

Orbital 3300 Series

C-BAND PLL BLOCK DOWN CONVERTER



10 to 40 dB gain, 250 to 800 MHz bandwidth, any C band satellite

How to order a 3300 Series C-Band PLL BDC

Frequencies (GHz):

| LO | Input | Output | Bandwidth |
|-------|----------------|--------------|-----------|
| 5.15S | - 3.70 to 4.20 | .95 to 1.45 | 0.500 |
| 5.15S | - 3.60 to 4.20 | .95 to 1.55 | 0.600 |
| 5.15S | - 3.40 to 4.20 | .95 to 1.75 | 0.800 |
| 5.95S | - 4.50 to 4.80 | 1.15 to 1.45 | 0.300 |

Bandwidth in MHz

'P' Signifies PLL - Phase Lock Loop

BDC515S-800P-NF20

Input Connector

S - SMA, 50 ohm
N - N, 50 ohm

Output Connector

F - F, 75 ohm
N - N, 50 ohm
S - SMA, 50 ohm

Gain

10 - 10 dB
20 - 20 dB
30 - 30 dB
40 - 40 dB

Orbital Flexibility:

With an LNA that covers your satellite, simply order a custom Orbital BDC to cover the bandwidth that you need. You can specify input and output connector types, external DC input, coaxial DC input, or dual power option. Most importantly, we can customize your gain to optimize compression point and noise distribution. Just tell us your needs and we will build a mass-custom solution in a unique, cost effective way.

"Mass-Custom" Solution

Orbital starts with a proven performance product that is extremely well engineered with the development costs amortized over hundreds of thousands of units and the parts costs reduced by volume discounts. We then customize the mass produced LNB into what you want at 1/100 the cost of designing and building from scratch.

Orbital Features:

Custom Engineering

- Begin with the low noise figure of a proven quality LNB
- Optimize Input and Output for superior VSWR
- Modify LO frequencies preserving phase noise and stability
- Modify and tune RF & IF filters for optimum response
- Tune for very low bandpass ripple
- Optimize Gain distribution for your system parameters

Environmental

- O ring sealed connectors for weather resistant operation
- Preserve the environmental engineering of the original LNB

Options

- External DC connector - F, N, BNC or Feedthrough
- External DC connector to Crystal for rackmount installation
- Special Dual DC option via output coax and ext DC port
- Custom alarm options for redundant switch operations
- Full test documentation available
- Custom design and labeling requirements welcomed

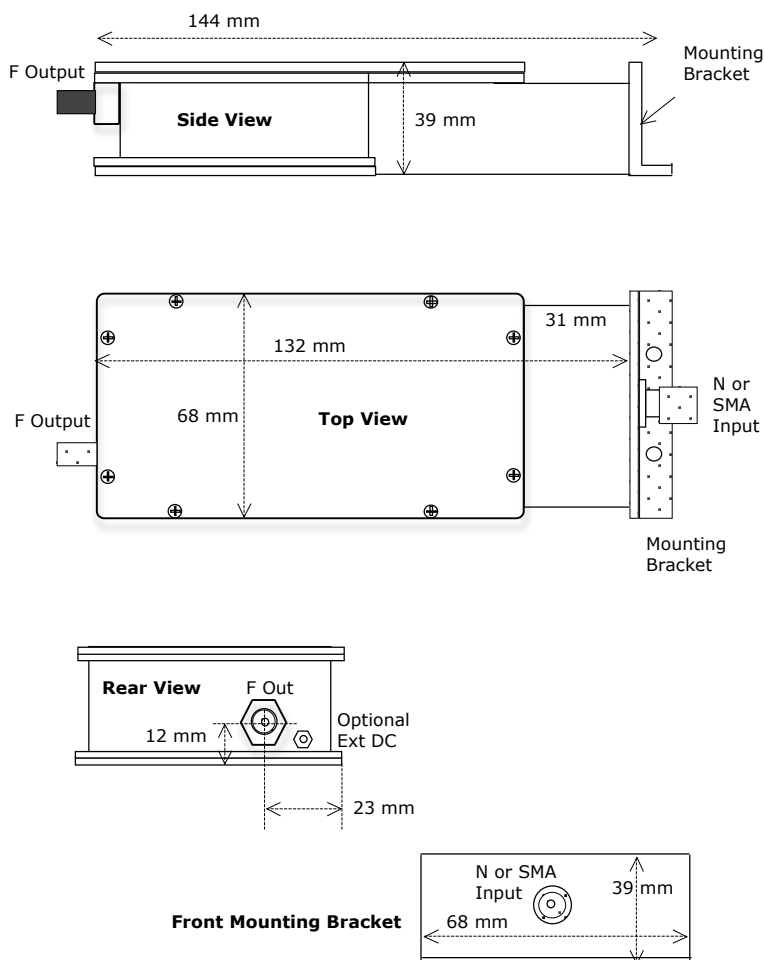
14239 Marine Drive,
White Rock, BC
V4B-1A9 Canada

1927 Boblett Street,
Blaine, WA
98230, USA

Tel: (604) 856-0305, Fax: (604) 856-0315
davidzovic@orbitalresearch.net
www.orbitalresearch.net

Orbital 3300 Series C Band PLL BDC Specifications

Mechanical Drawing



Electrical Specifications

Input

Frequency: 3.4-4.2, 3.6-4.2, 3.7-4.2, 4.5 to 4.8 GHz
 Bandwidth: up to 800 MHz
 Noise Figure: 10 dB max (dependent on gain and bandwidth)
 Input VSWR: 1.5 : 1 typical
 LO Leakage: -45 dBm max

Output

Bandpass: 950 up to 1750 MHz
 Output VSWR: 1.5 : 1 typical
 Gain: 10, 20, 30 or 40 dB
 Ripple: ± 0.5 dB max /36 MHz segment
 LO Stability: ± 3 kHz
 1 dB Comp pt: +10 dBm minimum
 3rd Order Intercept: +20 dBm minimum
 LO Leakage: -45 dBm max
 Image Reject: 45 dBm
 Phase Noise: -80 dBc/Hz @ 1 kHz
 -85 dBc/Hz @ 10 kHz
 -95 dBc/Hz @ 100 kHz

Power

DC Input: 12 to 24 VDC, 250 mA typical
 Filtering: Transient, over and reverse voltage protected

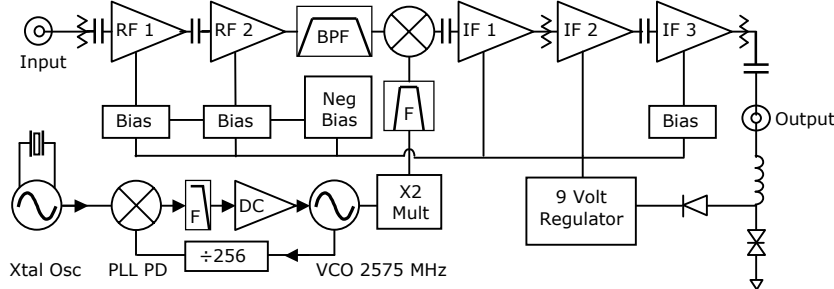
Mechanical Specifications

Size: 144 x 68 x 39 mm
 5.7 x 2.7 x 1.5 inches
 Weight: approx. 550 grams
 19.4 ounces
 Paint: Brilliant White Enamel

Environmental Specifications

Operating Temp: -40 to +60°Celsius
 Relative Humidity: Up to 100% condensation and frost

Block Diagram



Enhancing Standard Product

Mass-production means low-cost, reliable, repeatable products. Engineers design these products well within margins on component specifications so that individual tuning is not required to meet desired specifications.

As we modify product, we also tweak the design and components to optimize them for their inherent capabilities. Effectively, we bring out the full potential of the product by adjusting components to their full capability.

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