

KEYSIGHT TECHNOLOGIES (AGILENT HP)

42841A

The Keysight 42841A Bias Current Source is a highly stable, high-current DC bias source designed for use with compatible LCR meters (such as the 4284A, 4285A, and E4980A) to perform accurate DC bias current measurements on inductors and magnetic components. It provides up to 20 A of DC bias current individually, and can be configured in a dual-unit setup to deliver up to 40 A of DC bias current.

SPECIFICATIONS

General

Interfaces	Proprietary control interface (rear panel connector for host LCR meter)
Display	Status indicator LEDs (No built-in digital screen)

Physical

Power Supply	90 to 132 V AC / 198 to 264 V AC (switchable), 47 to 66 Hz, 600 VA max
Operating Temperature	0 to 45 °C °C
Dimensions (W×H×D)	426 mm × 177 mm × 498 mm mm
Weight	25 kg kg

Current Source Output

Output Current Range (Single Unit)	0.01 A to 20.0 A (with 42842A/B test fixture)
Output Current Range (Dual Units)	0.02 A to 40.0 A (with 42842B test fixture)
Output Current Range (with 42851A)	0.01 A to 2.0 A (with 4285A and 42851A)
Programming Resolution (Single Unit)	0.01 A
Programming Resolution (Dual Units)	0.02 A
Programming Accuracy (Single Unit)	±(1% of setting + 5 mA) at 23 °C ± 5 °C
Programming Accuracy (Dual Units)	±(1% of setting + 10 mA) at 23 °C ± 5 °C
Programming Accuracy (with 42851A)	±(1% of setting + 5 mA)

System Integration

Compatible LCR Meters	Keysight / Agilent / HP 4284A, 4285A, E4980A
Compatible Bias Current Fixtures	Keysight / Agilent 42842A (20 A max), 42842B (40 A max), 42851A (2 A max)
Number of Bias Channels	1
Control Interface	Dedicated 25-pin D-sub connector for connection to HP 4284A/4285A

Physical and Environmental

Storage Temperature Range	-20 °C to 60 °C
Operating Humidity Range	≤ 95% RH at 40 °C
Cooling System	Internal forced-air cooling fan

DC Bias Output

DC Compliance Voltage	10 V max.
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Performance

Supported Frequency Range	20 Hz to 1 MHz (with 4284A); 75 kHz to 30 MHz (with 4285A and 42851A)
Warm-up Time	30 minutes

Safety

Interlock Function	Equipped (disables DC bias output when interlock circuit is open)
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Outputs

External Current Monitor Output	0 to 2 V DC (corresponding to 0 to 20 A), BNC connector on rear panel
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User Interface

Front Panel Status Indicators	BIAS ON, INTERLOCK, THERMAL, UNREGULATED
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Inputs & Outputs

Rear Panel Connectors	High-current DC BIAS output terminals, 25-pin D-sub CONTROL connector, BNC INTERLOCK connector, BNC EXT MON connector
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Environmental

Operating Altitude	Up to 2,000 m
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Compliance & Safety

Safety Compliance	IEC 61010-1 / EN 61010-1
EMC Compliance	EN 55011 Group 1, Class A / EN 50082-1
Pollution Degree	2
Overvoltage Category	II

TECHNOLOGY

DC Bias Current Source

APPLICATIONS

DC bias testing for inductors and magnetic components

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