

HIGH RELIABILITY SATCOM PRODUCTS

# BLx - 2

## BLx - 2 Series

2 Watt C BAND Block-Up Converter



*We're on your wave length*

### FEATURES:

- Output Power (at 1dB compression) 33dBm
- Synthesized L.O.
- External/Internal Reference
- IF, DC & External 10 MHz reference multiplexed on input coaxial cable
- Operating Temperature -40 to +60 Deg. C
- Dimensions: 290X70X65 mm
- Weather Sealed (including connector)
- Field-Proven High Reliability

The C Band VSAT upconverter transmitter is a linear outdoor unit used for the uplink of a VSAT network.

Its output power, phase locked local oscillator source, compact size and competitive price make this unit ideal choice for all VSAT and SCPC applications.

The unit is robust, rugged and is well adapted for direct mounting on the VSAT antenna feed or OMT.

## PERFORMANCE CHARACTERISTICS

### Electrical

Input impedance..... 50Ω  
 Input return loss.....12 dB

	C-Band	Insat	Ext.C-Band
Input freq.	950-1525MHz	975-1275MHz	1075-1435MHz
Output freq.	5.85-6.425GHz	6.725-7.025GHz	6.365-6.725GHz

Output power (1dB compr.).....+33.5dBm(typ.)  
 32.0dBm(min.)

Gain(Nominal).....54±3 dB

Gain Flatness

Over any 1 MHz band.....±0.2 dB max

Over any 36 MHz band (25°C).....±0.6 dB max

Over frequency range.....±1.5 dB max

Gain Stability (over temp.for constant freq.) ±2.0 dB

Ref. signal...External 10MHz(std.) -3dBm to +7dBm  
 (internal ±3ppm opt.)

Spectrum sense.....Non Inverting  
 (Inverting - Optional)

Total frequency accuracy.....Control by Reference

Phase noise

At 1 KHz offset..... -75 dBc/Hz

At 10 KHz offset..... -81 dBc/Hz

At 100 KHz offset..... -95 dBc/Hz

Leakage and Spurious Signals

Up to 1dB comp. In-Band...-55 dBc max,-60dBc typ.

Harmonics..... -100 dBc max

In RX band..... -140 dBm/4KHz max

Wideband noise in RX band..... -140 dBm/Hz max

3<sup>rd</sup> Order intercept point, IP3.....P1dB + 7 dB min

Stability: The unit will not oscillate under any condition of load, temperature or DC supply.

### Protection

- Thermal runaway protection
- No failure for any combination of load reflections.
- DC supply spikes protection
- Missing 10MHz Ref. shuts transmitter to -60dBc min

Power supply voltage

(on input coax cable).....+15 to +24V

Maximum current.....1.0A @ 24V input

.....1.8 A @ 15V input

### Mechanical

IF + DC + reference input.....50Ω, N-type (f)  
 (F-typ optional)

RF output.....WR-137  
 (Flange CPR137G & O-ring)

Weight.....1.8 Kg.

Finish.....White polyurethane paint

### Environmental

Operating Temperature.....-40°C to +60°C

Sealing.....Moisture sealing by O-ring

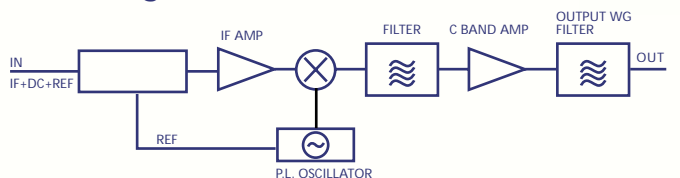
Weather-proof

Vibration.....5-350Hz 0.0015g<sup>2</sup>/Hz

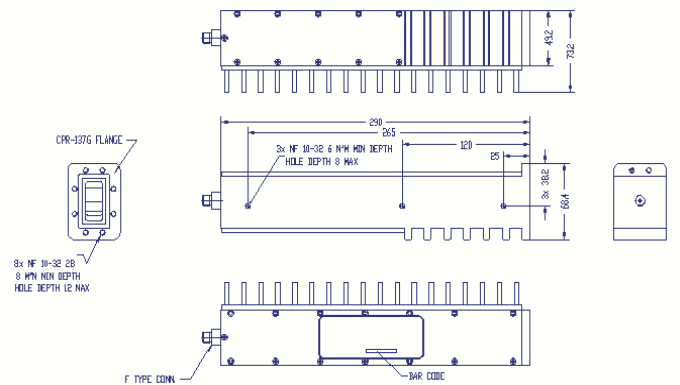
.....350-500Hz -6dB/oct

.....500Hz 0.00074g<sup>2</sup>/Hz

### Block Diagram



### Outline Drawing (Dimensions in mm)



### LO Frequency Table(MHz)

Band	Inverting	Non Inverting
C	7375	4900
Insat	8000	5750
Palapa	7800	5290

### Ordering Information

BLC-2-*sen-ref-con* C-band

BLIN-2-*sen-ref-con* In-Sat band

BLPA-2-*sen-ref-con* Extended C-band (Palapa)

*sen* Frequency Sense  
 (See frequency table above)

S Non-Inverting (default)

V Inverting

*ref* Reference

X External (default)

T Internal

*con* IF Connector

N N-Type (default)

F F-Type



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