HP 85037 Series Precision Detectors (AC/DC)

The HP 85037 series precision detectors are designed specifically for operation with the HP 8757D scalar network analyzer and may be used in either ac or dc detection modes. These dual diode detectors contain internal frequency correction factors in an internal EE PROM (read automatically by the HP 8757D) for improved measurement accuracy versus frequency. When used in conjunction with the HP 8757D's internal power calibrator (Option 002), these detectors provide the maximum absolute power measurement accuracy. The HP 85037 series detectors are not compatible with the HP 8757E, 8757A, 8756A, or 8755.

HP 85025 and 85026 Series Detectors (AC/DC)

The HP 85025 and 85026 series detectors are designed specifically for operation with the HP 8757 scalar network analyzer and are not compatible with either the HP 8756 or the 8755. The HP 85025/26 detectors detect either a modulated (ac) or an unmodulated (dc) microwave signal.

HP 11664 Series Detectors (AC Only)

The HP 11664 series detectors are designed to operate with the HP 8757, 8756, and 8755 scalar analyzers in ac mode only.

HP 85025C and 11664C Detector Adapters

The HP 85025C and 11664C detector adapters match the scalar analyzer display to most standard crystal, silicon, and gallium arsenide detectors. This enables the user to operate up to 110 GHz with the HP 8757 and 8756. The HP 85025C detector adapter is designed for use with the HP 8757 only, and can operate in either ac or dc detection modes. The HP 11664C detector adapter is designed for use with the HP 8757, 8756, and 8755 scalar analyzers.

Precision Detector Summary, HP 85037 Series
For use with the HP 8757D in either ac or dc detection modes

Model	Frequency range	Connector type	Dynamic range	Frequency	Return loss	Frequency response	Power (at 50 MHz)	Dynamic accuracy[4]	Absolute accuracy[5]
HP 85037A[1]	10 MHz to 18 GHz	Type-N (m) 7 mm[2]	ac mode +20 to −55 dBm dc mode +20 to −50 dBm	0.01 to 0.04 GHz 0.04 to 18.0 GHz	10 dB 20 dB	±0.35 dB ±0.18 dB	20 dBm 10 dBm −30 dBm −50 dBm	±0.25 dB ±0.11 dB ±0.11 dB ±0.85 dB	±0.25 dB ±0.11 dB ±0.11 dB ±0.85 dB
HP 85037B[1]	10 MHz to 26.5 GHz	3.5 mm (m)	ac mode +20 to − 55 dBm dc mode +20 to −50 dBm	0.01 to 0.04 GHz 0.04 to 18.0 GHz 18 to 26.5 GHz	10 dB 20 dB 18 dB	±0.35 dB ±0.18 dB ±0.22 dB	20 dBm 10 dBm −30 dBm −50 dBm	±0.25 dB ±0.11 dB ±0.11 dB ±0.85 dB	±0.25 dB ±0.11 dB ±0.11 dB ±0.85 dB

Coaxial Detector Summary, HP 85025 and 11664 Series
For use with the HP 8757 only in either ac or dc detection modes

Model	Frequency range	Connector type	Dynamic range	Frequency	Return loss	Frequency response	Power (at 50 MHz)	Dynamic accuracy[4]	Absolute accuracy[5]
HP 85025A[3]	10 MHz to 18 GHz	Type-N (m) 7 mm[2]	ac mode +16 to −55 dBm dc mode +16 to −50 dBm	0.01 to 0.04 GHz 0.04 to 4 GHz 4 to 18 GHz	10 dB 20 dB 17 dB	±0.8 dB ±0.5 dB ±0.5 dB	16 dBm 6 dBm −35 dBm −50 dBm	±0.8 dB ±0.4 dB ±0.4 dB ±1.3 dB	±0.8 dB ±0.4 dB ±0.4 dB ±1.3 dB
HP 85025B[3]	10 MHz to 26.5 GHz	3.5 mm (m)	ac mode +16 to −55 dBm dc mode +16 to −50 dBm	0.01 to 0.04 GHz 0.04 to 4 GHz 4 to 18 GHz 18 to 26.5 GHz	10 dB 20 dB 17 dB 12 dB	±0.8 dB ±0.5 dB ±0.5 dB ±2.0 dB	16 dBm 6 dBm −35 dBm −50 dBm	±0.8 dB ±0.4 dB ±0.4 dB ±1.3 dB	±0.8 dB ±0.4 dB ±0.4 dB ±1.3 dB
HP 85025D[3]	10 MHz to 50 GHz	2.4 mm (m)	ac mode +16 to −55 dBm dc mode +16 to −50 dBm	0.01 to 0.1 GHz 0.1 to 20 GHz 20 to 26.5 GHz 26.5 to 40 GHz 40 to 50 GHz	10 dB 20 dB 20 dB 15 dB 9 dB	±0.8 dB ±0.5 dB ±1.0 dB ±2.5 dB ±3.0 dB	16 dBm 6 dBm −35 dBm −50 dBm	±1.0 dB ±0.4 dB ±0.4 dB ±1.3 dB	±1.0 dB ±0.4 dB ±0.4 dB ±1.3 dB
HP 85025E[3]	10 MHz to 26.5 GHz	3.5 mm (m)	ac mode +16 to −55 dBm dc mode +16 to −50 dBm	0.01 to 0.1 GHz 0.1 to 18 GHz 18 to 25 GHz 25 to 26.5 GHz	10 dB 25 dB 25 dB 23 dB	±0.8 dB ±0.5 dB ±0.5 dB ±1.4 dB	16 dBm 6 dBm −35 dBm −50 dBm	±1.0 dB ±0.4 dB ±0.4 dB ±1.3 dB	±1.0 dB ±0.4 dB ±0.4 dB ±1.3 dB

For use with the HP 8757, 8756, or 8755 in ac detection mode only

Model	Frequency range	Connector type	Dynamic range	Frequency	Return loss	Frequency response	Power (at 50 MHz)	Dynamic accuracy[4]
HP 11664A	10 MHz to 18 GHz	Type-N (m) 7 mm[2]	+16 to −60 dBm	0.01 to 0.04 GHz 0.04 to 4 GHz 4 to 12 GHz 12 to 18 GHz	10 dB 20 dB 18 dB 16 dB	±0.5 dB ±0.5 dB ±0.5 dB ±0.5 dB	16 dBm 6 dBm −35 dBm −60 dBm	±0.4 dB ±0.3 dB ±0.3 dB ±1.2 dB
HP 11664E	10 MHz to 26.5 GHz	3.5 mm (m)	+16 to −60 dBm	0.01 to 0.04 GHz 0.04 to 6 GHz 6 to 18 GHz 18 to 26.5 GHz	10 dB 20 dB 16 dB 12 dB	±0.5 dB ±0.5 dB ±0.5 dB ±1.0 dB	16 dBm 6 dBm −35 dBm −60 dBm	±0.4 dB ±0.3 dB ±0.3 dB ±1.2 dB

[1] The HP 85037A/B specifications are applicable when used with the HP 8757D scalar network analyzer. The absolute power accuracy and dynamic power accuracy specifications apply after a calibration via the HP 8757D Opt 002's internal power calibrator.

[2] Opt 001 changes to a 7 mm connector.

[3] The HP 85025 and 85026 series detectors and the HP 85025C detector adapter require HP 8757A firmware revision 2.0 or higher. To upgrade previous revisions, order the HP 11614A firmware enhancement.

[4] Dynamic accuracy refers to measurement accuracy as power varies (in dB) from a 0 dBm reference. 25° ±5°C, 50 MHz.

[5] dc mode, 25° ±5°C