

Power Supply/Monitor

PS-1000



Introduction

Designed for use in satellite earth stations, the PS-1000 can power and monitor from one to six RF components, such as LNAs, line driver amplifiers, LNBS, block downconverters, or block upconverters. Built-in fault alarms report RF component status to an external computer or monitoring system.

Options

- TTL outputs instead of Form 'C' relays
- Built-in RF components (up to six)
- 75 W or 50 W power supplies

Features

- Standard 19" rack panel, 3½" high
- Dual, redundant power supplies
- Universal, auto-select AC input, accepts 90 to 264 Vac
- Monitors RF component bias current to detect faults
- Powers up to six +15 volt RF components
- Current-limited outputs
- Form 'C' alarm outputs
- Chassis slides

Parameter	Notes	Min.	Nom./Typ. [†]	Max.	Units
Outputs			6		
Output Voltage		14.5	15.0	15.5	Vdc
Total Load Current	50 W supplies (Option /4) 75 W supplies (standard)			3 5	A A
Max. Output Current per Load	% of I _{LIMIT} setting	90	100	105	%
I _{LIMIT} Settings (Each setting applies to a pair of outputs)	Standard Available on request		750 250, 500, 1000, or 1300		mA mA
Fault Monitor	Per output		Current window comparator		
Window Center Adjustment	Per output	0		I _{LIMIT}	mA
Window Width Setting	Per pair of outputs		10, 15, 20, 30, 40, 50, 65 or 100		mA
Alarm Outputs	Form 'C' relay contacts		PS1, PS2, Devices 1-6, Summary		
Voltage Rating				100	Vdc
Current Limit				0.5	A
RF Specifications (w/ Opt. 9)	See Note 1.				
Gain	(Unit = RF component)	(Unit gain)-1			dB
Gain Flatness			(as per Unit spec)		
Output Power (P _{OUT})		(Unit P _{OUT})-1			dB
Noise Figure (NF)				(Unit NF)+1	dB
VSWR	50 ohm impedance			2.0	:1
Connectors	AC Line Input DC Outputs Alarms RF Input/Output (Option /9)		IEC Male Molex 2-pin, Male 37-pin D, Male Type N Female		
Power Requirements	Voltage (autoselecting)	90		264	Vac
	Frequency	47		63	Hz
	Power, fully loaded		80		W
	50 W supplies (Option /4) 75 W supplies (standard)		130		W
Temperature Range	Operating	0		+50	°C
Size	Rack-mount chassis		19 W x 3.5 H x 22 D 483 x 88.9 x 560		inches mm
MTBF	Base unit only		130,000		hours

[†] When there is only one value on a line, the Nom./Typ. column is a nominal value; otherwise it is a typical value. Typical values are intended to illustrate typical performance, but are not guaranteed.

Note 1: RF specifications are relative to internal RF component performance specifications.

Part Number/Ordering Information

PS-1000 /X

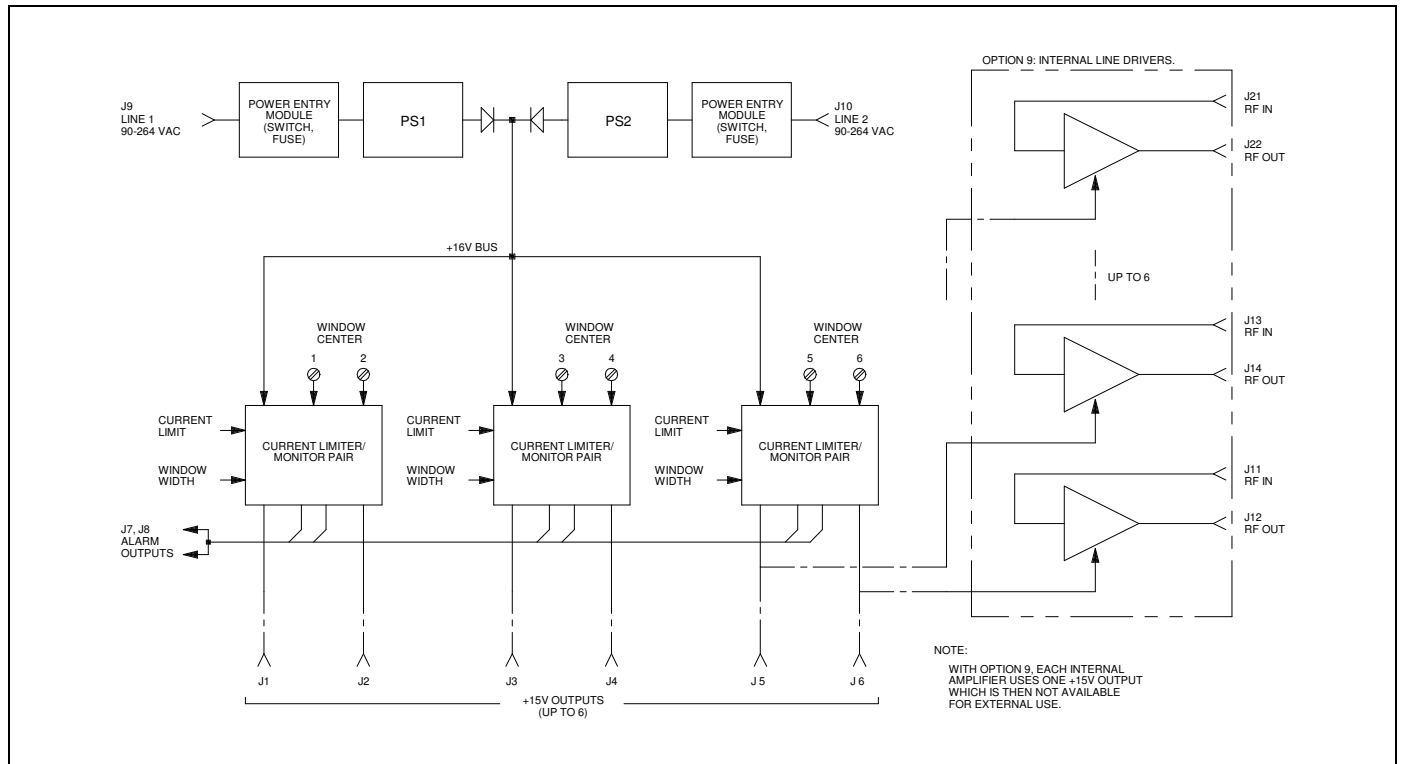
Standard model includes dual redundant 75 W power supplies (15 V @ 5 A nominal output).

Option /4 = 50 W power supplies
(15 V @ 3 A nominal output)

Option /9 = Internal RF components:

Specify model number and quantity (subject to physical size limits and current limits, e.g., up to 6 line driver amplifiers or up to 3 block converters). Consult factory.

Functional Block Diagram



Features and Options

Dual Power Supplies	Units have two separate power supplies, each with its own separate AC input. The outputs of the two supplies are combined via isolation diodes in a redundant configuration. If one supply fails, the other takes over and powers the entire system.		
75 W vs. 50 W Power Supplies	<p>The 50 watt power supplies can deliver up to 3 A at +15 volts. The 75 watt power supplies can deliver up to 5 A at +15 volts. Some typical configurations are as follows:</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center; vertical-align: top;"> <u>50 W (+15 Vdc @ 3 A nominal)</u> Up to 6 LNAs (up to 500 mA each) Up to 4 LNBs (up to 750 mA each) Up to 3 line drivers (up to 1 A each) </td> <td style="text-align: center; vertical-align: top;"> <u>75 W (+15 Vdc @ 5 A nominal)</u> Up to 6 LNAs or LNBs (up to 750 mA each) Up to 5 line drivers at 1 A each 4 line drivers up to 1 A each, <u>and</u> 2 LNAs up to 500 mA each </td> </tr> </table>	<u>50 W (+15 Vdc @ 3 A nominal)</u> Up to 6 LNAs (up to 500 mA each) Up to 4 LNBs (up to 750 mA each) Up to 3 line drivers (up to 1 A each)	<u>75 W (+15 Vdc @ 5 A nominal)</u> Up to 6 LNAs or LNBs (up to 750 mA each) Up to 5 line drivers at 1 A each 4 line drivers up to 1 A each, <u>and</u> 2 LNAs up to 500 mA each
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Internal RF Components	The unit may be configured with up to six internal RF components. Each RF component utilizes one +15 V output, which is routed to the RF component and is not available for external use.		
Limitations	<p>Maximum current limit setting is 750 mA (standard); 250 mA, 500 mA, 1 A, or 1.3 A limits are available upon request.</p> <p>Each limiter setting applies to a pair of outputs; see block diagram.</p> <p>Total load current must not exceed rating of power supplies (3 A or 5 A, at +15 Vdc out).</p>		



Other Products

- Solid-State Power Amplifiers and SSPA Systems
- Solid-State Power BUCs and SSPB Systems
- Low Noise Amplifiers and LNA Systems
- Low Noise Block Converters and LNB Systems
- Block Up and Block Down Converters
- Synthesized Converters
- Line Drive Amplifiers
- Power Supply Monitors
- Redundant Control Panels for SSPAs, SSPBs, and LNAs

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