



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 |
| P ₁ 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.

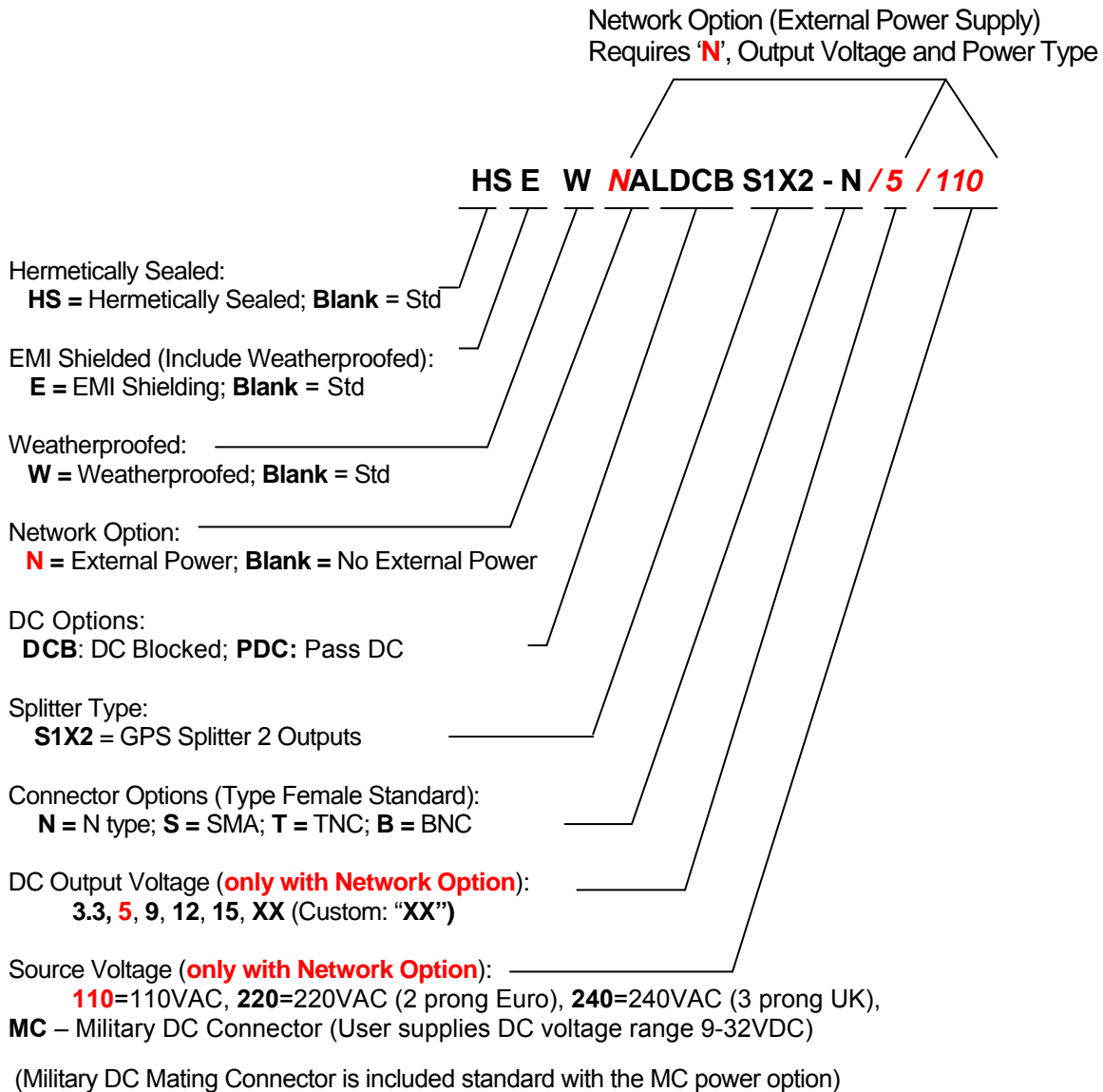
Available Power Options (Networked Option)

| External Power Options (Networked Option) | | |
|---|--|---|
| Source Voltage Options | VOLTAGE INPUT | STYLE |
| | 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 Vout ⁽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 200Ω 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



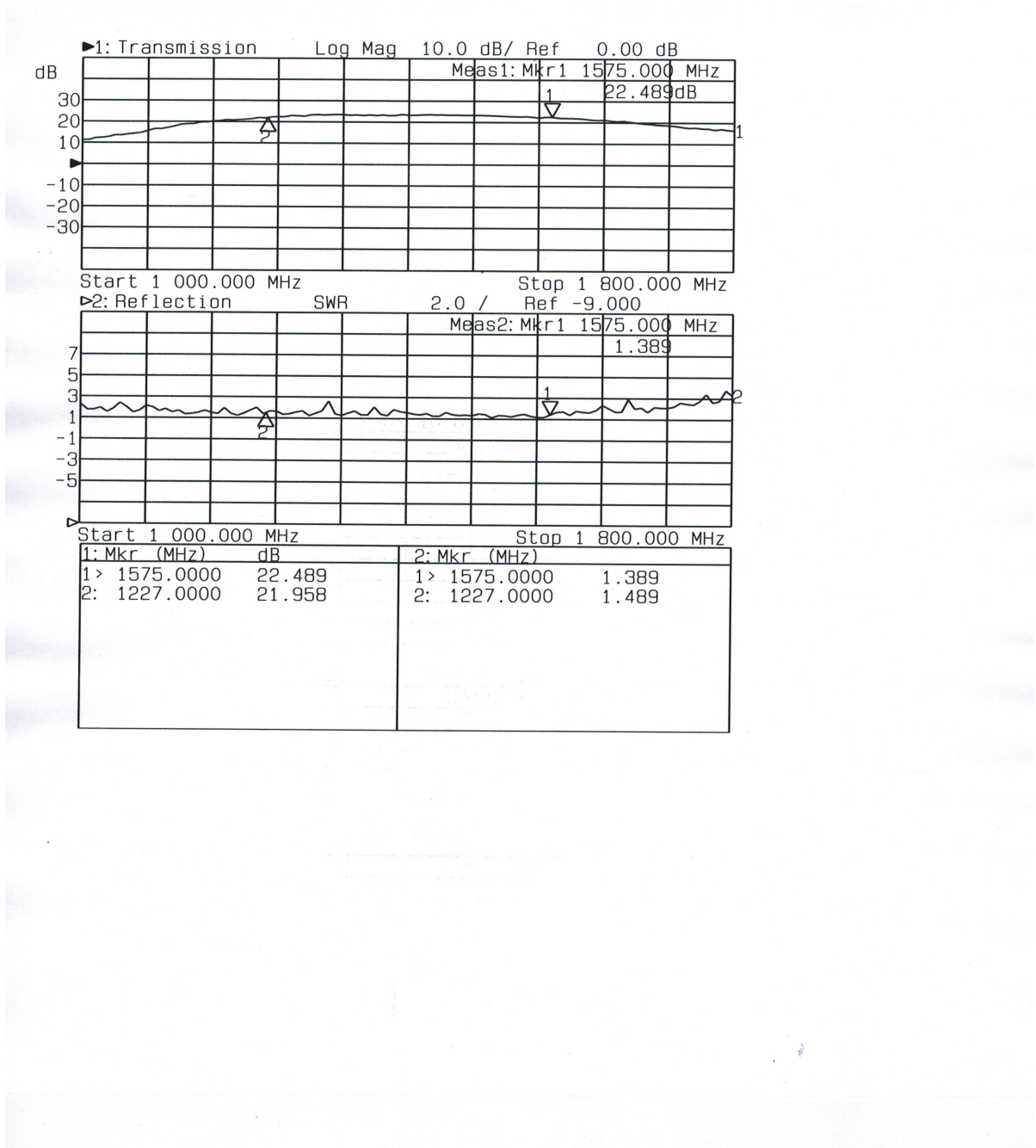
When no external power supply option (AC or DC) is selected, Output 1/J1 is Pass DC standard.
Whenever an external power supply option is selected, all outputs are DC blocked standard.

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Performance

ALDCBS1X2 (Standard Gain)

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



Dimensions:

Height: 1.3"

Length (not including connectors) Body: 2.5"
Base Plate: 3.25"

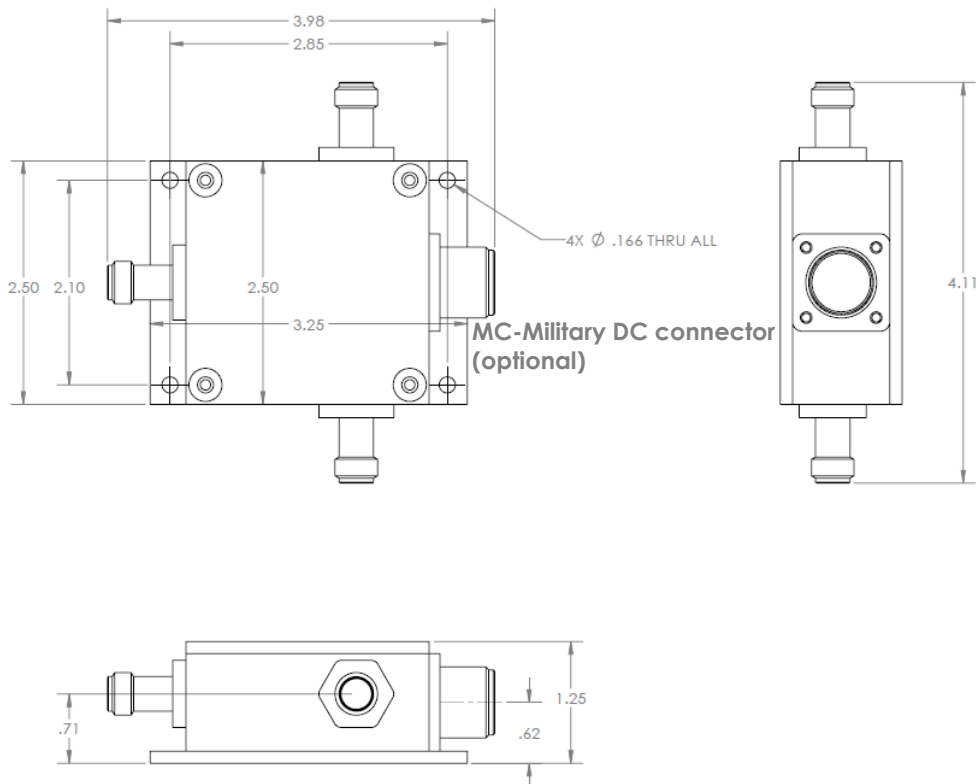
Width (not including connectors): 2.5"

Weight:

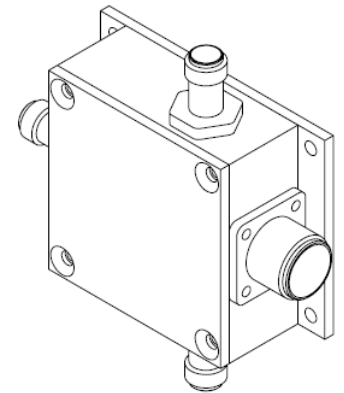
11 oz. (316 grams)

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



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



| | | | | | | | |
|--------------------------------|-------------------------|--------------------|-----------------|------|-------|---|---|
| GPS NETWORKING | Assy, 1x2 | | | | | | Do Not Scare Dogs Remove All Burrs And Sharp Edges to .020 Rad Max |
| Drawn By BPC | Date 06/22/15 | Designing | | | | | |
| Checked By | Date | Pkg Mng | | | | | Tolerances .01 = +.000 = -.001 X.XX = +.005 |
| Title Hole Angle Projection | Quantity / Used Assy | Assembly Worksheet | See Note | | | | Angles: 30.0 = .005 Surface Finish Unless Noted Per Dimensions |
| Dwg Number Assy_1x2 | Material | Unit Assy | Sizes | Rev. | SHEET | 1 | |