

Ku-Band 6900 series BLOCK UP CONVERTER

➤ FEATURES AT A GLANCE

- Ideally suited to rapid deploy or offshore applications
- AC or DC power via separate connector for 25 W BUCs
- Separate AC power supplies available for DC powered BUCs
- 48 V DC power via IFL and external connector for 8/16 W LBUCs
- Available in single thread and 1+1 redundant configurations

The CODAN™ Ku-Band 6900 series BUCs are purpose-built for satcom-on-the-move customers, while also offering benefits for fixed site and offshore applications.



Ku-Band BUCs

Rugged & Reliable

- Design MTBF exceeds 100,000 hours
- IP67 rating that provides protection from water or dust storms
- Sealed to 34 kPa (5 Psi)

Best RF Power Efficiency

- 8–25 W of power for under 7 kg/15 lbs (LBUCs)
- 25 W of RF power for <250 W of consumption AC or DC powered LBUC
- 25 W of RF power for <375 W of consumption AC powered MBUC

Specifically Designed

- Military applications
- Broadcast applications
- Size limited applications
- Highly mobile ground systems
- Remote area, install-and-forget applications
- Harsh environment operation

Guaranteed Specifications

Guaranteed operation to specifications throughout the environmental operating range:

- Temperature (–40°C to +55°C)
- Humidity (100%)

Most Comprehensive Monitor & Control

- RS232, RS422/485
- FSK and TCP/IP via FSK
- Dry-contact closure
- RF Power Meter
- Optional Ethernet with 7550 LAN Interface

A large choice of management protocols are also built into the BUC.

Configuration Options

- Standalone
- Redundant 1+1 with Ethernet M&C
- Optional AC Power Supplies

Best Lead Times

- Typical availability under 2 weeks
- Ability to rapidly ramp up for larger requirements

Best Support

- 24x7 Customer Support line
- Worldwide Technical Support line

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Specifications

Power Rating	8 W	16 W				25 W		
Platform	DC powered LBUC	DC powered LBUC		AC powered MBUC		AC or DC powered LBUC	AC powered MBUC	
Model numbers	6908-W/E-48/EX-CE-NI	6916-W/S-48/EX-NI	6916-W/E-48/EX-CE-NI	6916-W/S-AC/EX-CE	6916-W/E-AC/EX-CE	6925-W/S-48/EX 6925-W/S-AC/EX-LB	6925-W/S-AC/EX-CE	6925-W/E-AC/EX
RF output connector	WR75, PBR120 flange with 4.2 mm through holes	WR75, PBR120 flange with 4.2 mm through holes				WR75, PBR120 flange with 4.2 mm through holes		
RF output VSWR	1.8:1 max	1.8:1 max		1.5:1 max		1.5:1 max		
RF output frequency range	Ext Band 13750 to 14500 MHz	Std Band 14000 to 14500 MHz	Ext Band 13750 to 14500 MHz	Std Band 14000 to 14500 MHz	Ext Band 13750 to 14500 MHz	Std Band 14000 to 14500 MHz		Ext Band 13750 to 14500 MHz
Input frequency range	950 to 1700 MHz	950 to 1450 MHz	950 to 1700 MHz	950 to 1450 MHz	950 to 1700 MHz	950 to 1450 MHz		950 to 1700 MHz
LO frequency	12800 MHz	13050 MHz	12800 MHz	15450 MHz		15450 MHz		
IF input power @ 1 dB GCP, CW and max gain	-31 dBm nominal	-31 dBm nominal		-31 dBm nominal		-31 dBm nominal		
RF output power @ 1 dB GCP, CW	+39.0 dBm min	+42.0 dBm min	+41.5 dBm min	+41.7 dBm min	+41.0 dBm min	+43.4 dBm min		+43.0 dBm min
Gain @ 0 dB attenuation (max gain)	70 dB nominal	73 dB nominal				74 dB nominal		
Gain flatness over any 40 MHz band	±1.50 dB max	±1.50 dB max		±0.75 dB max		±1.50 dB max	±0.75 dB max	
Gain flatness over full band	±2.50 dB max	±2.50 dB max		±2.0 dB max		±2.0 dB max		
Gain stability over any 50°C temperature range	±1.50 dB max	±1.50 dB max		±1.0 dB max		±1.0 dB max		
Gain stability over entire temperature range when frequency set	±2.0 dB max	±2.0 dB max				±2.0 dB max		
Gain stability over entire temperature range when frequency not set	±3.0 dB max	±3.0 dB max				±3.0 dB max		
Reference frequency (External)	10 MHz	10 MHz				10 MHz		
Reference frequency input (External)	Multiplexed on N-type transmit IF input	Multiplexed on N-type transmit IF input				Multiplexed on N-type transmit IF input		
Reference frequency level	-10 to +5 dBm	-10 to +5 dBm				-10 to +5 dBm		
Reference frequency connector	Via N-type transmit IF input	Via N-type transmit IF input				Via N-type transmit IF input		
Frequency conversion	Non-inverting	Non-inverting		Spectrum inverting		Spectrum inverting		
Output power meter range	15 dB	15 dB		10 dB		15 dB		
Output power meter absolute accuracy when compensation frequency set	±1.0 dB max	±1.0 dB max				±1.0 dB max		
Output power meter absolute accuracy when compensation frequency not set	±2.0 dB max	±2.0 dB max				±2.0 dB max		
Output power meter relative accuracy when compensation frequency set	±0.5 dB max	±0.5 dB max				±0.5 dB max		
Output power meter relative accuracy when compensation frequency not set	±1.0 dB max	±1.0 dB max				±1.0 dB max		
Power meter modes	CW and burst (>100 uS) with adjustable threshold	CW and burst (>100 uS) with adjustable threshold				CW and burst (>100 uS) with adjustable threshold		
Power supply voltage	+34 to +60 V DC via transmit IF input and via external DC connector	+34 to +60 V DC via transmit IF input and via external DC connector		94 to 275 V AC via Amphenol T 3110 000		AC: 94 to 275 V AC via Amphenol T 3110 000 DC: 34 V to 60 V DC (+ve or -ve earth) via external DC connector		94 to 275 V AC via Amphenol T 3110 000
Power supply minimum turn-on voltage @ 48 V	+41 V	+41 V		N/A		AC: N/A, DC: 41 V (+ve or -ve earth)		N/A
Power supply consumption	130 W max	150 W max		300 W max		250 W max		375 W max
Volume (for waveguide output BUCs)	360 mm L x 182 mm W x 137 mm H 14.2" L x 7.2" W x 5.4" H	360 mm L x 182 mm W x 137 mm H 14.2" L x 7.2" W x 5.4" H		522 mm L x 182 mm W x 204 mm H 20.6" L x 7.2" W x 8.0" H		335 mm L x 182 mm W x 145 mm H 13.2" L x 7.2" W x 5.7" H		522 mm L x 182 mm W x 204 mm H 20.6" L x 7.2" W x 8.0" H
Weight	6 kg (13 lbs)	6 kg (13 lbs)		12 kg (26.5 lbs)		7 kg (15.5 lbs)		12 kg (26.5 lbs)

Values noted are typical at 25°C. Equipment descriptions and specifications are subject to change without notice or obligation.

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Common Specifications

IF input connector	N-type
IF input impedance	50 Ω
IF input VSWR	1.7:1 max
Transmit attenuator steps	0 dB to 12 dB in 4 dB steps
RF output IMD ratio with 2 CW carriers each @ 6 dB OPBO	-25 dBc max
Spurious/harmonic output @ 3 dB OPBO	-50 dBc max (CE Versions: EN 301-428/EN 301-430)
Harmonic output @ 3 dB OPBO	-60 dBc max
Maximum phase noise (SSB) of reference frequency: 100 Hz 1 kHz 10 kHz 100 kHz	-135 dBc/Hz -145 dBc/Hz -155 dBc/Hz -155 dBc/Hz
Phase noise (SSB) of BUC with reference frequency defined above: 100 Hz 1 kHz 10 kHz 100 kHz	-63 dBc/Hz -73 dBc/Hz -83 dBc/Hz -93 dBc/Hz
Group delay Linear (over any 10 MHz band) Parabolic (over any 80 MHz band) Ripple (over full band)	2 nsec _{pp} max 0.00025 nsec/MHz ² _{pp} max 1 nsec _{pp} max
AM/PM conversion	2.0°/dB max @ 2 dB OPBO
Monitor & Control Digital data format RS232 Digital data format RS485 Digital connector FSK data format FSK data transmitter frequency FSK data transmitter deviation FSK data transmitter sense FSK output level FSK start tone time FSK data receiver nominal frequency FSK data receiver locking range FSK data receiver input sensitivity	9600 bps, 8 bits, no parity, 1 stop bit, ASCII protocol User selectable protocols MIL-C-26482 12-14S socket User selectable protocols 650 kHz \pm 1% \pm 60 kHz \pm 1% +60 kHz=mark; -60 kHz=space -8 dB nominal 10 ms min 650 kHz \pm 30 kHz -15 dBm min
Operating temperature range	-40 to +55°C
Non-operating/storage temperature range	-40 to +70°C
Relative humidity	100%
Weatherproofing	Sealed to 34 kPa

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