

# MIL-LDCBS1X4

## Military 1X4 GPS Splitter

### Technical Product Data



## Features

- **Passes all GNSS Frequencies (Entire L-band)**
- **Extremely Flat Group Delay**  
Less than 1ns variation
- **Military Qualified 1X4 Splitter**  
MIL STD 810F
- **Low Insertion Loss**
- **DC Blocked Outputs Feature 200Ω Loads**  
Prevent antenna alarm faults from connected devices
- **Phase Matched Outputs**  
Phase (J1 – J4) < 1.0°
- **Special Configurations Available By Request**
- **Qual Test Summary Certification Available**

## Description

The MIL-LDCBS1X4 GPS Splitter (GNSS Splitter) is a one input, four output passive splitter based on the Wilkinson splitter design. The frequency response covers the entire L-band (all GNSS Frequencies). All Mil Spec splitters passed rigorous MIL-STD 810F testing detailed in the separate Qual Test Summary Certification. The MIL-LDCBS1X2 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](mailto:salestech@gpsnetworking.com) or 1-800-463-3063.

## Electrical Specifications, TA = 25<sup>0</sup>C

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – Any Output, Unused Outputs - 50Ω	1.1		1.7	GHz
Input/Output Impedance	Ant, J1, J2, J3, J4		50		Ω
Input SWR	All ports - 50Ω			2.0:1	-
Output SWR	All ports - 50Ω			1.5:1	-
Insertion Loss	Ant – Any Output, Unused Outputs - 50Ω	-6.5	-7.5	-8.5	dB
Gain Flatness	J1 - J4   ; Ant – Any Output, Unused Outputs - 50Ω			1.0	dB
Amplitude Balance	J1 – J4   ; Ant – Any Output, Unused Outputs - 50Ω			1.0	dB
Phase Balance	Phase (J1 – J4) ; Ant – Any Output, Unused Outputs - 50Ω			1.0	deg
Isolation	Adjacent Ports: Ant - 50Ω Opposite Ports: Ant - 50Ω	15 22			dB
Group delay Flatness	$\tau_{d,max} - \tau_{d,min}$ : Ant – J1 – J4 - 50Ω ; Ant – J4, J1 - 50Ω			1	ns

## Available Power Options (Networked Option)

Network Power Supply		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC (2 prong Euro)	Transformer (Wall Mount)
	240 VAC (3 prong UK style)	Transformer (Wall Mount)
Output Voltage Options <sup>(1)</sup>	Customer Supplied DC (9-32 VDC)	2-pin Military DC Connector
	DC VOLTAGE OUT	MAX CURRENT OUT FOR CORRESPONDING Vout
	3.3V	110mA
	5V	120mA
	9V	140mA
	12V	180mA
	15V	220mA
Custom	TDB	
<b>Standard DC Configuration without External Power Option</b>		
	J1/Output 1 Pass DC, J2-J4/Output 2-4 Block DC, Input Port Pass DC	
	200 ohm loads standard for all DC Blocked Outputs	
<b>Standard DC Configuration with any External Power Option (AC/DC or Military DC)</b>		
	All DC Blocked Outputs feature 200Ω Load in Standard Configuration	
	User Selected Output DC Voltage	
<b>RF Connector Options</b>		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N-female	NC
	Type SMA-female	NC
	Type TNC-female	NC
	Type BNC-female	NC

(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](mailto:salestech@gpsnetworking.com) for any questions regarding non-standard configurations and corresponding part numbers)

## Part Number Configuration

Network Option (External Power Supply)  
Requires 'N', Output Voltage and Power Type

**MIL** **N** **LDCB** **S1X4** - **N** / **5** / **110**

Mil Spec Splitter Option:

**MIL** = Includes Hermetically Sealed, EMI Shielding, Weatherproofing and Qual

Test Summary Certification

Network Option:

**N** = External Power; **Blank** = No External Power

Loaded DC Blocked Outputs:

**LDCB** = 200 Loaded DC Blocked Outputs

Splitter Type:

**S1X4** = GPS Splitter 4 Outputs

Connector Options (Type Female Standard):

**N** = N type; **S** = SMA; **T** = TNC; **B** = BNC

DC Output Voltage (**only with Network Option**):

**3.3**, **5**, **9**, **12**, **15**, **XX** (Custom: "XX")

Source Voltage (**only with Network Option**):

**110**=110VAC, **220**=220VAC (2 prong Euro), **240**=240VAC (3 prong UK),  
**MC** – Military DC Connector (User supplies DC voltage range 9-32VDC)

(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.

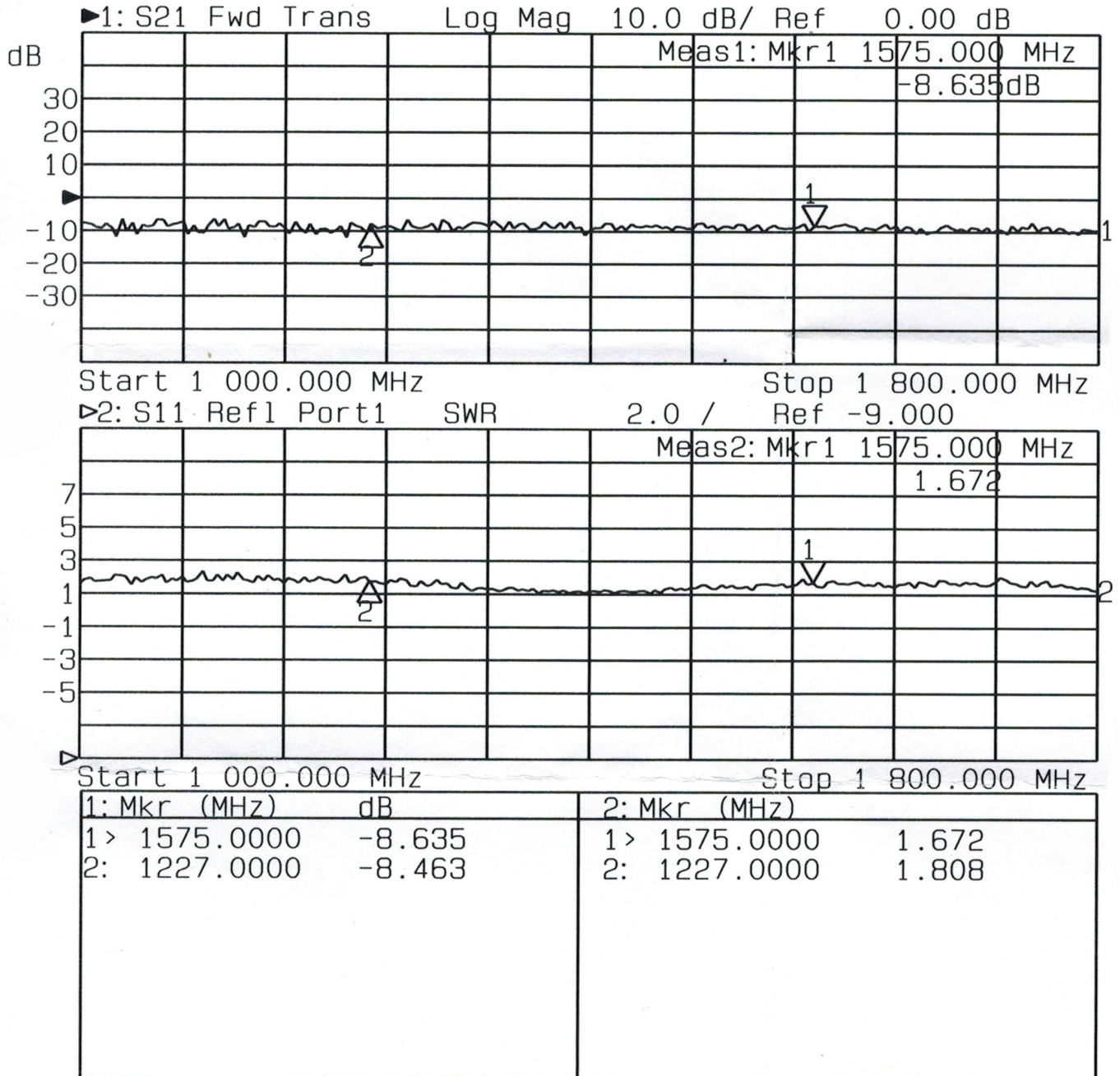
Whenever an external power supply option is selected, all outputs are DC blocked standard.

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# Performance

**MIL-LDCBS1X4** (Typical, Type N-female connectors)

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



# Mechanical

All Measurements are done without connectors

## Dimensions

Height: 1.3"  
 Length: Body 2.5" Base Plate: 3.25"  
 Width: 2.5"

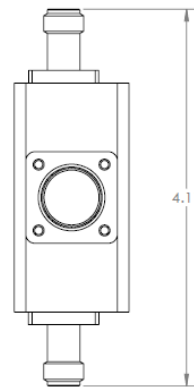
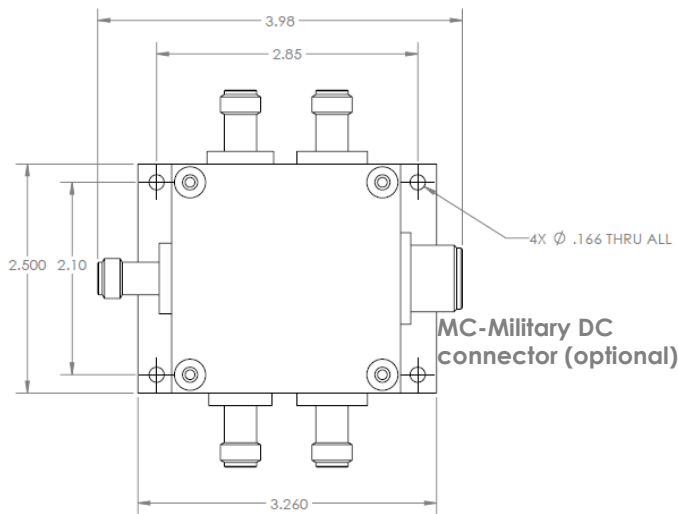
**Weight:** 7.3oz (207 grams)

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

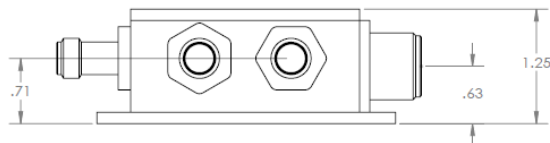
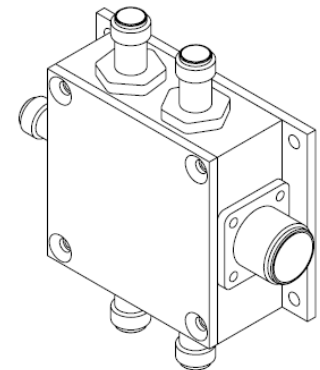
**Operating Temp. Range:** -40<sup>0</sup> to + 75<sup>0</sup>C

**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



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



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

GPS NETWORKING				Assy, 1x4 Military		Do Not Scale Dwg Remove All Burrs And Sharp Edges To 0.005 Root Max
By	BPC	Date	07/02/15	Drawn By		Material
Checked by		Scale		Part Number		Finish
Scale		Industry / Part Key		Part Name	See Note	XXX = ±.000 XXX = ±.005
Part Approval		Material		Part No.		Angle #1
Dwg Number						Surface Fin Unless Noted Inch Dimensions Unless Noted
		SIZE	B	REV	-	SHEET
						1 OF 1