

8-20 W KU-BAND ONE-BOX-DESIGN BUC



SATELLITE COMMUNICATIONS

EVEN MORE POWER FOR YOUR BUC

The new generation of Mitec VSAT medium power Block Up-Converters comes with a super compact form factor and is lightweight, which allows it to be mounted directly on an antenna feed. Mitec 8W LIGHT offers a Best-in-Class Efficiency with a draw of less than 75W for typically 8W of RF power.

This type of installation does not incur any TX loss, enabling the end user to minimize the size and cost of a VSAT station using the smallest antenna and the lowest TX power possible.

BUC A FW ver: 218856.001
Rev: 0.0

BLOCK UP CONVERTERS AND REDUNDANT SYSTEMS

HOME CONFIG LOG HELP

BUC A Status	
Output power (dBm)	39.8
Temperature (°C)	42.7
Input voltage (Vdc)	41.5
Mute	Unmuted
Summary alarm	OK

Controls

Mute Unmute

Alarm Details	
Out of lock	OK
Temperature	OK
Input voltage	OK
Power supply	OK

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KEY FEATURES

- Available in standard Band 14.00 - 14.50 GHz and Extended Band 13.75 - 14.50 GHz
- Compact size and light weight (ideal for direct mount on antenna OMT that provides no TX loss)
- Low power consumption
- Non-standard frequency range options available
- M&C Interface (Mute control, RF power detection, Alarm status, Temperature monitoring, Lock status) via IF cable
- Fanless package for 8 W or forced air cooling for 16/20 W units
- Both Internal and External 10 MHz reference options available
- Wide range of supply voltage 24-48 VDC for 8 W; 48 VDC only for 16/20 W
- Built-in input over current protection will shut down BUC when 16/20 W units are powered from 24 VDC
- Status LED
- 1.1 switching logic built into the BUC eliminating expensive external controller

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8-20 W KU-BAND BUC

TRANSMIT CHARACTERISTICS

	8 W LIGHT	8 W	16 W	20 W
Output Frequency Range	Standard Band: 14:00-14.50 GHz; Extended Band: 13.75-14.50 GHz (Ext. band not available for 8W Light)			
Input Frequency Range	Standard Band: 950-1450 MHz; Extended Band: 950-1700 MHz (Ext. band not available for 8W Light)			
Local Oscillator Frequency	Standard Band: 13.05 GHz; Extended Band: 12.80 GHz			
Conversion Type	Single stage, Non-inverting			
RF Output at 1 dB GCP	+39.0 dBm nom. +38.5 dBm min.	+39 dBm min.	+42 dBm min.	+43.0 dBm min.
Output VSWR	1.20:1			
Linear Gain	63 dB min.	63 dB min.	65 dB min.	65 dB min.
Gain Stability Over Temperature	± 1.5 dB nominal; ± 2.0 dB max.			
Gain Variation at fixed temperature	Standard Band: ± 0.5 dB max over 36 MHz; ± 2.0 dB over full band			
Intermodulation	-25 dBc, with 2 equal carriers at 3 dB total power backoff from rated power			
10 MHz Reference (via IF connector)	0 dBm ±0.5 dB, (Internal reference: optional) Phase Noise Requirements: -135 dBc/Hz max @ 100 Hz, -140 dBc/Hz max @ 1 KHz, -143 dBc/Hz max @ 10 KHz; -143 dBc/Hz max @ 100 KHz			
Local Oscillator Phase Noise	-63 dBc/Hz max @ 100 Hz, -73 dBc/Hz max @ 1 KHz, -83 dBc/Hz max @ 10 KHz, -93 dBc/Hz max @ 100 KHz, -103 dBc/Hz max @ 1 MHz			
Output Spurious	-55 dBc max.			
Receive Band Noise Power Density	-150 dBm/Hz max.			
Input Impedance	50 Ohms (75 Ohms Optional)			
Input VSWR	1.50:1			
DC Power Requirements	+18 to +55 VDC	+18 to +55 VDC	+32 to +55 VDC	+32 to +55 VDC
Power Consumption (at rated power)	75W typ.	85W typ.	210W typ.	225W typ.

INTERFACE

Output Interface	Waveguide, WR75-G (Grooved)		
Input Interface	N-type Female (F-type Female Optional)	N-type Female	
M&C (RF Power Level, Temp, Mute Control, Alarm)	FSK via IF Connector	FSK via IF Connector (Optional - RS232/RS485/Ethernet via separate MS Connector) (See below options available)	

MECHANICAL

	8 W LIGHT	8 W	16 W	20 W
Cooling	Passive Convection	Passive Convection	Forced Air (Fan)	Forced Air (Fan)
Dimensions (L x W x H)	9.00 x 7.04 x 4.25 in (228 x 179 x 108 mm)	9.48 x 7.04 x 4.25 in (241 x 179 x 108 mm)	9.48 x 7.04 x 4.65 in (241 x 179 x 118 mm)	9.48 x 7.04 x 4.65 in (241 x 179 x 118 mm)
Weight	15 lbs (6.8 kg)	15 lbs (6.8 kg)	11 lbs (5.0 kg)	11 lbs (5.0 kg)

ENVIRONMENTAL

Temperature Range (ambient)	-40 °C to + 50 °C (operating); -40 °C to + 75 °C (storage)			
Humidity	0 to 100% (condensing)			
Altitude	10,000 ft ASL			

ORDERING INFORMATION*

Standard Ku-Band BUC	MTX-14014539-60-ES-XX	MTX-14014539-60-ES-XX	MTX-14014542-60-ES-XX	MTX-14014543-60-ES-XX
Extended Ku-Band BUC	N/A	MTX-13714539-60-ES-XX	MTX-13714542-60-ES-XX	MTX-13714543-60-ES-XX

* When Ordering replace "-XX" by one of the following options:

-20: External Reference, FSK M&C	-41: External Reference, RS232/RS485/Ethernet M&C
-27: Internal Reference, FSK M&C	-48: Internal Reference, RS232/RS485/Ethernet M&C
-25: External Reference, FSK M&C (8W LIGHT Only)	-40: External Reference, RS232/RS485/Ethernet M&C, Redundant Ready
-26: Internal Reference, FSK M&C (8W LIGHT Only)	-47: Internal Reference, RS232/RS485/Ethernet M&C, Redundant Ready

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