

KEYSIGHT TECHNOLOGIES (AGILENT HP)

U8485A

The Keysight U8485A is a high-performance USB thermocouple power sensor operating over a wide frequency range of 10 MHz to 33 GHz. It features built-in DC calibration and internal zeroing capabilities, eliminating the need for external calibration sources and minimizing test setup time. Designed for accuracy and speed, the U8485A delivers continuous average power measurements with exceptional linearity and low SWR, making it ideal for a wide range of RF and microwave applications.

SPECIFICATIONS

General

Interfaces	USB 2.0 (USB-TMC compatible)
Display	None (PC or host-instrument dependent)
Warm-up Time	45 minutes
Calibration Interval	1 year
Standard Warranty	3 years
Standard Cable Length	1.5 m

Physical

Power Supply	USB bus powered, 5 V, up to 500 mA (typically 230 mA)
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	46.0 mm × 35.9 mm × 121.2 mm mm
Weight	0.171 kg

Measurement Ranges & Power Specifications

Frequency Range Minimum	10 MHz
Frequency Range Maximum	33 GHz
Power Measurement Range Minimum	-35 dBm
Power Measurement Range Maximum	+20 dBm
Maximum Continuous Input Power	+25 dBm (average)
Maximum Peak Input Power	+30 dBm (peak for < 10 μs)
Maximum DC Input Voltage	20 VDC

Sensor Technology & Architecture

Sensor Detection Type	Thermocouple
Measurement Modes Supported	Continuous average
Dynamic Range	55 dB

RF Port Characteristics

Input Impedance	50 Ω
RF Connector Type	3.5 mm
Connector Sex	Male
Maximum SWR (10 MHz to 2 GHz)	1.12
Maximum SWR (2 GHz to 12.4 GHz)	1.17
Maximum SWR (12.4 GHz to 18 GHz)	1.20
Maximum SWR (18 GHz to 26.5 GHz)	1.23
Maximum SWR (26.5 GHz to 33 GHz)	1.29

Accuracy, Calibration & Noise

Internal Calibration Support	Yes (built-in DC calibration source)
Internal Zeroing Support	Yes (built-in internal zeroing)

Triggering & Sampling

Maximum Measurement Speed	900 readings/s
---------------------------	----------------

Connectivity & Host Interfaces

Host Interface Type	USB 2.0 Type-A
Command Set Support	SCPI

Meter Compatibility & System Integration

Compatible Software	Keysight BenchVue (BV0007B Power Meter/Sensor Control and Analysis)
Compatible Instruments	Keysight FieldFox, MXG/EXG signal generators, and selected Keysight spectrum analyzers

Environmental Parameters

Storage Temperature Range	-40 to 70 °C
Operating Humidity Range	Up to 95% RH at 40 °C (non-condensing)
Storage Humidity Range	Up to 90% RH at 65 °C (non-condensing)
Maximum Operating Altitude	4,600 m (15,000 ft)
Maximum Storage Altitude	15,240 m (50,000 ft)

Regulatory Compliance

EMC Standards Compliance	IEC 61326-1, EN 61326-1, AS/NZS CISPR 11, ICES/NMB-001
Safety Standards Compliance	IEC 61010-1, EN 61010-1, CAN/CSA-C22.2 No. 61010-1, UL 61010-1

Performance

Linearity (25 °C ± 10 °C)	±0.80%
Linearity (0 °C to 55 °C)	±1.30%
Zero Set	±25 nW
Zero Drift	±10 nW
Measurement Noise	< 25 nW

Calibration Factor Uncertainty

Cal Factor Uncertainty (10 MHz to 2 GHz)	0.91%
Cal Factor Uncertainty (2 GHz to 12.4 GHz)	1.13%
Cal Factor Uncertainty (12.4 GHz to 18 GHz)	1.23%
Cal Factor Uncertainty (18 GHz to 26.5 GHz)	1.39%
Cal Factor Uncertainty (26.5 GHz to 33 GHz)	1.70%

Power

Typical Current Consumption	230 mA
Maximum Current Consumption	420 mA

Triggering

Trigger Source Options	Free Run, Internal, External, Bus
Trigger Connector Type	SMB male
External Trigger Input Level High	> 2.0 V
External Trigger Input Level Low	< 0.8 V
External Trigger Output Level High	> 2.4 V (into 10 kΩ load)
External Trigger Output Level Low	< 0.4 V (into 10 kΩ load)
Trigger Delay Range	0 to 10 s
Trigger Delay Resolution	1 μs
Trigger Jitter	< 1 μs

Options

Option CFT Description	Excludes calibration factor table
------------------------	-----------------------------------

Environmental

Shock and Vibration Standard	MIL-PRF-28800F Class 3
------------------------------	------------------------

TECHNOLOGY

Thermocouple

APPLICATIONS

RF and Microwave Power Measurement

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.