testing applications. This rugged amplifier is capable of amplifying signals up to 316W output power over its entire operating bandwidth of 4 to 8GHz. Built-in safety features include fans alarms and automatic shut down mechanism to prevent damage in the event of excessive internal temperatures. The amplifier's output stage is further protected in the event of a fault condition, allowing high power operation for up to 5 minutes into an open or short load (refer to the maximum input power specifications). And it has built-in protection functions included over TEM ($\geq +45^{\circ}\text{C}$ shutdown), over voltage ($\geq 29\text{V}$ shutdown), under voltage ($\leq 20\text{V}$ shutdown), input overdrive ($\geq 10\text{dBm}$ shutdown), load VSWR protection (The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB). It can also be remotely controlled via RS422 or LAN.



Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	4-8			GHz
Power Gain	GP	57			dB
Working Mode	MOD	CW			
Input Power	Pin	-2			dBm
Gain adjust Range	ΔGR	20			dB
Gain adjust Step	ΔGS		0.5		dB
Output Psat	Psat	55			dBm
Saturated output power flatness	ΔPsat			±2	dB
Output P1dB	P1dB		47		dBm
Spurious@Pout=55dBm	Spur			-60	dBc
Harmonics @Pout=55dBm	@4-4.5GHz	HAM		-15	dBc
	@4.5-8GHz			-20	
Input VSWR	VSWRin			1.25	:1
AC Voltage	Vac		220		V AC
Power Consumption@Pout=55dBm	Pdiss		2.7		KW
Power Consumption@Psat	Pdiss			3.5	KW
Impedance	I/O-IMP	50			Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20 to +40	°C
Non-operating Temperature*	-30 to +50	°C
Relative humidity	95	%
RF Input /Output Connector	N Female WRD350	
Forward/Reverse Coupling	N Female/N Female	
Communication Connector	Serial:RS422;Ethernet:RJ-45	
Front Panel LCD Screen Display	7 inch LCD Screen Display	
Digital Monitor & Control	Serial:RS422; LAN	Optional: GPIB
Cooling	Built in Cooling system,forced air cooling	
Altitude	3,000	feet



Mechanical Specifications:

Parameter	Value	Notes
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	19 Inch 5U	mm
Weight	≤40	Kg

*Note: For a wider temperature range, please consult the manufacturer.

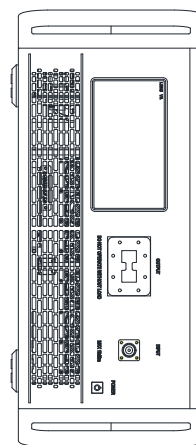
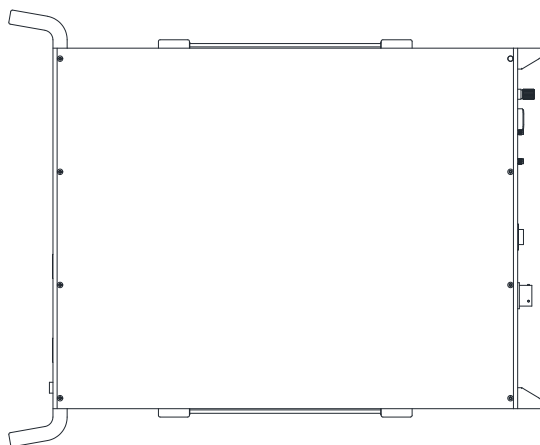
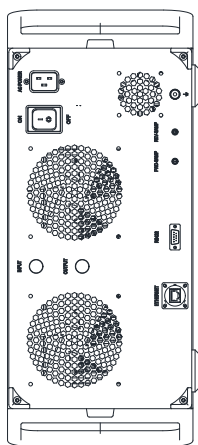
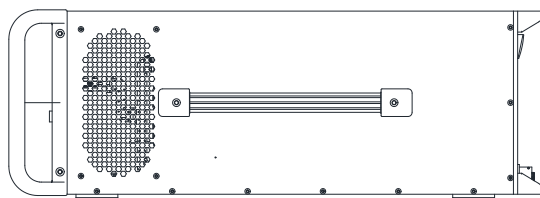
Absolute Maximum Ratings:

Parameter	Value
RF Input Power	TBD
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm

RPA-4G-8G-316





Optional items:

Number	Parameter
1	LCD display touchscreen
2	Ingress protection grad
3	Customized operating temperature range
4	Built in Cooling system(air or liquid)
5	Types of RF,coupling and monitor&control interfaces

Outline Drawing:

Base Number	Description	Optional
RPA-4G-8G-316	High Power Amplifier, 4-8GHz, 316W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-4G-8G-316-M	High Power Amplifier, 4-8GHz, 316W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-4G-8G-316-IPxx	High Power Amplifier, 4-8GHz, 316W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad