

BDC804 SERIES

C-BAND PLL BLOCK DOWN CONVERTER



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

How to order an 804 Series 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

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
T - TNC, 50 ohm

Gain
20 - 20 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

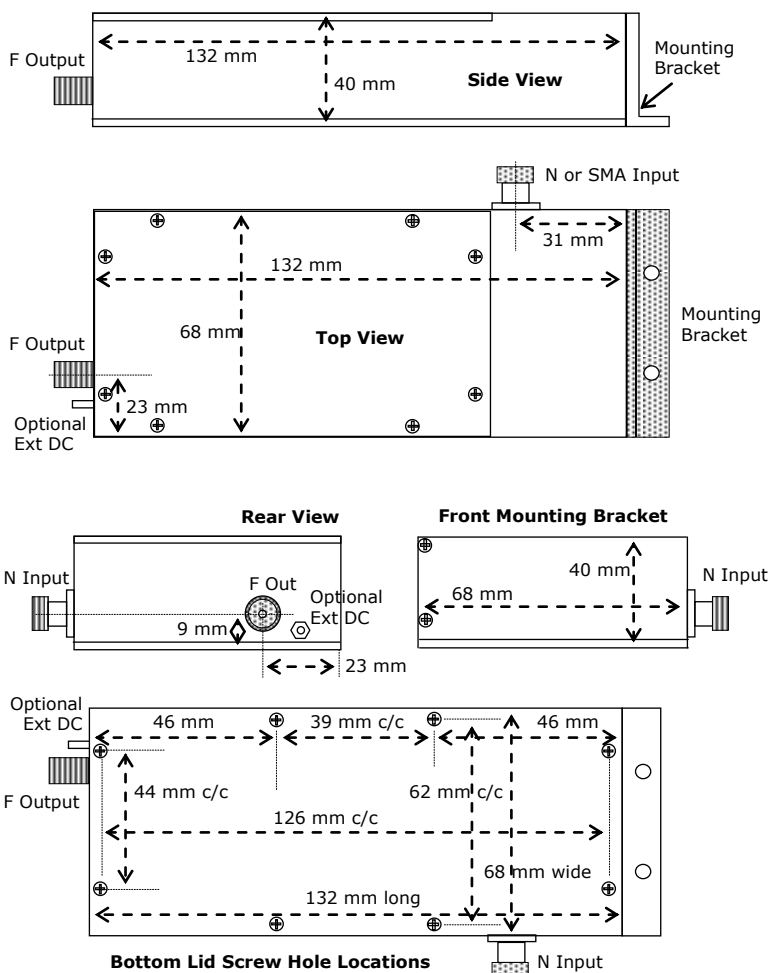
- External DC connector - F, N, BNC or Feedthrough
- External DC connector to Crystal for rackmount installation
- Special Dual DC option via output coax and ext DC port
- Custom alarm options for redundant switch operations
- Custom IF amps capable of +17 dBm 3rd order intercept
- Full test documentation available
- External Reference models available for ultimate stability
- Custom design and labeling requirements welcomed

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Orbital 804 Series C Band PLL BDC Specifications

Mechanical Drawing



Electrical Specifications

Input

Frequency: 3.4-4.2, 3.6-4.2, 3.7-4.2, 4.5-4.8 GHz
 Bandwidth: up to 800 MHz
 Noise Figure: 14 dB typical
 Ripple: ± 0.5 dB max /36 MHz segment
 Input VSWR: 1.5 : 1 typical

Output

Bandpass: 950 up to 1750 MHz
 Output VSWR: 1.5 : 1 typical
 Gain: 20 dB
 LO Stability: ± 10 kHz
 Compression: +3 dBm minimum, up to +7 dBm (optional)
 3rd Order Intercept: +13 dBm minimum, up to +17 dBm (optional)

Power

DC Input: 15 to 24 VDC, 310 mA typical
 Filtering: Transient, over and reverse voltage protected

Mechanical Specifications

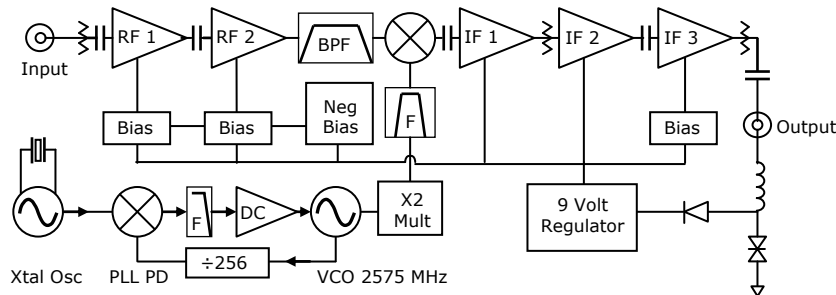
Size: 169 x 68 x 40 mm
 Weight: 556 grams
 Paint: Brilliant White Enamel

Environmental Specifications

Operating Temp: -40 to +55 °Celsius
 Relative Humidity: Up to 100% condensation and frost

- Custom Frequencies
- Choice of Connectors
- Dual Power Option
- Color Options
- Private Labeling
- Rack Mounting Option

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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