



ALB129/229 Series

Compact 40W/50W Ku Band
Block-Up Converter

Designed to mount directly to the feedhorn, ideal for SOTM, fixed and maritime applications.

Innovative and excellent efficiency thermal design makes this BUC one of the most power efficient, robust, rugged, and reliable to withstand in 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
- 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
Standard	14.00 – 14.50GHz	950 – 1450MHz	13.05GHz
Extended	13.75 – 14.50GHz	950 – 1700MHz	12.80GHz
Output Power	P _{sat}	P _{1dB}	P _{linear}
40W (ALB229)	46.0dBm (40W)	-	42.2dBm (16.6W)
50W (ALB229)	47.0dBm (50W)	-	43.2dBm (20.9W)
40W (ALB129)	-	46.0dBm (40W)	43.0dBm (20W)

Small Signal Gain	74dB min
Gain Flatness	±2dB within band ±1dB over 40MHz
Gain Variation	±2dB within band over operating temperature
Intermodulation	-25dBc max @ P _{linear}
Spurious	According to EN 301 428
Phase Noise	-93dBc/Hz max @100KHz offset -83dBc/Hz max @10KHz offset -73dBc/Hz max @1KHz offset
VSWR	1.5:1 max @input 1.25:1 max @output with optional external isolator
Noise Power Density	Tx Band : -70dBW/4KHz max Rx Band : -142dBW/4KHz max

AC/DC Power

Prime Power	38 to 60Vdc (DC Model) 90 to 264Vac, 47 to 63Hz (AC Model)
Power Consumption	280VA max.

Interface

IF Input	N-Type Female 50Ω F-Type Female 75Ω (option)
RF Output	WR75 Square Grooved

Reference Requirement

Frequency	10MHz
Source	External Internal (Option)
Power Level	-5dBm to +5dBm
Ext Ref Phase Noise	-160dBc/Hz max @100KHz offset -155dBc/Hz max @10KHz offset -150dBc/Hz max @1KHz offset

Monitor & Control

Monitor	BUC Temperature Status Alarm with LED Indicator LO Unlock Alarm RF Forward Power Detection
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)	L210 x W130 x H130mm (DC Model) L8.27" x W5.12" x H5.12" L210 x W130 x H235mm (AC Model) L8.27" x W5.12" x H9.25"
Weight	4Kg/8.8lbs (DC Model) 6.4Kg/14.1lbs (AC Model)

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 301 428	Satellite Earth Stations and Systems (SES); Harmonized EN for Very Small Aperture Terminal (VSAT); Transmit-only, transmit/receive or receive-only satellite earth stations operating in the 11/12/14 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive
FCC Part 15 Class B	Two levels of radiation and conducted emissions limits for unintentional radiators (FCC Mark)

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 220Vac 5A 12-3S to Unterminated 3M
3	Cable M&C	Serial / AC	2502041633	01	C/A M&C Serial/ETH 14-12S to DB9 (F) 2M
		Serial / DC	2502041296	01	C/A M&C Serial/ETH + PS 14-12S to DB9 (F)/DC Unterminated 2M
4	Cable M&C	ETH	2502041166	01	C/A ETH-DB9 (M) to RJ45 2M
5	Converter	RS485	6103480008	01	Converter USB to RS485
6	Isolator RF		2503160298	01	ACCS WR75 Ku-Band ISOLATOR 60W W/ O-RING
7	Mounting Accessory Set			01	Mounting screws including brackets, studs, and gasket for flange WR75

Option Items

ITEM	PRODUCT NAME	OPTION	PART NUMBER	DESCRIPTION
1	WG Flexible	0.6m	4203490010	Flexible WG Ku band WR75 Sq Grooved to WR75 Sq Cover 0.6m
		1.0m	4203490049	Flexible WG Ku band WR75 Sq Grooved to WR75 Sq Cover 1m
		1.5m	4203490014	Flexible WG Ku band WR75 Sq Grooved to WR75 Sq Cover 1.5m
2	Prime Power Input Cable	110Vac / 3M	1001520979	Transient Protection Box 12-3S to Unterminated 110Vac 5A 3M
		220Vac / 30M	1001522100	Transient Protection Box 12-3S to Unterminated 220Vac 5A 30M
3	RF Cable	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

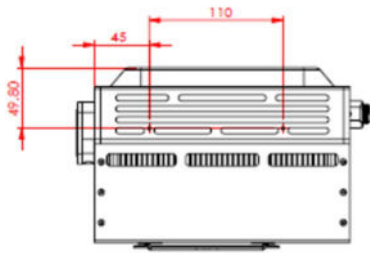
NOTE: Part list and drawing subject to change without notice
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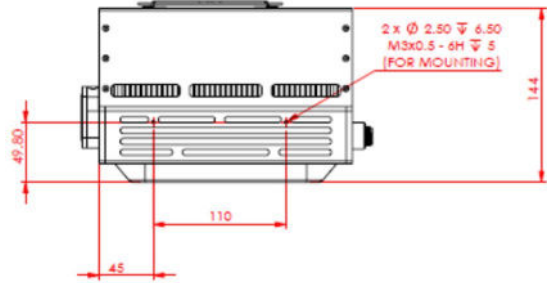
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Mounting Diagram

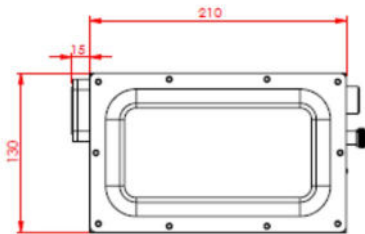
Side View – DC Model



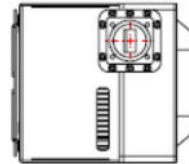
Side View – DC Model



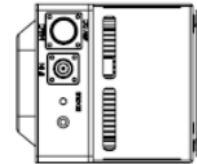
Top View – DC Model



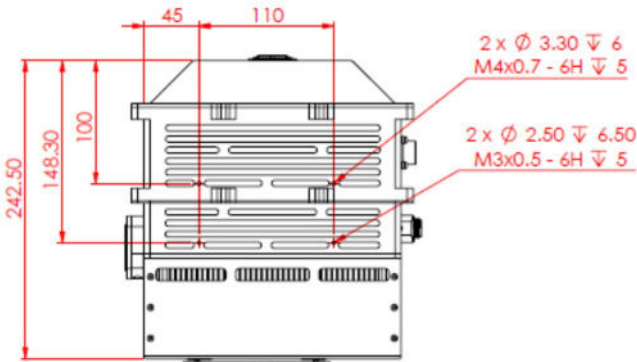
Side View - DC Model



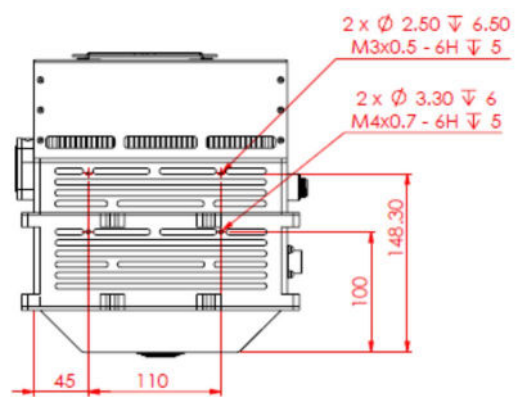
Side View - Model



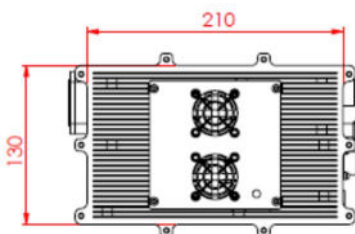
Side View – AC Model



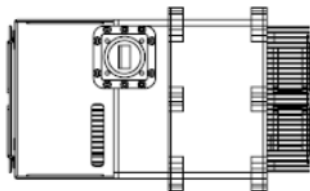
Side View – AC Model



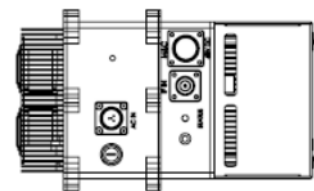
Top View – AC Model



Top View – AC Model



Top View – AC Model



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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	1001520980	02	Transient Protection Box 12-3S to Unterminated 220Vac 5A 3M
3	Cable M&C	Serial / AC	2502041633	02	C/A M&C Serial/ETH 14-12S to DB9 (F) 2M
		Serial / DC	2502041296	02	C/A M&C Serial/ETH + PS 14-12S to DB9 (F)/DC Unterminated 2M
4	Converter	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			02	Mounting screws including brackets, studs, and gasket for flange WR75
7	Redundancy Control Unit		AAV6103804-T	01	RCU w 10MHz Tx ETH
8	RCU Supply	1+1	1001520980	02	Transient Protection Box 12-3S to Unterminated 220Vac 5A 3M
9	WG Flexible		4203490049	02	WG Flexible Ku Band WR75 Sq Grooved to WR75 Sq Cover 1.0M
10	WG Rx Rej Filter		4203490081	01	WG Filter Ku band WR75 Rx Reject
11	WG Termination		4203490015	01	WG Termination Ku Band WR75 75W
12	WG Switch		5903290009	01	WG Switch Ku Band WR75 Single 230Vac
13	Cable M&C	485/ETH	2502041169	01	C/A M&C 485/ETH 12-8P to DB9 (F) 2M
14	Cable RCU		2502041503	02	C/A RCU 14-12S to 12-8S 2M
15	Cable Switch Control		2502040155	01	C/A Sw Control 10-6S to 10-6P 3M
16	Cable RF		2502040137	02	C/A RF N (M) to N (M) 3M
17	Isolator RF		2503160298	01	ACCS WR75 Ku-Band ISOLATOR 60W W/ O-RING
18	Mounting Accessory Set			01	RCU Mounting brackets including screws and studs

Option Items

ITEM	PRODUCT NAME	OPTION	PART NUMBER	DESCRIPTION
1	WG Flexible	0.6m	4203490010	Flexible WG Ku band WR75 Sq Grooved to WR75 Sq Cover 0.6m
		1.0m	4203490049	Flexible WG Ku band WR75 Sq Grooved to WR75 Sq Cover 1m
		1.5m	4203490014	Flexible WG Ku band WR75 Sq Grooved to WR75 Sq Cover 1.5m
2	Prime Power Input Cable	110Vac / 3M	1001520979	Transient Protection Box 12-3S to Unterminated 110Vac 5A 3M
		220Vac / 30M	1001522100	Transient Protection Box 12-3S to Unterminated 220Vac 5A 30M
3	Cable M&C – 485/ETH	6M	2502041980	C/A M&C 485/ETH 12-8P to DB9 (F) 6M
		50M	2502041722	C/A M&C 485/ETH 12-8P to DB9 (F) 50M
4	Cable Switch Control	10M	2502042323	C/A Sw Control 10-6S to 10-6P 10M
		50M	2502042308	C/A Sw Control 10-6S to 10-6P 50M
5	Cable RF	7M	2502040109	C/A RF N(M) TO N(M) 7M
		10M	2502041952	C/A RF N(M) TO N(M) 10M

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1+1 Configuration Block Diagram

