JERSEY MICROWAVE

KU-BAND
OUTDOOR BLOCK CONVERTERS

The **Jersey Microwave** Block Converter series are specially designed to translate a block of L-Band frequencies into Ku-band frequencies, or vice versa, for use in transmitting or receiving of Direct Broadcast Satellite applications. **Jersey Microwave** components can be tailored to meet your company's specific needs. Alternate gain, higher output levels, custom frequency plans can all be considered.

Features/Options

Low Phase Noise — Exceeds IESS 308/309

25 dB L-Band Gain Control with 0.1 dB Step

Auto Switch Over to an Internal High Stability REF

Internal REF Tune to Match with External <1KHz

High Reliability & Low Cost

Ethernet Control

Full Monitor and Control Functionality

High Frequency Stability

Gain Slope Equalizer

High Output Power

RF/IF Monitor

Alternate Gain (Higher/Lower)

Indoor 1 RU Chassis

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Standard Frequency Bands

KU-BAND BLOCK DOWN CONVERTERS

Model Number	Input Frequency	Output Frequency	LO Frequency
KBDC-109115-3018-ODU	10.95-11.55 GHz	950-1550 MHz	10.00 GHz
KBDC-115121-3018-ODU	11.55-12.15 GHz	950-1550 MHz	10.60 GHz
KBDC-121127-3018-ODU	12.15-12.75 GHz	950-1550 MHz	11.20 GHz
KBDC-127132-3018-ODU	12.70-13.20 GHz	950-1450 MHz	11.75 GHz
KBDC-144153-3018-ODU	14.40-15.35 GHz	950-1950 MHz	13.45 GHz

KU-BAND BLOCK UP CONVERTERS

Model Number	Input Frequency	Output Frequency	LO Frequency
KBUC-117122-2015-ODU	950-1450 MHz	11.70-12.20-GHz	10.75 GHz
KBUC-122127-2015-ODU	950-1450 MHz	12.20-12.70 GHz	11.25 GHz
KBUC-127132-2015-ODU	950-1450 MHz	12.75-13.25 GHz	11.80 GHz
KBUC-127145-2015-ODU	950-2700 MHz	12.75-14.50 GHz	11.80 GHz
KBUC-130137-2015-ODU	950-1700 MHz	13.00-13.75 GHz	12.05 GHz
KBUC-137145-2015-ODU	950-1700 MHz	13.75-14.50 GHz	12.80 GHz
KBUC-137148-2015-ODU	950-2000 MHz	13.75-14.80 GHz	12.80 GHz
KBUC-140145-2010-ODU	950-1450 MHz	14.00-14.50 GHz	13.05 GHz
KBUC-144153-2015-ODU	950-1850 MHz	14.40-15.30 GHz	13.45 GHz
KBUC-149153-2015-ODU	1000-1450 MHz	14.90-15.35 GHz	13.90 GHz

Custom bands and custom specifications can be provided.

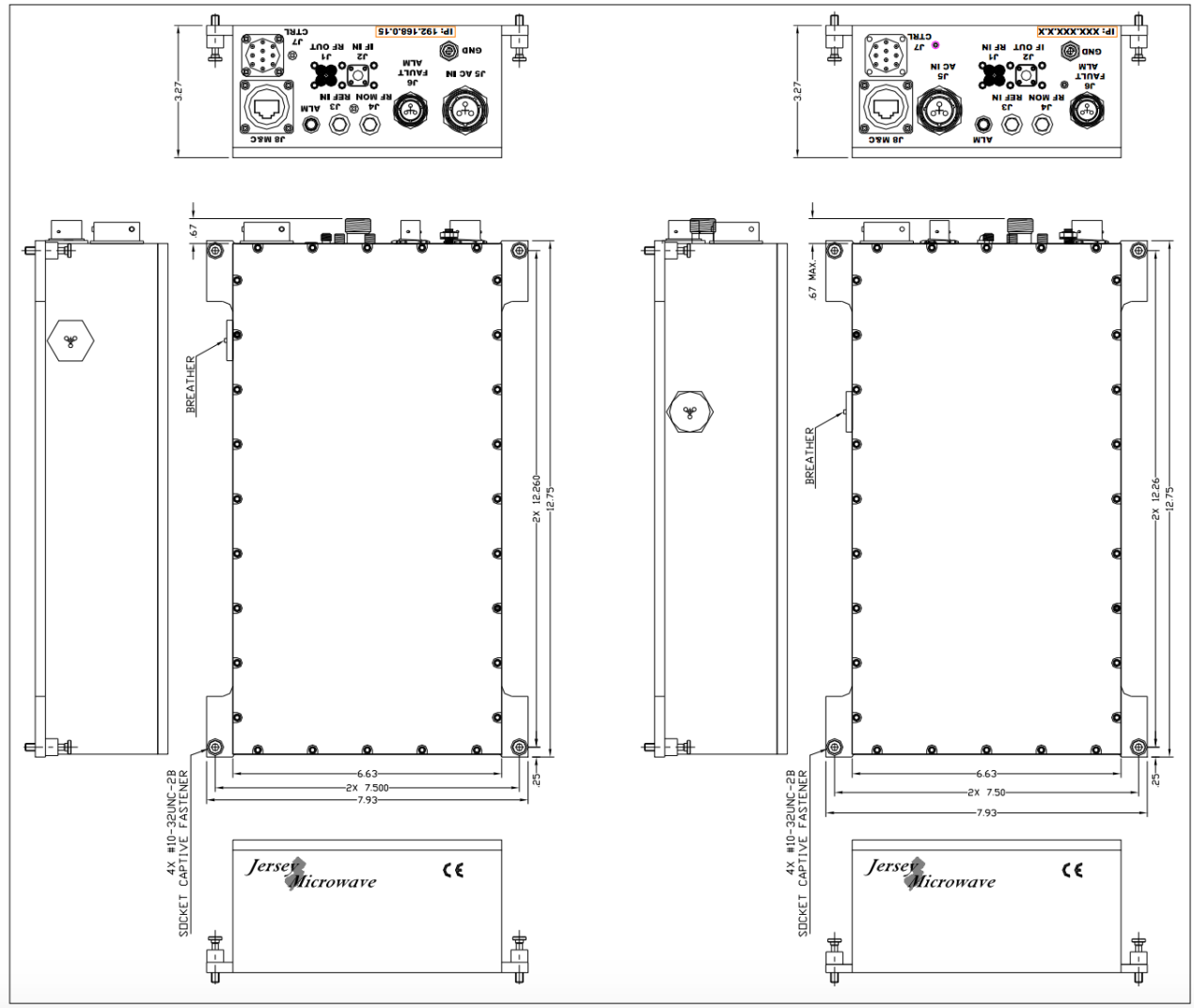
Electrical Specification	Up Converter	Down Converter
IF Port Characteristics	**Input**	**Output**
Frequency Range	- See Table -	- See Table -
Impedance	50 Ω	
Return Loss	≥ 18 dB	
RF Port Characteristics	**Output**	**Input**
Frequency Range	- See Table -	- See Table -
Impedance	50 Ω	
Return Loss	≥ 18 dB	
LO Characteristics		
Frequency	- See Table -	
Reference Input	10 MHz	
Reference Input Level	-10 to +5 dBm	
Auto-switchover level	External: ≥ -10 dBm / Internal: < -12 dBm	
External Reference Phase Noise		
10 Hz	-90 dBc/Hz, max.	
100 Hz	-120 dBc/Hz, max.	
1 KHz	-145 dBc/Hz, max.	
10 KHz	-155 dBc/Hz, max.	
100 KHz	-160 dBc/Hz, max.	
Frequency Stability: External	Same as the reference unit	
Internal	$\pm 2 \times 10^{-8}$ per day @ constant temperature	
	$\pm 1 \times 10^{-7}$ over operating temperature, after 72 hours of operation	
Input to Output Performance		
Transfer Type	Single Conversion	
Frequency Sense	No Spectral Inversion	
Gain	20 dB ± 2 dB	30 dB ± 2 dB
Gain Flatness: Over RF Band	≤ ±1.0 dB peak-peak	
Over any 40 MHz Segment	≤ ±0.25 dB peak-peak	
Gain Control	Range: 25 dB	
	Step Size: 0.1 dB	
	Power up default set @ 25 dB attenuation	
Output Power Po (1dB)	≥ +15 dBm min.	≥ +18 dBm min.
IMD (two output carriers at 0 dBm total)	≤ -50 dBc max.	≤ -55 dBc max.
Gain vs. temperature		
At constant temperature	± 0.25 dB/day max @ constant temperature 25°C	
Over the operating temperature	≤ ± 1.5 dB	
Noise Figure	≤ 15 dB max.	
Group Delay	≤ 2 nsec p-p max over RF band	
In-Band Spurious		
Signal Independent	≤ -70 dBm	
Signal Dependent @Po = 0 dBm	≤ -70 dBc	
LO Leakage @RF Port	≤ -70 dBm	
Image Rejection	≤ -70 dBc	
Mute Control	≤ -70 dBc	

Note - Specifications may change without notice, please consult the factory for your specific needs.

SSB Phase Noise	
10 Hz	-50 dBc/Hz
100 Hz	-70 dBc/Hz
1 KHz	-95 dBc/Hz
10 KHz	-100 dBc/Hz
100 KHz	-105 dBc/Hz
1 MHz	-120 dBc/Hz
10 MHz	-130 dBc/Hz
Power Requirements	
Voltage Standard	90-260 VAC, 3 wires – single phase
Frequency	47-63 Hz
Power	30 Watts max.
Mechanical Configuration	
Weight	15 lbs max.
Dimensions (L x W x D)	12.75” x 7.93” x 3.27”
Finish	Weather resistant Iridite / White paint finish
RF Connector	SMA-Female
IF Connector	N-Female
Reference Connector	SMA-Female
AC Power Connector	PT07C12-3P (027)
M & C Control Connector	PT02E-12-10P (025)
Ethernet	RJ45 Female (RJF2SA1B)
Fault Alarm Connector	PT07C-8-3P
Environmental	
Operating Temperature	-30°C to +70°C
Non-Operating Temperature	-40°C to +80°C
Altitude	Up to 10,000 feet
Humidity	Up to 100% condensation
Vibration	Normal commercial carrier handling
Monitor & Control	
Interface	Standard: RS-485, RS-422 Option
	Ethernet 10 Base-T
Fault	Form-C Contact Alarm
LED Indicator	Green: Operational
	Red: Fault

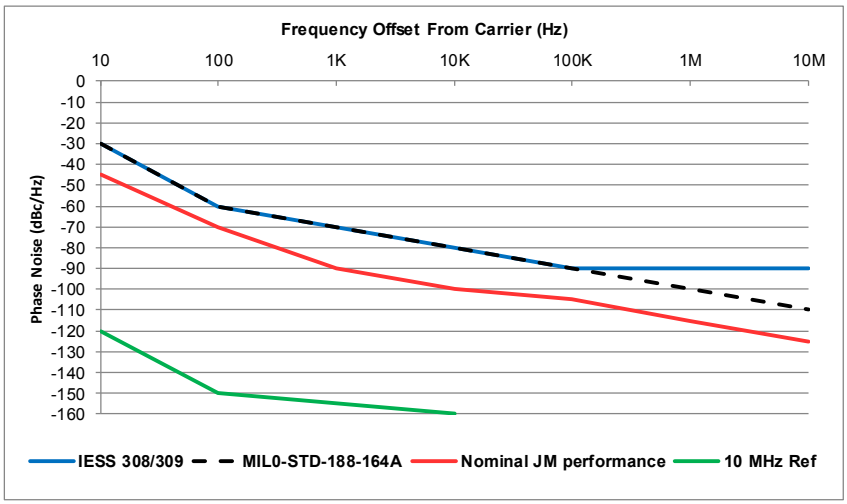
Note - Specifications may change without notice, please consult the factory for your specific needs.

Standard Mechanical Outlines



Note: Dimensions are in inches.

Phase Noise Characteristics (1.0 Hz Bandwidth)



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