

## RMS116 SPLITTER

### Rack Mount 1x16 GPS Signal Divider



#### DESCRIPTION

The RMS116 Rack Mount Splitter is a one-input, sixteen-output GPS signal divider. Typical use is where an input from a single active GPS roof antenna is split evenly between sixteen outputs to create an indoor GPS signal distribution network. The RMS116 is typically configured with an 110VAC input (230VAC also available) and a regulated DC output 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 - J16) would feature a 200 $\Omega$  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.

#### OPTIONS

The RMS116 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. RMS116 Specifications

## 1.1 Electrical Specifications

**Table 1-1. Electrical Specifications**

Operating Temperature -40°C to 85°C

Parameter		Conditions	Min	Typ	Max	Units
<b>Frequency Range</b>		Ant: Any Port; Unused Ports: 50Ω	1.2		1.6	GHz
<b>In/Out Impedance</b>		Ant: J1 – J16		50		Ω
<b>Gain</b>	Standard	Amplified Ant: Any Port; Unused Ports: 50Ω	6	8	10	dB
	Custom <sup>(1)</sup>	Amplified As Specified (xdB)	0	TBD	14	
<b>Input SWR</b>		All Ports 50Ω			2:1	—
<b>Output SWR</b>		All Ports 50Ω			2:1	—
<b>Noise Figure</b>		Ant: Any Port; Unused Ports: 50Ω			3	dB
<b>Gain Flatness<sup>(3)</sup></b>		[L1 – L2] Ant: Any Port; Unused Ports: 50Ω			4	dB
<b>Amp. Balance</b>		[J1 – J2] Ant: Any Port; Unused Ports: 50Ω			4	dB
<b>Phase Balance</b>		Phase (J1 – J2) Ant: Any Port; Unused Ports: 50Ω			1	Degree
<b>Group Delay Flatness</b>		$T_{d,max} - T_{d,min}$ ; Ant: Any Port			1	ns
<b>Isolation - Amplified (High Isolation)</b>		Measured at 1227MHz and 1575 MHz				dB
		Adjacent Ports: Ant – 50Ω	24			
		Opposite Ports: Ant – 50Ω	38			
<b>Current</b>		Current Consumption of Device (Excludes Draw)			48	mA
<b>Current Draw</b>		Input Port			100 <sup>(2)</sup>	mA
<b>Max RF Input</b>	Amplified	Max RF Input Without Damage			0	dBm

1. Custom gain options available
2. The maximum combined DC current draw from all ports is a function of the DC input voltage and desired DC output voltage, according to:  $I_{out} \leq 1.4 / (V_{DC\ IN} - V_{DC\ OUT}) - 0.048$  Amps  
For the powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC), VDC IN is 9V.
3. Variable gain option, gain flatness is 5dB.

**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 <sup>(2)</sup>		110		VAC	
	220/240	Wall Mount Transformer (International Plugs Available) <sup>(2)</sup>		230			
DC IN	DC Block		Any DC Blocked Port with a 200Ω Load			14	VDC
	Pass DC	Amplified	Non-Powered Configuration, DC Input on J1			3	
	Powered		Military or Leads Connect Option			3 <sup>(1)</sup>	

- Notes:
1. DC IN for powered option must be 2V greater than desired DC Voltage Out.
  2. The maximum combined DC current draw from all ports is a function of the DC input voltage and desired DC output voltage, according to:  $I_{out} \leq 1.4 / (VDC\ IN - VDC\ OUT) - 0.048$  Amps

## 2. Performance Data

### 2.1 RMS116 — Active Hi Isolation

Figure 2-1. Active Hi Isolation RMS116 Splitter: Gain vs. Frequency

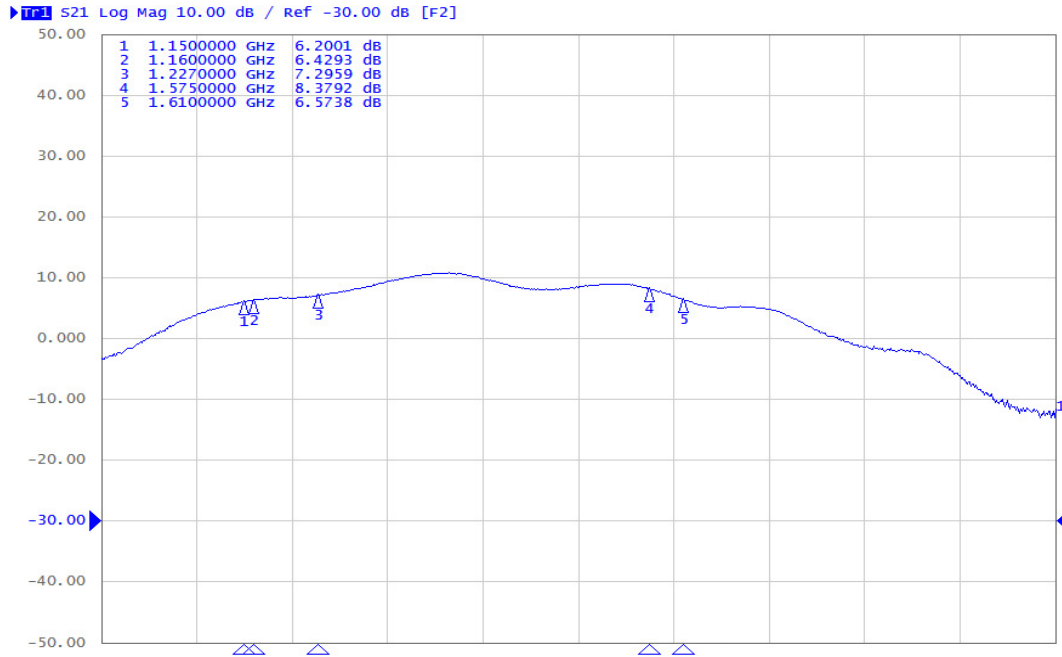
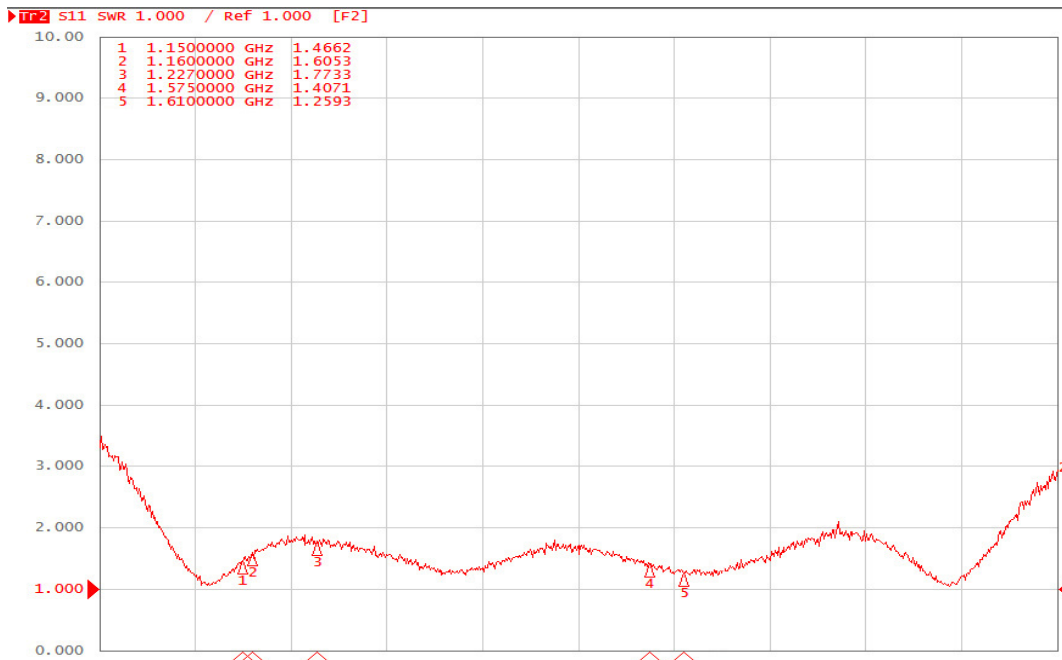


Figure 2-2. Active Hi Isolation RMS116 Splitter: SWR vs. Frequency



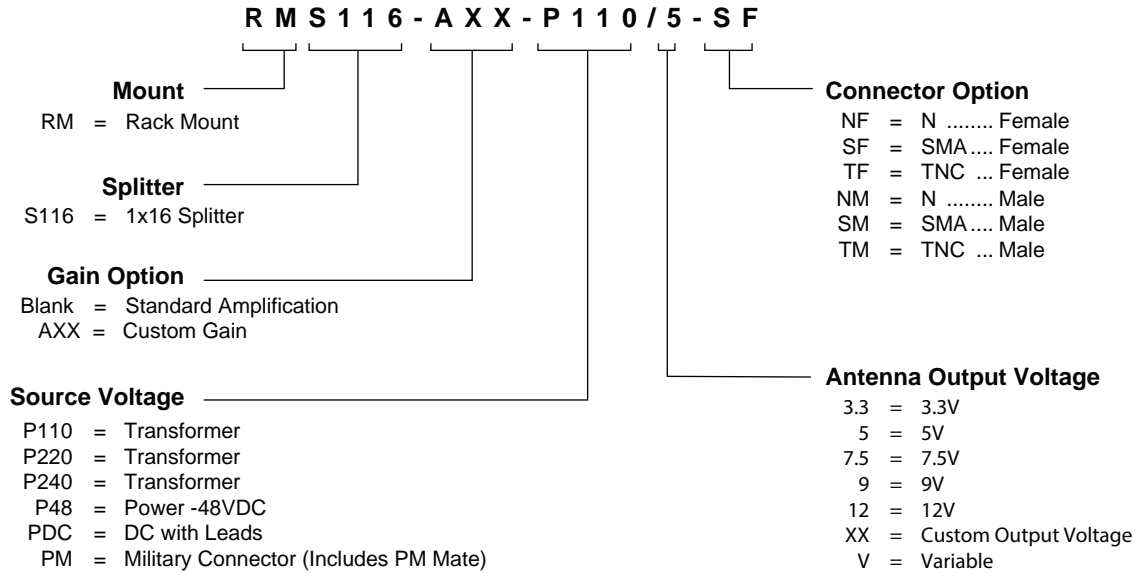
### 3. Product Options

Table 3-1. RMS116 Available Options

Power Supply		
Source Voltage	Voltage Input	Type
	110VAC	Wall Mount Transformer
	220VAC	Wall Mount Transformer
	240VAC (U.K.)	Wall Mount Transformer
	DC 5-28VDC	Military Style Connector or with Leads
Output Voltage <sup>(1)</sup>	DC Voltage Out	
	3.3	
	5.0	
	7.5	
	9.0	
	12.0	
	Variable (3V to 12V)	
	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 <sup>(1)</sup>		
DC Blocked	J1 – J16 are DC Blocked with 200Ω Load; DC is passed to ANT	

Notes: 1. RF outputs are DC Blocked standard. Call for special pass DC configurations.

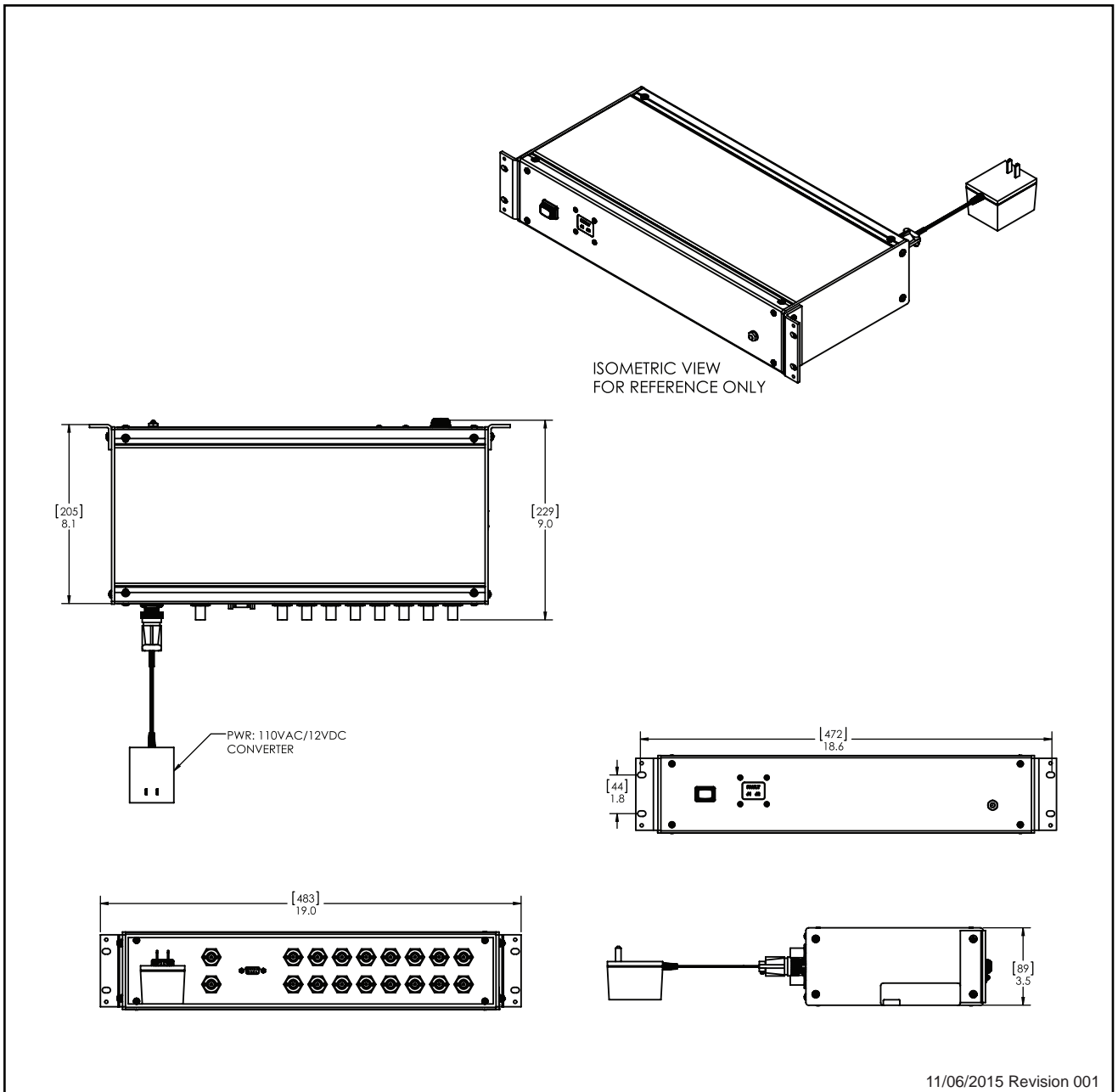
## 4. Product Code Decoder



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

## 5. Mechanical Drawing

### RMS116 Splitter — FSA-ABS-ABX-BBZ



11/06/2015 Revision 001

GPS Source Part No. <b>FSA-ABS-ABX-BBZ</b>	Finish <b>As Provided</b>	Size <b>C</b>	Mass <b>7.65lb</b>	Tolerances	
Description <b>Rack Mount RMS116 GPS Splitter FSA 1 IN 16 OUT PWR 110/5VDC N(F)</b>	Material <b>See BOM</b>	3 <sup>rd</sup> Angle Projection 		Linear .X = ±0.1 .XX = ±0.01 .XXX = ±0.005	Angular <b>±1° RADII</b> 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**

## **RMS116 Splitter Data Sheet**

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AS9100C:2009 and ISO 9001:2008 Compliant Company



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