



CPDC4X1

Technical Product Data

Features

- **Excellent Gain Flatness**
 $|L1 - L2| < 0.5\text{dB}$,
- **Extremely Flat Group Delay**
 Less than 1ns variation
- **Phase Matched Outputs**
 $\text{Phase (J1 - J2)} < 1.0^\circ$

Description

The CPDC4X1 GPS Combiner is a four input, one output RF device. The frequency response covers the GPS L1, L2, L5 and Galileo/GLONASS bands with excellent gain flatness. In the standard configuration, all 4 input ports (Labeled Antenna 1, Antenna 2, Antenna 3 and Antenna 4) will pass DC from the Output Port to the connected GPS receiver to allow one receiver to power all 4 active antennas.

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

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – Any Output, Unused Outputs - 50Ω	1.1		1.7	GHz
Input/Output Impedance ⁽¹⁾	Ant, J1, J2, J3, J4		50		Ω
Input SWR	All ports - 50Ω			1.8:1	-
Output SWR	All ports - 50Ω			1.5:1	-
Insertion Loss	Ant – Any Output, Unused Outputs - 50Ω	-4.0	-5.0	-6.0	dB
Gain Flatness	$ L1 - L2 $; Ant – Any Output, Unused Outputs - 50Ω			0.5	dB
Amplitude Balance	$ J1 - J2 $; Ant – Any Output, Unused Outputs - 50Ω			0.5	dB
Phase Balance	Phase (J1 – J2); Ant – Any Output, Unused Outputs - 50Ω			1.0	deg
Group delay Flatness	$\tau_{d,max} - \tau_{d,min}$: Ant – J1, J2 - 50Ω ; Ant – J2, J1 - 50Ω			1	ns

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)
	Customer Supplied DC 9-32 VDC	Military Style Connector
Output Voltage Options ⁽¹⁾	DC VOLTAGE OUT	MAX CURRENT OUT FOR CORRESPONDING Vout ⁽²⁾
	5 V	120mA
	7.5V	140mA
	9V	150mA
	12V	180mA
	15V	220mA
	Custom	TDB
Pass/Block DC Options		
Standard Configuration	All Ports Pass DC	
Network Option	Output Port is DC blocked, All 4 Inputs Pass DC	
RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N	NC
	Type SMA	NC
	Type TNC	NC
	Type BNC	NC

(1). With Network Option, any RF port (input or output) can be DC blocked or can pass the network DC voltage.

(2). $T_A = +50^\circ\text{C}$. 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

N CPDC4X1 - S / 5 / 110

Network Option:
N = Network Option; **Blank** = No Network

DC Options:
PDC = Pass DC; **DCB** = DC Blocked

Connector Options:
N = N type; **S** = SMA; **T** = TNC; **B** = BNC

DC Output Voltage:
3.3, 5, 7.5, 9, 12, 15, CXX (Custom: "XX" denotes desired V)

Source Voltage:
110 -Transformer, **220** - Transformer, **240** - Transformer, **MC** - Military Conn. (User supplies DC Voltage)

Mechanical

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

Weight: 11.8 oz. (340 grams)

Operating Temp. Range: -40° to + 75°C