

MIL-ALDCBS1X8

Military Amplified 1x8 GPS Splitter

Technical Product Data



Features

- **Excellent Gain Flatness**
|J1-J8| < 1.0dB
- **Extremely Flat Group Delay**
Less than 1ns variation
- **Design and Manufactured to Military Specifications**
- **Passes all GNSS Frequencies (Entire L-band)**
- **DC Blocked Outputs Feature 200Ω Loads**
Prevent antenna alarm faults from connected devices
- **Phase Matched Outputs**
Phase (J1-J8) < 1.0°
- **Special Configurations Available By Request**

Description

The MIL-ALDCBS1X8 GPS Splitter (GNSS Splitter) is a one input, eight output amplified GPS splitter based on the Wilkinson splitter design. The frequency response covers the entire L-band (all GNSS Frequencies) with excellent gain flatness. All Mil Spec splitters passed rigorous MIL-STD 810F testing detailed in the separate Qual Test Summary Certification. The MIL-ALDCBS1X8 is standard hermetically sealed, EMI Shielded and Weatherproofed. Each DC blocked output is 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, TA = 25° C

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – Any Output, Unused Outputs - 50Ω	1.1		1.7	GHz
In/Out Imped. ⁽¹⁾	Ant, J1, J2, J3, J4, J5, J6, J7, J8		50		Ω
Gain (L1)	Any Output, Unused Outputs - 50Ω	13.0	14.0	15.0	dB
Input SWR	All ports - 50Ω			2.0:1	-
Output SWR	All ports - 50Ω			1.5:1	-
Noise Figure	Ant – Any Output, Unused Outputs - 50Ω		3.8	4.3	dB
Gain Flatness	L1 – L2 ; Ant – Any Output, Unused Outputs - 50Ω		0.5	1.5	dB
Amplitude Balance	J1 – J8 ; Ant – Any Output, Unused Outputs - 50Ω			0.5	dB
Phase Balance	Phase (J1 – J2) ; Ant – Any Output, Unused Outputs - 50Ω			1.0	deg
Isolation	Adjacent Ports, Ant - 50Ω (see plots)	15	20	25	dB
Group delay Flatness	τd,max - τd,min : Ant – J1 - J8 - 50Ω ;			1	ns
Req. DC Input V.	Non-Network Configuration, DC Input on J1	3.6		15	Vdc
PI dB	Output Power 1dB Gain Compression (f=1.5GHz)		-18		dBm
Current Draw	Amplifier Current Draw, All ports - 50Ω (typical at 5V)			15	mA

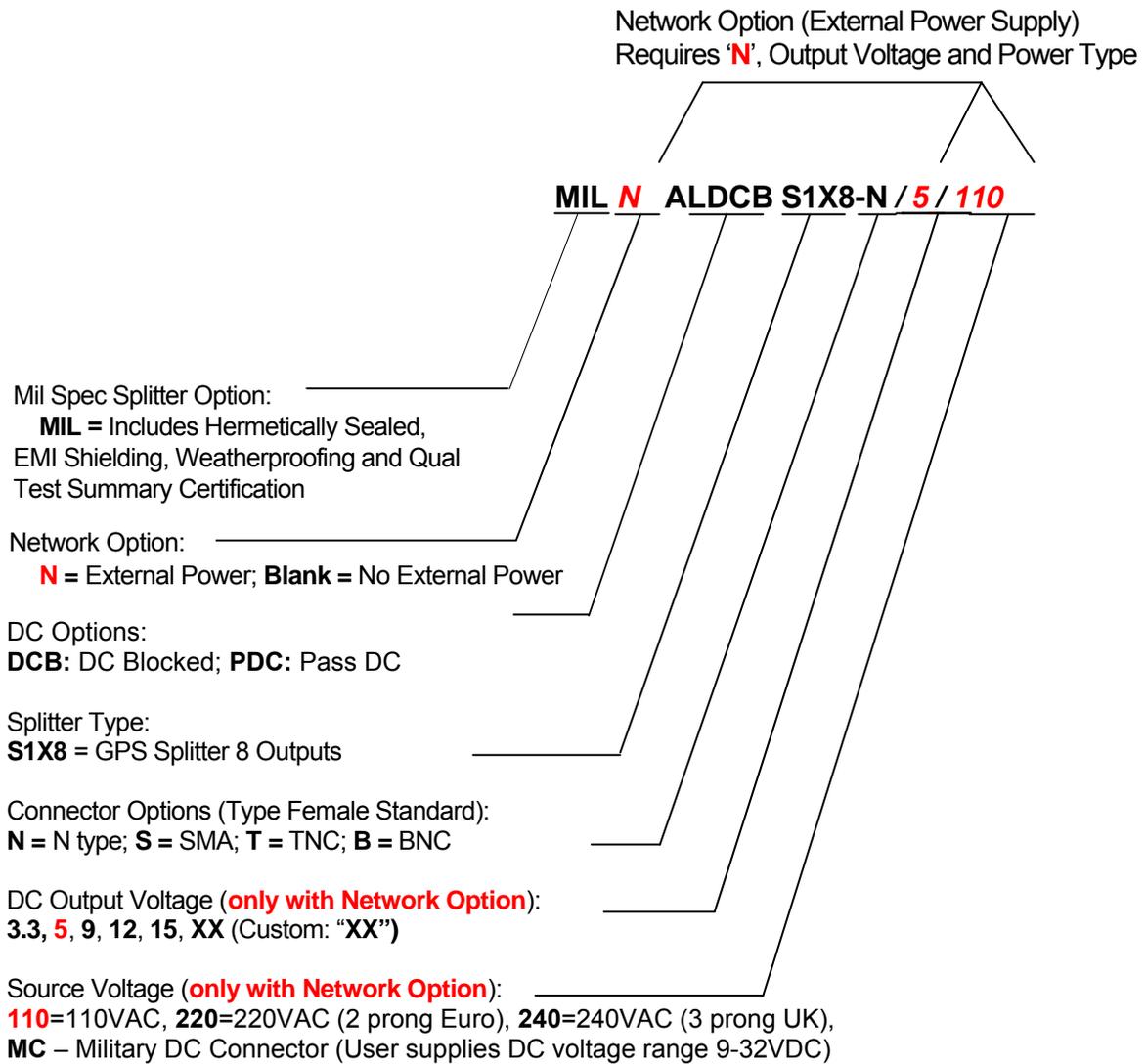
Available Options

Network Power Supply		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (United Kingdom)	Transformer (Wall Mount)
Output Voltage Options ⁽¹⁾	Input DC Voltage 9-32 VDC	Mil DC Connector (includes mate)
	DC VOLTAGE OUT	MAX CURRENT OUT FOR CORRESPONDING Vout ⁽¹⁾
	3.3 V	110mA
	5V	130mA
	9V	140mA
	12V	170mA
	15V	210mA
Custom	TDB	
Standard DC Configuration without External Power Option		
J1/Output 1 Pass DC, J2-J8/Output 2-8 Block DC, Input Pass DC		
Standard DC Configuration with any External Power Option (AC/DC or Military DC)		
All Outputs DC Blocked with 200Ω Load Standard		
DC Blocked	Any or all ports 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). TA = +50°C. Assuming Source of 110V or 220V Wall Mount Transformer. In general, maximum output current can be determined by:

$$I_{out} \leq 2.9 / (V_{sourceDC} - V_{out}) \text{ A}$$

Part Number Configuration



(Military DC Mating Connector is included standard with the MC power option)

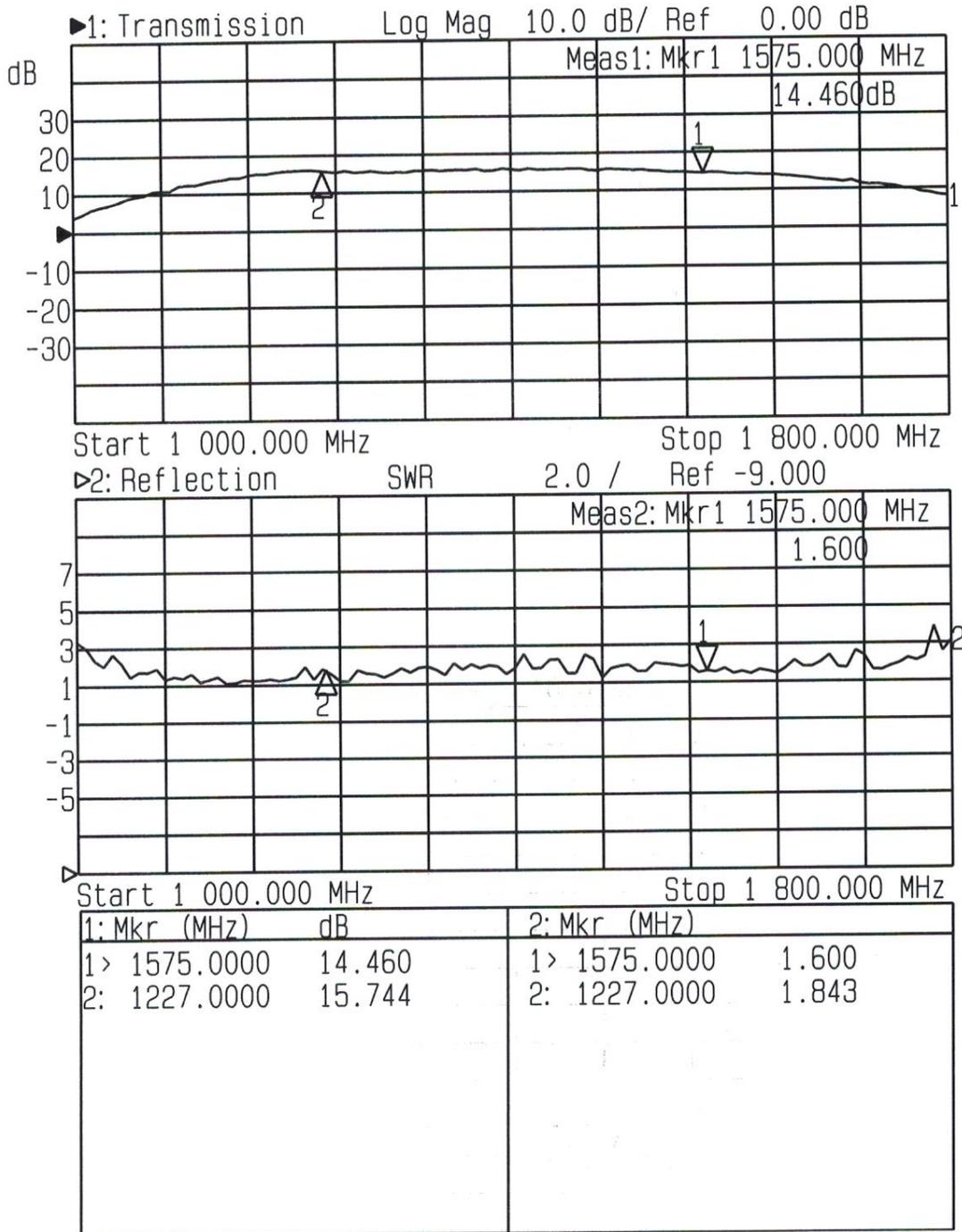
When no external power supply option (AC or DC) is selected, Output 1/J1 is Pass DC standard. Whenever an external power supply option is selected, all outputs are DC blocked standard.

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

Performance:

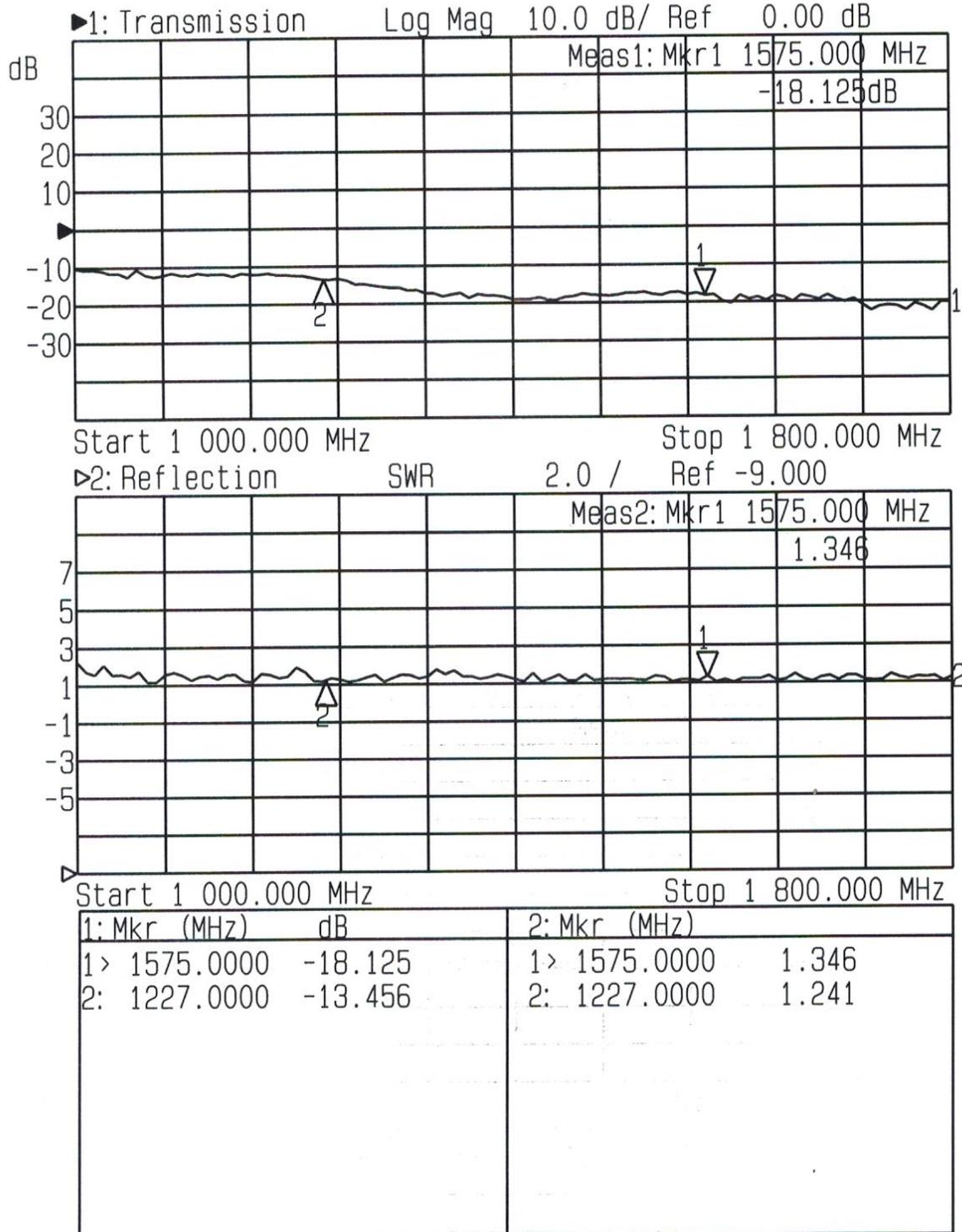
ALDCBS1X8 (Standard Gain)

Input SWR (Ant. Port) and Frequency Response: Ant. To J1-J8) (Typical, type N connectors):



ALDCBS1X8 (Output Isolation)

Adjacent Output Isolation (J1-J3,J2-J4, etc) (Typical, type N conn.):



Mechanical

All Measurements are done without connectors

Dimensions

Height: 1.3"
Length: Body 4.5" Base Plate: 5.25"
Width: 2.5"

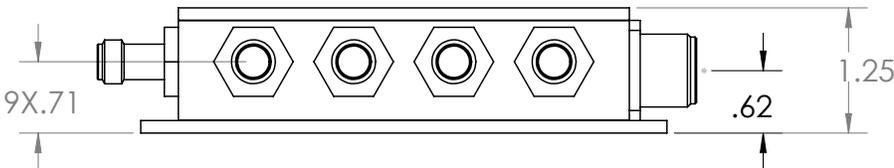
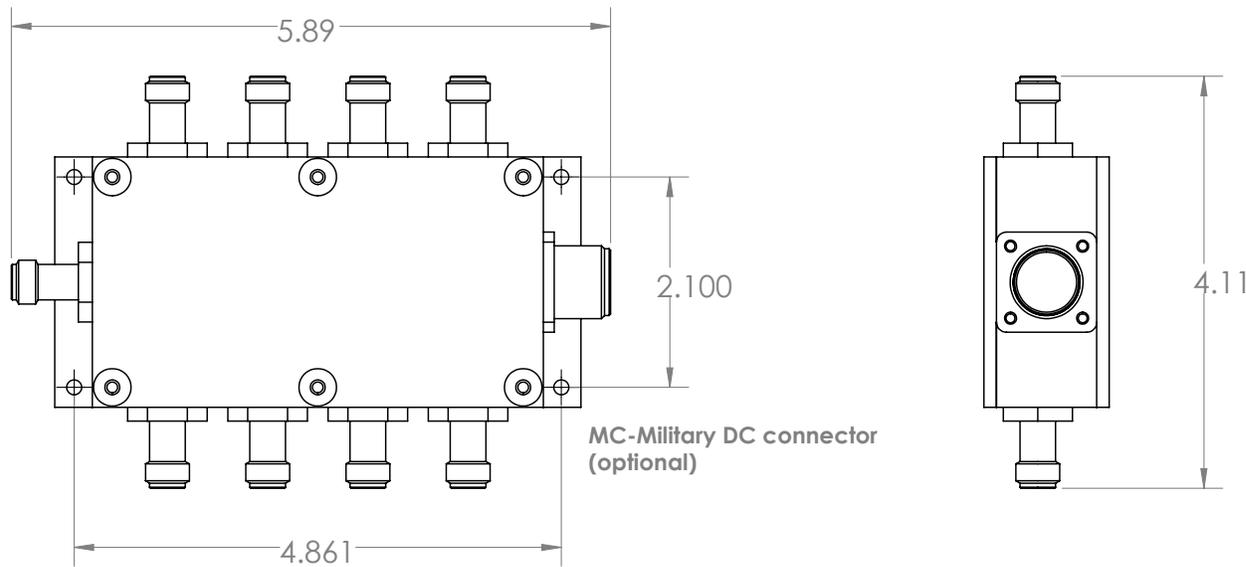
Weight: 11.3oz (320.3grams)

Weight is with gaskets, housing, lid and base. Connector type can add 1-3oz

Operating Temp. Range: -40⁰ to + 75⁰C

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



-EMI shielding gaskets can increase listed product dimensions by up to 0.02 inches per axis