



# ALB190/290 Series

Compact 250W/300W/400W C Band  
Block-Up Converter

Ideal for satellite uplink applications.

Innovative and excellent efficiency thermal design makes this BUC one of the most power efficient, robust and reliable to operate under harsh outdoor environment.

Simple and seamless 1+1 redundancy setup. Built-in redundancy-ready easily configured without need of external controller.

## Features

- Forward, reflected and input power detection
- Output power monitoring port
- Monitoring and Control through Serial and Ethernet ports option
- Fault identification and alarm generation
- LED status and alarm indicator
- Auto gain control throughout operating temperature
- Built-in redundancy ready
- Built-in harmonics rejection filter
- Wide operating temperature -40°C to +60°C
- IP65 Weatherproof
- RoHS Compliant

## Quality Assurance

100% thorough stringent quality checks in addition to well-defined Environmental Stress Screening to ensure operation in harsh outdoor environment conditions. All 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 under 100% humidity.

# ALB190/290 Series

Compact 250W/300W/400W C Band  
Block-Up Converter



## Technical Specifications

### RF Specifications

| Freq Band      | Transmit       | IF            | LO      |
|----------------|----------------|---------------|---------|
| Intelsat C     | 5850 – 6425MHz | 950 – 1525MHz | 4900MHz |
| Full C         | 5850 – 6725MHz | 950 – 1825MHz | 4900MHz |
| Spe.Gorizont C | 5725 – 6525MHz | 950 – 1750MHz | 4775MHz |

| Output Power | Psat           | P1dB           | Plinear        |
|--------------|----------------|----------------|----------------|
| 250W         | -              | 54.0dBm (250W) | 51.0dBm (126W) |
| 300W         | 54.8dBm (300W) | -              | 51.0dBm (126W) |
| 400W         | 56.0dBm (400W) | -              | 52.2dBm (166W) |

|                            |  |
|----------------------------|--|
| <b>Small Signal Gain</b>   | 75dB min (250W)<br>78dB min (300~400W)   |
| <b>Gain Flatness</b>       | ±2dB within band<br>±1dB over 40MHz  |
| <b>Gain Variation</b>      | ±1.5dB within band over operating temperature  |
| <b>Intermodulation</b>     | -25dBc max @ Plinear   |
| <b>Spurious</b>            | According to EN 301 443  |
| <b>Phase Noise</b>         | -100dBc/Hz max @100KHz offset<br>-90dBc/Hz max @10KHz offset<br>-80dBc/Hz max @1KHz offset |
| <b>VSWR</b>                | 1.5:1 max @input<br>1.5:1 max @output  |
| <b>Noise Power Density</b> | Tx Band : -70dBW/4KHz max<br>Rx Band : -142dBW/4KHz max                                    |

### AC/DC Power

|                          |  |
|--------------------------|--|
| <b>Prime Power</b>       | 190 to 264Vac, 47 to 63Hz                |
| <b>Power Consumption</b> | 1500VA typ. @ 250W<br>2000VA typ. @ 400W |

### Interface

|                  |                   |
|------------------|-------------------|
| <b>IF Input</b>  | N-Type Female 50Ω |
| <b>RF Output</b> | WR137 Grooved     |

### Reference

|                            |  |
|----------------------------|--|
| <b>Source</b>              | Internal/External Auto Sensing   |
| <b>Frequency</b>           | 10MHz  |
| <b>Ext Ref Power Level</b> | -5dBm to +5dBm   |
| <b>Ext Ref Phase Noise</b> | -160dBc/Hz max @100KHz offset<br>-155dBc/Hz max @10KHz offset<br>-150dBc/Hz max @1KHz offset |

### Monitor & Control

|                            |   |
|----------------------------|---|
| <b>Monitor</b>             | BUC Temperature<br>Status Alarm with LED Indicator<br>LO Unlock Alarm<br>RF Input & Forward Power Detection<br>Output Reflected Power Detection |
| <b>Control</b>             | Gain adjustable 30dB with 0.5dB step<br>RF Output On/Mute   |
| <b>Communication Port</b>  | Serial RS232/RS485<br>Ethernet (SNMP & HTTP)  |
| <b>Transmit Redundancy</b> | Built-In  |

### Environmental

|                              |                |
|------------------------------|----------------|
| <b>Operating Temperature</b> | -40°C to +60°C |
| <b>Relative Humidity</b>     | Up to 100%     |
| <b>Weatherproof</b>          | IP65           |

### Mechanical

|   |  |
|---|--|
| <b>Dimension</b> (excluding interface connectors) | L535 x W300 x H168mm<br>L21.06" x W11.81" x H6.61" |
| <b>Weight</b>                                     | 23Kg / 50.7lbs                                     |

### Compliance Standard



Certification of products with radio technologies for the Brazilian market based on approval by the local authority Agência Nacional De Telecomunicações (Anatel).

The certification is based on national specifications for the testing and certification process and is a condition for market approval in Brazil.

NOTE: All specifications subject to change without notice  
B01E10

# ALB190/290 Series

## Compact 250W/300W/400W C Band Block-Up Converter

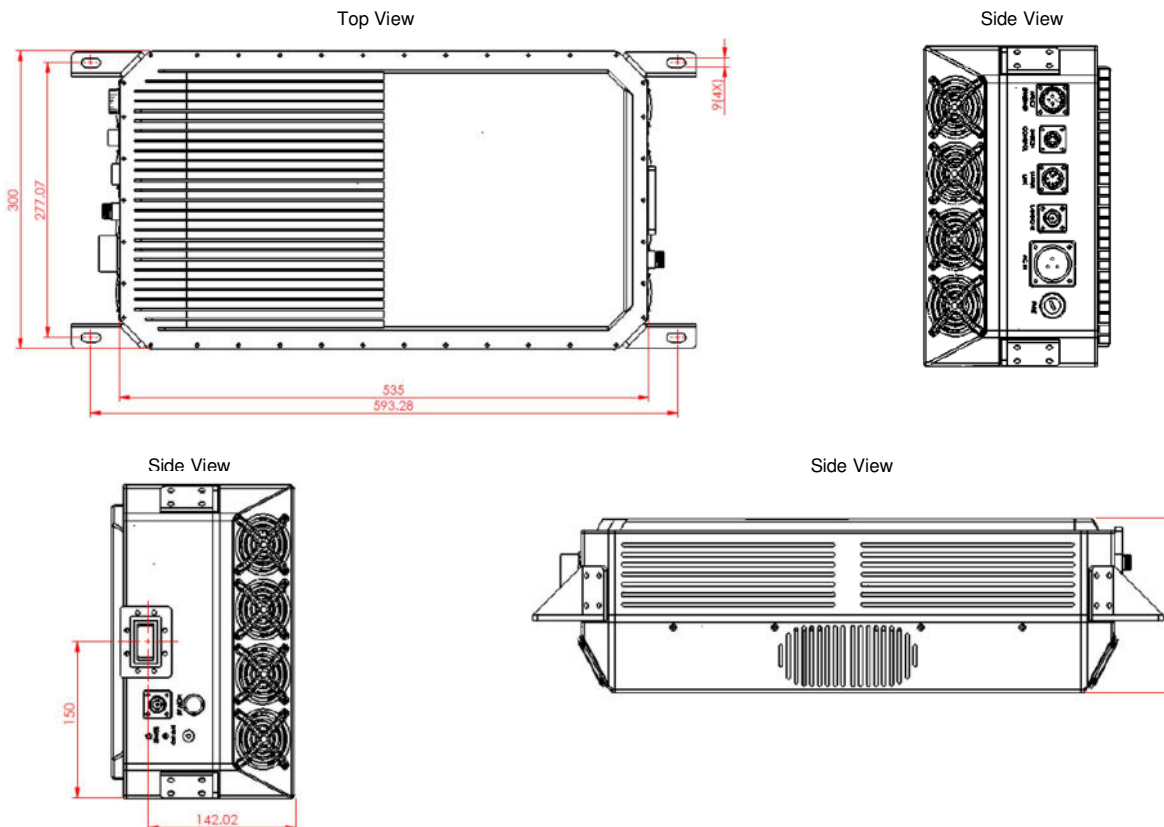
### Standard Part List for Standalone Configuration

| ITEM | PRODUCT NAME            | OPTION        | PART NUMBER             | QTY | DESCRIPTION  |
|------|-------------------------|---------------|-------------------------|-----|--|
| 1    | BUC                     |               |                         | 01  | BUC  |
| 2    | Prime Power Input Cable | AC 220V       | 1001522064              | 01  | Transient Protection Box 22-9S to Unterminated 220Vac 16A 3M |
| 3    | M&C Cable               | RS232 / RS485 | 2502041257 / 2502041256 | 01  | C/A M&C Serial/ETH 14-19P to DB9 (F) 2M                      |
| 4    | M&C Cable               | ETH           | 2502041166              | 01  | C/A M&C ETH-DB9 (M) to RJ45 2M                               |
| 5    | Converter               | RS485         | 6103480008              | 01  | Converter USB to RS485                                       |
| 6    | Mounting Accessory Set  |               |                         | 01  | Mounting screws including gasket for flange WR137            |

### Option Items

| ITEM | PRODUCT NAME | OPTION      | PART NUMBER | DESCRIPTION                                      |
|------|--------------|-------------|-------------|--|
| 1    | WG Flexible  | 0.6M        | 4203490309  | Flexible WG C band WR137 CPRG to WR137 CPRF 0.6M |
|      |              | 1M          | 4203490057  | Flexible WG C band WR137 CPRG to WR137 CPRF 1M   |
|      |              | 1.5M        | 4203490289G | Flexible WG C band WR137 CPRG to WR137 CPRF 1.5M |
| 2    | M&C Cable    | RS485 / 5M  | 2502041751  | C/A M&C 485/ETH 14-19P to DB9 (F) 5M             |
|      |              | RS485 / 30M | 2502041714  | C/A M&C 485/ETH 14-19P to DB9 (F) 30M            |
|      |              | RS485 / 50M | 2502041721  | C/A M&C 485/ETH 14-19P to DB9 (F) 50M            |
| 3    | RF Cable     | 1.5M        | 6202040155  | C/A RF N (M) to N (M) 1.5M                       |
|      |              | 3M          | 2502040137  | C/A RF N (M) to N (M) 3M                         |
|      |              | 7M          | 2502040109  | C/A RF N(M) TO N(M) 7M                           |
|      |              | 10M         | 2502041952  | C/A RF N(M) TO N(M) 10M                          |

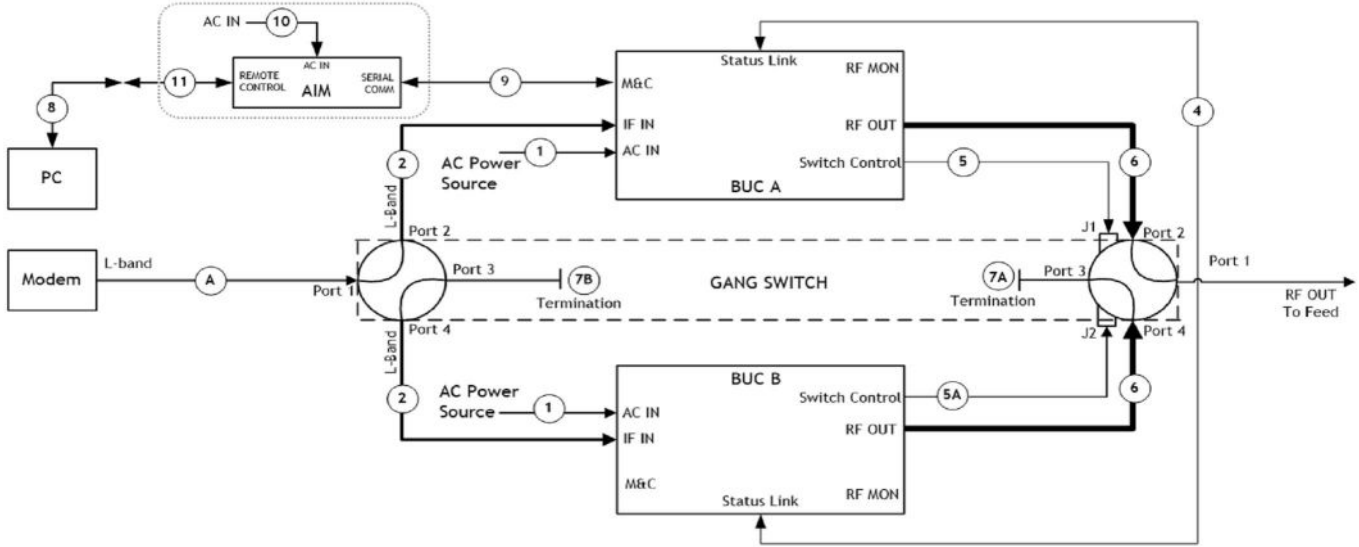
### Mounting Diagram



# ALB190/290 Series

## Compact 250W/300W/400W C Band Block-Up Converter

### 1:1 Redundancy System Block Diagram



### Standard Part List for Redundancy 1+1 Configuration

| ITEM | PRODUCT NAME            | OPTION        | PART NUMBER             | QTY | DESCRIPTION  |
|------|-------------------------|---------------|-------------------------|-----|--|
| 1    | BUC                     |               |                         | 02  | BUC  |
| 2    | Prime Power Input Cable | AC 220V       | 1001522064              | 02  | Transient Protection Box 22-9S to Unterminated 220Vac 16A 3M |
| 3    | M&C Cable               | RS232 / RS485 | 2502041257 / 2502041256 | 02  | C/A M&C Serial/ETH 14-19P to DB9 (F) 2M                      |
| 4    | M&C Cable               | ETH           | 2502041166              | 02  | C/A M&C ETH-DB9 (M) to RJ45 2M                               |
| 5    | Converter               | RS485         | 6103480008              | 02  | Converter USB to RS485                                       |
| 6    | Mounting Accessory Set  |               | 2503160038              | 02  | Mounting screws including gasket for flange WR137            |
| 7    | Mounting Accessory Set  |               | 2503160140              | 01  | Mounting brackets including screws and studs                 |
| 8    | WG Flexible             |               | 4203490057              | 02  | Flexible WG C band WR137 CPRG to WR137 CPRF 1M               |
| 9    | Switch RF               |               | 5903290101              | 01  | Switch WR137 Type N Dual 230VAC                              |
| 10   | Termination             |               | 4203490042              | 01  | Termination C band WR137 CPRF                                |
| 11   | WG H-Bend               |               | 4203490022              | 01  | H-Bend C band WR137 CPRF to WR137 CPRF                       |
| 12   | Cable Status Link       |               | 2502041099              | 01  | C/A Status Link 12-8P to 12-8P 1.8M                          |
| 13   | Cable Switch Control    |               | 2502040155              | 01  | C/A Sw Control 10-6S to 10-6P 3M                             |
| 14   | Cable Switch Control    |               | 2502041006              | 01  | C/A Sw Tx Control 10-6S to 10-6P 3M                          |
| 15   | Cable RF                |               | 6202040155              | 02  | C/A RF N (M) to N (M) 1.5M                                   |

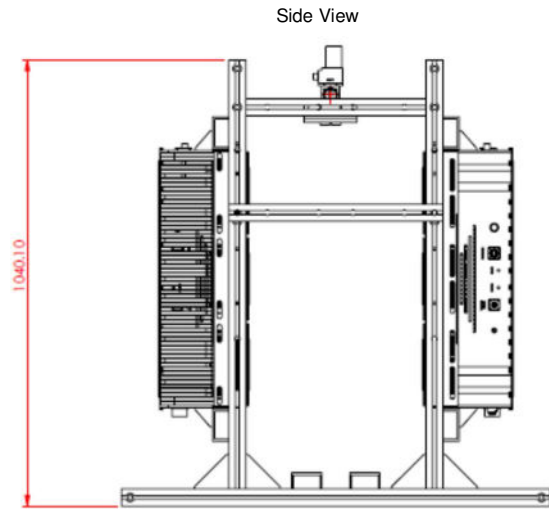
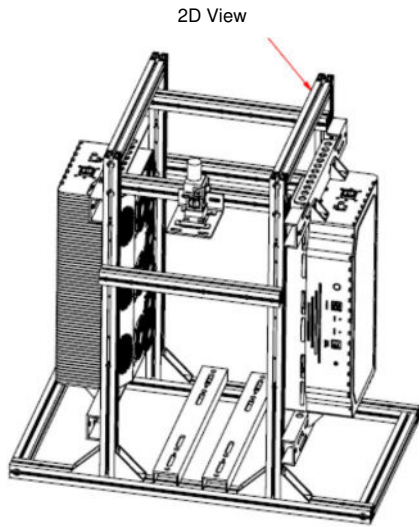
### Option Items

| ITEM | PRODUCT NAME         | OPTION | PART NUMBER | DESCRIPTION  |
|------|----------------------|--------|-------------|--|
| 1    | Mounting Frame       |        | 4004430024  | Mounting Frame w 2 Vertical Frames H1040 x W580mm, Base 1000 x 580mm |
| 2    | Cable Switch Control | 10M    | 2502042323  | C/A Sw Control 10-6S to 10-6P 10M                                    |
| 3    | AIM                  |        | AIM281xx    | System Status Monitoring Unit  |
| 4    | RF Cable             | 3M     | 2502040137  | C/A RF N (M) to N (M) 3M   |

# ALB190/290 Series

Compact 250W/300W/400W C Band Block-Up Converter

1:1 Redundancy System Mounting Diagram



NOTE: Part list and drawing subject to change without notice  
B01E10