



## ALB229 Series

Compact 40W  
Ku-Band Block-Up Converter

This small and lightweight BUC is ideal for SOTM applications while also offering benefits for fixed and maritime applications.

Designed to be mounted on the feed horn, the BUC has "Best in Class" efficiency and "lowest power consumption" with less than 330W. The unit works on a wide range DC power supply of 38V to 60V. Innovative and efficient thermal design makes this BUC one of the smallest, robust, reliable and rugged enough to withstand outdoor conditions in the industry.

The unit can be configured to work in 1:1 redundant mode by adding on a simple redundancy option to the basic unit.

### Features

- Compact and lightweight
- Feed mountable
- Available in both standard and extended Ku-Band
- Forward power detection facility
- Intuitive monitoring & control through RS232/485 & Ethernet (SNMP & HTTP)
- Auto ranging 38 to 60VDC Power Supply
- Optional input AC Voltage
- Automatic fault identification & alarm generation
- Wide operating temperature range -40°C to +60°C
- IP65 rated housing (Weather proof Construction)
- RoHS compliant

### 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>                | 14.0GHz – 14.5GHz<br>13.75GHz – 14.5GHz   |
| <b>IF Frequency Range</b>                | 950MHz to 1450MHz<br>950MHz to 1700MHz  |
| <b>L0 Frequency</b>                      | 13.05GHz (Ku-Band)<br>12.8GHz (Extended Ku-Band)  |
| <b>Output Power (P<sub>sat</sub>)</b>    | 46dBm   |
| <b>Output Power (P<sub>Linear</sub>)</b> | 44dBm   |
| <b>Spectral Re-growth</b>                | 30dBc @ 2dB below rated power (p-linear)<br>at 1.0 x symbol rate offset for OQPSK or QPSK |
| <b>Small Signal Gain</b>                 | 74dB Min  |
| <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>                      | 20 dB in step of 0.5 dB   |
| <b>O/P spurious</b>                      | According to EN301428   |
| <b>Phase Noise @ Offset</b>              |   |
| 1KHz                                     | -73dBc/Hz   |
| 10KHz                                    | -83dBc/Hz   |
| 100KHz                                   | -93dBc/Hz   |
| <b>I/P VSWR</b>                          | 1.5:1   |
| <b>O/P VSWR</b>                          | 1.25:1 (with optional external isolator)  |
| <b>Noise Power Density Tx BD</b>         | 70dBW/4KHz  |
| Rx BD                                    | 142dBW/4KHz   |

### DC Power

|                          |  |
|--------------------------|--|
| <b>Prime Power</b>       | 48VDC (range 38 to 60VDC)<br>via external MS connector<br>Optional 230VAC (range 96 to 264VAC) |
| <b>Power Consumption</b> | 280W (Typical @ 46dBm)   |

### Interfaces

|                           |                      |
|---------------------------|----------------------|
| <b>IF Input Interface</b> | 50Ohms N-type Female |
| <b>Output Interface</b>   | WR 75G               |

### External Reference

|                  |                |
|------------------|----------------|
| <b>Frequency</b> | 10MHz          |
| <b>Power</b>     | -5dBm to +5dBm |

#### External reference phase noise requirement @ frequency offset

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

### Monitor And Control

|                      |   |
|----------------------|---|
| <b>Monitor</b>       | BUC temperature<br>Status alarm<br>RF output power<br>LED status indication |
| <b>Control</b>       | Attenuation<br>RF output mute   |
| <b>Interface</b>     | RS232/485 & Ethernet (SNMP & HTTP) via external MS connector                |
| <b>Tx Redundancy</b> | External RCU (optional for 1+1 redundancy system requirement)               |

### Environmental

|                              |   |
|------------------------------|---|
| <b>Operating Temperature</b> | -40°C to +60°C                                  |
| <b>Humidity</b>              | Up to 100%<br>Weather protection sealed to IP65 |

### Mechanical

|                   |  |
|-------------------|--|
| <b>Dimensions</b> | 200L x 130W x 130H mm<br>200L x 130W x 235H mm (AC option) |
| <b>Weight</b>     | 3.7kg / 8.14lbs<br>6.0kg / 13.22lbs (AC option)            |
| <b>Colour</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.  
Rev. 050313

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