

Programmable Attenuators



Model 8312 High Power Programmable Attenuator



RS232\RS422

100 Watt Hot Switching Capability

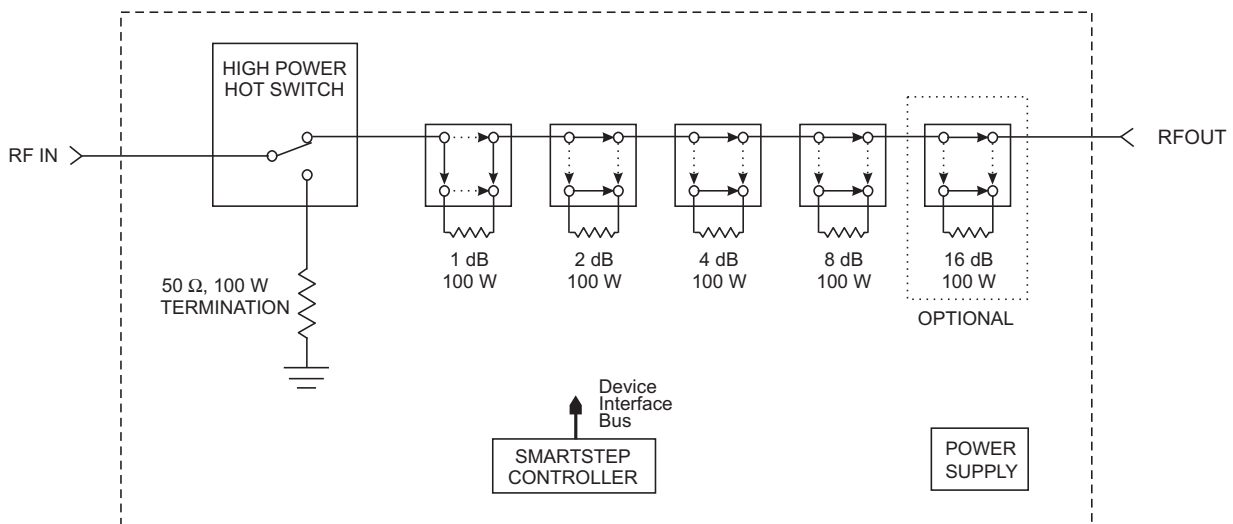


Description

Aeroflex / Weinschel's design approach uses a highly adaptable platform that allows configuration of the step attenuator to the customers requirements. When the controller requests a new attenuation level the input switch terminates the input signal into a 50 Ohm load. (See Figure 1) This input switch is **hot switchable at 100 Watts** of input power. This will remove the high power signal from the main signal path. With no signal connected to the attenuator path the controller then commands the series of relays to configure the attenuator for the requested attenuation value. Then the input switch re-connects the input signal to the attenuator path. The system can be operated with either a remote controller (IEEE-488 or RS-232) or through front panel control.

Features

- /// Available in 0-15 dB or 0-31 dB Configurations.
- /// Provides a flexible, easy to program, low cost solution for your bench test/calibration setups and subsystem applications.
- /// Relative vs. Nominal attenuation step function.
- /// DC to 13.0 GHz Operation.
- /// High Accuracy & Repeatability.
- /// Power Handling up to 100 Watts average
- /// Designed to interface with industry standard communication interfaces:
 - GPIB/IEEE-488 (HS-488 ready)
 - RS-232, RS-422
- /// Built-in monitoring for switching input power into the load in case of fan failure.
- /// **Rack Configurable:** A Rack Mounting Kit is included for easily mounting the Model 8312 into any rack or cabinet that is designed per EIA RS-310 or MIL-STD-189.



Note: If power failure should occur, the unit will remain in the last selected attenuation state.

Figure 1. Model 8312 Block Diagram

For additional information on the Model 8312, visit our website @ www.aeroflex.com/AW/8312.htm

Specifications

SPECIFICATION	DESCRIPTION		
Input Power Requirements	AC	100 to 240 Vac, 50/60 Hz, 50 Watts	
Environmental	Operating Temperature	0 to +50°C	
	Storage Temperature:	67° to +167 °F (-55° to +75°C)	
	Humidity:	96%	
	Altitude:	40,000' (12,192M)	
IEEE-488 Bus	Connector:	24-pin per IEEE-488.1	
	Protocols:	per IEEE-488.2	
	Indicators:	Remote (RMT), Listen (LSN), Talk (TLK), SRQ (SRQ)	
RS-232 Bus	Connector:	9-pin male D	
	Signals:	TXD, RXD, RTS, CTS, DTR, GND	
	Baud Rates:	2400, 9600, 19200, and 38400	
	Data Bits:	8	
	Handshaking:	None, RTS/CTS, XON/XOFF	
	Parity:	None, Odd, Even	
	Indicators:	Tx (Transmit) and Rx (Receive)	
RS-422 BUS⁽³⁾	Connector:	9-pin male D	
	Signals:	TXD+, TDX-, RXD+, RTX-, RTS+, RTS-, CTS+, CTS- and signal GND	
	Baud Rates:	2400, 9600, 19200, and 38400	
	Data Bits:	8	
	Handshaking:	None, RTS/CTS, XON/XOFF	
	Parity:	None, Odd, Even	
	Indicators:	Tx (Transmit) and Rx (Receive)	
RF Characteristics⁽⁴⁾	Connectors:	Type N, Female	
	Frequency Range:	dc - 13 GHz	
	Impedance:	50 Ω	
	SWR:	50 MHz - 5 GHz:	1.60 (Maximum)
		5 GHz - 13 GHz:	2.30 (Maximum)
	Attenuation Range:	15 dB/1 dB steps (8312-15-F)	
		31 dB/1 dB steps (8312-31-F)	
	RF Power Rating:	50 MHz - 5 GHz:	100 Watts (Maximum)
		5 GHz - 13 GHz:	50 Watts (Maximum)
	Attenuation Settings:	100, 000 selections (minimum)	
	Attenuation Update Rate:	1 second (Typical)	
	Incremental Accuracy:	<u>Frequency</u>	<u>1-15 dB</u> <u>16-31 dB</u>
		50 MHz - 3 GHz:	+0.6 dB +0.8 dB
		3 GHz - 5 GHz:	+0.6 dB +0.8 dB
		5 GHz - 13 GHz:	+2.5 dB +3.0 dB
	Insertion Loss (dB):	<u>Frequency Range</u>	<u>8312-15-X</u> <u>8312-31-X</u>
		50 MHz - 3 GHz:	3.0 3.5
		3 GHz - 5 GHz:	4.0 4.5
		5 GHz - 13 GHz:	7.0 8.0

1. GPIB/IEEE-488 model allows user-selectable addresses.

2. RS-232 can be used with standard PC serial port for short and medium distances (up to approximately 50 ft).

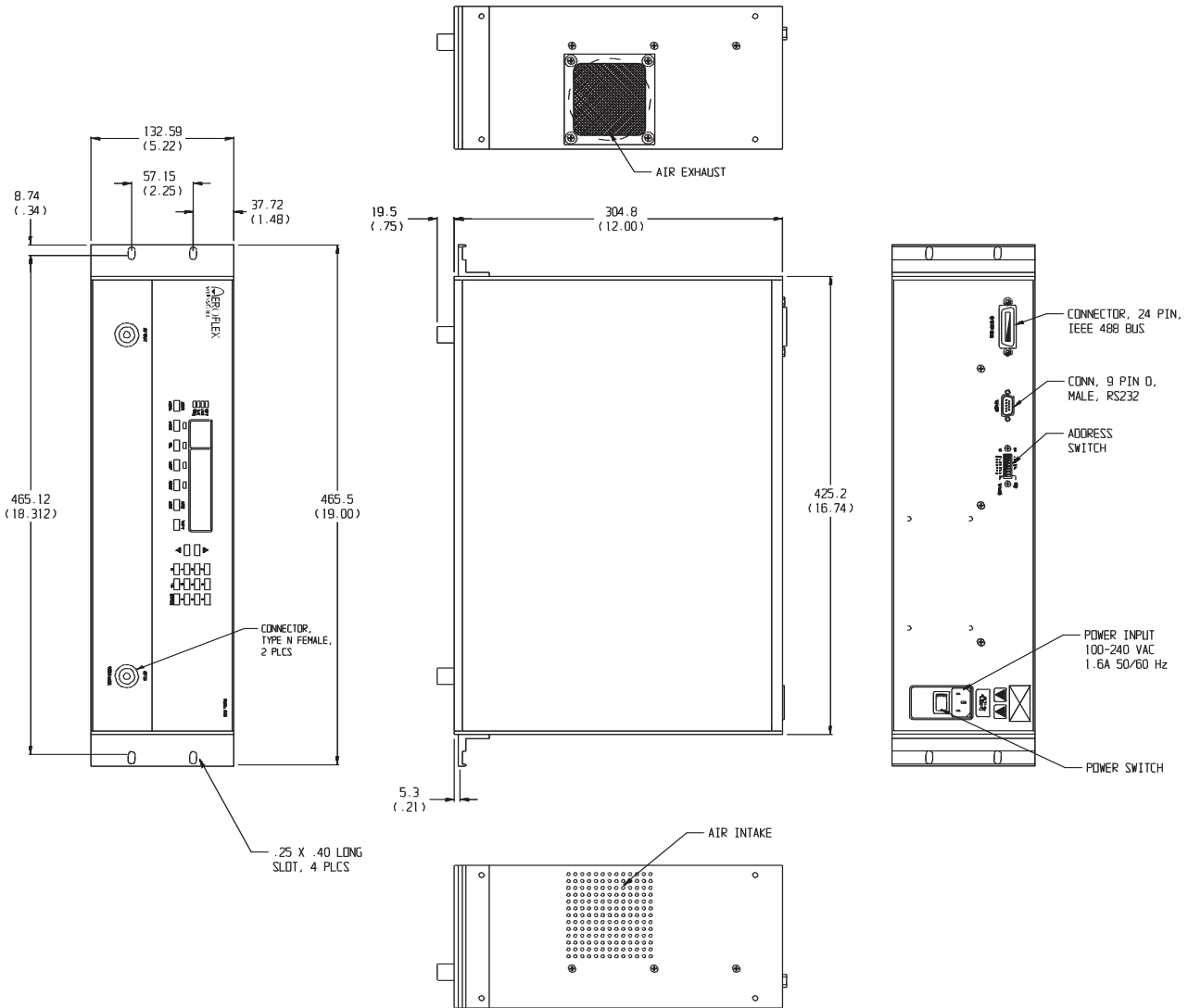
3. RS-422, designed for very long distance communications (4000 ft) and optimized as a single node protocol, typically with one device connected to a single port.

4. Refer to Individual data sheet for detailed specifications on internal programmables.

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Physical Dimensions



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

8312 - XX - X

Basic Model Number	Attenuation Value (dB)*	Connector Location F = Front R = Rear
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* Available in 0-15 dB and 0-31 dB configurations only!