

RMS18 SPLITTER

Rack Mount 1x8 GPS Signal Divider



DESCRIPTION

The RMS18 Rack Mount Splitter is a one-input, eight-output GPS signal divider. Typical use is where an input from a single active GPS roof antenna is split evenly between eight outputs to create an indoor GPS signal distribution network. The RMS18 is typically configured with a variety of power options: 110, 230 (Euro) or 230 (UK) AC options and 12-24VDC or -48VDC where voltage is passed to the antenna input port in order to power an active GPS antenna on that port. In this scenario, the RF outputs (J1 - J8) would feature a 200Ω DC load to simulate an antenna DC current draw for any receiver connected to those ports.

FEATURES

- Standard 19 inch Rack Mount Configuration
- Passes GPS, Galileo, and GLONASS L1/L2
- Numerous Options Available
- -48VDC Power Supply Option

OPTIONS

The RMS18 splitter comes with many available options to meet specific needs. Please contact GPS Source via phone, fax, email, or visit the website for further information on product options and specifications.

1. RMS18 Specifications

1.1 Electrical Specifications

Table 1-1. Electrical Specifications

Operating Temperature -40°C to 85°C

Parameter			Conditions	Min	Typ	Max	Units
Frequency Range			Ant: Any Port; Unused Ports: 50Ω	1		1.8	GHz
In/Out Impedance			Ant: J1 – J8		50		Ω
Gain	Standard	Amplified	Ant: Any Port; Unused Ports: 50Ω	10	12	14	dB
	Custom	Amplified	As Specified (XXdB, from 0 to 14dB)	X-1	X	X+1	
Input SWR			All Ports 50Ω			2:1	—
Output SWR			All Ports 50Ω			2:1	—
Noise Figure		Amplified	Ant: Any Port; Unused Ports: 50Ω			2.2	dB
Gain Flatness		Amplified	[L1 – L2] Ant: Any Port; Unused Ports: 50Ω			4	dB
Amp. Balance			[J1 – J2] Ant: Any Port; Unused Ports: 50Ω			4	dB
Phase Balance			Phase (J1 – J2) Ant: Any Port; Unused Ports: 50Ω			1	Degree
Group Delay Flatness			$T_{d,max} - T_{d,min}$; Ant: Any Port			1	ns
Isolation - Amplified (Hi Iso.)			Adjacent Ports: Ant – 50Ω	38			dB
			Opposite Ports: Ant – 50Ω	44			
Current			Current Consumption of device (excludes Draw)			16	mA
Draw Current	Pass DC		Non-Powered Configuration, DC Input on J1			22 ⁽¹⁾	mA
	Powered		Military or Quick Connect Option			100	
Max RF Input		Amplified	Max RF Input Without Damage			0	dBm

Notes: 1. The maximum combined DC current draw from all ports is a function of the DC input voltage and desired DC output voltage, according to: $I_{out} \leq 1.4 / (V_{DC IN} - V_{DC OUT}) - 0.016A$

Table 1-2. AC and DC IN Specifications

Operating Temperature -40°C to 85°C

Parameter		Condition	Min	Typ	Max	Units
AC IN	110	Wall Mount Transformer ⁽¹⁾		110		VAC
	220/240	Wall Mount Transformer (International Plugs Available)		230		
DC IN	DC Block				14	VDC
	Pass DC	Amplified	3		16	
	Powered		Military or Quick Connect Option	8 ⁽²⁾		

- Notes:
1. For the powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC), $V_{DC IN}$ is 9V.
 2. DC IN for powered option must be 2V greater than desired DC Voltage Out
 3. The maximum combined DC current draw from all ports is a function of the DC input voltage and desired DC output voltage, according to: $I_{out} \leq 1.4 / (V_{DC IN} - V_{DC OUT}) - 0.016A$

2. Performance Data

2.1 RMS18

Figure 2-1. Standard Gain RMS18 Splitter: Gain vs. Frequency

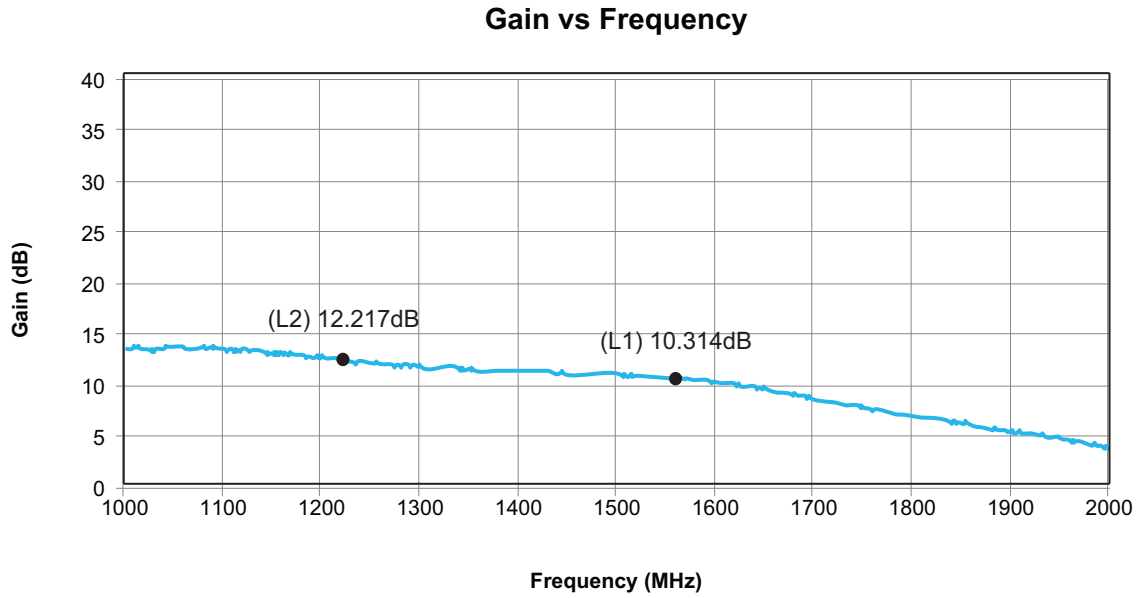
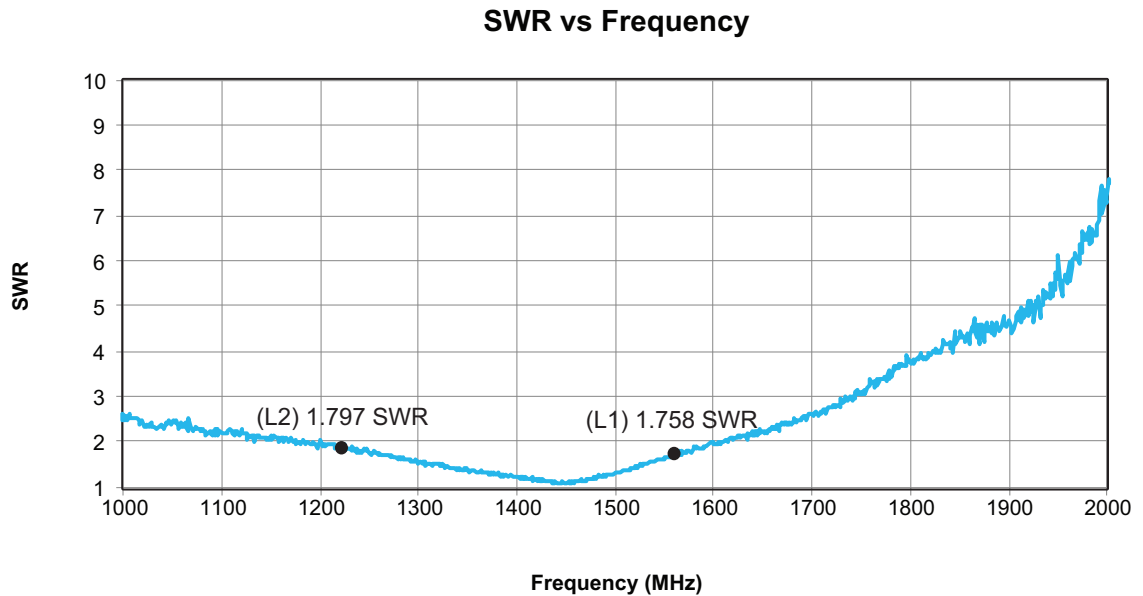


Figure 2-2. RMS18 Splitter: SWR vs. Frequency



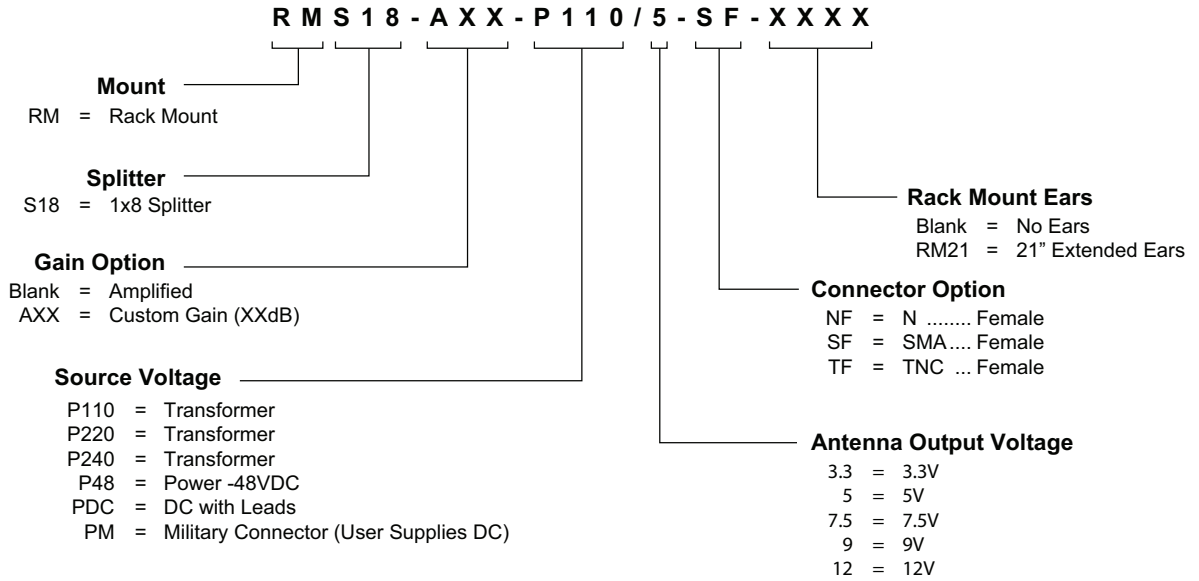
3. Product Options

Table 3-1. RMS18 Available Options

Power Supply		
Source Voltage ⁽²⁾	Voltage Input	Type
	110VAC	Wall Mount Transformer
	220VAC	Wall Mount Transformer
	240VAC (U.K.)	Wall Mount Transformer
	DC 8-28VDC	Military Style Connector or with Leads
Output Voltage ⁽¹⁾	DC Voltage Out	
	3.3	
	5	
	7.5	
	9	
	12	
	Custom	
RF Connector		
Connector	Connector Type	Limitations
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC (Female/Male)	N/A
Housing		
Housing	Housing Type	Limitations
	19 x 8 x 1.75 in Rack Mount	N/A
Port ⁽¹⁾		
DC Blocked	OUT1 – OUT8 are DC Blocked with 200Ω Load; DC is passed to ANT	

- Notes:
1. Source Voltage Option:
Any or all RF ports (input or output) can be DC Blocked or can pass through the powered DC voltage.
 2. For powered option with a wall mount transformer (Voltage Input = 110/220/240VAC), $V_{DC IN}$ is 9V.

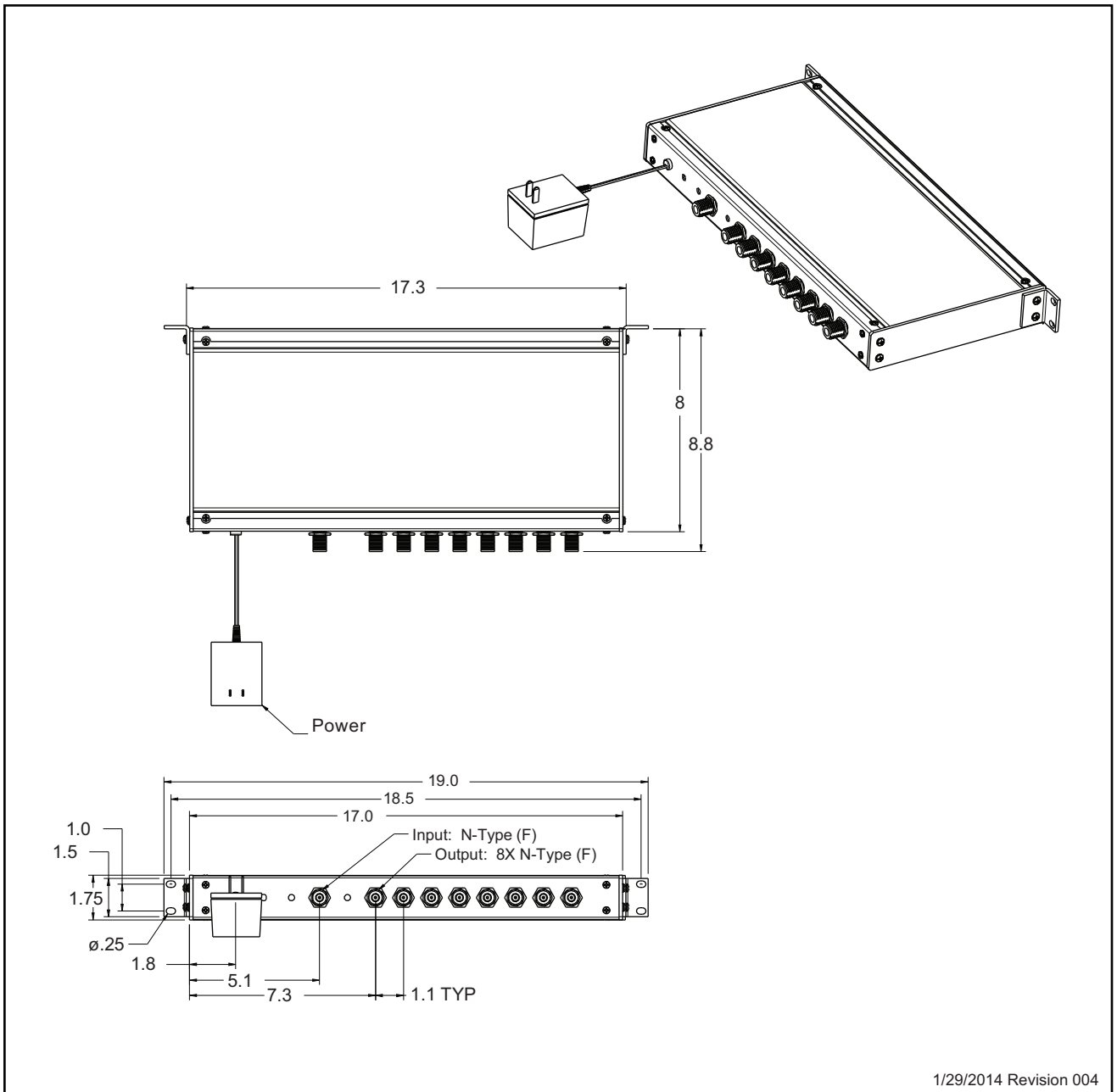
4. Product Code Decoder

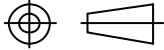


Note: To have product/part codes customized to meet exact needs, contact GPS Source at techsales@gpssource.com or visit the website at www.gpssource.com.

5. Mechanical Drawing

RMS18 Splitter — FSA-ADS-ABX-BBZ



GPS Source Part No. FSA-ADS-ABX-BBZ	Finish As Provided	Size C	Mass 4.5lb	Tolerances	
Description Rack Mount RMS18 GPS Splitter FSA 1 IN 8 OUT PWR 110/5VDC N(F)	Material See BOM	3 rd Angle Projection 		Linear .X = ±0.1 .XX = ±0.01	Angular ±1° RADII See Linear
All materials and finishes shall comply with European Union RoHS and are lead free. Dimensions are in inches unless otherwise specified.					



GPS LIVE INSIDE

RMS18 Splitter Data Sheet

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