

Rotary Step Attenuators

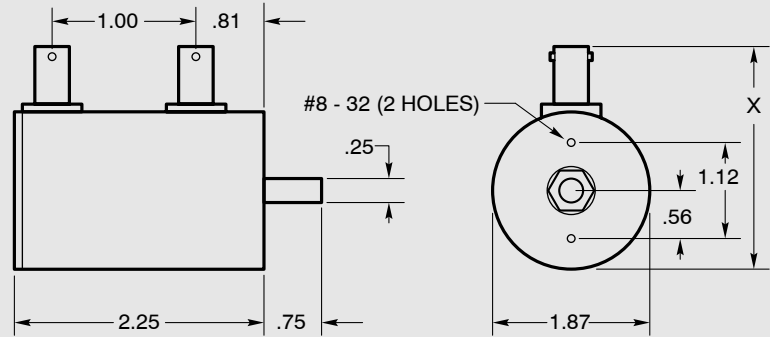


Figure 1.

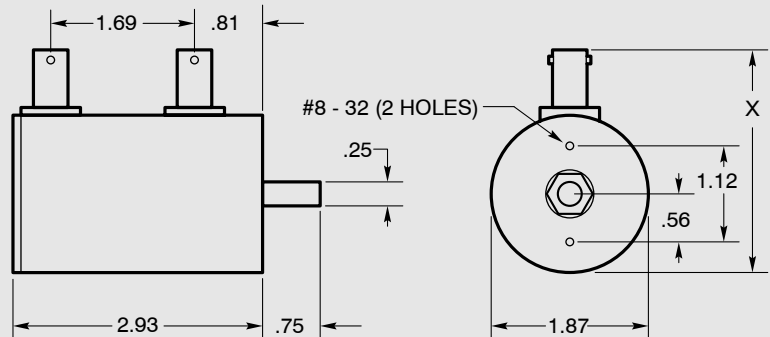


Figure 2.

Trilithic's RA series rotary attenuators are recognized worldwide as the standard for durable, precise signal level control. The series is divided into both 50 and 75 ohm units with attenuation as high as 120 dB dynamic range (in 10 dB steps) on the RA-120; or as low as 1 dB range (in 0.1 dB steps) on the RA-53 and RA-73. A firm, snap action detent locks in the desired attenuation as indicated on the supplied control knob. Low VSWR and insertion loss is assured throughout the range of each unit with tightly controlled pad values and machining tolerances. A broad selection of standard connectors is offered for various applications and includes BNC as standard, plus N, SMA, TNC, or F types.

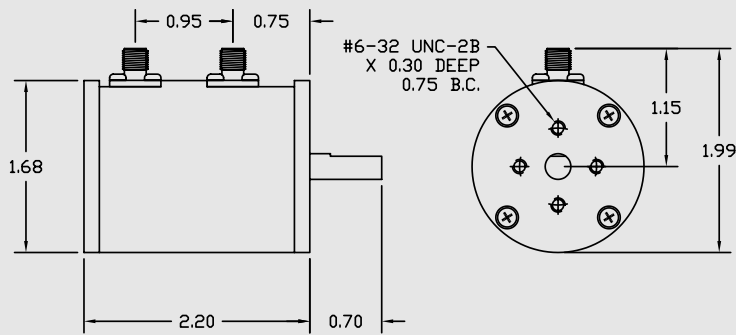
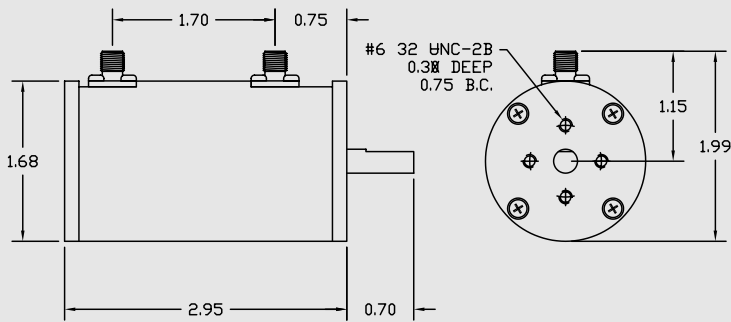
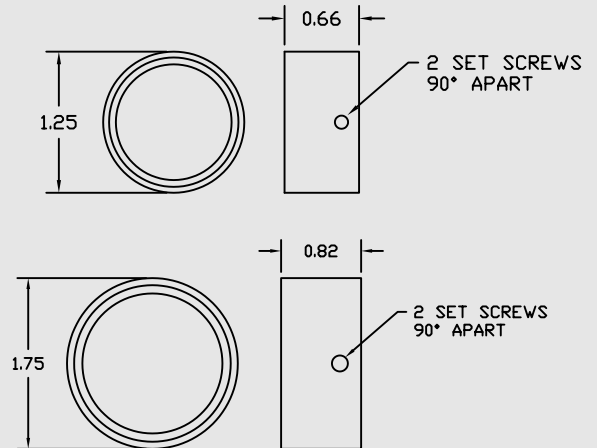
Connector	X	Connector	X
BNC	2.59	SMA	2.18
F	2.50	TNC	2.59
N	2.81		

Specifications	RA-70*	RA-71*	RA-73*
Frequency Range	DC-1 GHz	DC-1 GHz	DC-1 GHz
dB Value	0 to 10 by 1 dB	0 to 70 by 10 dB	0 to 1 by 0.1 dB
Connectors	BNC, N, TNC, F	BNC, N, TNC, F	BNC, N, TNC, F
Impedance	75 Ohms	75 Ohms	75 Ohms
VSWR	1.3:1 to 1 GHz	1.2:1 to 0.5 GHz 1.3:1 to 1 GHz	1.2:1 to 1 GHz
Accuracy	±0.1 dB to 0.03 GHz ±0.2 dB to 0.5 GHz ±0.3 dB to 1 GHz	±0.2 dB to 0.03 GHz ±0.5 dB to 0.5 GHz ±1 dB to 1 GHz	±0.02 dB to 0.03 GHz ±0.03 dB to 0.5 GHz ±0.06 dB to 1 GHz
Insertion Loss	0.1 dB max. to 0.5 GHz 0.3 dB max. to 1 GHz 0.4 dB max. to 2 GHz	0.1 dB max. to 0.5 GHz 0.3 dB max. to 1 GHz	0.6 dB max. to 0.5 GHz 0.8 dB max. to 1 GHz
Temperature	-20° to +125°C	-20° to +125°C	-20° to +125°C
Average Power	1 Watt (25°C)	0.5 Watt (25°C)	1 Watt (25°C)
Peak Power	750 Watts, 3μSec. pulse	750 Watts, 3μSec. pulse	750 Watts, 3μSec. pulse
Rotation	30 degrees	45 degrees	30 degrees
Weight	10 ounces	12 ounces	10 ounces
Housing	Irridated Aluminum	Irridated Aluminum	Irridated Aluminum
Dimensions	See Figure 1	See Figure 2	See Figure 1

* Connector types should be included in model number.

Note: Specifications valid through rated frequency range of each model.

Example: RA-70 BNC


Figure 3.

Figure 4.


Trilithic's RSA series rotary attenuators were designed to replace the lower frequency RA series attenuators. The RSA series rotary attenuators have 50 ohm impedance with attenuation as high as 100 dB dynamic range (in 10 dB steps) on the RSA-35100; or as low as 1 dB dynamic range (in 0.1 dB steps) on the RSA-3501. The RSA series operates from DC to 3 GHz, offer low VSWR with high accuracy and low costs. Connector options include BNC, N, SMA and TNC.

Specifications	RSA- 3501	RSA-3510	RSA-3570	RSA-35100
Frequency Range	DC - 2 GHz	DC - 3 GHz	DC - 3 GHz	DC - 3 GHz
dB Value	0 to 1 by .1 dB	0 to 10 by 1 dB	0 to 70 by 10 dB	0 to 100 by 10 dB
Connectors	Female: SMA, BNC, TNC, N (BNC not recommended above 1 GHz)	Female: SMA, BNC, TNC, N (BNC not recommended above 1 GHz)	Female: SMA, BNC, TNC, N (BNC not recommended above 1 GHz)	Female: SMA, BNC, TNC, N (BNC not recommended above 1 GHz)
Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms
VSWR	1.25:1 DC to 1 GHz 1.35:1 1.0 to 2.0 GHz	1.25:1 DC to 1 GHz 1.35:1 1.0 to 2.0 GHz 1.50:1 2.0 to 3.0 GHz	1.25:1 DC to 1 GHz 1.35:1 1.0 to 2.0 GHz 1.50:1 2.0 to 3.0 GHz	1.25:1 DC to 1 GHz 1.35:1 1.0 to 2.0 GHz 1.50:1 2.0 to 3.0 GHz
Accuracy	±0.05 dB DC to 2 GHz	±0.25 dB DC to 1.0 GHz ±0.35 dB 1.0 to 2.0 GHz ±0.5 dB 2.0 to 3.0 GHz	±0.25 dB or ±1.5% (Whichever is greater) DC to 1.0 GHz ±0.35 dB or ±2.0% (Whichever is greater) 1.0 to 2.0 GHz ±0.5 dB or ±3.0% (Whichever is greater) 2.0 to 3.0 GHz	±0.25 dB or ±1.5% (Whichever is greater) DC to 1.0 GHz ±0.35 dB or ±2.0% (Whichever is greater) 1.0 to 2.0 GHz ±0.5 dB or ±3.0% (Whichever is greater) 2.0 to 3.0 GHz
Insertion Loss	0.9 dB max. DC- 1.0 GHz 1.1 dB max. 1.0 - 2.0 GHz	0.3 dB max. DC- 1.0 GHz 0.5 dB max. 1.0 - 2.0 GHz 0.7 dB max 2.0 - 3.0 GHz	0.25 dB max. DC- 1.0 GHz 0.50 dB max. 1.0 - 2.0 GHz 0.75 dB max 2.0 - 3.0 GHz	0.25 dB max. DC- 1.0 GHz 0.50 dB max. 1.0 - 2.0 GHz 0.75 dB max 2.0 - 3.0 GHz
Temperature	0° to 50°C	0° to 50°C	0° to 50°C	0° to 50°C
Average Power	1 Watt (25°C)	1 Watt (25°C)	1 Watt (25°C)	1 Watt (25°C)
Peak Power	200 Watts, pulse, 1µSec. Duty cycle .001	200 Watts, pulse, 1µSec. Duty cycle .001	200 Watts, pulse, 1µSec. Duty cycle .001	200 Watts, pulse, 1µSec. Duty cycle .001
Rotation	30 degrees	30 degrees	30 degrees	30 degrees
Weight	12 oz.	12 oz.	14.4 oz.	14.4 oz.
Housing	Aluminum & Zinc	Aluminum & Zinc	Aluminum & Zinc	Aluminum & Zinc
Dimensions	See Figure 3	See Figure 3	See Figure 4	See Figure 4