



# ALB150 Series

Compact 20W/25W/40W/50W  
X-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 X-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 X-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.

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## Technical Specifications

### RF Specifications

<b>Transmit Frequency</b>	7900MHz to 8400MHz
<b>IF Frequency Range</b>	950MHz to 1450MHz
<b>L.O Frequency</b>	6.95GHz
<b>Output Power @ P1dB</b>	43dBm (20W) / 44dBm (25W) 46dBm (40W) / 47dBm (50W)
<b>Small Signal Gain</b>	70dB (nominal for 20W / 25W) 73dB (nominal for 40W / 50W)
<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>	15dB in steps 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/60W)
<b>Phase Noise @ Offset</b>	
<b>1KHz</b>	-73dBc/Hz max
<b>10KHz</b>	-83dBc/Hz max
<b>100KHz</b>	-93dBc/Hz max
<b>I/P VSWR</b>	2.0:1 max
<b>O/P VSWR</b>	2.0:1 max

### DC Power

<b>Prime Power</b>	48VDC (range 38 to 60VDC)
<b>Power Consumption</b>	130W @ 48VDC input (Typical for 20W) 150W @ 48VDC input (Typical for 25W) 220W @ 48VDC input (Typical for 40W) 250W @ 48VDC input (Typical for 50W)
<b>Power Supply Interface</b>	Separate connector (for 20W/25W/40W/50W)

### Interfaces

<b>IF Input Interface</b>	50ohms N-type Female / 75ohms F-type Female (optional)
<b>Output Interface</b>	WR 112G

### External Reference

<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 Input and RF Output Power LED status indicator Reverse RF output power detection
<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

### Environmental

<b>Operating Voltage</b>	-40°C to +60°C
<b>Power Supply Interface</b>	Up to 100% Weather protection sealed to IP65

### Mechanical

<b>Size</b>	203L x 171W x 88H mm / 7.9 x 6.7 x 3.5 in (For 20W / 25W) 234L x 171W x 87H mm / 9.2 x 6.7 x 3.4 in (For 40W / 50W)
<b>Weight</b>	3.3kg / 6.6lbs for 20W / 25W 4.0kg / 8.6lbs for 40W / 50W
<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 4GHz and 30GHz 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)

Note: All specifications are subject to change without notice.  
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