



ALB110 Series

Compact 4W/8W
Ka-Band Block-Up Converter

This small and light weight new Ka-Band BUC is ideal for mobile and satellite uplink applications. Designed to be mounted on the feed horn, the BUC has excellent efficiency. The unit works on a wide range input DC power supply from 18V to 50V. 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
- Excellent linearity
- Extremely reliable
- High power efficiency
- Excellent phase noise characteristics
- Low spurious
- Forward power detection function
- Remote monitor & control through RS232/RS485 and Ethernet (SNMP & HTTP)
- Wide input DC voltage range
- Automatic fault identification & alarm generation
- Automatic temperature compensation feature
- Redundancy option
- Wide operating temperature range -40°C to +60°C
- RoHS compliant
- Waterproof
- 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

| | |
|---------------------------------|---|
| Transmit Frequency | 28.6GHz to 29.6GHz |
| IF Frequency Range | 950MHz to 1950MHz |
| Output Power @ P1dB | 36dBm (4W) 39dBm (8W) |
| Small Signal Gain | 62dB (min for 4W) 70dB (min for 8W) |
| Gain Flatness | ±1.5dB 500MHz BW |
| Gain Flatness over 40MHz | ±0.5dB typ |
| Gain Variation | ±2dB over the operating temperature range |
| Inter Modulation | -25dBc @ Relative to combine power of two carriers at 3dB total power backoff from Rated Output power |
| Phase Noise @ Offset | |
| 1KHz | -75dBc/Hz max |
| 10KHz | -85dBc/Hz max |
| 100KHz | -95dBc/Hz max |
| Spurious Harmonics | -60dBc typ |
| I/P VSWR | 1.5:1 max |
| O/P VSWR | 2.0:1 max |

DC Power

| | |
|--------------------------|--|
| Prime Power | 48VDC (range 18 to 50VDC) |
| Power Consumption | 60W @ 48VDC input (max for 4W) 85W @ 48VDC input (max for 8W) |

Interfaces

| | |
|---------------------------|---|
| IF Input Interface | 50Ohms N-type Female / 75Ohms F-type Female (optional) |
| Output Interface | WR28 grooved |

External Reference

| | |
|------------------|-------------------------|
| Frequency | 50 MHz (10MHz optional) |
| Power | -5dBm to +5dBm |

External reference phase noise requirement @ frequency offset

| | |
|---------------|------------|
| 1KHz | -150dBc/Hz |
| 10KHz | -155dBc/Hz |
| 100KHz | -160dBc/Hz |

Monitor & Control

| | |
|----------------------|---|
| Monitor | BUC temperature LO unlocked alarm Status alarm RF Output Power detection LED indication |
| Control | Adjustable gain with 0.5dB step size RF output mute |
| Interface | RS232/RS485, Ethernet (SNMP & HTTP) |
| Tx Redundancy | Redundancy-ready (with external RCU) |

Environmental

| | |
|-------------------------------|---|
| Operating Voltage | -40°C to +60°C |
| Power Supply Interface | Up to 100% Weather protection sealed to IP65 |

Mechanical

| | |
|---------------|---|
| Size | 185L x 100W x 51H mm (4W) 282L x 140W x 98Hmm (8W) |
| Weight | 1.5kg (4W) 4.2kg (8W) |
| 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 Part 15 Class B | Two levels of radiation and conducted emissions Limits for unintentional radiators (FCC Mark) |

Note: All specifications are subject to change without notice.
Rev. 050313

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