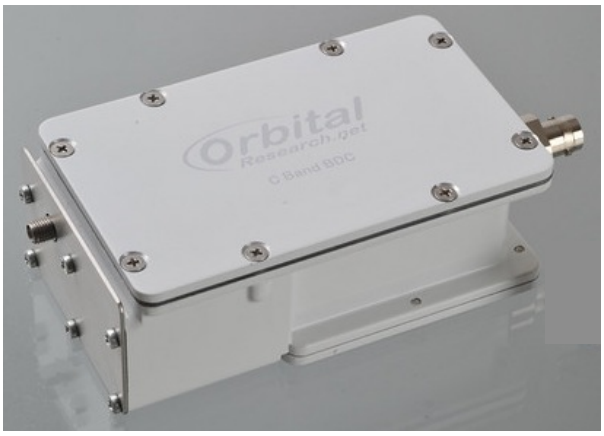

Orbital 3400X Series

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-NF 20 -L

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

Optional
L - Loss of Lock Alarm installed
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

Options

- External DC connector – F, N, BNC or Feedthrough
- External 10 MHz connector – SMA
- Special Dual DC option via output coax and ext DC port
- Loss-of-Lock-Alarm for redundant switch operations
- Temperature Compensated Gain
- Full test documentation available

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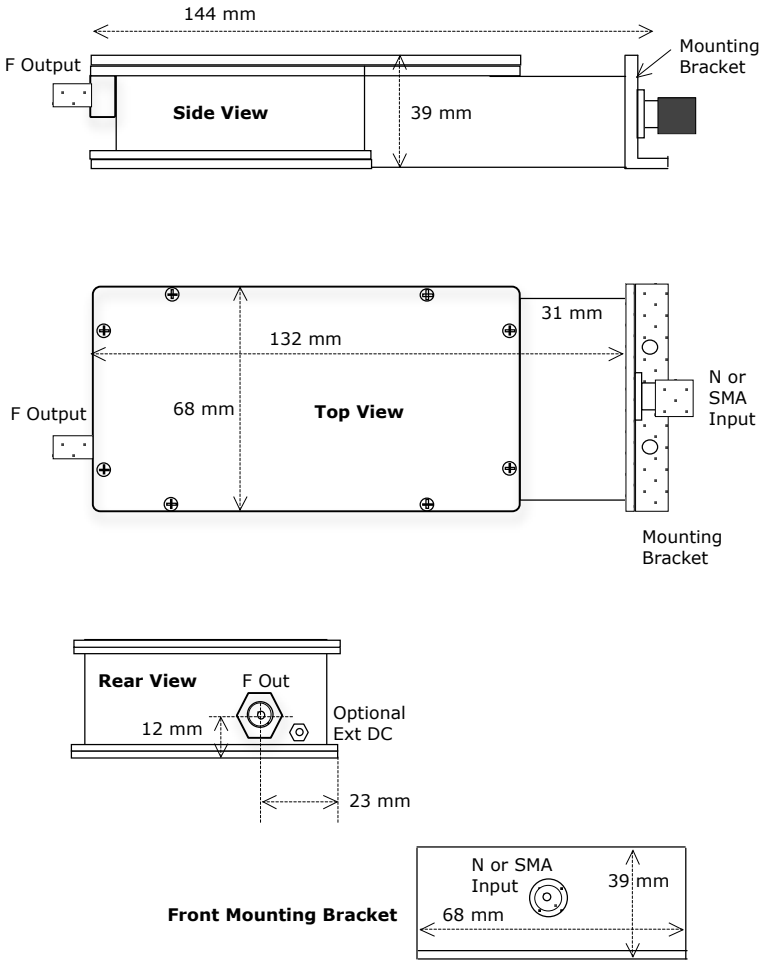
Orbital 3400X Series C Band Ext Ref BDC Specifications

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:	10, 20, 30 or 40 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

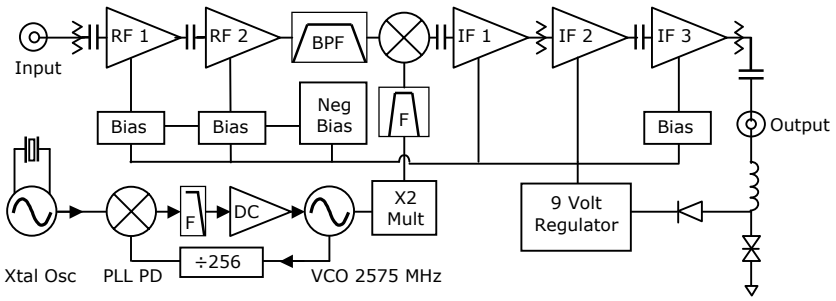
Mechanical Specifications

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

Environmental Specifications

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

Block Diagram



Loss of Lock Alarm – LOLA (optional)

LNBs can lose oscillator lock from internal failure or loss of the 10 MHz reference. The LOLA detects this anomaly and increases the current consumption of the LNB over the IFL cable to trigger a redundant switch or other detector. No extra ports, cables or infrastructure are required.

Simply hookup the LNB with 10 MHz present, set the current windows on the redundancy system so they are just out of triggering, then turn off the 10 MHz to trigger the LNB LOL circuit. The redundant switch should activate. Restore 10 MHz and the LOLA will reset.

It should be noted that these LNBs are exceptionally good for 10 MHz lock range. They will stay locked under adverse 10 MHz conditions and keep the system in sync.

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