



# ALB290 Series

Compact 100W  
C-Band High Power Block-Up Converter

This small and lightweight BUC is ideal for mobile and satellite uplink applications.

The BUC has excellent efficiency and consumes less than 600W for 100W RF power. Innovative and efficient thermal design makes this BUC one of the smallest in the industry.

Built-in redundancy-ready feature eliminates the use of an external controller for 1:1 redundancy operation. This eliminates messy cabling at the antenna making this a very elegant solution.

Extensive M&C interface with RS232/485, Ethernet (SNMP & HTTP) and Wifi.

## Features

- Compact and lightweight
- Available for all C-Band frequencies
- Forward & reverse power detection facility
- Input power detection facility
- Intuitive monitoring & control through RS232/485, Ethernet (SNMP & HTTP)
- Automatic fault identification & alarm generation
- Temperature compensation facility
- Built-in redundancy facility
- Built-in 10MHz reference with auto-detection
- Built-in harmonics reject filter
- Sample port for output monitoring
- Wide operating temperature range -40°C to +60°C
- RoHS Compliant
- Waterproof

## Quality Assurance

100% of all BUCs go through stringent quality checks in addition to well defined Electrical Stress Screening to ensure operation in harsh outdoor environments. The BUCs are also subjected to seal test for water ingress verification.

## Reliability

Field proven under harsh environment conditions, Agilis ODUs can withstand temperature ranging from -40°C to +60°C with up to 100% humidity.

## Frequency Band

### INTELSAT

LO : 7375MHz / 4900MHz  
IF : 950 to 1525MHz  
Tx : 5.850 to 6.425GHz

### INSAT

LO : 8125MHz / 5625MHz  
IF : 1100 to 1400MHz  
Tx : 6.725 to 7.025GHz

### PALAPA / ST1

LO : 7900MHz / 5275MHz  
IF : 1150 to 1450MHz  
Tx : 6.425 to 6.725GHz

### FULL C

LO : 7675MHz / 4900MHz  
IF : 950 to 1825MHz  
Tx : 5.850 to 6.725GHz

### EXTENDED

LO : 4750MHz / 5000MHz  
(Switchable)  
IF : 950 to 1725MHz  
Tx : 5.725 to 6.725GHz

Table 1



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## Technical Specifications

### RF Specifications

Transmit Frequency	Intelsat / Full C/ Insat/ Palapa C/Extended C
IF Frequency Range	Refer to Table 1
Output Power	50dBm (Psat), 48dBm (Plinear)
Small Signal Gain	70dB Min
Gain Flatness	±2dB over the O/P frequency band
Gain Variation	±1.5dB over the operating temperature range
Gain Control	30dB in step of 0.5dB
Spectral Re-Growth	-30dBc at Plinear
Inter Modulation	-25dBc @ Relative to combine power of two carriers at 3dB total power back-off from P <sub>Linear</sub>
O/P spurious	According to EN301443
Phase Noise @ Offset	
1KHz	-80dBc/Hz
10KHz	-90dBc/Hz
100KHz	-100dBc/Hz
I/P VSWR	1.5:1
O/P VSWR	1.5:1
Noise Power Density Tx BD	70dBm/ 4KHz
Rx BD	142dBm/ 4KHz

### Power Requirement

Prime Power	90 – 264VAC, 50 – 60Hz
Power Consumption	600W (Typical for 100W)

### Interfaces

IF Input Interface	50Ohms N-type Female
Output Interface	CPRG 137G

### External Reference Requirement

Frequency	10MHz
Power	-5dBm to +5dBm
Internal 10MHz Ref	Built-in (auto-detection )
External reference phase noise requirement @frequency offset	
1kHz	-150dBc/Hz
10kHz	-155dBc/Hz
100kHz	-160dBc/Hz

### Monitor & Control

Monitor	BUC Temperature Status Alarm RF Output Power/RF Input Power RF Reflected Output Power LED Status Indication
Control	Attenuation RF output mute
Interface	RS232/485, Ethernet (SNMP & HTTP) & Wifi (Optional)
Tx Redundancy	Built-in

### Environmental

Operating Temperature	-40°C to +60°C
Humidity	Up to 100% Weather protection sealed to IP65

### Mechanical

Size	284L x 209W x 164H
Weight	9kg
Color	White Powder Coat

### Compliance Standard

IEC 609501-2nd Edition	International Safety Standard for Information Technology Equipment
ETSI EN 301 489-12	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) Standard for radio equipment and services; Part 12: Specific conditions for Very Small Aperture Terminal, Satellite Interactive Earth Stations operated in the frequency ranges between 4 GHz and 30 GHz in the fixed Satellite Service (FSS)
ETSI EN 301 489-1	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility Standard for Radio Equipment and Services
FCC Class A	Two levels of radiation and conducted emissions Limits for unintentional radiators (FCC Mark)

Note: All specifications are subject to change without notice.  
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