

C-BAND OUTDOOR BLOCK CONVERTERS



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

Indoor 1 RU chassis

Standard Frequency Bands

C-BAND BLOCK DOWN CONVERTER - Series

Model Number	Input Frequency	Output Frequency	LO Frequency
CBDC-340420-3018-ODU	3.40-4.20 GHz	950-1750 MHz	5150 MHz
CBDC-360420-3018-ODU	3.60-4.20 GHz	950-1550 MHz	5150 MHz
CBDC-450530-3018-ODU	4.50-5.30 GHz	1300-2100 MHz	6600 MHz

C-BAND BLOCK UP CONVERTER - Series

Model Number	Input Frequency	Output Frequency	LO Frequency
CBUC-440500-2015-ODU	950-1550 MHz	4.40-5.00 GHz	3450 MHz
CBUC-585645-2015-ODU	950-1550 MHz	5.85-6.45 GHz	4900 MHz
CBUC-585657-2015-ODU	950-1850 MHz	5.85-6.75 GHz	4900 MHz
CBUC-585710-2015-ODU	950-2200 MHz	5.85-7.10 GHz	4900 MHz
CBUC-625675-2015-ODU	950-1450 MHz	6.25-6.75 GHz	5300 MHz
CBUC-675725-2015-ODU	950-1450 MHz	6.75-7.25 GHz	5800 MHz

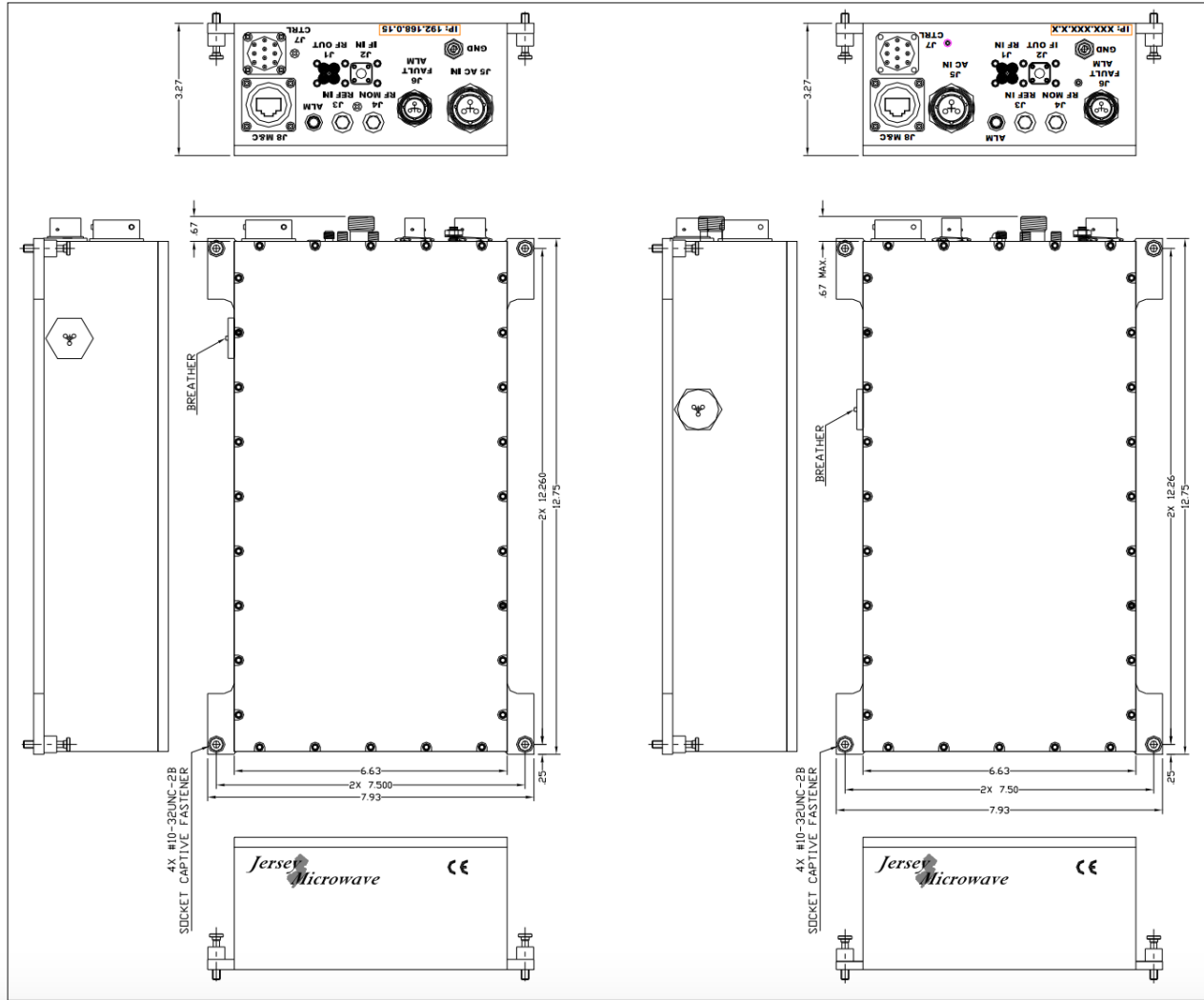
Custom bands and custom specifications can be provided.

Electrical Specifications	Up Converter	Down Converter
IF Port Characteristics	Input	Output
Frequency Range	- See Table -	- See Table -
Impedance	50 Ω	
Return Loss	BW \leq 1000 MHz: \geq 18 dB / BW > 1000 MHz: \geq 17 dB	
RF Port Characteristics	Output	Input
Frequency Range	- See Table -	- See Table -
Impedance	50 Ω	
Return Loss	\geq 18 dB	
LO Characteristics		
Frequency	- See Table -	
Reference Input	10 MHz	
Reference Input Level	-10 to +5 dBm	
Auto-switchover level	External: \geq -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	Spectral Inversion
Gain	20 dB \pm 2 dB	30 dB \pm 2 dB
Gain Flatness:	Over RF Band	$\leq \pm 1.0$ dB peak-peak
	Over any 40 MHz Segment	$\leq \pm 0.25$ 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	≥ +18 dBm
IMD (two output in-band carriers at 0 dBm total)	≤ -50 dBc	≤ -55 dBc
Gain vs. temperature		
At constant temperature	≤ ± 0.25 dB/day @ constant temperature 25°C	
Over the operating temperature	≤ ± 1.5 dB	
Noise Figure	≤ 15 dB	
Group Delay	≤ 2 nsec p-p max over RF band	
In-Band Spurious		
Signal Independent	≤ -70 dBm	
Signal Dependent @Po = 0 dBm	≤ -65 dBc for BW ≤ 650 MHz	
	≤ -60 dBc for BW ≥ 700 MHz	
2IF+LO @ Po = 0 dBm (For BW ≥ 1000 MHz)	≤ -50 dBc	
LO Leakage @RF Port	≤ -70 dBm	
Image Rejection	≤ -70 dBc	
Mute Control	≤ -70 dBc	
SSB Phase Noise		
	10 Hz	-45 dBc/Hz
	100 Hz	-72 dBc/Hz
	1 KHz	-95 dBc/Hz
	10 KHz	-105 dBc/Hz
	100 KHz	-110 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	
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	
	Ethernet 10 Base-T	
Fault	Form-C Contact Alarm	
LED Indicator	Green: Operational	
	Red: Fault	

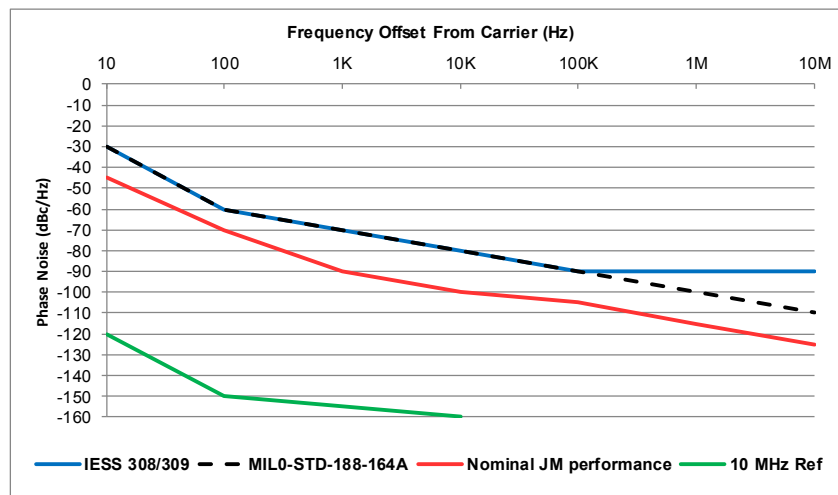
Note - Specifications may change without notice, please consult the factory for your specific needs.

Standard Mechanical Outlines



Note: Dimensions are in inches.

Phase Noise Characteristics (1.0 Hz Bandwidth)



DS-101-04