

S18

GPS 1 x 8 Splitter

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 any RF output to the antenna input port in order to power an active GPS antenna on that port. All DC blocked outputs 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), or visit our website (www.gpssource.com) for further information on product options and specifications.

Electrical Specifications, Operating Temperature -40 to 85⁰C

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 ⁽⁴⁾⁽⁵⁾	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 ⁽⁵⁾	All Ports 50Ω			2.0:1	-
Output SWR ⁽⁵⁾	All Ports 50Ω			2.0:1	-
1dB Comp. Pt. (Ampl.)	All Ports 50Ω		-32		dBm
Input IP ₃ (Ampl.)	All Ports 50Ω		-24		dBm
Max RF Input -Amplified	Max RF input without damage			0	dBm
Noise Figure-Amplified	Ant – Any Port, Unused Ports - 50 Ω			2.2	dB
Gain Flatness ⁽⁵⁾	L1 - L2 , Ant – Any Port, Unused Ports - 50 Ω		2		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	T _{d,max} - T _{d,min} , Ant – Any Port			<1	ns
Isolation ⁽⁴⁾					
-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 ⁽²⁾		110	VAC
	220/240	Wall Mount Transformer (Various Intl. plug types available) ⁽²⁾		230	VAC
DC IN	DC Blk	Any DC Blocked Port with a 200 Ω Load			14
	Pass DC -Amplified	Non-Powered Configuration, Inline DC Voltage on J1 Output	3		16
	Powered	Powered, Mil. Conn. or Quick Connect Option	3 ⁽¹⁾		28
Device Current	Current Consumption of device, excludes Ant. Cur.			16	mA
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on J1			250
	Powered	Powered, Mil. Conn. or Quick Connect Option			Note 2

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:

$$I_{out} \leq 1.4 / (V_{DC IN} - V_{DC OUT}) - 0.016 \text{ Amps}$$

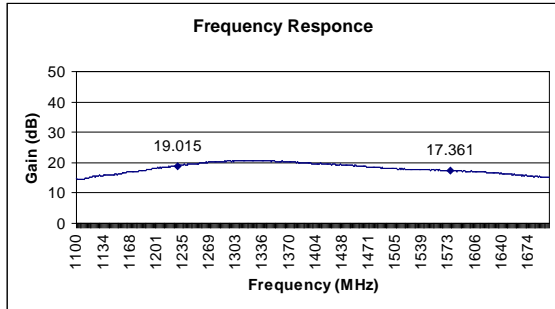
For powered option with a wall mount transformer
(Voltage Input = 110/220/240 VAC), V_{DC IN} is 9V.

- Choose Custom Gain Option to increase port-to-port isolation
- Performance guaranteed for N(F) connectors.

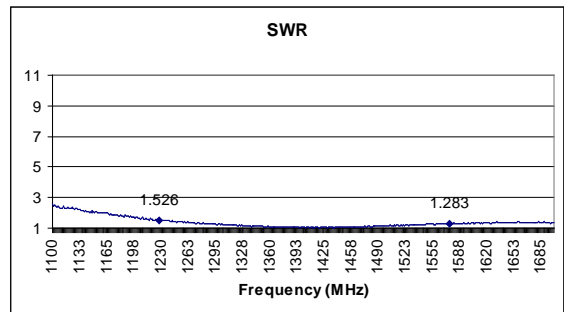
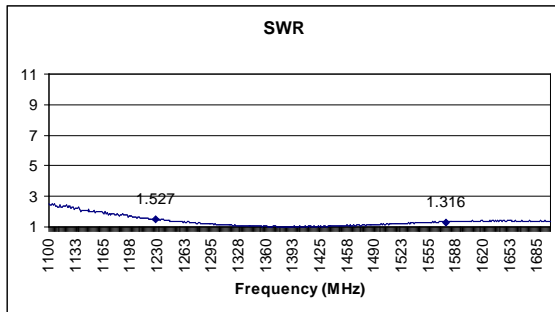
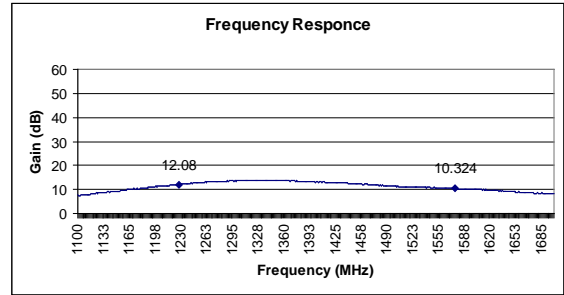


Performance Data:

S18 Active – Normal



S18 Active - Hi Isolation



Available Options:

Power Supply Options:		
Source Voltage Options	Voltage Input	Type
	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
Output Voltage Options ⁽¹⁾	DC Voltage Out ⁽²⁾	
	3.3	
	5	
	7.5	
	9	
	12	
	Variable (3-12V)	
Custom		
RF Connector Options:		
Connector Options	Connector Type	Limitations
	N (Male & Female)	
	SMA (Male & Female)	
	TNC (Male & Female)	
Housing Options:		
Housings	Housing Type	Limitations
	Standard	None
	Slimline	Powered Option Not Ava. Connectors Not Available: N, TNC
Port Options:		
Pass DC ⁽¹⁾	All Ports Pass DC	
DC Blocked ⁽¹⁾	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:

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

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



Part Number:

S18 - A - X - P110 / 5 - NF

Product:

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

Gain Option:

A - Amplified
AXX - Custom Gain, XXdB

Additional Options:

B - Beacon
E - EMI Shielding
HS - Hermetically Sealed (includes waterproof)
W - Waterproof

Source Voltage:

P110 - Transformer
P220 - Transformer
P240 - Transformer
PDC - DC w/Quick Connects
PM - Military Connector (User supplies DC)
PM38999 - Military Connector (User supplies DC)
PMS-1275 - Military Connector (User supplies DC & 1275B Compliant)
PMS-704 - Military Connector (User supplies DC & 704F Compliant)
PMS38999-1275 - Military 38999 Connector & 1275B Compliant
PMS38999-704 - Military 38999 Connector & 704F Compliant
Blank - Pass DC Ant (J1), Block DC- J2 thru J8

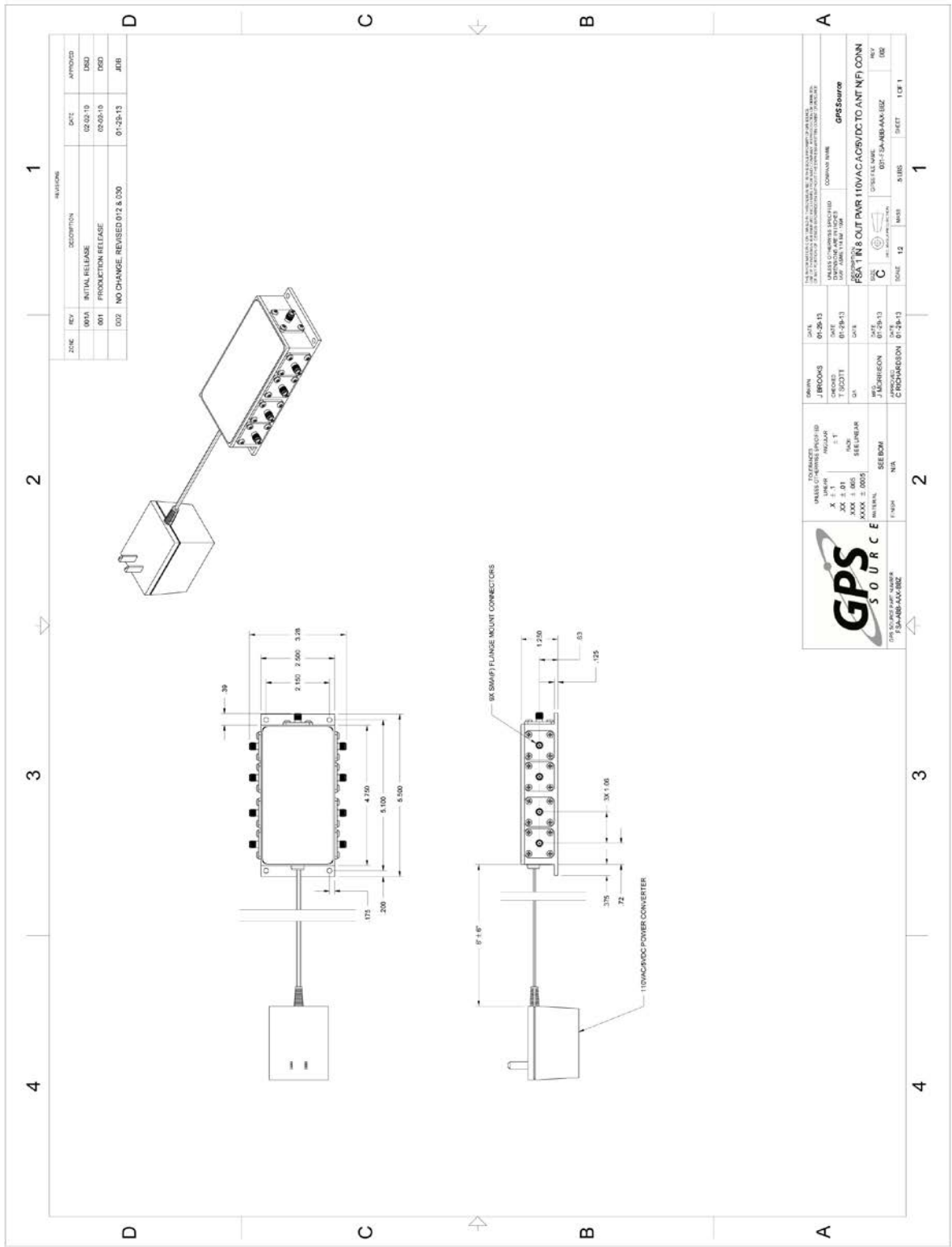
Output Voltage:

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

For help in creating the part number to meet your exact needs, contact TechSales@gpssource.com or visit our website at www.gpssource.com.



REVISIONS	
ZONE	DESCRIPTION
001	INITIAL RELEASE
002	NO CHANGE, REVISED 012 & 030

GPS SOURCE	
GPS SOURCE	
DATE: 07-28-13	BY: J. BROOKS
DATE: 07-28-13	BY: T. SCOTT
DATE: 07-28-13	BY: J. BROOKS
DATE: 07-28-13	BY: C. BRIDGESON



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AS9100C:2009 & ISO 9001:2008 Compliant Company

Description: S18 1x8 Splitter Data Sheet
 Doc. No.: 1560-TS-GPS-1X8-Splitter-03
 Date: 03/22/2013
 www.gpssource.com