X-BAND BLOCK UP CONVERTER (BUC)

ACTX-X High Power Series (100,150 & 200W)

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

The ACTX-X series BUCs has been tested and calibrated between -20º and +55ºC, 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-X series allows RS-485/RS-232 communication and TCP/IP and SNMP as option.

TRANSMITTER SPECIFICATIONS

Input frequency .....950 – 1450 MHz (see options)
Input impedance .....50 Ohms
Input L-Band VSWR .....<1.5:1
Output frequency .....7.9 – 8.4 GHz (see options)
Output impedance .....50 Ohms
Output X-Band VSWR .....<1.3:1
Output sample .....-45 ± 2 dBc
Spectrum inversion .....None

Transmit Characteristics @ 25ºC	P1dB (typ)	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-X100W	50.0 dBm	70 dB min	900 W	495 x 265 x 255 mm	25 kg
ACTX-X150W	51.8 dBm	72 dB min	1200 W	495 x 265 x 255 mm	25 kg
ACTX-X200W	53.0 dBm	75 dB min	1300 W	495 x 265 x 255 mm	25 kg

Maximum input level without damage .....+10 dBm
Gain flatness over the whole bandwidth .....±1.5 dB
Gain flatness over 40 MHz .....± 0.75 dB
Gain stability (24 Hours) .....< 0.5 dB
Gain variation over temperature .....±1.5 dB over the whole range
Attenuation adjustment range .....20 dB, with 0.5 dB steps
Mute .....> 50 dB
Noise figure .....≤ 15 dB (at maximum gain)

Output noise	< -155 dBm/Hz (Rx Band 7.25 to 7.75 GHz)
Spurious	< -60 dBc at POUT=P1dB dBm
Harmonics	≤ -50 dBc
Main frequency related spurious	≤ -35 dBc
SSB added spurious	≤ -41dBc
Third order intermodulation products	< -25 dBc for 2tones Δf=5Mhz for P_{OUT}=P1dB-3 dB

LOCAL OSCILLATOR

Local oscillator frequency	6.950 GHz
Output phase Noise (IESS-308/309 – 8 dB):	
100 Hz	-70 dBc/Hz
1 kHz	-78 dBc/Hz
10 kHz	-88 dBc/Hz
100 kHz	-105 dBc/Hz
Reference frequency	10 MHz
Reference mode	External (internal as option)
Reference input level	0 dBm ± 3 dB (at input L-Band Connector)
Reference stability	same as external reference
Minimum reference to compliant typical phase noise (IESS-308/309 – 8 dB):	
100 Hz	-125 dBc/Hz
1 kHz	-135 dBc/Hz
10 kHz	-145 dBc/Hz

POWER SUPPLY

AC input voltage	85 - 265 VAC (47-63 Hz)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40 to +80ºC
Operating temperature	-20 to +55ºC (-40 to +55ºC 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.
Sample output (X-Band):	Type N(F) 50 ohm
TX output (X-Band):	WR112 CPRG flange
Power supply:	MS3112E12-3P
Monitoring & Control:	MS3112E12-14S
Cooling system	Forced air integrated
Finish	White RAL 9003 // Caqui M12IR

OPTIONS

HP1:	Internal 10 MHz Reference
HP2:	Operating temperature (-40 to +55ºC)
HP3:	Ethernet interface (TCP/IP)
HP4:	SNMP Agent
HPC:	Custom design

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