

C-BAND BLOCK UP CONVERTER (BUC)

ACTX-C High Power Series Low Cost (100, 200, 300 & 400W)



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The ACTX-C series is a family of outdoor RF Block-Up Converters (BUC) low cost, designed for C-band satellite communication systems. ACTX-C BUCs are integrated units with power supply, phase locked oscillator, power amplifier, frequency converters and cooling system.

The ACTX-C series BUCs has been tested and calibrated between -20° and $+60^{\circ}\text{C}$, so they assure very good gain stability with temperature. They also include a temperature alarm and power supply shutdown to protect the amplifier from permanent damages in high temperature conditions. Moreover, ACTX-C series allows RS-485/RS-232 communication with TCP/IP and SNMP as option.

TRANSMITTER SPECIFICATIONS

Input frequency	950 – 1825 MHz (see options)
Input impedance	50 Ohms
Input L-Band VSWR	<1.5:1
Output frequency	5.850 – 7.025 GHz (see options)
Output impedance	50 Ohms
Output C-Band VSWR	<1.3:1
Spectrum inversion	None

Transmit Characteristics @ 25°C	P1dB (typ.)	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-C100W-Ex-V1	50.0 dBm	75 dB min	~ 700 W	495 x 265 x 255 mm	22 kg
ACTX-C200W-Ex-V1	53.0 dBm	75 dB min	~ 1300 W	495 x 265 x 255 mm	24 kg
ACTX-C300W-E1-V1	54.7 dBm	75 dB min	~ 1500 W	495 x 265 x 255 mm	25 kg
ACTX-C300W-E2-V1	54.7 dBm	75 dB min	~ 2500 W	605 x 450 x 245 mm	40 kg
ACTX-C400W-Ex-V1	56.0 dBm	75 dB min	~ 2500 W	605 x 450 x 245 mm	40 kg

Gain flatness over the whole bandwidth	± 2.0 dB
Gain flatness over 40 MHz	± 0.75 dB
Gain variation over temperature	± 2.0 dB over the whole range
Signal monitor	-45 ± 2 dBc
Attenuation adjustment range	20 dB, with 0.5 dB steps
Mute	> 50 dB
Noise figure	≤ 15 dB (at maximum gain)
Spurious	< -55 dBc at $P_{out}=P1$ dB dBm
Harmonics	≤ -50 dBc
Third order intermodulation products	< -25 dBc for 2 tones $\Delta f=5$ Mhz $P_{out}=P1$ dB-3 dB

LOCAL OSCILATOR

Output typical phase noise (IESS-308/309 – 5 dB):

100 Hz	-65 dBc/Hz
1 kHz	-75 dBc/Hz
10 kHz	-85 dBc/Hz
100 kHz	-95 dBc/Hz

Reference frequency 10 MHz

Reference mode External (internal as option)

Reference frequency level 0 dBm \pm 3dB (multiplexed at input L-Band Connector)

Reference stability same as external reference

Minimum reference to compliant typical phase noise (IESS-308/309 – 5 dB):

100 Hz	-125 dBc/Hz
1 kHz	-135 dBc/Hz
10 kHz	-145 dBc/Hz

POWER SUPPLY

AC input voltage 110/220 VAC Autoranging (47-63 Hz)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature -40 to +80°C

Operating temperature -20 to +60°C (-40 to +60°C as option)

Relative humidity up to 95%

Operating altitude up to 3500 m

MECHANICAL SPECIFICATIONS

Interfaces:

TX input(L-Band+Ext. Ref): Type N(F) 50 ohm.

TX output (C-Band): WR137 CPRG flange

TX output sample: Type N(F) 50 ohm

Power supply:..... MS3112E12-3P

Monitoring & Control: MS3112E12-14S

Cooling system Forced air integrated

Finish White

OPTIONS

Frequency band	L-band input	LO frequency	Model Number
5.85 to 6.425 GHz	950 to 1525 MHz	4.900 GHz	ACTX-Cxx-E1-V1-xxx
5.85 to 6.725 GHz	950 to 1825 MHz	4.900 GHz	ACTX-Cxx-E2-V1-xxx
6.725 to 7.025 GHz	1075 to 1375 GHz	5.650 GHz	ACTX-Cxx-E3-V1-xxx
6.425 to 6.725 GHz	975 to 1275 GHz	5.450 GHz	ACTX-Cxx-E4-V1-xxx

HP1: Internal 10 MHz Reference

HP2: Operating temperature (-40 to +60°C)

HP3: Ethernet interface (TCP/IP)

HP4: SNMP Agent

HPC: Custom design