Ku-Band

High Performance Block Upconverter

General Information

Intended for outdoor environments, the CPI UB71xxx Series of Block Upconverters (BUCs) utilizes proprietary power combining techniques to achieve high power in an efficient package. This compact unit can be mounted on the antenna for maximum efficiency of operation. The unit has both serial and parallel interfaces plus simple LED indicators showing status and condition of the unit.

UB71xxx Series
80, 100 and 120 watt BUCs
for outdoor or hubmount
satellite uplink applications

Features

- 80, 100, or 120 watts of output power
- 31.5 dB of gain adjustment
- Shielded outdoor package
- Internal filtering included
- Serial RS-232/422/485 I/O
- Non-inverting spectrum
- Analog temperature sensing

OPTION

- 13.75 to 14.50 GHz operation

Worldwide Support

Backed by over 35 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

Communications & Power Industries
satcom products

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80, 100 and 120 W High Performance Block Upconverter

Output Power (Psat)	49.0 dBm (80 W) typ.	50.0 dBm (100 W) typ.	50.8 dBm (120 W) typ.
Output Power (P1dB)	47.8 dBm (60 W) min.	49.0 dBm (80 W) min.	49.5 dBm (90 W) min.
Input Frequency	950 to 1450 MHz		
Output Frequency	14.00 to 14.50 GHz (13.050 GHz LO) or 13.75 to 14.50 GHz (12.800 GHz LO)		
External Reference Frequency	10 MHz @ 0 dBm ±5 dB		
Phase Noise (SSB)	Per MIL-STD-188-164A -73 dBc/Hz max. @ 1 kHz offset (-76 dBc/Hz typ.) -83 dBc/Hz max. @ 10 kHz offset (-95 dBc/Hz typ.) -93 dBc/Hz max. @ 100 kHz offset (-110 dBc/Hz typ.)		
Small Signal Gain	60 dB min. (65 dB typ.), options available		
Gain Flatness	±1.25 dB max, per full band		
Gain Slope	±0.4 dB max. per 40 MHz		
Gain Stability Over Temperature	±2.0 dB		
Gain Adjustment Range	31.5 dB, in 0.5 dB steps		
Third Order Intermodulation Distortion	-25 dBc, 2 tones @ 3 dB backoff from rated P1dB		-22 dBc, 2 tones @ 3 dB backoff from rated P1dB
Harmonic Level	-60 dBc max. at rated P1dB		
Spurious, Signal Related	-60 dBc max. at rated P1dB		
Spurious, Signal Independent	-30 dBm max. at rated P1dB		
AM-PM Conversion	2˚/dB typ, at 3 dB backoff from rated P1dB		
VSWR Input/Output	1.80:1 max./1.30:1 max. (output isolator included)		
Overdrive	+0 dBm max, non-damaging		
AC Mains Operating Voltage	110 to 264 VAC, 47-63 Hz		
M&C Function	RS-232/422/485 serial interface		
Power Requirements	460 W nom. small signal 540 W nom. large signal	550 W nom. small signal 675 W nom. large signal	640 W nom. small signal 750 W nom. large signal
Size (see outline drawing 11151)	13.5 L x 10.0 W x 7.5 H inches (343 x 254 x 191 mm)		
Weight	34 lbs. nom. (15.4 kg)		
Finish	Epoxy paint, white standard (others optional per FED-STD 595)		
IF/External Reference Connector	Type N Female (J1)		
RF Output Connector	WR75 waveguide flange, grooved (J2)		
Sample Output Connector	Type N Female (J3)		
Mains Input Connector	C016 20C003-100-12 (J4)		
User Control I/O Connection, M&C	MS3112E12-14P (J5)		
LAN/LNB Interface	MS3112E10-6S		
Operating Temperature	-40˚C to +60˚C		
Humidity	100% condensing		

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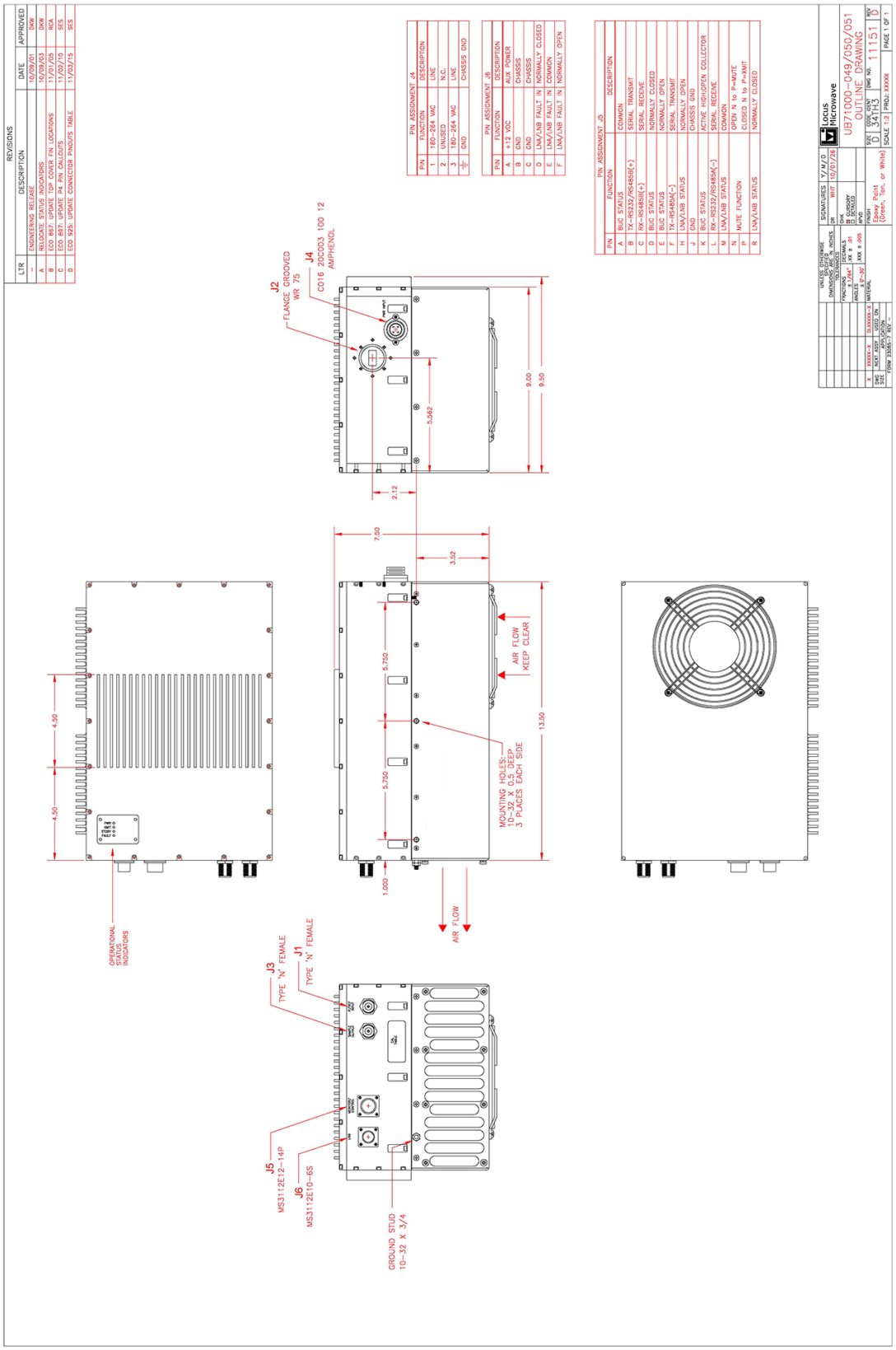

Construct Model Number

START	1	2		3	4	5
UB 7 1	x	x x	-	x	x	x

For shaded items, please contact CPI

1 Frequency

0 = 14.00 - 14.50 GHz
1 = 13.75 - 14.50 GHz
x = TBD

2 Output Power

4 9 = 80 watts
5 0 = 100 watts
5 1 = 120 watts
x x = TBD

3 Gain

1 = 60 dB
2 = 70 dB
x = TBD

4 Voltage

0 = 48 V DC
1 = AC
x = TBD

5 Output

0 = WR75
x = TBD

Customization

Comms Type

0 = RS-232
1 = RS-422/485
x = TBD

Mate Types

0 = No Mating Connector Set
1 = Mating Connector Set
x = TBD

Finish Color

0 = White (37925)
1 = Dark Green (34094)
2 = Desert Tan (33446)
3 = Beige (37722)
4 = Sand (33303)
5 = Forest Green (34083)
6 = Metalast
x = TBD

Selected Configuration

	1	2		3	4	5
UB 7 1	x	x x	-	x	x	x

1	**Frequency**	**= TBD**
2	**Output Power (dBm)**	**= TBD**
3	**Gain**	**= TBD**
4	**Voltage**	**= TBD**
5	**Output**	**= TBD**

Purchase Order Additions

Comms Type	X	**= TBD**
Mate Types	X	**= TBD**
Finish	X	**= TBD**
Custom Specs		**Consult Factory**

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Quality Management System - ISO 9001:2008

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