



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

Output Power	P _{sat}	P _{1dB}	P _{linear}
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)
60W (ALB290)	47.8dBm (60W)	-	44.0dBm (25W)

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

AC/DC Power

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

Interface

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

External Reference Requirement

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

Monitor & Control

Monitor	BUC Temperature LO Unlock and Status Alarm with LED Indicator RF Forward Power Detection
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Monitor & Control

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

Environmental

Operating Temperature	-40°C to +60°C
Relative Humidity	Up to 100%
Weatherproof	IP65

Mechanical

Dimension (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"
Weight	4.0Kg / 8.8lbs (DC), 5.8Kg / 12.8lbs (AC)

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); 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)
ETSI EN 301 489-1	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electro Magnetic Compatibility Standard for Radio Equipment and Services
ETSI EN 301 443	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
FCC Class A	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
B03G12

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Standard Part List for Standalone Configuration

ITEM	PRODUCT NAME	OPTION	PART NUMBER	QTY	DESCRIPTION
1	BUC		ALBx90xxx-xxx	01	BUC
2	Prime Power Input Cable	AC Model	1001520980	01	Transient Protection Box 12-3S to Unterminated 220Vac 5A 3M
		DC Model	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

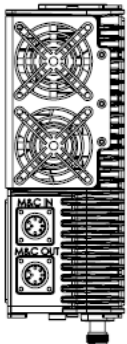
Option Item

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

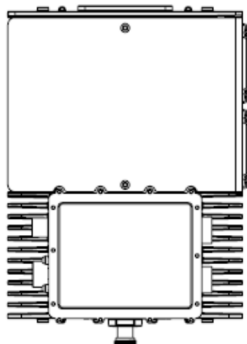
NOTE: Part list and drawing subject to change without notice
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Mounting Diagram

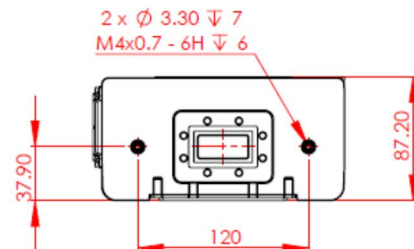
Side View – DC Model



Top View – DC Model



Side View – DC Model



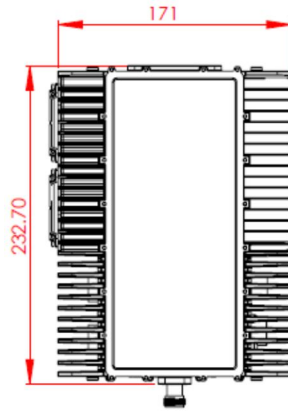
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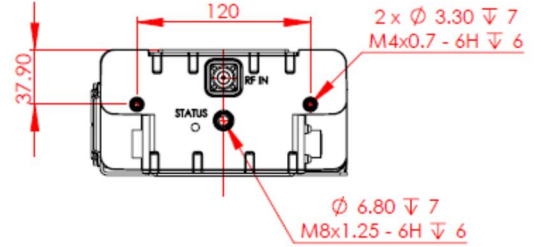
Side View – DC Model



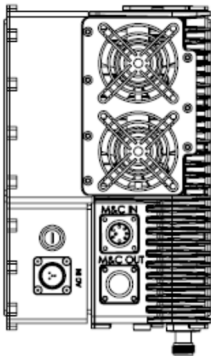
Bottom View



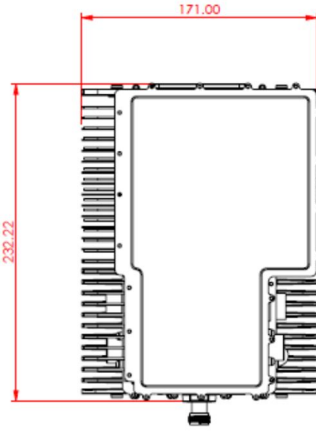
Side View – DC Model



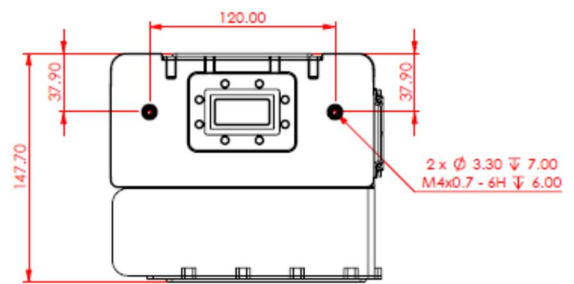
Side View – AC Model



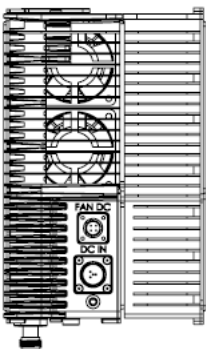
Top View – AC Model



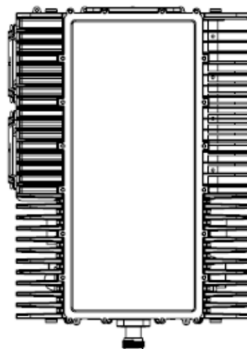
Side View – AC Model



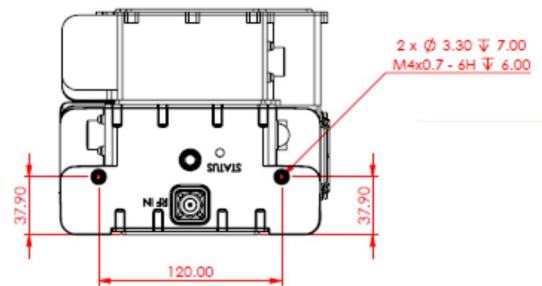
Side View – AC Model



Bottom View



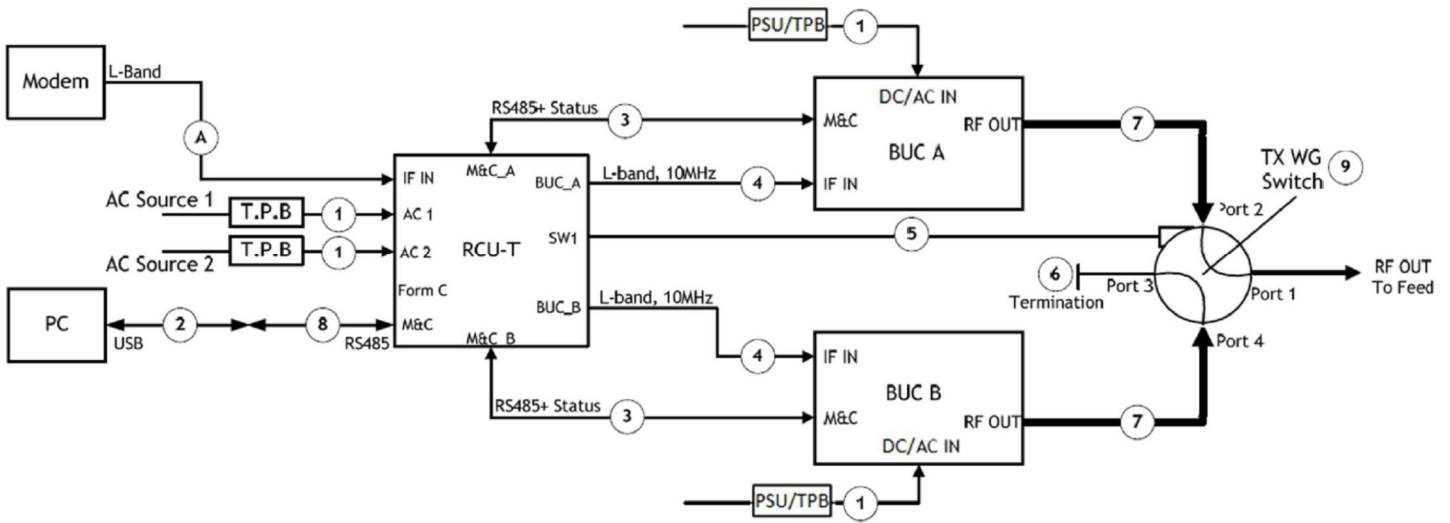
Side View – AC Model



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1:1 Redundancy System Block Diagram



Standard Part List for 1:1 System Configuration

ITEM	PRODUCT NAME	OPTION	PART NUMBER	QTY	DESCRIPTION
1	Power Supply Cable	AC	1001520980	04	Transient Protection Box 12-3S to Underterminated 220Vac 5A 3M
		DC	2502041298	02	C/A PS 12-3S to Underterminated 2M
2	Converter	RS485	6103480008	01	Converter USB to RS485
3	Cable RCU	2M	2502040561	02	C/A Straight 12-8S to 12-8P 2M
4	Cable RF	3M	2502040137	02	C/A RF N (M) to N (M) 3M
5	Cable Switch Control	3M	2502040155	01	C/A SW Control 10-6S to 10-6P 3M
6	WG Termination		4203490021	01	WG Termination C Band WR137 CPRF 125W
7	WG Flexible	0.7M	4203490055	02	WG Flexible C Band WR137 70mm
8	Cable M&C	485/ETH	2502041169	02	C/A M&C 485/ETH 12-8P to DB9 (F) 2M
9	WG Switch		5903290003	01	SW WR137 SGL 5.85-8.2G 230VA
10	Redundancy Control Unit		AAV6103804-T	01	RCU w 10MHz Tx ETH
11	BUC		ALBx90xxx-xxx	02	C BUC
12	Isolator RF		2503160300	01	ACCS WR137 C-Band ISOLATOR 60W W/ O-RING
13	Cable M&C	ETH	2502041166	01	C/A M&C ETH-DB9 (M) to RJ45 2M
14	BUC Mounting Accessory Set			02	Mounting screws including brackets, studs, and gasket for flange WR137
15	RCU Mounting Accessory Set			01	RCU Mounting brackets including screws and studs

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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