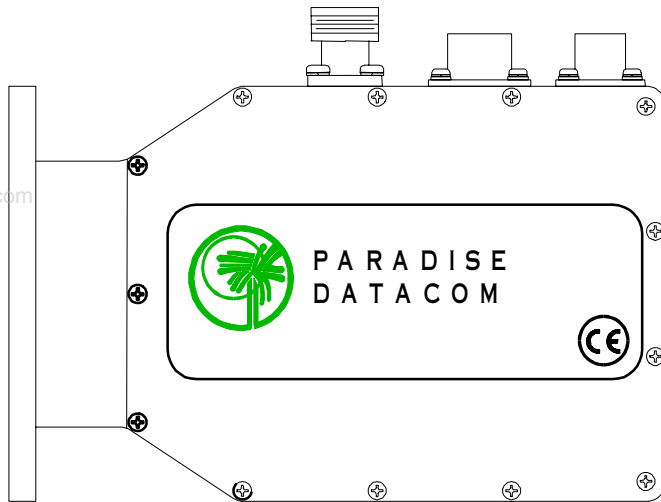


**RF-3000**  
**C-Band LNA**  
**3.400 – 4.800 GHz**



### 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 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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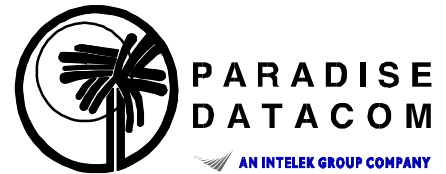


**PARADISE  
 DATACOM**

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

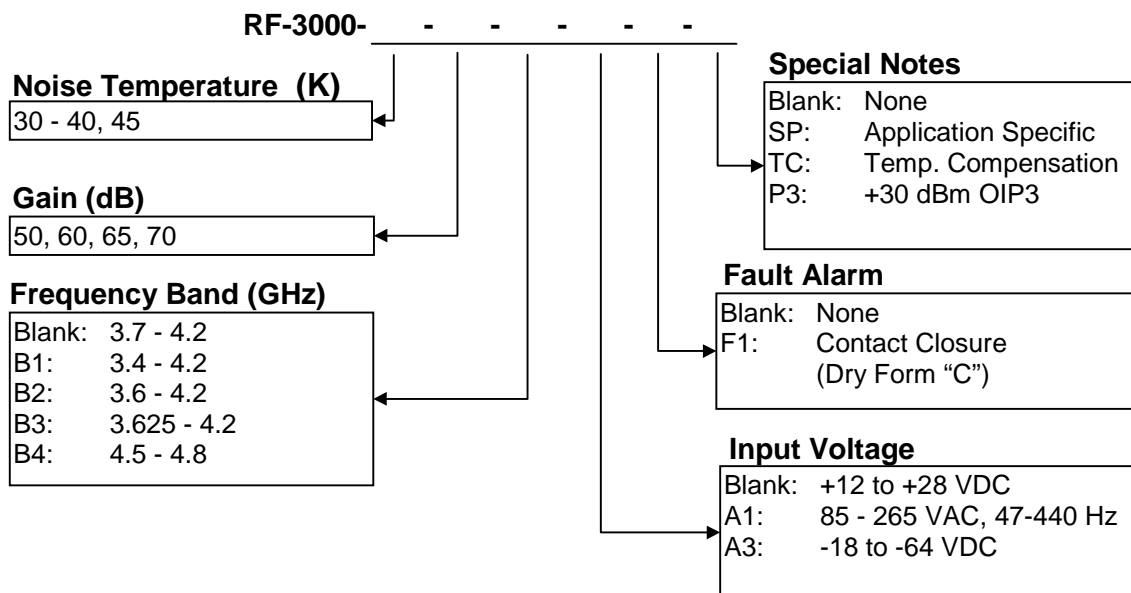
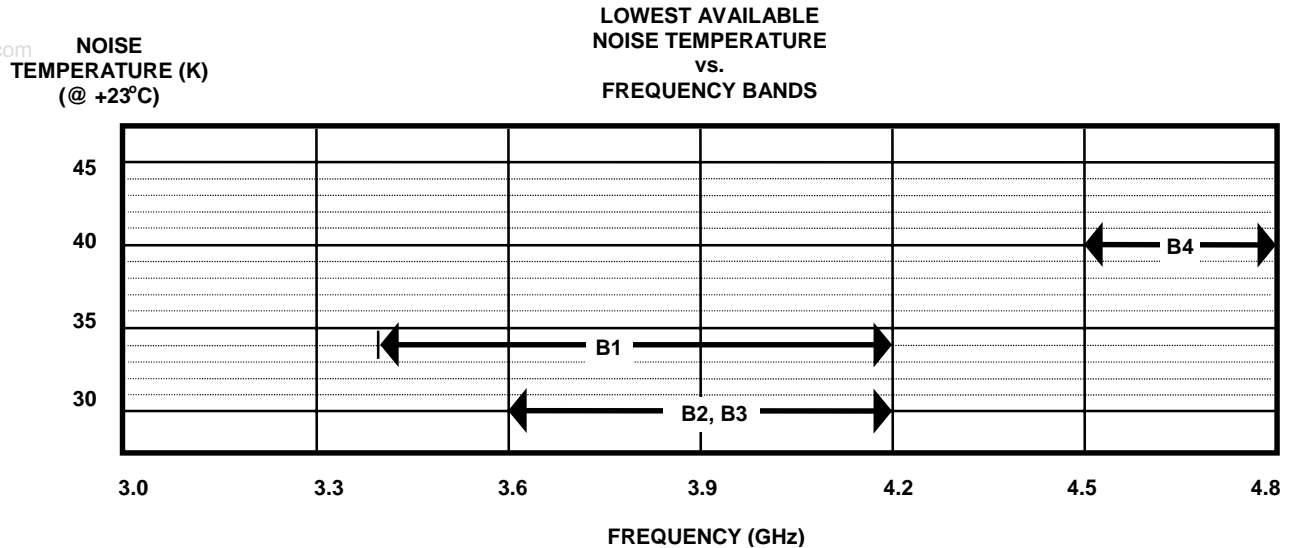
**RF-3000**  
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**Technical Notes**

|   |   |
|---|---|
| Gain vs. Ambient Temperature Coefficient  | -0.04 dB/°C for Units with 50 dB Gain<br>-0.05 dB/°C for Units with 60 - 75 dB Gain<br>-0.025 dB/°C for Units with TC (temperature compensation) Option |
| Noise Temperature vs. Ambient Temperature | Derate noise temperature by 0.33K/°C for ambient temperatures over +23 °C   |

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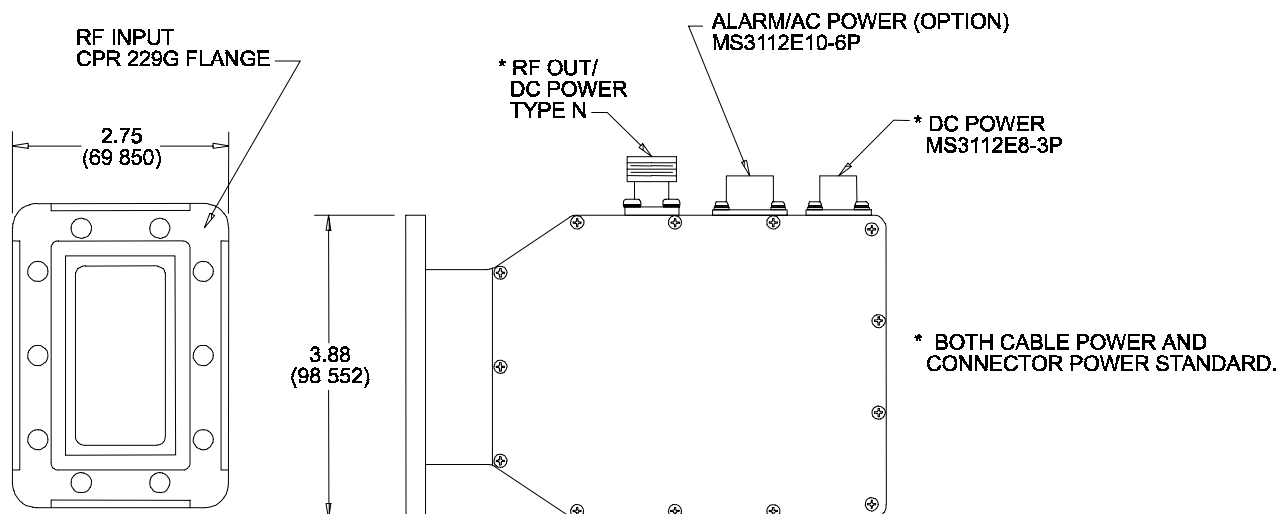
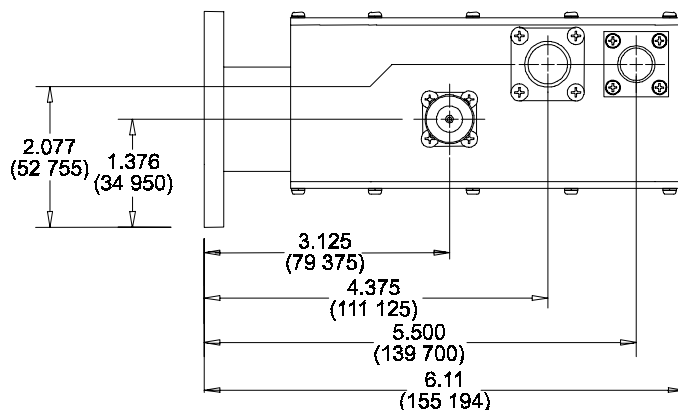
**RF-3000  
C-Band LNA  
3.400 – 4.800 GHz**



**PARADISE  
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**OUTLINE DRAWING**



**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    |