



# ALB190/290 Series

## Compact 20W/25W/40W/50W/60W C Band Block-Up Converter

Designed to mount directly to the feedhorn, ideal for mobile and 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.

Easy installation with redundancy ready features to work in 1+1 redundancy mode.

### Features

- Feed mountable
- Forward power detection
- Monitoring and Control through Serial and Ethernet ports
- Fault identification and alarm generation
- LED status and alarm indicator
- Auto gain control throughout operating temperature
- Wide DC input ranging 38 to 60Vdc  
AC input voltage option available
- Wide operating temperature -40°C to +60°C
- Fanless 20W option available
- 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.

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## Technical Specifications

### RF Specifications

Freq Band	Transmit	IF	LO
Gorizont C	5725 – 6525MHz	975 – 1775MHz	4750MHz
Intelsat C	5850 – 6425MHz	950 – 1525MHz	4900MHz
Full C	5850 – 6725MHz	950 – 1825MHz	4900MHz
Insat C	6725 – 7025MHz	1100 – 1400MHz	5625MHz

Output Power	P <sub>sat</sub>	P <sub>1dB</sub>	P <sub>linear</sub>
25W (ALB290)	44.0dBm (25W)	-	40.2dBm (10.5W)
40W (ALB290)	46.0dBm (40W)	-	42.2dBm (16.6W)
50W (ALB290)	47.0dBm (50W)	-	43.2dBm (20.9W)
60W (ALB290)	47.8dBm (60W)	-	44.0dBm (25W)
20W (ALB190)	-	43.0dBm (20W)	40.0dBm (10W)
25W (ALB190)	-	44.0dBm (25W)	41.0dBm (12.5W)
40W (ALB190)	-	46.0dBm (40W)	43.0dBm (20W)
50W (ALB190)	-	47.0dBm (50W)	44.0dBm (25W)

<b>Small Signal Gain</b>	66dB min (20W/25W), 70dB min (40W to 60W)
<b>Gain Flatness</b>	±2dB within band, ±1dB over 40MHz span
<b>Gain Variation</b>	±2dB within band over operating temperature
<b>Intermodulation</b>	-25dBc max @ P <sub>linear</sub>
<b>Spurious</b>	According to EN 301 443
<b>Phase Noise</b>	-93dBc/Hz max @100KHz offset -83dBc/Hz max @10KHz offset -73dBc/Hz max @1KHz offset
<b>VSWR</b>	2.0:1 max @input 1.5:1 max @output (with external isolator)

### AC/DC Power

<b>Prime Power</b>	38 to 60Vdc (DC Model) 90 to 264Vac, 47 to 63Hz (AC Model)
<b>Power Consumption</b>	144VA max @20W, 265VA max @40W 300VA max @50W

### Interface

<b>IF Input</b>	N-Type (F) 50Ω, F-Type (F) 75Ω (option)
<b>RF Output</b>	WR137 Grooved

### External Reference Requirement

<b>Frequency</b>	10MHz
<b>Power Level</b>	-5dBm to +5dBm
<b>Phase Noise</b>	-160dBc/Hz max @100KHz offset -155dBc/Hz max @10KHz offset -150dBc/Hz max @1KHz offset

### Monitor & Control

<b>Monitor</b>	BUC Temperature LO Unlock and Status Alarm with LED Indicator RF Forward Power Detection
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### Monitor & Control

<b>Control</b>	Gain adjustable 20dB with 0.5dB step RF Output On/Mute
<b>Communication Port</b>	Serial RS232/RS485, Ethernet (SNMP & HTTP)
<b>Transmit Redundancy</b>	Redundancy-Ready (with ext. controller unit)

### 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)	L233 x W171 x H88mm (DC Model) L9.17" x W6.73" x H3.46" L233 x W171 x H148mm (AC Model) L9.17" x W6.73" x H5.82"
<b>Weight</b>	4.0Kg / 8.8lbs (DC), 5.8Kg / 12.8lbs (AC)

### 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); Electro Magnetic 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); Electro Magnetic Compatibility Standard for Radio Equipment and Services
<b>ETSI EN 301 443</b>	Satellite Earth Stations and Systems (SES); Harmonized EN for Very Small Aperture Terminal (VSAT); Transmit-only, transmit-and-receive, receive-only satellite earth stations operating in the 4 GHz and 6 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive
<b>FCC Class A</b>	Two levels of radiation and conducted emissions limits for unintentional radiators (FCC Mark)



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  
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### 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	1001520980	01	Transient Protection Box 12-3S to Unterminated 220Vac 5A 3M
		DC	2502041298	01	C/A PS 12-3S to Unterminated 2M
3	Cable M&C	Serial/ETH	2502041169	01	C/A M&C Serial/ETH 12-8P to DB9 (F) 2M
4	Cable M&C	ETH	2502041166	01	C/A M&C ETH-DB9 (M) to RJ45 2M
5	Converter	RS485	6103480008	01	Converter USB to RS485
6	Isolator RF		2503160300	01	Outdoor Isolator RF
7	Mounting Accessory Set			01	Mounting screws including brackets, screws, studs, gasket for flange WR137

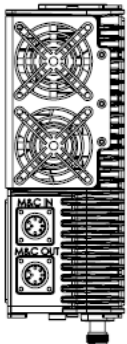
### Option Item

ITEM	PRODUCT NAME	OPTION	PART NUMBER	DESCRIPTION
1	WG Flexible	0.5M	4203490309	Flexible WG C band WR137 CPRG to WR137 CPRF 0.6m
		1.0M	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	Cable RF	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
3	Prime Power Input Cable	AC 110V	1001520979	Transient Protection Box 12-3S to Unterminated 110Vac 5A 3M
		AC 220V / 30M	1001522100	Transient Protection Box 12-3S to Unterminated 220Vac 5A 30M
4	Cable M&C	5M	2502041751	C/A M&C 485/ETH 14-19P to DB9 (F) 5M
		30M	2502041714	C/A M&C 485/ETH 14-19P to DB9 (F) 30M
		50M	2502041721	C/A M&C 485/ETH 14-19P to DB9 (F) 50M

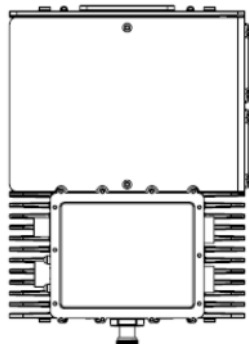
NOTE: Part list and drawing subject to change without notice  
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### Mounting Diagram

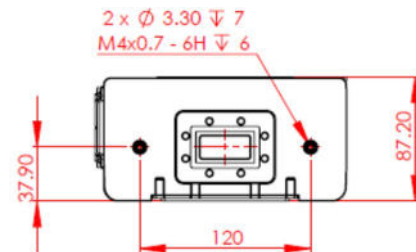
Side View – DC Model



Top View – DC Model



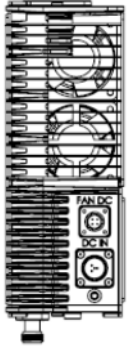
Side View – DC Model



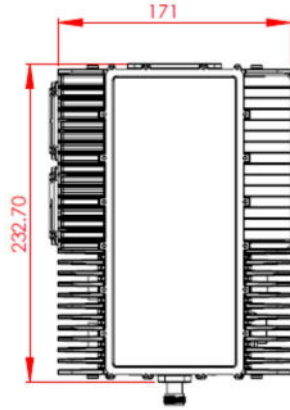
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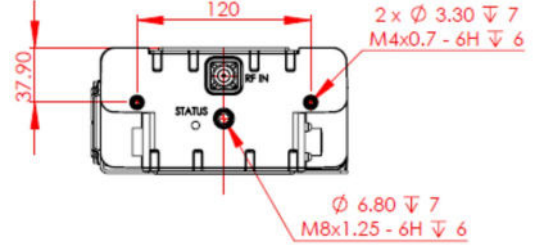
Side View – DC Model



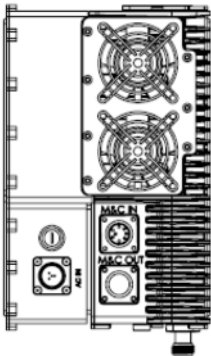
Bottom View



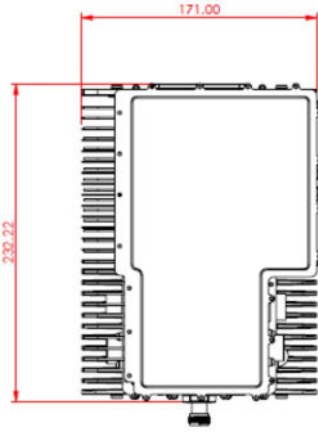
Side View – DC Model



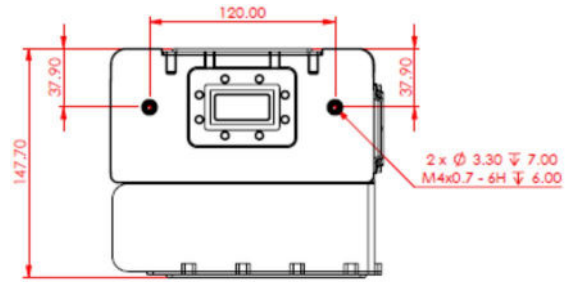
Side View – AC Model



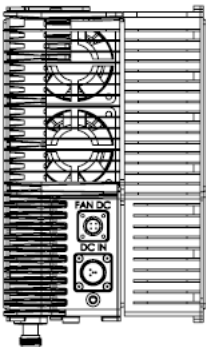
Top View – AC Model



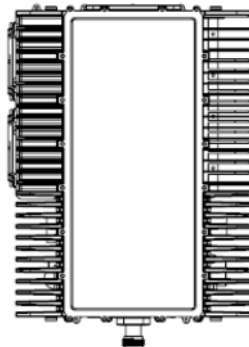
Side View – AC Model



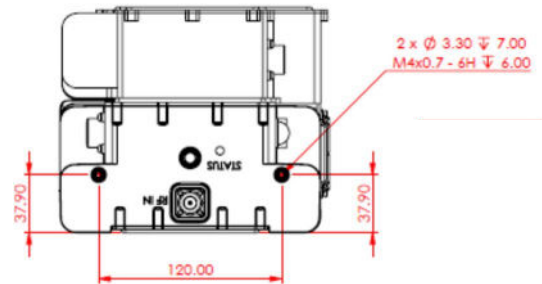
Side View – AC Model



Bottom View



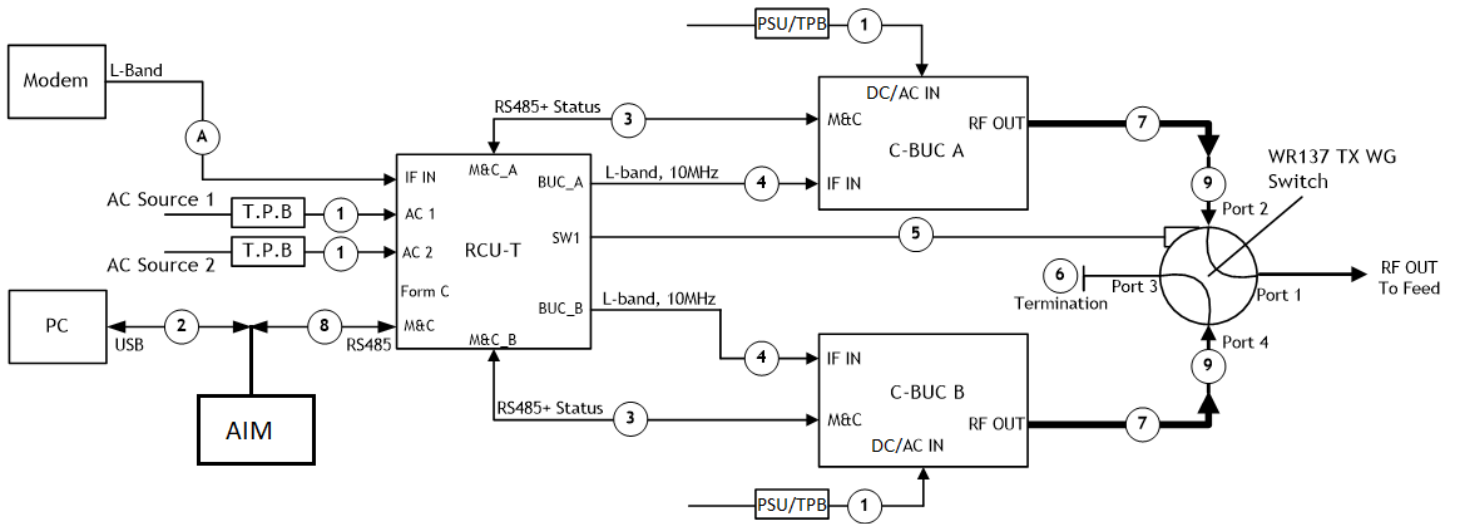
Side View – AC Model



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## Compact 20W/25W/40W/50W/60W C Band Block-Up Converter

### 1:1 Redundancy System Block Diagram



### Standard Part List for 1:1 System Configuration

ITEM	PRODUCT NAME	OPTION	PART NUMBER	QTY	DESCRIPTION
1	BUC			02	BUC
2	Prime Power Input Cable	AC 220V	1001520980	02	Transient Protection Box 12-3S to Underterminated 220Vac 5A 3M
		DC	2502041298	02	C/A PS 12-3S to Underterminated 2M
3	RCU		AAV6103804-T	01	Redundancy Control Unit -Transmit Only
4	Prime Power Input Cable	AC 220V	1001520980	02	Transient Protection Box 12-3S to Underterminated 220Vac 5A 3M
5	Converter	RS485	6103480008	01	Converter USB to RS485
6	Cable M&C	2M	2502040561	02	C/A Straight 12-8S to 12-8P 2M
7	Cable M&C	2M	2502041169	02	C/A M&C - 485/ETH 12-8P to DB9 (F) 2M
8	Cable M&C	ETH	2502041166	01	C/A M&C ETH-DB9 (M) to RJ45 2M
9	Cable RF	3M	2502040137	02	C/A RF N (M) to N (M) 3M
10	Cable Switch Control	3M	2502040155	01	C/A Switch RCU Control 10-6S to 10-6P 3M
11	WG Termination	-	4203490021	01	WG Termination C Band WR137 CPRF 125W
12	WG H-Bend	-	4203490022	02	H-Bend C Band WR137 CPRF to WR137 CPRF 80mm
13	WG Flexible	-	4203490055	02	WG Flexible C Band WR137 70mm
14	Switch RF	-	5903290003	01	SW WR137 SGL 5.85-8.2G 230VA
15	Isolator RF		2503160300	01	Outdoor Isolator
16	Mounting Accessory Set	-		01	Mounting screws including brackets, screws, studs, gasket for flange WR137

### Option Item

ITEM	PRODUCT NAME	OPTION	PART NUMBER	DESCRIPTION
1	AIM		AIM28105	System Status Indoor Monitoring Unit

NOTE: Part list and drawing subject to change without notice  
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