

Manual / Program Controllable Step Attenuator 70dB Range 10dB Step DC-18GHz



Product Description

RKT1G18B70A is a manual / programmable controllable step attenuator with a frequency range of DC to 18GHz.

The max average power of this attenuator is 1W. The attenuation range is 70dB with a step size of 10dB.

The working temperature of this product is between - 20°C and + 70°C.

Features

- Manual / Program Controllable Step Attenuator
- Attenuation Range 70dB.
- Attenuation Step 10dB.
- Adjustable during operation.
- Higher power is available upon request.

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications (T_A=+25°C)

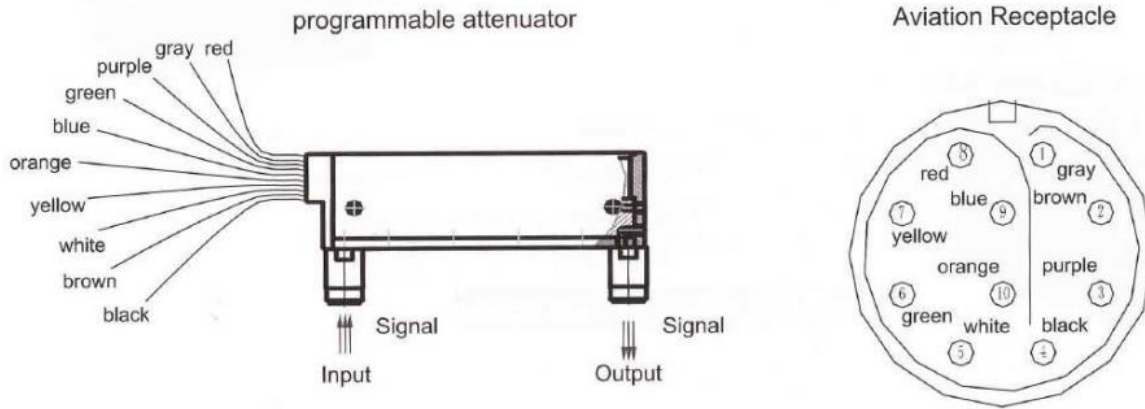
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	DC		8	8		12.4	12.4		18	GHz
Attenuation Range		70		70		70		70		dB
Attenuation Accuracy	11dB	±0.8		±0.8		±1.0		±1.0		dB
	50dB	±1.6		±2.1		±2.1		±2.1		dB
	90dB	±3.2		±3.2		±3.6		±3.6		dB
	110dB	±4.0		±4.5		±4.5		±4.5		dB
Attenuation Step		10		10		10		10		dB
VSWR			1.5			1.6		1.75		:1
Insertion Loss			0.6dB+0.09dB/GHz							dB
Power Handling			1W (100W Peak with 10µS Pulse Width)							Watts
*Operational Power			24							V
*Control Voltage			3.3~5V (Pulse width 5ms~1S)							V
*Control Current @5V			0.02 -0.08							mA
*Source Current @24V			2							A
*Switching speed			<20							ms
Repeatation Error			0.05							dB
Life type Cycle			10 ⁶							times
Impedance			50							Ohms
Weight	Manual		0.51 Max(3 cells) 0.783 Max (4 cells)							lbs
	Programmable		0.62 Max(3 cells) 0.93 Max (4 cells)							lbs
Connectors			SMA- Female/N-Female							

* Note: Only apply for program controllable model.

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +70°C (Case Temperature)
Storage Temperature	-55°C to +85°C
Thermal Shock	-20°C → +70°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +70°C for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

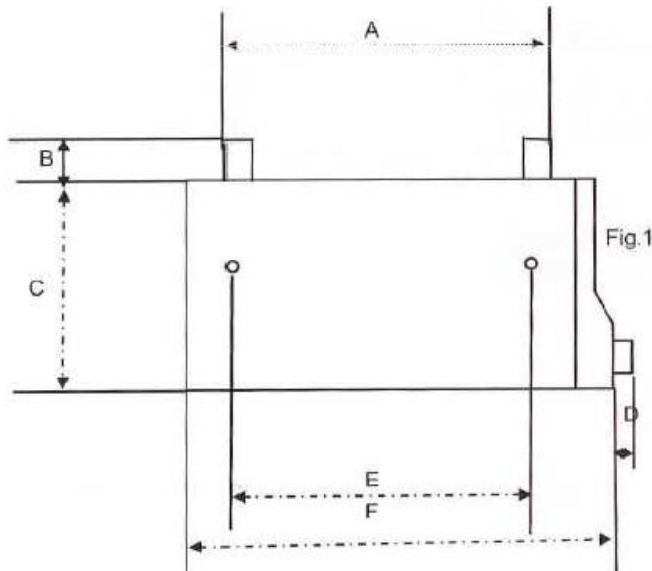
Outline Drawing



Attenuation	10 (dB)	40/20 (dB) ✖	20 (dB)	40/20 (dB) ✖
	1 (dB)	4 (dB)	2 (dB)	4 (dB)
Status				
Attenuation (NC)	Grey	Purple	Green	Blue
Through (NO)	Brown	White	Yellow	Orange

The red line is DC+24V, and the black line is ground.

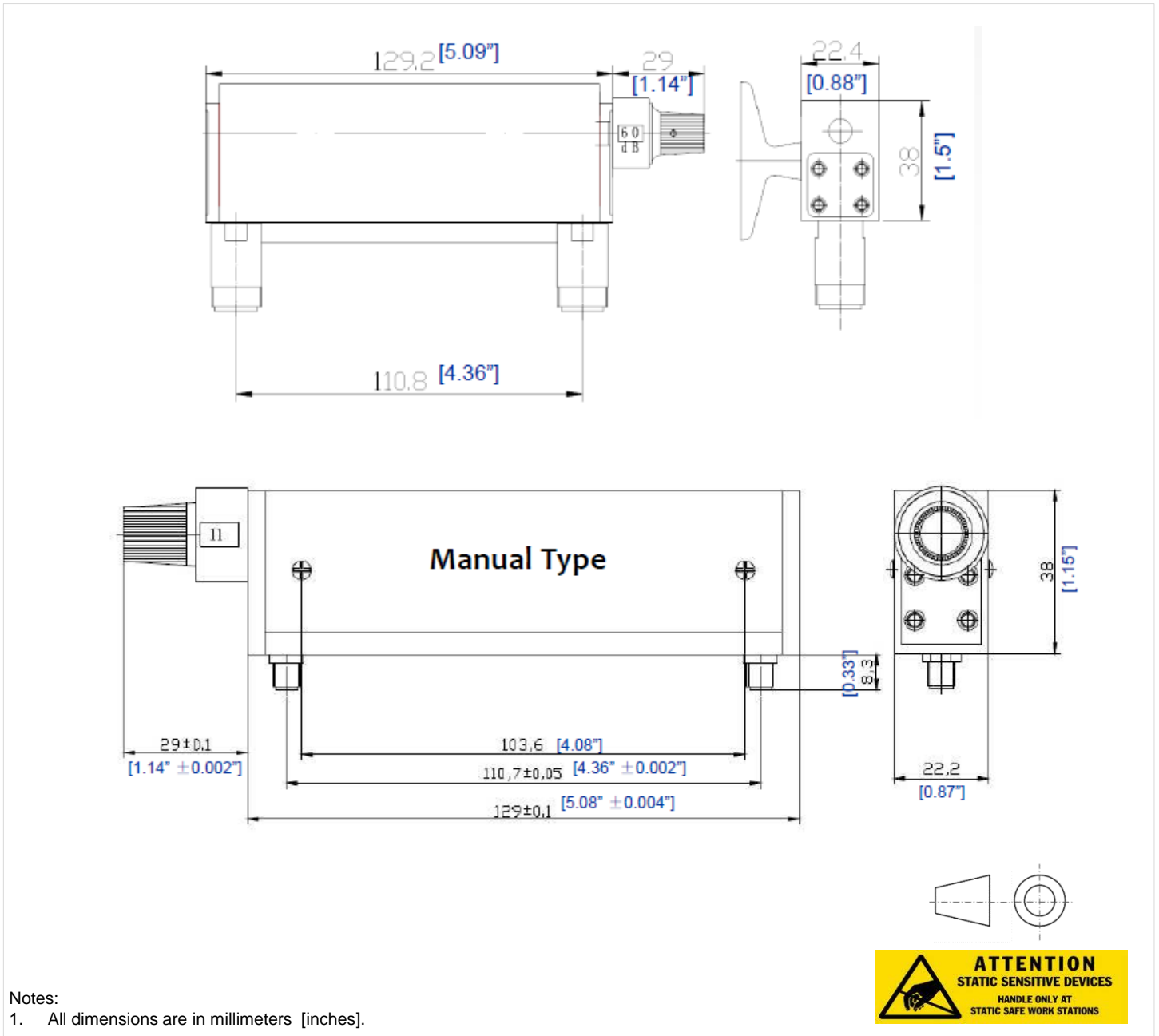
The others are control lines. to achieve 70dB attenuation, 5V control voltage should be supplied to the grey line, purple line, green line and blue line at the same time . To achieve 0 dB attenuation, 5V controlling voltage should be supplied to the brown line, white line, yellow line and orange line at the same time



(mm / inch)	A	B	C	D	E	F
Manual 3 cells	83.5 3.29	8.3 0.33	38 1.496	29.2 1.15	76.1 2.996	108.3 4.26
Manual 4 cells	111.4 4.39	8.3 0.33	38 1.496	29.2 1.15	103.4 4.07	135.8 5.35
Programmable 3 cells	83.5 3.29	8.3 0.33	44.6 1.74	6 0.24	76.1 2.996	108.3 4.26
Programmable 4 cells	111.4 4.39	8.3 0.33	44.6 1.74	6 0.24	103.4 4.07	135.8 5.35

Notes:
1. All dimensions are in millimeters [inches].

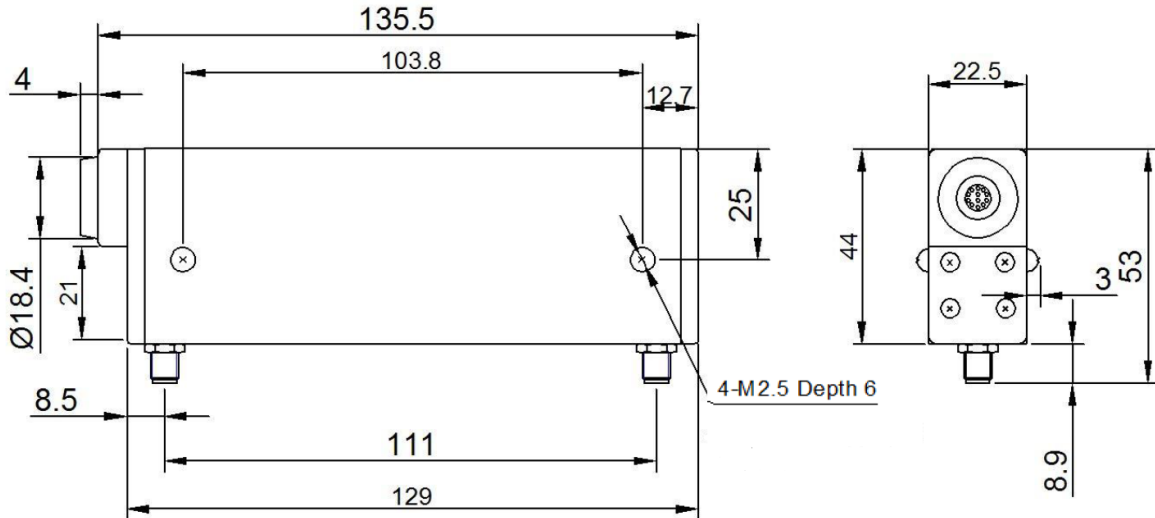
Outline Drawing



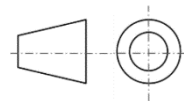
Additional Information

Documentation	Webpage
ESD Policy	https://rflambda.com/pdf/rflambda_esd_control.pdf
Connector Torque Specifications	https://www.rflambda.com/pdf/Torque_Specifications.pdf
Random Vibration Test Standard	https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Outline Drawing



Programmable Version



Notes:

1. All dimensions are in millimeters [inches].



Additional Information

Documentation	Webpage
ESD Policy	https://rflambda.com/pdf/rflambda_esd_control.pdf
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Random Vibration Test Standard	https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Ordering Information

Part Number	Modification	Description
RKT1G18B70A	Connectors SMA- Female/N-Female	DC-18GHz Manual / Programmable Controllable Step Attenuator

Important Notice

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