



# ALB190 Series

Compact 20W/25W/40W/50W  
C-Band Block-Up Converter

This small and lightweight BUC is ideal for mobile and satellite uplink applications. Designed to be mounted on the feed horn, the BUC has excellent efficiency and consumes less than 250W for 50W C-Band BUC. The unit works on a wide range DC power supply of 38V to 60V. The BUC is able to work up to 60°C. Innovative and efficient thermal design makes this BUC one of the smallest, lightest and most reliable in the industry.

With redundancy-ready feature, the unit can be easily configured to work in 1:1 redundant mode.

## Features

- Compact and lightweight
- Feed mountable
- Wide operating temperature range -40°C to +60°C
- Wide input DC Voltage range 38V to 60V
- Standard remote monitor & control through RS485, optional Ethernet (SNMP & HTTP)
- Excellent linearity
- Extremely reliable
- High power efficiency
- Available for all C-Band frequency ranges
- Excellent phase noise characteristics
- Low spurious
- Forward power detection facility
- Automatic fault identification & alarm generation
- Automatic temperature compensation feature
- Redundancy ready
- RoHS compliant
- Waterproof with IP65 standard
- LED indicator for BUC status

## 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

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

### INSAT

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

### PALAPA / ST1

Tx : 6.425 to 6.725GHz  
IF : 1150 to 1450MHz  
LO : 7875MHz / 5275MHz

### FULL C

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

Table 1



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## Technical Specifications

### RF Specifications

<b>Transmit Frequency</b>	Intelsat / Full C / Insat / Palapa C
<b>IF Frequency Range</b>	Refer to Table 1
<b>Output Power @ P1dB</b>	43dBm (20W) / 44dBm (25W) 46dBm (40W) / 47dBm (50W)
<b>Small Signal Gain</b>	70dB (typical for 20W / 25W) 73dB (typical for 40W / 50W / 60W)
<b>Gain Flatness</b>	±2dB over the O/P frequency band
<b>Gain Variation</b>	±2dB over the operating temperature range
<b>Gain Control</b>	20dB in step of 0.5dB
<b>Inter Modulation</b>	-27dBc @ Relative to combine power of two carriers at 3dB total power backoff from Rated Output power (for 20W / 25W) -25dBc @ Relative to combine power of two carriers at 3dB total power backoff from Rated Output power (for 40W / 50W)
<b>O/P spurious</b>	According to EN301443
<b>Phase Noise @ Offset</b>	
<b>1 KHz</b>	-73dBc/Hz max
<b>10 KHz</b>	-83dBc/Hz max
<b>100 KHz</b>	-93dBc/Hz max
<b>I/P VSWR</b>	2.0:1 max
<b>O/P VSWR</b>	1.5:1 max (with external isolator)

### DC Power Requirement

<b>Prime Power</b>	48VDC (range 38 to 60VDC)
<b>Power Consumption</b>	144W @ 48VDC input (Typical for 20W) 153.6W @ 48VDC input (Typical for 25W) 300W @ 48VDC input (Typical for 40W) 300W @ 48VDC input (Typical for 50W)
<b>Power Supply Interface</b>	3 pins DC Connector (optional common input via IFL)

### Interfaces

<b>IF Input Interface</b>	50Ohms N-type Female / 75Ohms F-type Female (optional)
<b>Output Interface</b>	WR 137G / 50Ohms N-type Female (optional)

### External Reference Requirement

<b>Frequency</b>	10MHz
<b>Power</b>	-5dBm to +5dBm
<b>External reference phase noise requirement @ frequency offset</b>	
<b>1KHz</b>	-150dBc/Hz
<b>10KHz</b>	-155dBc/Hz
<b>100KHz</b>	-160dBc/Hz

### Monitor & Control

<b>Monitor</b>	BUC Temperature LO unlocked alarm Status alarm RF Output Power LED status indicator
<b>Control</b>	Adjustable gain with 0.5dB step size RF output mute
<b>Interface</b>	RS232/RS485 (Standard) Ethernet (SNMP & HTTP) (Optional)
<b>Tx Redundancy</b>	1:1 Redundancy-ready (with external RCU)

### Environmental

<b>Operating Temperature</b>	-40°C to +60°C Optional (-40°C to +70°C for 40W)
<b>Humidity</b>	Up to 100% Weather protection sealed to IP65

### Mechanical

<b>Size</b>	235L x 175W x 90H mm / 9.3 x 6.9 x 3.5 in
<b>Weight</b>	3.9kg / 8.6lbs
<b>Color</b>	White Powder Coat

### Compliance Standard

<b>IEC 609501-2nd Edition</b>	International Safety Standard for Information Technology Equipment
<b>ETSI EN 301 489-12</b>	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)
<b>ETSI EN 301 489-1</b>	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility Standard for Radio Equipment and Services
<b>FCC Part 15 Class B</b>	Two levels of radiation and conducted emissions Limits for unintentional radiators (FCC Mark)



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