

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8495K

The Keysight (Agilent) 8495K is a high-performance coaxial programmable step attenuator designed for applications requiring precise signal attenuation over a broad frequency range up to 26.5 GHz. Built with precision gold-plated leaf springs, it provides excellent repeatability and a long operating life of over 5 million cycles per section. It operates across a 0 to 70 dB range in 10 dB steps, with rapid switching times suitable for automated test environments.

SPECIFICATIONS

General

Interfaces	12-pin Viking (standard), 14-pin DIP (optional)
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Physical

Power Supply	24 VDC nominal (20 to 30 VDC), 125 mA @ 24 V per section
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	149 mm × 43 mm × 52 mm mm
Weight	0.459 kg

RF & Performance Specifications

Frequency Range	DC to 26.5 GHz
Attenuation Range	0 to 70 dB
Step Size	10 dB
Nominal Impedance	50 Ω
Insertion Loss at 0 dB	0.4 dB + 0.09 dB/GHz
Maximum SWR (DC to 12.4 GHz)	1.5
Maximum SWR (12.4 to 18 GHz)	1.9
Maximum SWR (18 to 26.5 GHz)	2.2
Maximum RF Input Power (Average)	1 W
Maximum RF Input Power (Peak)	100 W (10 μs pulse width)
Repeatability	0.03 dB maximum
Typical Repeatability	0.01 dB
Number of Attenuation Sections	3
Attenuation Sections Values	10 dB, 20 dB, 40 dB

Control & Drive Specifications

Actuation Type	Solenoid (Programmable)
Solenoid Voltage (Nominal)	24 V
Solenoid Voltage (Range)	20 V to 30 V
Switching Current (per section)	125 mA
Switching Speed (Maximum)	20 ms

Mechanical & Port Interfaces

RF Connector Type	3.5 mm
RF Connector Gender	Female
Contact Material	Gold-plated leaf springs
Operating Life (per section)	5 million cycles
Control Connector Option	14-pin DIP

Environmental Specifications

Operating Temperature Range	0 to +55 °C
Storage Temperature Range	-40 to +75 °C

Ordering & Configuration Options

Option 890	NIST traceable calibration data
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RF Characteristics

Attenuation Accuracy at 12.4 GHz	±0.3 dB (10 dB), ±0.5 dB (20 dB), ±0.6 dB (30 dB), ±0.7 dB (40 dB), ±0.8 dB (50 dB), ±1.0 dB (60 dB), ±1.2 dB (70 dB)
Attenuation Accuracy at 18.0 GHz	±0.4 dB (10 dB), ±0.6 dB (20 dB), ±0.7 dB (30 dB), ±0.9 dB (40 dB), ±1.0 dB (50 dB), ±1.2 dB (60 dB), ±1.5 dB (70 dB)
Attenuation Accuracy at 26.5 GHz	±0.5 dB (10 dB), ±0.7 dB (20 dB), ±0.9 dB (30 dB), ±1.2 dB (40 dB), ±1.3 dB (50 dB), ±1.6 dB (60 dB), ±2.0 dB (70 dB)

Solenoid Specifications

Solenoid Coil Resistance	185 Ω (Option 024 / 24 V), 75 Ω (Option 015 / 15 V), 17 Ω (Option 011 / 5 V)
Solenoid Coil Current	125 mA @ 24 V (Option 024), 188 mA @ 15 V (Option 015), 325 mA @ 5 V (Option 011)

Environmental

Operating Altitude	4,570 m (15,000 ft)
Non-Operating Altitude	15,240 m (50,000 ft)
Operating Shock	10 G (6 ms, 6 shocks per axis)
Non-Operating Shock	1000 G (0.5 ms)
Operating Vibration	0.38 mm (5 Hz to 55 Hz), 0.5 G (55 Hz to 500 Hz)
Non-Operating Vibration	5 G (10 Hz to 2000 Hz)
Moisture Resistance	MIL-STD-202, Method 106

Ordering Options

Supply Voltage Options	Option 011 (5 VDC), Option 015 (15 VDC), Option 024 (24 VDC)
Ribbon Cable Options	Option 008 (8-inch cable), Option 016 (16-inch cable)
Calibration Documentation Options	Option UK6 (Commercial calibration certificate with test data)

Inputs & Outputs

Recommended Coupling Torque	0.9 N-m (8 in-lb)
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Power

Solenoid Power Consumption (per section)	1.6 W (Option 011), 2.8 W (Option 015/024)
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APPLICATIONS

Automated RF and microwave testing, signal level control, and system calibration.

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