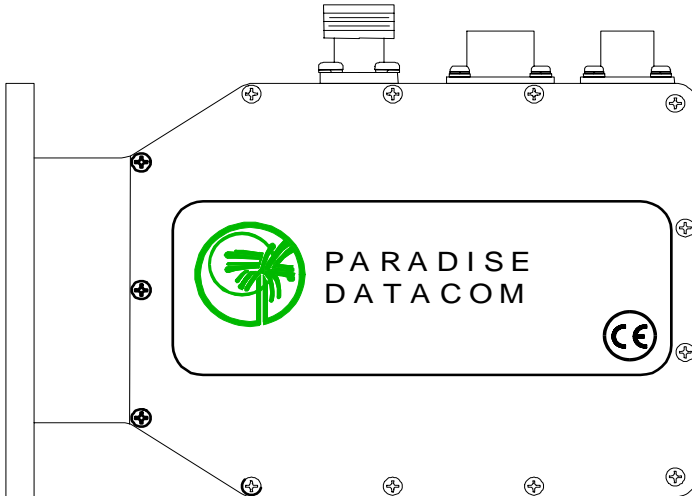


RF-3000

C-Band LNA

3.4 - 4.8 GHz



Description

The RF-3000 offers premium performance and reliability in the most versatile package available for a C-Band LNA. The latest technology in GaAs HEMT devices produces the lowest possible noise temperatures in an uncooled LNA. System performance is enhanced by outstanding gain stability and gain flatness. In addition, the RF-3000 is backed by a 36-month warranty and by more than 30 years experience in the design of high performance communications amplifiers.

The performance of the RF-3000 is matched by a full range of features chosen with the communication system designer in mind. From the compact weatherproof housing to the standard combination of RF cable and circular connector DC input, the RF-3000 is ready for integration into your system.

Features

- Noise Temperatures as low as 30K
- All C-Band Frequencies Available
- Outstanding Gain Flatness and Gain Stability
- 36-Month Warranty
- Compact Design -
 - No Add-On Modules for AC Power or Fault Alarm Options
- Input and Output Isolators
- +12 to +28 VDC Operation
- Cable Power Standard (+12 to +28 VDC operation; +15 to +28 VDC with F1 option) in Addition to a DC Connector
- Waterproof, Painted Aluminum Housing
- Voltage Surge Protection
- Reverse Voltage Protection
- Pressurizable Feed

Options

- Universal AC Power Supply
- Fault Alarm (Current Sensing)

System Configurations

- 1:1 Redundant LNA System
- 1:2 Redundant LNA System
- Dual 1:1 Redundant LNA System

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PARAMETER	NOTES	LIMITS	UNITS
Electrical			
Frequency Range	All standard bands (see ordering information)	3.400 to 4.800	GHz
Noise Temperature	(see ordering information)	30 to 45	K @ +23 °C ambient
Gain	50, 65, & 70 dB available (see ordering information)	60 (min.)	dB
Gain Flatness	Full band /40MHz	±0.50 (max.)	dB
Gain Slope	/40MHz	±0.20 (max.)	dB
Gain Stability vs. Time		0.01 (max.)	dB/MHz
		±0.10 (max.)	dB/hour
		±0.20 (max.)	dB/24 hours
		±0.20 (max.)	dB/month
Output Power @ 1dB Gain Compression (P _{1dB})	+ 20 dBm optional (see ordering information)	+12	dBm
Output Third Order Intercept Point	Measured with two tone input; each tone @ -65 dBm input	+22	dBm
Input/Output VSWR		1.25:1(max.)	
Input Overdrive	(maximum level)	0	dBm CW
Out-of-Band Signal Presence	Specification-compliant	-10	dBm CW input; in 5.850 to 6.425 GHz band
Group Delay	/40 MHz		
Linear		0.01	ns/MHz
Parabolic		0.001	ns/MHz ²
Ripple		0.1	ns peak-to-peak
AM/PM Conversion	@ -10 dBm output power	0.03 (max.)	°/dB
Primary Power	(see ordering information for available options)		
Voltage	(+ 15 VDC for fault option)	+12 to +28	VDC
Current	(200mA for +20 dBm power option)	120 typical	mA
Mechanical			
Size	width X length X height	4.00 X 6.11 X 2.75 102 X 155 X 70	in. mm.
Weight		3	lbs.
Finish		Paint	White; epoxy enamel
Feed Pressure		2	PSI
Connectors	RF Input RF Output (standard) RF Output (option) DC Voltage AC/Fault (option)	WR229 Waveguide Type N SMA 3-pin MS 6-pin MS	CPR229G flange Female Female MS3112E8-3P MS3112E10-6P
Environmental			
Operating Temperature	Ambient	-40 to +70	°C
Relative Humidity	Condensing	100	%

RF-3000

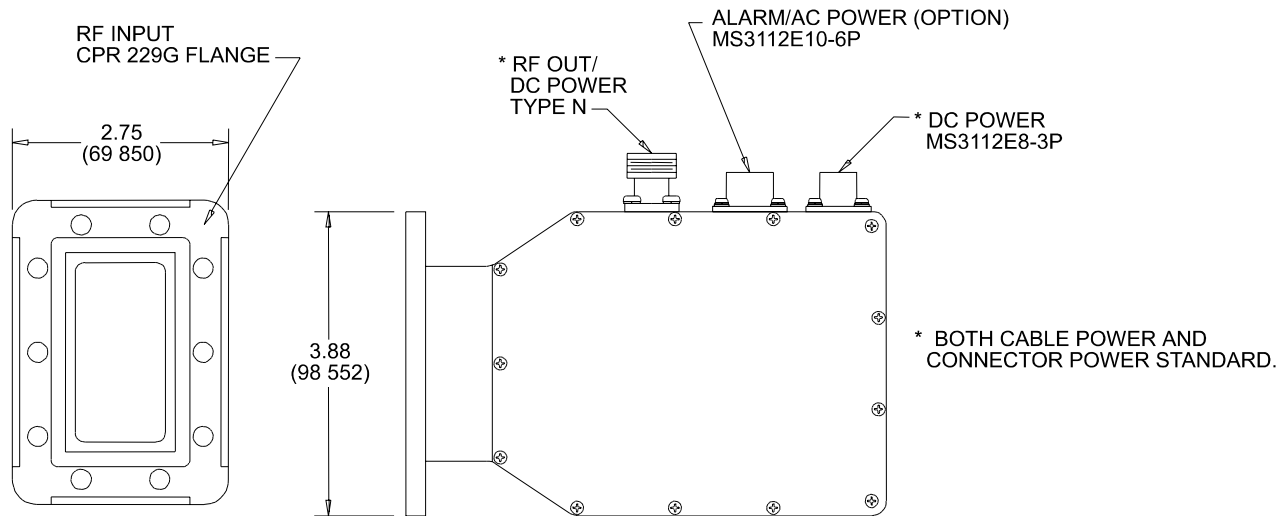
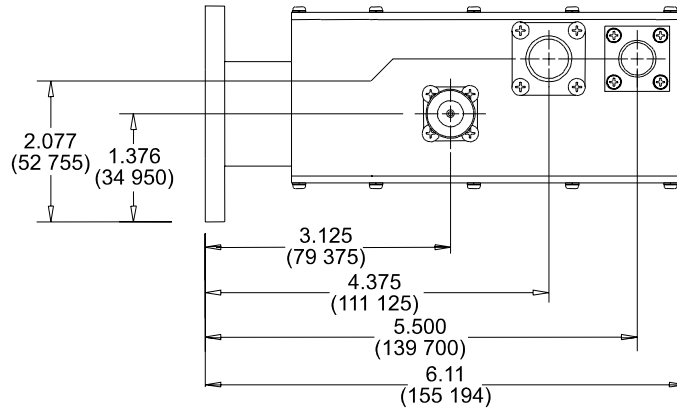
C-Band LNA

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Technical Notes

Gain vs. Ambient Temperature Coefficient	-0.04 dB/°C for Units with 50 dB Gain -0.05 dB/°C for Units with 60 - 75 dB Gain
Noise Temperature vs. Ambient Temperature	De-rate noise temperature by 0.33K/°C for ambient temperatures over +23 °C



PRIME POWER / ALARM INTERFACE

PIN	STANDARD (3-PIN)	ALARM	AC POWER	ALARM/AC POWER
A	+12 to +28 VDC	+15 to +28 VDC	85 to 265 VAC LINE	85 to 265 VAC LINE
B	GROUND	GROUND	AC GROUND	AC GROUND
C	GROUND	GROUND	85 to 265 VAC RTN.	85 to 265 VAC RTN.
D		OPEN ON FAULT	NC	OPEN ON FAULT
E		COMMON	NC	COMMON
F		CLOSED ON FAULT	NC	CLOSED ON FAULT

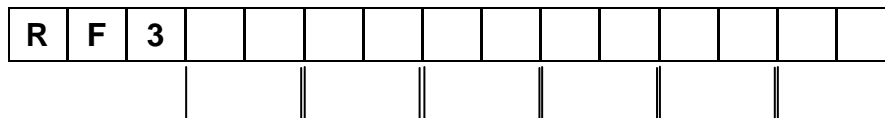
RF-3000

C-Band LNA

3.4 - 4.8 GHz



C-Band LNA Configurator



Noise Temperature (K)
(dependent on freq. band)

Freq. Band	Noise Temp.
XX	30,35,40
B1	34,35,40
B2	30,35,40
B3	30,35,40
B4	40,45

Gain (dB)

50	65
60	70

Frequency Band (GHz)

XX - 3.7 - 4.2
B1 - 3.4 - 4.2
B2 - 3.6 - 4.2
B3 - 3.625 - 4.2
B4 - 4.5 - 4.8

Special Notes

XX - None
P3 - +20dBm P _{1dB} / +30dBm OIP3

Fault Alarm (Requires +15 to +18 VDC)

XX - None
F1 - Contact Closure (Dry form "C")

Input Voltage

XX - +12 to +28 VDC
A1 - 85-265 VAC, 47-440 Hz
A3 - -18 to -64 VDC