



# Orbital 3400X Series

## C-BAND EXTERNAL REFERENCE BLOCK DOWN CONVERTER



10 to 40 dB gain, 250 to 800 MHz bandwidth

### How to order a 3400X Series C-Band External Reference 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

'X' Signifies External Reference

BDC 515S - 800 X-SF 20 -G

Input Connector  
S - SMA, 50 ohm

Output Connector  
F - F, 75 ohm  
N - N, 50 ohm  
S - SMA, 50 ohm  
T - TNC, 50 ohm

Gain  
20 - 20 dB

Optional  
G - Temperature Compensated Gain

### 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
- RoHS & REACH compliant

#### **Options**

- External DC connector - F, N, BNC or Feedthrough
- External 10 MHz connector - SMA
- Temperature Compensated Gain
- Full test documentation available

**Sales contact:**

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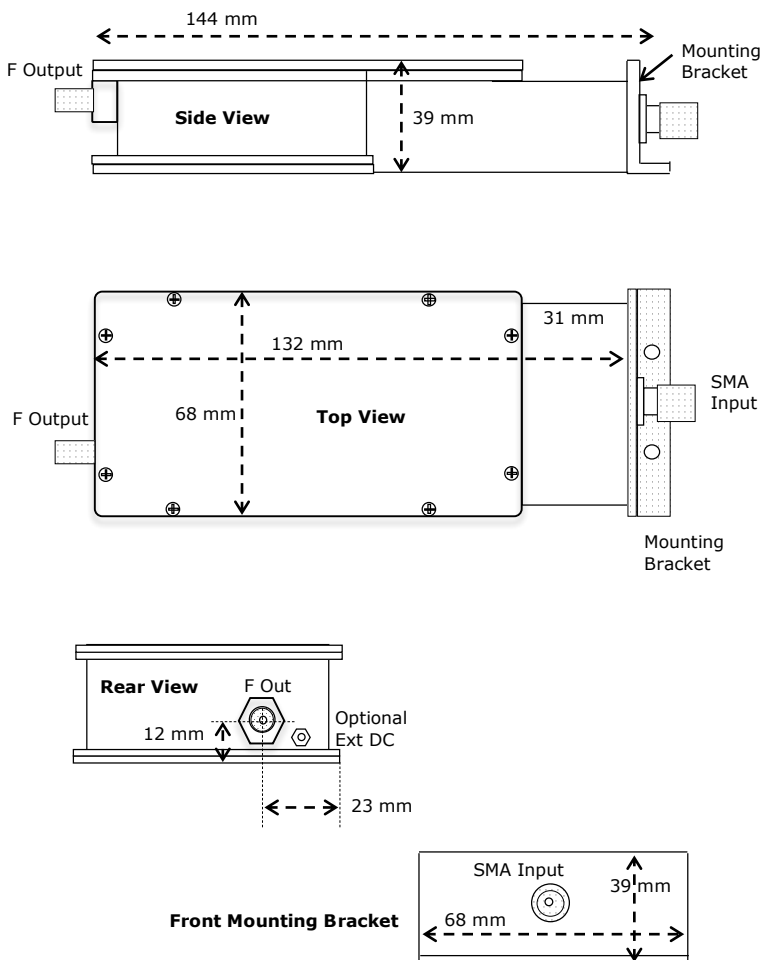
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# Orbital 3400X Series C Band Ext Ref BDC Specifications

## Mechanical Drawing



## Electrical Specifications

### Input

Frequency: See front page for the most popular frequency ranges, others available  
 Bandwidth: up to 800 MHz  
 Noise Figure: 10 dB max (dependent on gain and bandwidth)  
 Input VSWR: 1.5 : 1 typical

### Output

Bandpass: 950 up to 1750 MHz  
 Output VSWR: 1.5 : 1 typical  
 LO Stability: dependent on 10 MHz Source  
 Compression: +10 dBm minimum, 3rd Order  
 Intercept: +20 dBm minimum,

### Gain

Gain: 20 dB  
 Ripple: 1dB p-p max/36 MHz segment  
 Temperature Compensated Gain Variation (optional)  
 ±0.5 dB max over frequency band

### Power

DC Input: 12 to 24 VDC, 300 mA typical  
 Filtering: Transient, over and reverse voltage protected

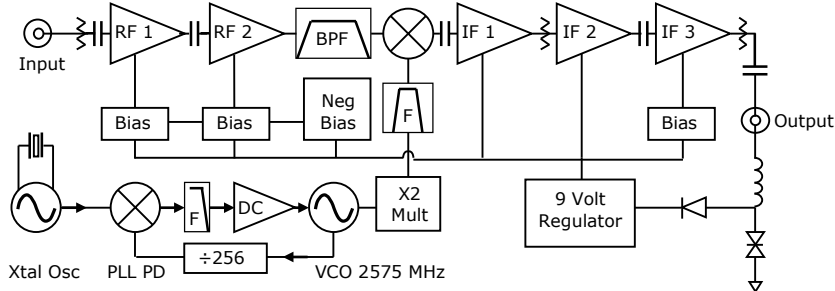
## Mechanical Specifications

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  
 RoHs & REACH Compliant

## Environmental Specifications

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

## Block Diagram



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