TECHNICAL PRODUCT DATA SHEET

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

1.1 Electrical Specifications

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

Parameter			Conditions	Min	Typ	Max	Units
Frequency Range			Ant: Any Port, Unused Ports 50 Ω	1.1		1.7	GHz
In/Out Impedance			Ant: OUT1 through OUT8		50		W
Gain[1][2]	Standard	Amplified	Ant: Any Port, Unused Ports 50 Ω	16	18	19.5	dB
	Custom	Amplified	Custom Gain XXdB (0-17dB)	XX - 2	XX	XX + 2	
	As Specified	Amplified by port	OUT1 (J1) through OUT8 (J8) XXdB (0 to 17dB) by port	XX - 2	XX	XX + 2	
Input SWR[2]			All Ports 50 Ω			2:1	—
Output SWR[2]			All Ports 50 Ω			2:1	—
1dB Comp. Pt		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			[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
Isolation[1]	Standard	Amp	Adjacent Ports: Ant 50 Ω	13			dB
			Opposite Ports: Ant 50 Ω	21			
	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	mA
	Powered		Powered, Military or tinned leads				
Max RF Input		Amplified	Max RF Input Without Damage			0	dBm

Notes: 1. Decreased custom gain increases port-to-port isolation.
2. Performance guaranteed for N(F) connectors.

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Table 1-2. Input Voltage

Parameter			Conditions	Min	Typ	Max	Units
AC IN[3]	110		Wall Mount Transformer		110		VAC
	230/240		Wall Mount Transformer (Various Intl. Plug Options)		230		
DC IN	DC Blk		DC Blocked Output Ports include 200Ω loads standard				VDC
	Pass DC	Amplified	Non-Powered Configuration, DC Input on OUT1	3		16	
	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.

2. Performance Data

2.1 S18-A Active — Standard

Figure 2-1. Active: Gain vs. Frequency

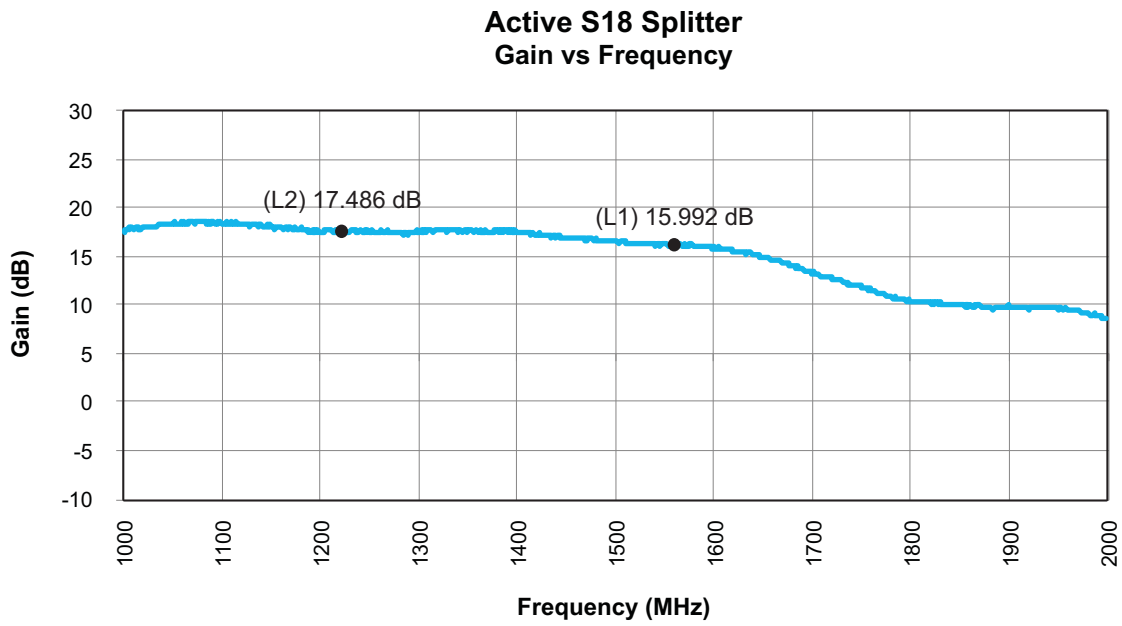
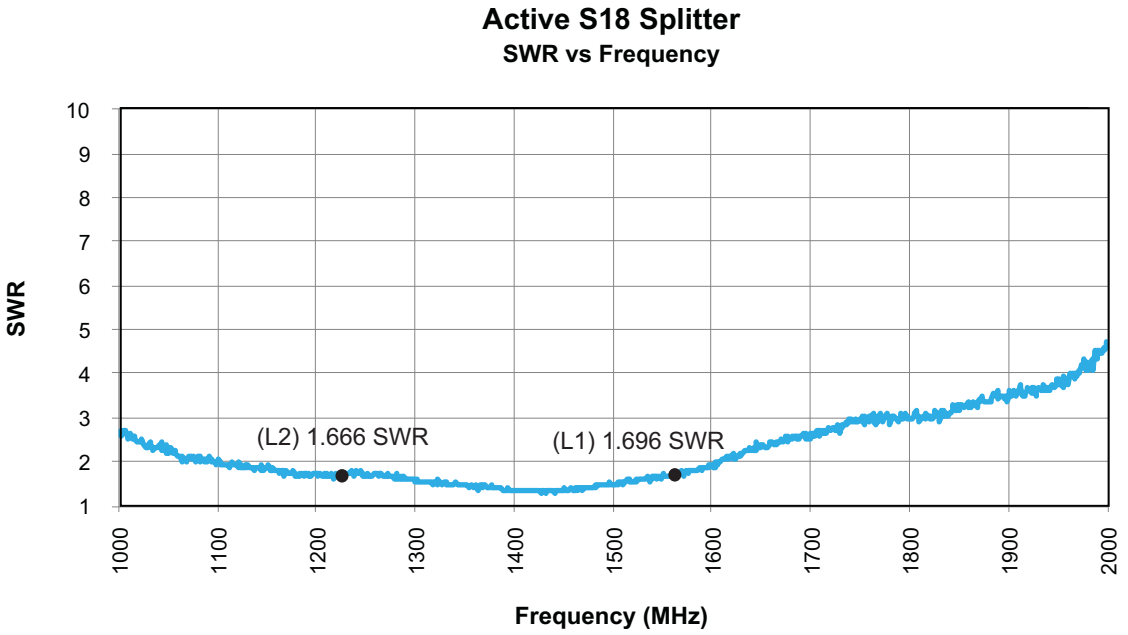


Figure 2-2. Active Input: SWR vs. Frequency



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2.2 S18-A Active — High Isolation

Figure 2-3. Active: Gain vs. Frequency

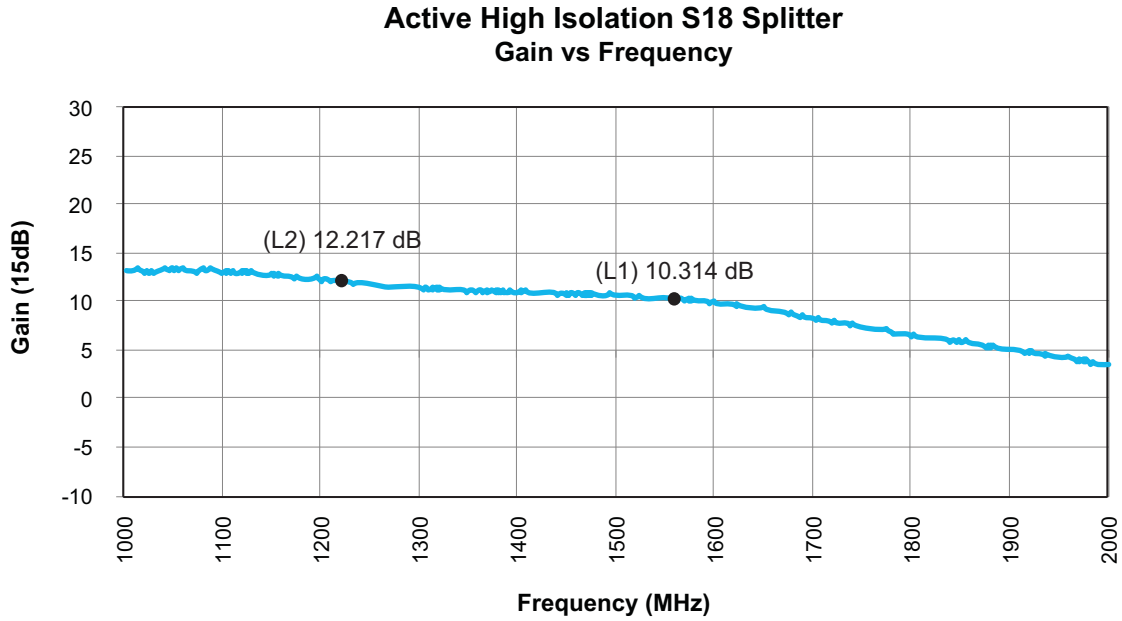
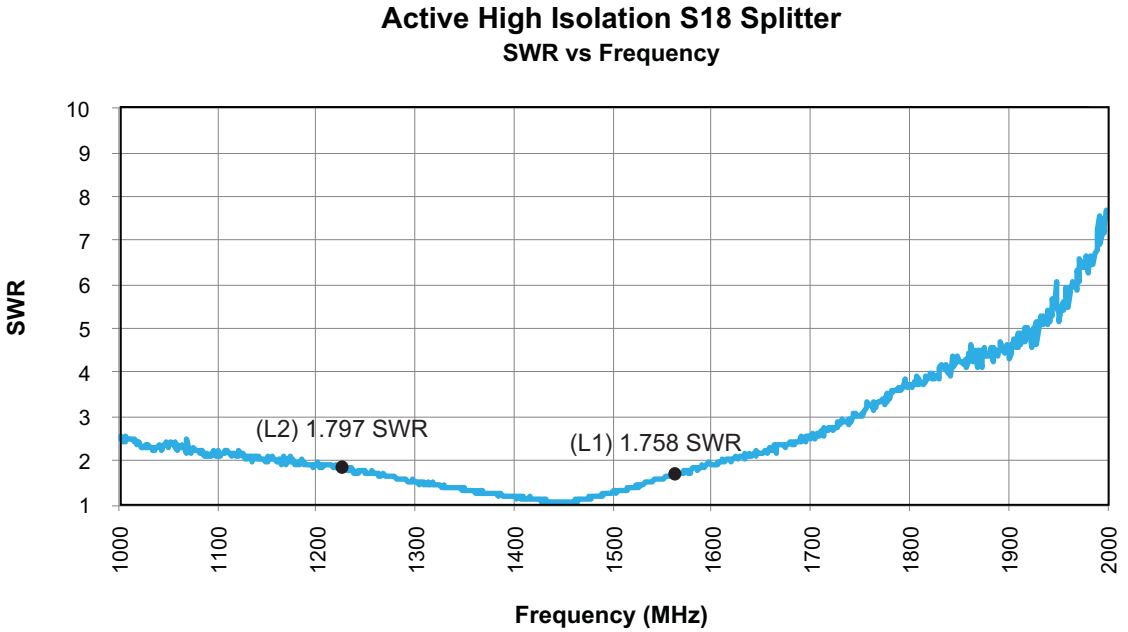


Figure 2-4. Active: SWR vs. Frequency



3. Product Options

Table 3-1. S18-A Available Options

Power Supply		
Source Voltage Options	**Voltage Input**	**Type**
	110VAC	Wall Mount Transformer
	230VAC (Euro)	Wall Mount Transformer
	240VAC (UK)	Wall Mount Transformer
	DC 8VDC to 28VDC	MIL DC Power Connector or Tinned Leads
Output Voltage(1)	**DC Voltage Out**	
	3.3	
	5.0	
	12.0	
	BDC (Block DC)	
RF Connector		
Connector	**Connector Type**	**Limitations**
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC (Female/Male)	N/A
Housing		
Housings	**Housing Type**	**Limitations**
	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		
Gain	Amplified	Standard amplification is 18dB
	Custom 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.

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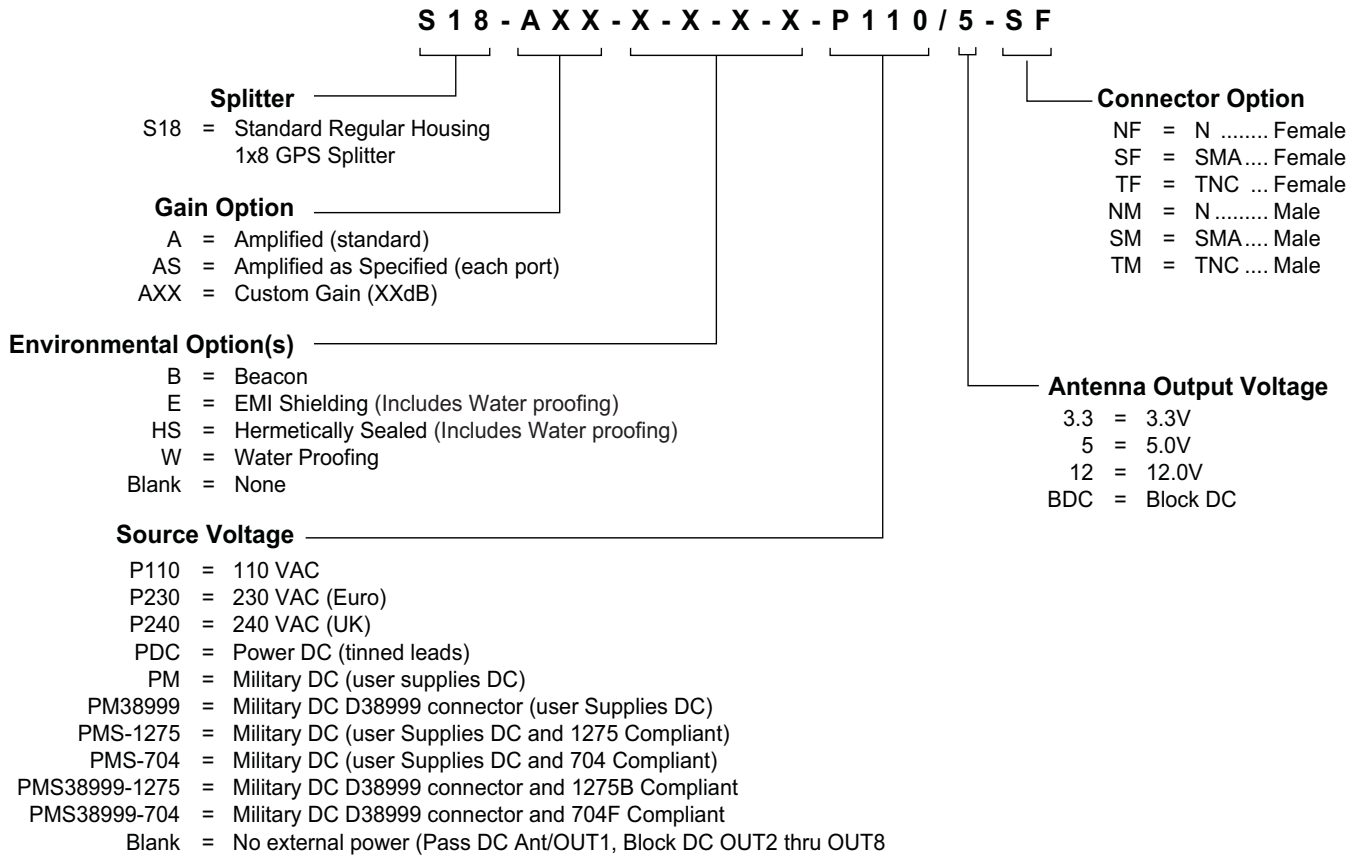
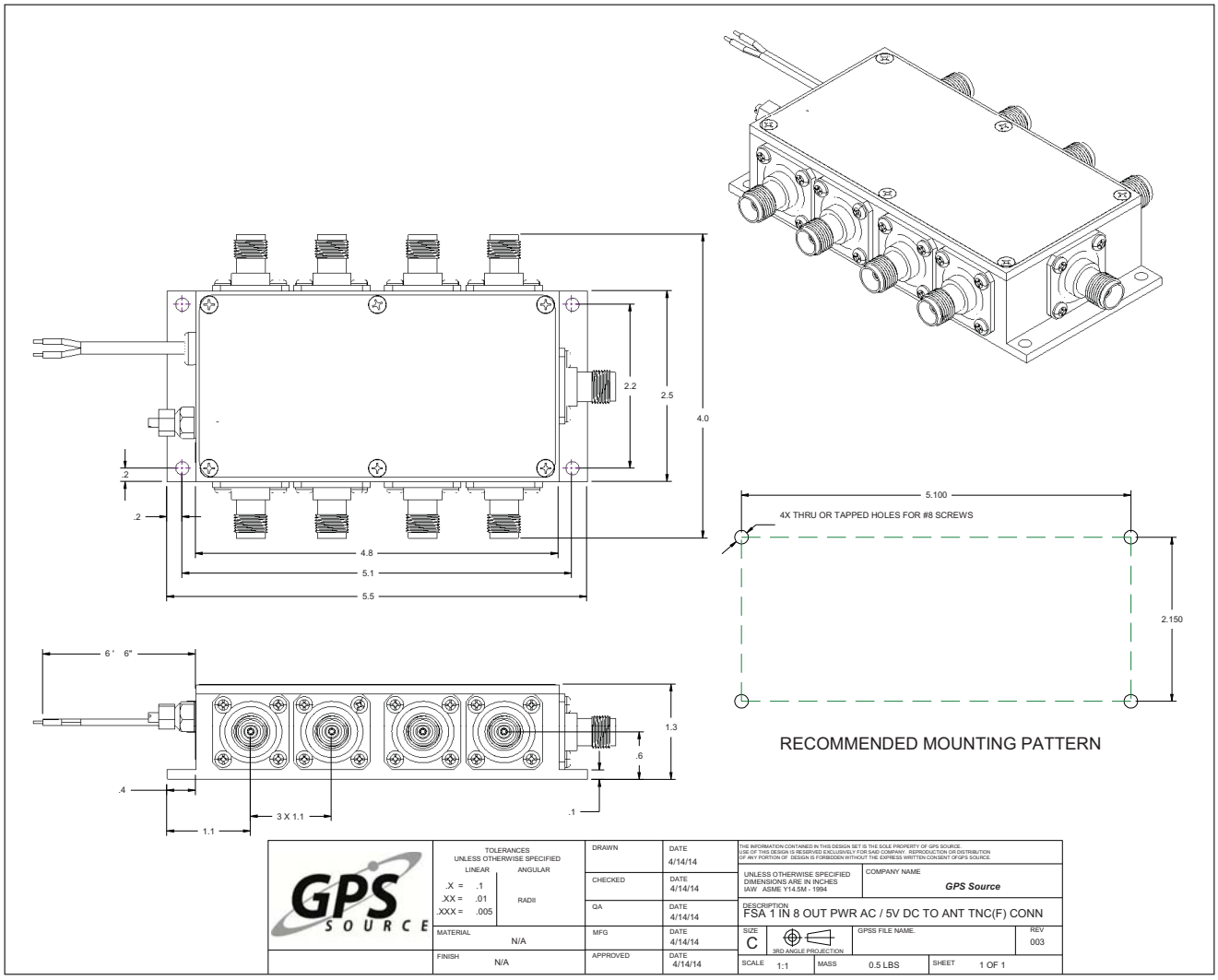
4. Product Code Decoder



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.

5. Mechanical Drawing

S18-A Standard Housing — FSA-ABB-AAX-BBZ



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