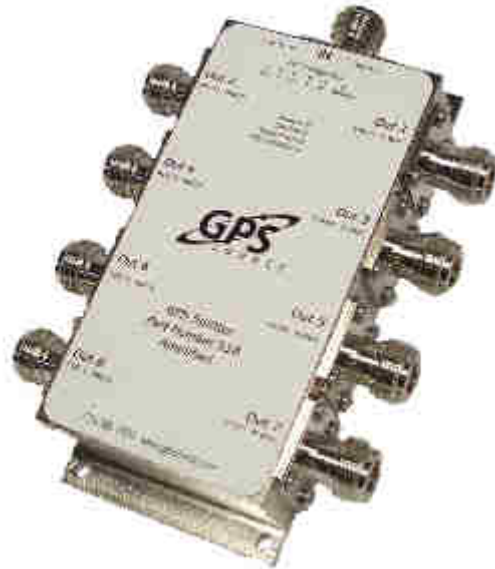


# S18 Splitter

## Technical Product Data

### Features

- Amplified to Preserve Link Margins
- Passes GPS, Galileo & GLONASS L1/L2
- Excellent Gain Flatness
- RoHS/WEEE Compliant
- Designed to Mil. Std. 810



### Description

The S18 GPS Splitter is a one-input, eight-output GPS device. This product typically finds application where an input from an active GPS roof antenna is split evenly between eight receiving GPS units. In this scenario, the S18 can be configured to pass DC from an RF output (J1) to the antenna input port in order to power an active GPS antenna on that port. The second through the eighth RF outputs (J2 – J8) would feature a 200 Ohm DC load to simulate an antenna DC current draw for any receiver connected to those ports.

The S18 splitter comes with many available options to meet your specific needs. Please call, fax, email ([sales@gpssource.com](mailto:sales@gpssource.com)), or visit our website ([www.gpssource.com](http://www.gpssource.com)) for further information on product options, specifications, or to receive an easy to use order sheet.

### Electrical Specifications, Operating Temperature -40 to 85 °C

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range		Ant – Any Port, Unused Ports - 50 Ω	1.1		1.7	GHz
In/Out Imped.		Ant, J1, J2, J3, J4, J5, J6, J7, J8		50		Ω
Gain <sup>(4)(5)</sup>		Ant – Any Port, Unused Ports - 50 Ω				
-Amplified (Norm)			16.5	18	19.5	dB
-Amplified (Cust Gain)		As Specified, XdB	X-1	X	X+1	
Input SWR <sup>(5)</sup>		All Ports 50Ω			2.0:1	-
Output SWR <sup>(5)</sup>		All Ports 50Ω			2.0:1	-
1dB Comp. Pt. (Ampl.)		All Ports 50Ω		-32		dBm
Input IP <sub>3</sub> (Ampl.)		All Ports 50Ω		-24		dBm
Noise Figure-Amplified		Ant – Any Port, Unused Ports - 50 Ω			2.2	dB
Gain Flatness <sup>(5)</sup>		L1 - L2 , Ant – Any Port, Unused Ports - 50 Ω			3	dB
Amp. Balance		J1 - J2 , Ant – Any Port, Unused Ports - 50 Ω			0.5	dB
Phase Balance		Phase (J1 - J2), Ant – Any Port, Unused Ports - 50 Ω			1.0	deg
Group Delay Flatness		$\tau_{d,max} - \tau_{d,min}$ , Ant – Any Port			1	ns
Isolation <sup>(4)</sup>						
-Amplified (Norm)		Adjacent Ports: Ant - 50Ω	13			dB
		Opposite Ports: Ant - 50Ω	18			dB
-Amplified (Hi Iso.)		Adjacent Ports: Ant - 50Ω	28			dB
		Opposite Ports: Ant - 50Ω	34			dB
AC IN	110	Wall Mount Transformer <sup>(2)</sup>		110		VAC
	220/240	Wall Mount Transformer (Various Intl. plug types available) <sup>(2)</sup>		230		VAC
DC IN	DC Blk	Any DC Blocked Port with a 200 Ω Load			14	VDC
	Pass DC -Amplified	Non-Powered Configuration, DC Input on J1	3		16	VDC
	Powered	Powered, Mil. Conn. or Quick Connect Option	3 <sup>(1)</sup>		28	VDC
Device Current		Current Consumption of device, excludes Ant. Cur.			16	mA
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on J1			250	mA
	Powered	Powered, Mil. Conn. or Quick Connect Option			Note 2	mA
Max RF Input -Amplified		Max RF input without damage			0	dBm

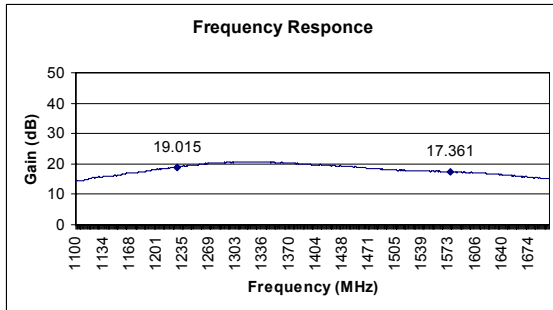
**Notes:**

- DC IN for powered option must be 2V greater than desired DC Voltage Out
- Maximum DC IN is 35V when 1275B Powered option is included
- Maximum combined DC current draw out all ports of the device is a function of the DC input voltage and desired DC output voltage , according to the following:  

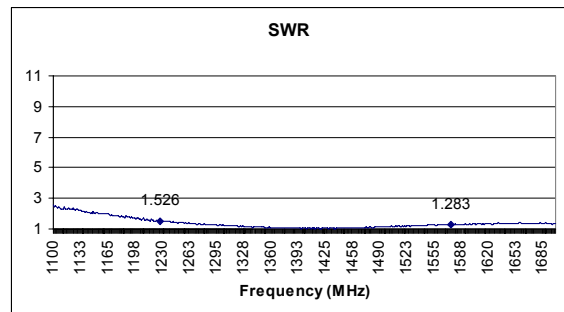
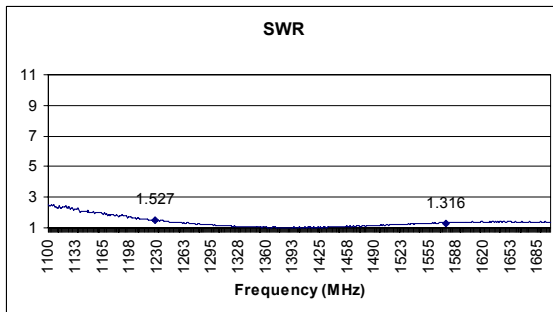
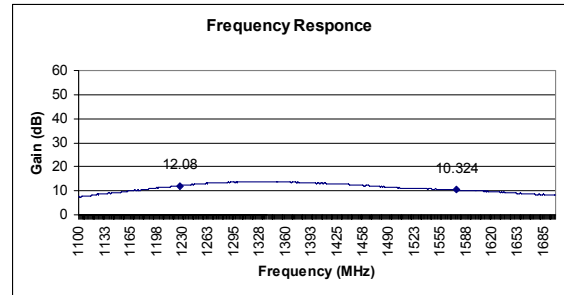
$$I_{out} \leq 1.4 / (V_{DC IN} - V_{DC OUT}) - 0.016 \text{ Amps}$$
For powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC), V<sub>DC IN</sub> is 9V.
- Choose Custom Gain Option to increase port-to-port isolation
- Performance guaranteed for N(F) connectors.

**Performance Data:**

**S18 Active – Normal**



**S18 Active - Hi Isolation**



**Available Options:**

<b>Power Supply Options:</b>		
<b>Source Voltage Options</b>	<b>Voltage Input</b>	<b>Type</b>
	110 VAC	Wall Mount Transformer
	220 VAC	Wall Mount Transformer
	240 VAC (U.K.)	Wall Mount Transformer
	DC 5-28 VDC	Military Style Connector or w/Quick Connects
<b>Output Voltage Options<sup>(1)</sup></b>	<b>DC Voltage Out<sup>(2)</sup></b>	
	3.3	
	5	
	7.5	
	9	
	12	
	Variable (3-12V)	
Custom		
<b>RF Connector Options:</b>		
<b>Connector Options</b>	<b>Connector Type</b>	<b>Limitations</b>
	N (Male & Female)	
	SMA (Male & Female)	
	TNC (Male & Female)	
	SMB (Female)	
	SMC (Female)	
	MCX (Female)	
	BNC (Male & Female)	Performance Not Guaranteed
<b>Housing Options:</b>		
<b>Housings</b>	<b>Housing Type</b>	<b>Limitations</b>
	Standard	None
	Slimline	Powered Option Not Ava. Connectors Not Available: N, TNC, BNC
<b>Port Options:</b>		
Pass DC <sup>(1)</sup>	All Ports Pass DC	
DC Blocked <sup>(1)</sup>	J2 – J8 are DC Blocked & 200Ω Loaded, DC is passed J1 to ANT	

**Notes:**

1. With Powered Option, any or all RF ports (input or output) can be DC Blocked or can pass the powered DC voltage
2. Maximum combined DC current draw out all ports of the device is a function of the DC input voltage and desired DC output voltage , according to the following:

$$I_{out} \leq 1.4 / (V_{DC IN} - V_{DC OUT}) - 0.016 \quad \text{Amps (or 250mA max)}$$

For powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC),  $V_{DC IN}$  is 9V.

**Part Number:**

**S18 - A - P110 / 5 - NF**

Product:

Standard 1x8 Splitter  
(Pass DC J1-Ant, J2 – J8 DC Blk.)

Gain Option:

**A** – Amplified  
**AXX** – Custom Gain, XXdB

Source Voltage:

**P110** – Transformer,  
**P220** – Transformer,  
**P240** – Transformer,  
**PDC** – DC w/Quick Connects  
**PM** – Military Connector (User supplies DC)  
**PMS** – 1275B Surge Suppression STD

Output Voltage:

**3.3, 5, 7.5, 9, 12, XX, V** – Denotes Output Voltage  
(XX – custom output voltage, V – variable)

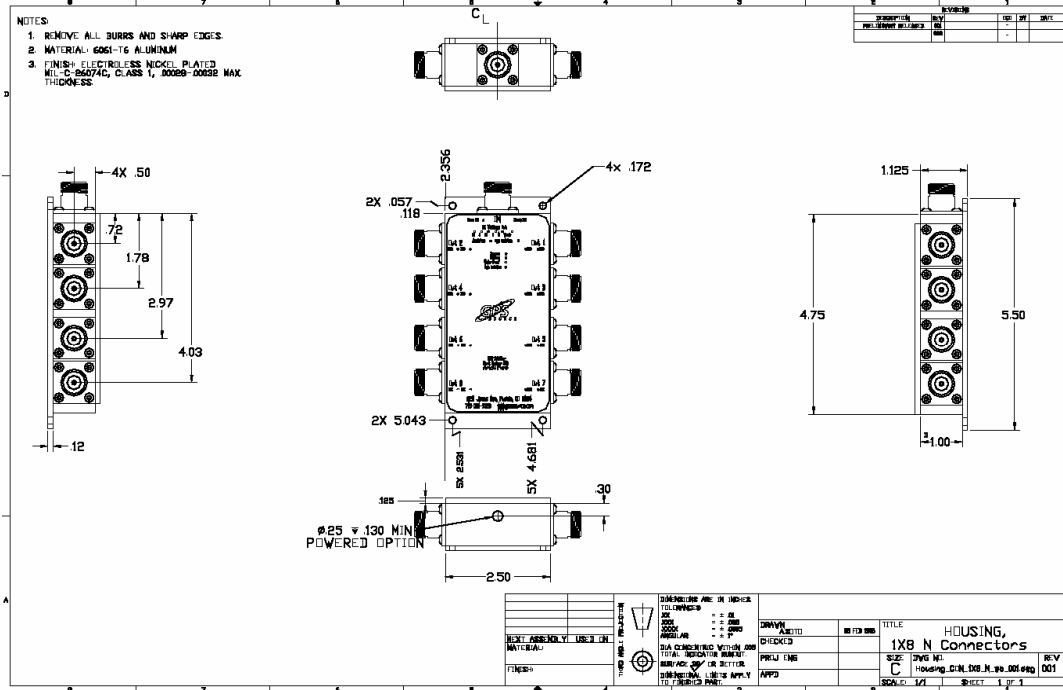
Connector Options:

**NM** – N, Male  
**NF** – N, Female  
**SM** – SMA, Male  
**SF** – SMA, Female  
**TM** – TNC, Male  
**TF** – TNC, Female  
**BM** – BNC, Male  
**BF** – BNC, Female  
**SB** – SMB Jack, Female  
**SC** – SMC Jack, Female  
**MX** – MCX Jack, Female

For help in creating the part number to meet your exact needs, contact us at [Sales@gpssource.com](mailto:Sales@gpssource.com) or visit our website at [www.gpssource.com](http://www.gpssource.com).

**Mechanical:**

**Standard Housing:**



**Slimline Housing:**

