



S18-A STANDARD HOUSING

1x8 GPS Splitter

DESCRIPTION

The S18-A GPS splitter is a one-input, eight-output GPS splitter device. The typical application allows the GPS signal from an active GPS roof antenna to be split evenly between eight GPS receivers. The S18-A can be configured to pass the DC from an RF output (OUT1) to the antenna input port in order to power an active GPS antenna. The DC blocked ports (OUT2 through OUT8) would feature a 200 Ω DC load to simulate an antenna DC current draw for any receiver connected to those ports.

FEATURES

- Passes GPS, Galileo, and GLONASS L1/L2
- Excellent Gain Flatness
- RoHS/WEEE Compliant
- Designed to MIL-STD-810
- Amplified to Preserve Link Margins
- Available Options:
 - L1/L2
 - Beacon
 - Waterproof
 - EMI Shielding
 - Hermetically Sealed

OPTIONS

The S18-A GPS Splitter comes with many available options to meet specific needs. Please contact GPS Source via phone, email, or visit the website for further information on product options and specifications.



1. **S18-A Specifications**

Electrical Specifications 1.1

Table 1-1. Operating Temperature -40°C to 85°C

Parameter			Conditions	Min	Тур	Max	Units
Frequency Range In/Out Impedance			Ant: Any Port, Unused Ports 50 Ω	1.1		1.7	GHz
			Ant: OUT1 through OUT8		50		W
Gain ⁽¹⁾⁽²⁾	Standard Amplified		Ant: Any Port, Unused Ports 50 Ω	16	18	19.5	
	Custom	Amplified	Custom Gain XXdB (0-17dB)		XX	XX + 2	dB
	As Specified	Amplified by port	OUT1 (J1) through OUT8 (J8) XXdB (0 to 17dB) by port	XX - 2	xx	XX + 2	
Input SWR ⁽²⁾		1	All Ports 50 Ω			2:1	
Output SWR ⁽²)		All Ports 50 Ω			2:1	
1dB Comp. Pt Amplified		Amplified	All Ports 50 Ω		-32		dBm
Input IP3		Amplified	All Ports 50 Ω		-24		dBm
Noise Figure		Amplified	Ant: Any Port, Unused Ports 50 Ω			2.2	dB
Gain Flatness ⁽²⁾		Amplified	[L1 – L2] Ant: Any Port, Unused Ports 50 Ω		2		dB
Amp. Balance		1	[OUT1 – OUT8] Ant: Any Port, Unused Ports 50 Ω			1.0	dB
Phase Balance			Phase (OUT1 – OUT8) Ant: Any Port, Unused Ports 50 Ω			1	Degree
Group Delay			Td,max - Td,min; Ant: Any Port			5	ns
Group Delay Flatness			Td,max - Td,min; Ant: Any Port			<1	ns
(1)	Standard	Amp	Adjacent Ports: Ant 50 Ω	13			- ID
			Opposite Ports: Ant 50 Ω	21			dB
Isolation ⁽¹⁾	Hi Isolation	Amplified	Adjacent Ports: Ant 50 Ω	30			
			Opposite Ports: Ant 50 Ω	40			
Current			Current Consumption of device (excludes Ant. Cur.)			16	mA
Draw Current	Pass DC		Non-Powered Configuration, DC Input on OUT1			250	
	Powered		Powered, Military or tinned leads				mA
Max RF Input		Amplified	Max RF Input Without Damage			0	dBm

Notes: 1. Decreased custom gain increases port-to-port isolation.

Performance guaranteed for N(F) connectors. 2.

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Table 1-2. Input Voltage

Parameter			Conditions	Min	Тур	Max	Units	
	110		Wall Mount Transformer		110	VAC		
	230/240		Wall Mount Transformer (Various Intl. Plug Options)		230		VAC	
DC IN	DC Blk		DC Blocked Output Ports include 200Ω loads standard					
	Pass DC	Amplified	Non-Powered Configuration, DC Input on OUT1	3		16	VDC	
	Powered		Powered, Military or Quick Connect Option	8 ⁽¹⁾		28 ⁽²⁾		

Notes: 1. DC IN for powered option must be 2.5V greater than the desired DC Voltage Out.

2. The maximum DC IN is 35V when the 1275 or 704 MIL Power option is included.



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2. Performance Data

2.1 S18-A Active — Standard

Figure 2-1. Active: Gain vs. Frequency



Figure 2-2. Active Input: SWR vs. Frequency



Active S18 Splitter SWR vs Frequency

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2.2 S18-A Active — High Isolation





Figure 2-4. Active: SWR vs. Frequency



Active High Isolation S18 Splitter SWR vs Frequency



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3. Product Options

Table 3-1.	S18-A Available Options
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Power Supply						
	V	oltage Input	Туре			
		110VAC	Wall Mount Transformer			
Source Voltage Options	23	30VAC (Euro)	Wall Mount Transformer			
	2	240VAC (UK)	Wall Mount Transformer			
	DC	3VDC to 28VDC	MIL DC Power Connector or Tinned Leads			
	DC Voltage Out					
		3.3				
Output Voltage ⁽¹⁾			5.0			
			12.0			
		BDC (Block DC)				
RF Connector						
	Co	onnector Type	Limitations			
Connector	N	(Female/Male)	N/A			
oonnector	SMA	(Female/Male)	N/A			
	TNC	(Female/Male)	N/A			
Housing						
Housings	Housing Type		Limitations			
nousings		Standard	None			
Port						
Pass DC ⁽¹⁾	All Ports Pass DC (Special Configuration)					
Standard ⁽¹⁾	Pass DC OUT1, Block DC (OUT2 - OUT8), no external power					
Gain Options						
	Amplified Custom Gain		Standard amplification is 18dB			
Gain			Custom gain range is 0 - 17dB			
	Amplified as \$	Specified	Provide gain for each port			

Notes: 1. Powered option: any or all RF ports (input or output) can be DC Blocked or can pass the powered DC voltage.



4. Product Code Decoder



Note: To have product/part codes customized to meet exact needs, contact GPS Source at GPSS-Sales@gd-ms.com or visit the website at www.gpssource.com. Minimum order quantity may apply for custom items.



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5. Mechanical Drawing

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