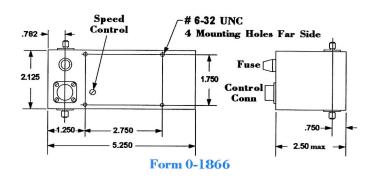


## MOTORIZED VARIABLE ATTENUATORS





## GENERAL DESCRIPTION

This series of motor driven variable attenuators has been designed for applications requiring the combination of remote control capability with high resolution and continuous attenuation adjustment. The complete unit consists of a multi-turn variable attenuator with its drive shaft coupled to a high reliability DC motor. The motor speed is a function of the applied voltage. At 28 VDC, the maximum speed of approximately 12 RPM is obtained. The DC voltage is decreased by means of an internally supplied potentiometer to provide motor speeds as low as 1 RPM. Since the attenuators require approximately 20 turns to go from minimum to maximum attenuation, attenuation

values can be easily set with a resolution of less than 0.1 dB. The motors used in this series of remotely driven attenuators feature minimum backlash and very fast stopping characteristics, thereby insuring ease of attaining precise attenuation levels. All units incorporate a 10K Ohms follower potentiometer for reference purposes.

Built-in microswitches provide automatic motor shut-off at each end of the attenuator's travel. In a typical hookup, a 3-position switch would permit increasing attenuation, decreasing attenuation and an "off" position. Each unit is provided with its mating power connector and a circuit diagram.

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## **GENERAL SPECIFICATIONS**

DC Voltage 28 Volts
Actuating Current 200 mA typical
RF Power 5 Watts average
3 kW peak
RF Connectors ** SMA or Type N Female
Power Connector Bendix PT-02A-10-8P
(mate supplied)

Insertion Loss 0.5 dB max *
VSWR 1.50 max *
Temperature Range55° C to +85° C
Settability 0.1 dB or better
Material Body - Aluminum
Conn - MIL-C-39012
Finish ARRA Blue per
MIL-C-22750

CO	PIN NFIGURATION
A B C D E F	+ Increase - Attenuation - Decrease + Attenuation
G H	Follower Pot 10K Ohms

Freq Range (GHz)	Atten Rge(dB)	Model No. **
1.0-12.4	10	3-68M4-10
1.0-2.0 1.5-2.0	15 20	38M4-15 38M4-20
2.0-12.4	20	4-68M4-20
2.0-4.0	10	48M4-10
	20	48M4-20
4.0-8.0	30 10	48M4-30 58M4-10
4.0-6.0	20	58M4-20
	30	58M4-30
10101	40	58M4-40
4.0-12.4	10 20	5-68M4-10 5-68M4-20
	30	5-68M4-30
5.4-11.0	10	5-68M4-10X
70440	20 10	5-68M4-20X 68M4-10X
7.0-11.0	20	68M4-20X
8.0-12.4	10	68M4-10
	20	68M4-20
	30 40	68M4-30 68M4-40
12.4-18.0	10	98M4-10
12. 1 10.0	20	98M4-20

Freq Range (GHz)	Atten Rge(dB)	Atten vs Freq (± dB)	Model No. **
1.2-1.4	15	1.25	38M3-15A
1.25-1.35	20	0.50	38M3-20A
2.0-2.1	15	0.20	48M3-15A
2.0-2.2	20	0.50	48M3-20A
2.0-4.0	10	1.00	48M3-10
	20	1.50	48M3-20
3.7-4.2	20	1.00	4-58M3-20
4.0-8.0	10	0.50	58M3-10
	20	1.00	58M3-20
	30	2.00	58M3-30
6.2-7.0	15	0.25	58M3-15A
7.2-8.4	30	1.00	5-68M3-30A
7.9-8.4	30	0.50	5-68M3-30B
8.0-12.4	10	0.50	68M3-10
	20	1.00	68M3-20
	30	2.00	68M3-30
12.4-18.0	20	1.00	98M3-20
	30	2.00	98M3-30

\* Max insertion loss and VSWR for 5.4-11 GHz models are 0.25 dB & 1.35. For 7-11 GHz models, they are 0.20 dB & 1.30. \*\* For Type N Female connectors, precede model number with N.