

Continuously Variable Attenuator

Model 953K

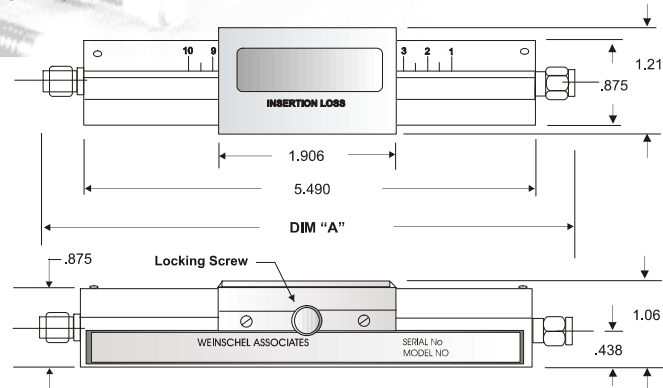
1.0 – 40.0 GHz

1 WATT



953K shown on bottom

SLIDE CONTROL



Maximum dimensions in inches (cm).

Mates with SMA, 3.5 mm, Type K⁽¹⁾.

⁽¹⁾ K Connector is a registered trademark of Wiltron Co.

BROADBAND FREQUENCY RANGE – 1.0 TO 40.0 GHz in 3 dB model. Other models have slightly less range

DIRECT READING SCALE – Insertion loss scales are individually calibrated. A permanently attached table shows small corrections to the calibrations above and below mid-frequency.

CONTINUOUSLY VARIABLE – Attenuation is continuously variable over near linear scale using a simple slide control.

SMALL PHASE SHIFT – Total insertion length remains constant for all attenuation settings, resulting in very small phase shift vs. attenuation
 $\approx 1^\circ/\text{dB}/\text{GHz}$.

NON-CONTACTING CONTROL DEVICE – Attenuator control is capacitively coupled to attenuating element to avoid wear and insure smooth operation.

STABILITY – These attenuators contain *Weinschel Associates* high quality, stable film resistors on a ceramic base.

STAINLESS STEEL CONNECTORS – Stainless steel connectors ensure maximum life and minimum wear. Critical dimensions are held more closely than required by applicable military specifications.

NOMINAL IMPEDANCE: 50 Ohms

ATTENUATION RANGE: 3, 10 AND 20 dB

CONNECTORS: Stainless steel 2.92 mm, Male, Female

PHASE SHIFT WITH CHANGE IN ATTENUATION:
 $\sim 1^\circ/\text{dB} \times f \text{ (GHz)}$ maximum

INPUT POWER RATING (when properly terminated):
 0.5 watt average, 100 watt peak; de-rated linearly to zero from 25 to 85°C.

POWER COEFFICIENT: $< 0.001 \text{ dB/dB} \times W$

TEMPERATURE COEFFICIENT: $< 0.0003 \text{ dB/dB} \times ^\circ\text{C}$

TEMPERATURE RANGE: 0° TO 85°C

WEIGHT: Net 0.37 kg (13 oz); Shipping 0.60 kg (1 lb., 5 oz)

| Characteristic | Model 953K | | |
|---|----------------------------------|--------------------------------------|--|
| | 3 dB | 10 dB | 20 dB |
| Frequency Range | 1 – 40 GHz | 3–40 GHz | 4–40 GHz |
| <i>Characteristic Insertion Loss, Residual</i> | 1.0 dB max at 18 GHz | 1.5 dB max at 18 GHz | 2.0 dB max at 18 GHz |
| Direct Reading Scale Calibration | 18 GHz | 18 GHz | 18 GHz |
| <i>Insertion Loss Corrections</i> | Min. 1, 2 & 3 dB at 1 and 40 GHz | Min. 2, 4, 6 & 10 dB at 3 and 40 GHz | Min. 5, 10, 15 & 20 dB at 4 and 40 GHz |
| Max. Correction from Scale Value | $\pm 1.0 \text{ dB}$ | $\pm 2.5 \text{ dB} -1.0 \text{ dB}$ | $\pm 2.5 \text{ dB}$ |
| <i>Calibration Accuracy (Incl. Resetability)</i> | 0.1 dB | 0.2 dB | 0.3 dB |
| Scale Resolution | $\sim 0.60 \text{ in / dB}$ | $\sim 0.25 \text{ in / dB}$ | $\sim 0.12 \text{ in / dB}$ |
| <i>Scale Increments</i> | 0.2 dB | 0.5 dB | 0.5 dB |
| Max. VSWR | | | |
| To 18.0 GHz | 1.50 | 1.50 | 1.50 |
| To 40.0 GHz | 1.35 | 1.35 | 1.50 |



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137

Specification
 Subject to change
 without notice