Variable Attenuators

Models 3003, 3006, 3007, 3010, & 3014   dc to 2.5 GHz
Models 3053 & 3054   dc to 6.0 GHz
Manual Step Attenuators   1 Watt

Rugged SMA Connector

EXPRESS
www.argosysales.com
800-542-4457

Features

- **New Models -** Models 3053 & 3054 offer an extended frequency range to 6 GHz.

- **Available *Express* Models:**   3003-100
                                     3010-100
                                     3053-100
                                     3054-100
  Other models may be available for Express delivery.

- **High Reliability -** Repeatability better than 0.1 dB over frequency range and life. Weinschel patented detent mechanism, tested to 1,000,000 operations at +75°C, operates dependably even down to -40°C.

- **Product Uniformity -** High volume fabrication techniques, including injection molding, stamping, broaching and thick film printing ensure a cost effective and uniform product.

- **Low Frequency Sensitivity -** Typically 0.1 to 0.2 dB up to 2.5 GHz.

- **Shock Resistant -** 100% spring contact system withstands mechanical and thermal shock and eliminates the need for epoxy or solder.

- **Wide Selection -** Wide choice of attenuation ranges and increments in standard stock models. Single and dual drum configurations available.

- **Knob Included -** Knobs for both single and dual drum models are included with every attenuator. Characters are screened on the face of the knob insert which is coated with a clear layer of epoxy for protection.

Special Configurations

Some modifications to the basic configuration of the 3000 Series can be made during manufacturing. Examples of these special configurations are shafts having special lengths and ends; clockwise shaft rotation; modified mounting arrangements; and provisions for add-on items such as concentric potentiometer and ganged switches.

Specifications

NOMINAL IMPEDANCE: 50 Ω
FREQUENCY RANGE: FREQUENCY RANGE:
  Models 3006, 3014:   dc to 1.25 GHz
  Models 3003, 3007, 3010:   dc to 2.5 GHz
  Models 3053, 3054:   dc to 6.0 GHz
INCREMENTAL ATTENUATION RANGE/STEPS:
  Model 3003:   0-70 dB in 10 dB steps
  Model 3006:   0-100 dB in 10 dB steps
  Model 3007:   0-10 dB in 1 dB steps
  Model 3010:   0-70 dB in 1 dB steps
  Model 3014:   0-110 dB in 1 dB steps
  Model 3053:   0-10 dB in 1 dB steps
  Model 3054:   0-70 dB in 1 dB steps
POWER COEFFICIENT: < 0.006 dB/dB/watt
TEMPERATURE COEFFICIENT: 0.0004 dB/dB/ °C
TEMPERATURE RANGE:
  Operating: -40°C to +65°C
  Non-Operating: -54°C to +85°C
POWER RATING: 1 watts **average** @ 25°C ambient temperature, derated linearly to 0 watts @ 65°C. 100 watts **peak** (5 µsec pulse width; 0.5 % duty cycle).

ATTENUATION ACCURACY:	
Model	Accuracy
3003	± 0.3 dB or 1% up to 60 dB ± 2% to 70 dB
3006	± 0.3 dB or 1% up to 60 dB ± 2% to 100 dB
3007, 3053	± 0.3 dB
3010	± 0.3 dB up to 10 dB ± 0.3 dB or 1.5% to 60 dB ± 2 % to 70 dB
3014	± 0.3 dB up to 10 dB ± 0.3 dB or 1.5% to 60 dB ± 3% to 110 dB
3054	± 0.3 dB or 2% (dc to 3 GHz) ± 0.3 dB or 3.5% (3 to 6 GHz)

CONNECTOR: SMA female connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector.

Specifications-Con't

SHAFT ROTATION: counter clockwise for increasing attenuation

STEP ANGLE: 32.7°

DRUM CONFIGURATIONS:

Single Drum:	3003, 3006, 3007, 3053
Dual Drum:	3010, 3014, 3054

MAXIMUM SWR & ZERO INSERTION LOSS:

Model	Frequency (GHz)	SWR	Loss (dB)
3003	dc - 2.5	1.20	< 0.3
3006	dc - 1.25	1.20	< 0.2
3007	dc - 2.5	1.30	< 0.3
3010	dc - 2.5	1.35	< 0.7
3014	dc - 1.25	1.30	< 0.5
3053	dc - 3.0	1.30	< 0.3
	3.0 - 6.0	1.40	< 0.7
3054	dc - 3.0	1.30	< 0.8
	3.0 - 6.0	1.55	< 1.3

SWITCHING LIFE: 1,000,000 steps

REPEATABILITY: $\pm$0.1 dB over frequency range and rated life

ROTATION STOPS: Supplied on 10 dB step drums (not supplied on 1 dB drums).

INCREMENTAL PHASE SHIFT: ~0.25° per dB x f(GHz)

CONSTRUCTION: Shafting and external hardware and connector shells: CRES Type 303, per ASTM-A582 passivated per QQ-P-35. Housing: AL ALLOY Gold Flash. Knob is included with each unit.

TEST DATA: Test data is available at additional cost.

WEIGHT: Single drum: Net 125 g (4.4 oz)
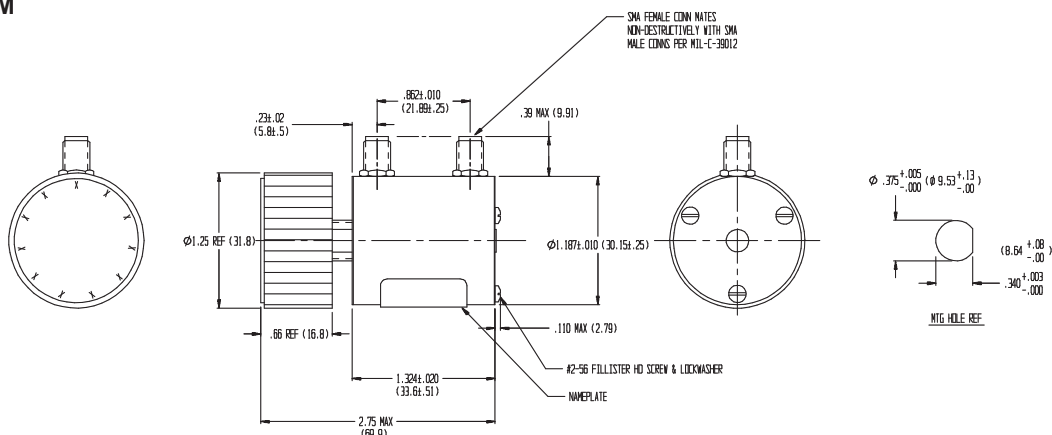 Dual drum: Net 201 g (9.9 oz)

MODEL NUMBER DESCRIPTION:

  Example:

3010 - 100

Basic Model Number

Additional Options no longer available. Add -100 Only!

PHYSICAL DIMENSIONS:

SINGLE DRUM

DUAL DRUM