



ALDCBS1X2

Amplified 1X2 GPS Splitter

Technical Product Data



Features

- **Excellent Gain Flatness**
 $|J1 - J2| < 1.0\text{dB}$,
- **Extremely Flat Group Delay**
Less than 1ns variation
- **Amplifier Gain 22dB typical**
- **Passes all GNSS Frequencies (Entire L-band)**
- **DC Blocked Outputs Feature 200Ω Loads**
Prevent antenna alarm faults from connected devices
- **Phase Matched Outputs**
 $\text{Phase } (J1 - J2) < 1.0^\circ$
- **Special Configurations Available By Request**

Description

The ALDCBS1X2 GPS Splitter (GNSS Splitter) is a one input, two output amplified splitter based on the Wilkinson splitter design. The frequency response covers the entire L-band (all GNSS Frequencies) with excellent gain flatness. In the standard configuration, (J1) passes DC from the connected GPS device through the splitter to the input (antenna port). The other RF output (J2) is DC blocked and loaded with a 200Ω resistor to simulate the antenna current draw to prevent false antenna alarm faults. Contact GPS Networking Technical Support for any questions regarding standard configurations or special configurations at salestech@gpsnetworking.com or 1-800-463-3063.

Electrical Specifications, $T_A = 25^{\circ}\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – J1, J2 - 50 Ω ; Ant – J2, J1 - 50 Ω	1.1		1.7	GHz
In/Out Imped.	Ant, J1, J2		50		Ω
Gain		21.0	22.0	23.0	dB
Input SWR	All ports - 50 Ω			2.0:1	-
Output SWR	Normal Configuration , All ports - 50 Ω			1.5:1	-
Noise Figure	Normal Configuration, Ant – J1, J2 - 50 Ω ; Ant – J2, J1 - 50 Ω		3.3	3.5	dB
Gain Flatness	L1 – L2 ; Ant – J1, J2 - 50 Ω ; Ant – J2, J1 - 50 Ω		0.5	1	dB
Amplitude Balance	J1 – J2 ; Ant – J1, J2 - 50 Ω ; Ant – J2, J1 - 50 Ω		0.5	1.5	dB
Phase Balance	Phase (J1 – J2) ; Ant – J1, J2 - 50 Ω ; Ant – J2, J1 - 50 Ω			1.0	deg
Isolation	Normal Configuration, J1 – J2, Ant - 50 Ω	16		24	dB
Group delay Flatness	$\tau_{d,max} - \tau_{d,min}$: Ant – J1, J2 - 50 Ω ; Ant – J2, J1 - 50 Ω			1	ns
Req. DC Input V.	Non-Network Configuration, DC Input on J1	3.6		15	Vdc
P1 dB	Output Power @ 1dB Gain Compression (f = 1.5GHz)		-10		dBm
Current Draw (5v) ⁽¹⁾	Amplifier Current Draw, All ports - 50 Ω			15	mA

(1). Current draw on input DC port in the non-networked configuration.

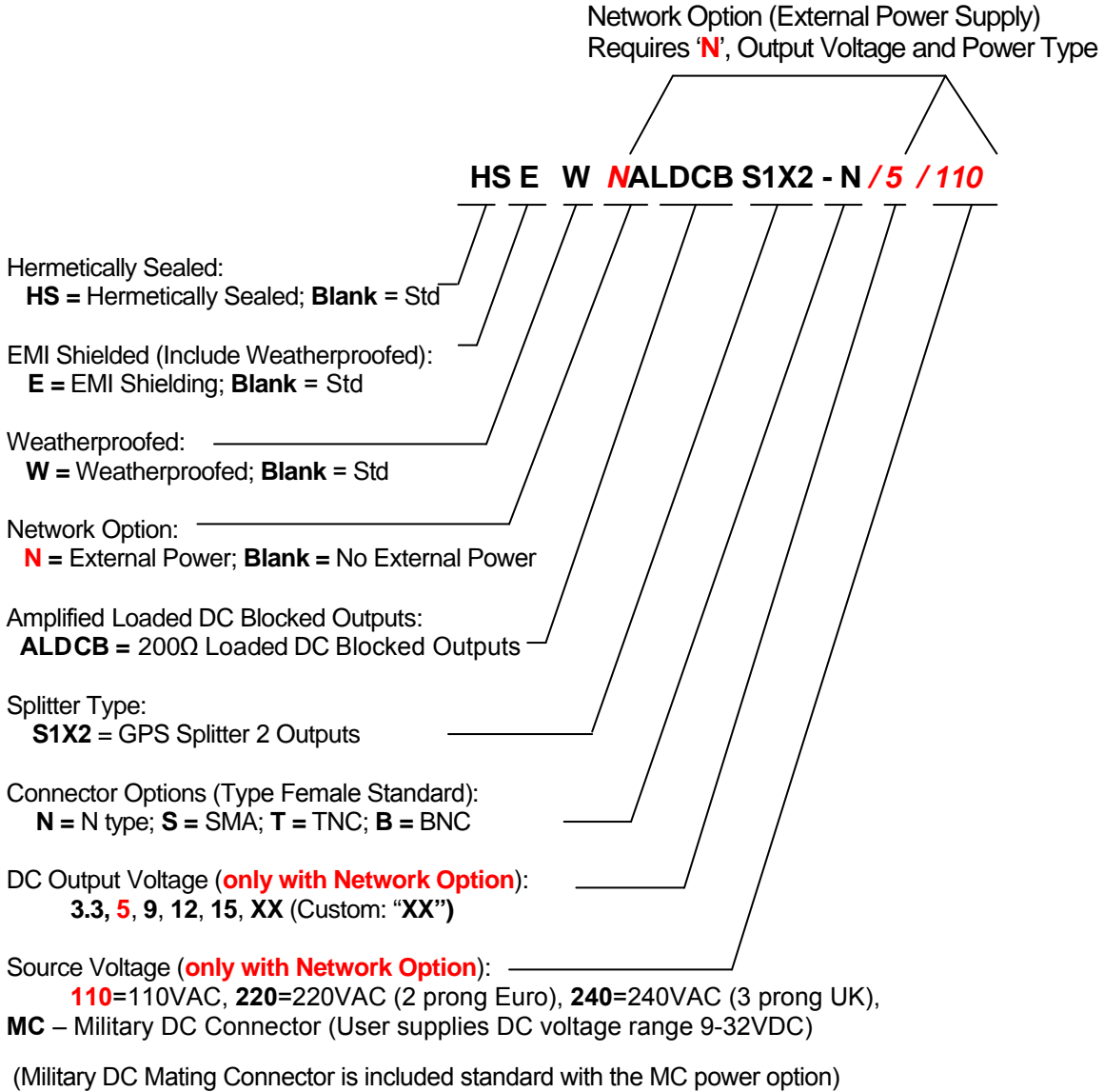
Available Power Options (Networked Option)

External Power Options (Networked Option)		
Source Voltage Options	VOLTAGE INPUT	
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (United Kingdom)	Transformer (Wall Mount)
	Customer Supplied DC 9-32 VDC	Mil DC Connector (includes Mate Std)
Output Voltage Options ⁽¹⁾	DC VOLTAGE OUT	
	MAX CURRENT OUT FOR CORRESPONDING V_{out} ⁽²⁾	
	3.3 V	110mA
	5V	120mA
	9V	140mA
	12V	170mA
	15V	210mA
Custom	TDB	
Standard DC Configuration without External Power Option		
J1/Output 1 Pass DC, J2/Output 2 Block DC, Input Pass DC		
Standard DC Configuration with any External Power Option (AC/DC or Military DC)		
All DC Blocked Outputs include 200 Ω Load Standard		
Any port can be custom selected to Pass or Block DC		
RF Connector Options		
Connector Options	CONNECTOR STYLE	
	CHARGE	
	Type N-female	NC
	Type SMA-female	NC
	Type TNC -female	NC
	Type BNC-female	NC
Other	Contact GPS Networking	

(1) With Networked Option, any RF port (input or output) can be selected Pass DC or Block DC.

(Contact GPS Networking Technical Support at 719-595-9880 or salestech@gpsnetworking.com for any questions regarding non-standard configurations and corresponding part numbers)

Part Number Configuration



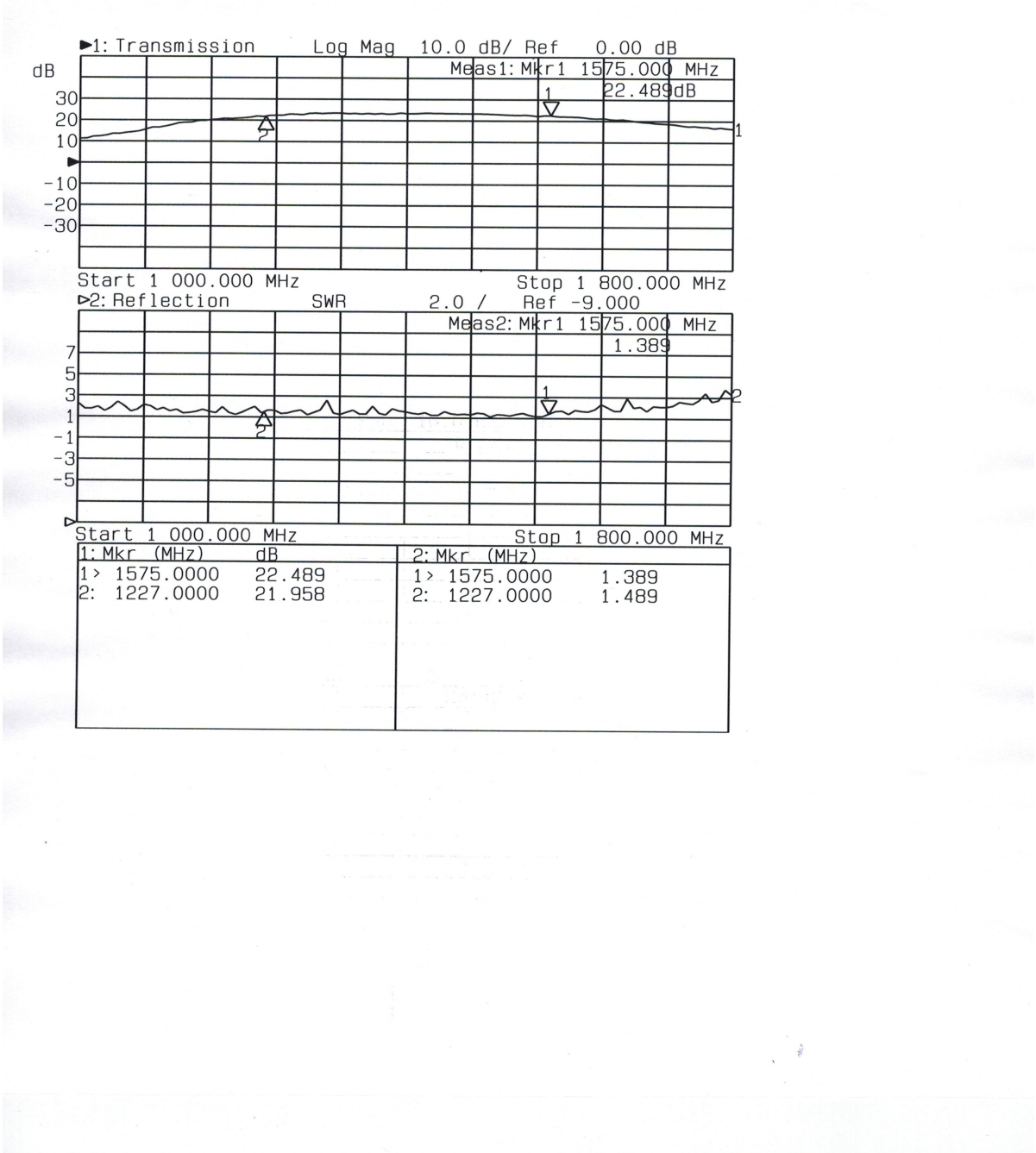
When no external power supply option (AC or DC) is selected, Output 1/J1 is Pass DC standard.
Whenever an external power supply option is selected, all outputs are DC blocked standard.

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Performance

ALDCBS1X2 (Standard Gain)

Input SWR (Ant. port) and Frequency Response: Ant. To J1, J2, (Typical, Type N connectors)



Mechanical

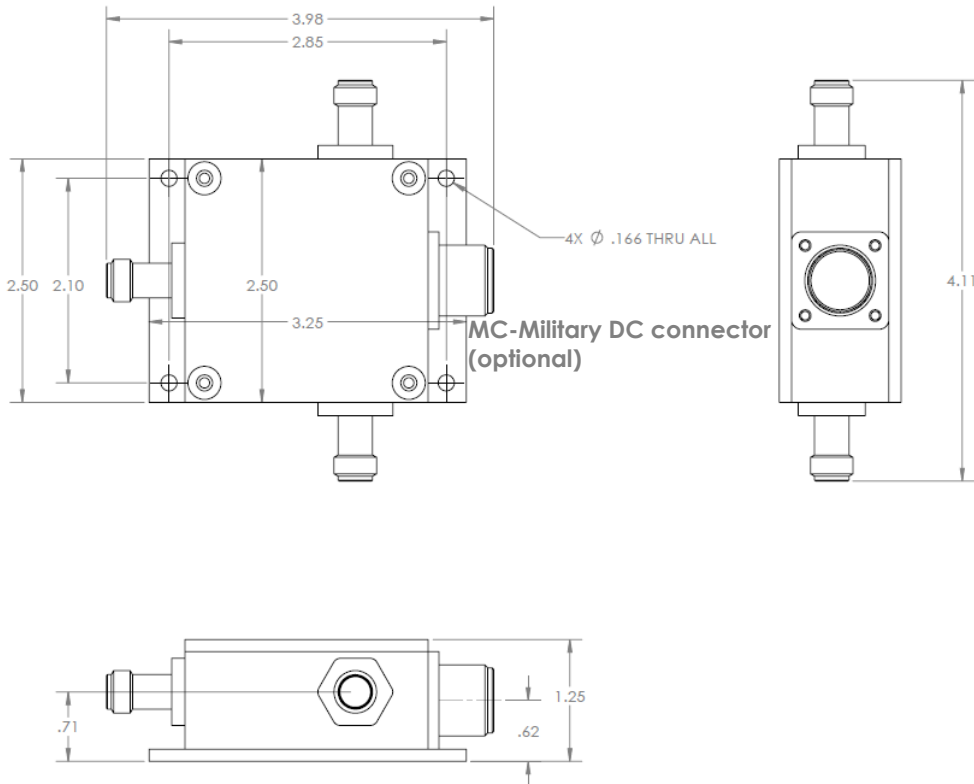
Dimensions: Height: 1.3"
 Length (not including connectors) Body: 2.5"
 Base Plate: 3.25"
 Width (not including connectors): 2.5"

Weight: 11 oz. (316 grams)

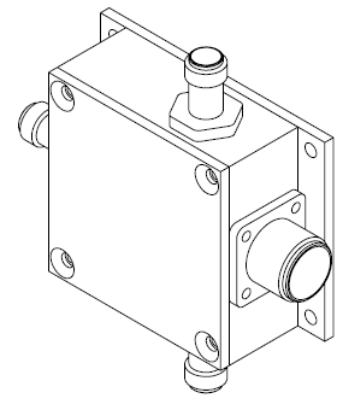
Operating Temp. Range: -40° to + 75°C

Finish Housing and Base Plate: ELECTROLESS NICKEL PLATED
 MIL-C-26074C CLASS 1, .0001-.0003 MAX
 Finish Lid: ANODIZE, TYPE II, CLASS 2, BLACK, per MIL-A-8625

NOTES:
 1. CAD FILES AVAILABLE.



REVISIONS				
ZONE	REV.	DESCRIPTION	REV. BY	DATE
-	A	INITIAL RELEASE	-	-



GPS NETWORKING		Assy, 1x2		Do Not Scale Dwg Remove All Burrs And Sharp Edges to .000 Rad Max
Drawn By BPC	Date 06/22/15	Design Eng		Revision
Checked By		Prod Eng		1 = 4/000
Material	Quantity / Unit Assy	Heat Treatment		20 = 2/015
Heat Angles/Impacts	Insulated	Heat Assy	See Note	3000 = 2/005
Dwg Number Assy, 1x2	SIZE B	REV -	SHEET 1 OF 1	Angle 1 = 1° Surface Finish Unless Noted Fillet Dimensions Unless Noted