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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 6177C Current Source, 0-500mA, 0-50V

HP Agilent 6177C Precision DC Constant Current Source 50 V 500 mA The HP/Agilent 6177C is a precision constant current source with voltage limiting rated 0 to 500 mA full scale at up to 50 V compliance. OEM literature emphasizes exceptional regulation and stability with very low ripple, three position current ranges, and usable performance down to the microamp region. Semiconductor characterization, resistivity measurements, electrochemistry, and electromagnetics needing a stable low noise constant current source. The HP/Agilent 6177C is a precision constant current source with voltage limiting rated 0 to 500 mA full scale at up to 50 V compliance. OEM literature emphasizes exceptional regulation and stability with very low ripple, three position current ranges, and usable performance down to the microamp region. Semiconductor characterization, resistivity measurements, electrochemistry, and electromagnetics needing a stable low noise constant current source. 10 turn current control for high resolution. High output impedance with no output capacitor.



MODEL

HP / Agilent 6177C

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

6177C

LISTING

<https://aumictechlabs.com/products/6177c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 6177C is a precision DC current source delivering stable, highly regulated output from 0 to 500 mA across a 0 to 50 V compliance range. Operating as both a constant current

source and voltage-limited supply, It has exceptional load and line regulation - better than 25 ppm of output plus 5 ppm of range setting - making it ideal for resistivity measurements, semiconductor characterization, electrochemistry, and electromagnetics applications where precise current control is essential. Technical Specifications Output current: 0–500 mA continuously variable Output voltage compliance: 0–50 V Load regulation: <25 ppm of output + 5 ppm of range switch setting Line regulation: <25 ppm of output + 5 ppm of range switch setting (104–127 Vac or 208–254 Vac) Stability (8-hour drift): <100 ppm of output + 25 ppm of range switch setting Temperature coefficient: <75 ppm/°C of output current + 5 ppm of range switch setting Output impedance: High Transient recovery: <800 μ s to 1% nominal current Resolution: 0.03% of range switch setting AC input: 104–127 Vac or 208–254 Vac (switchable), 48–440 Hz Input power: 55 W at full load Key Features 10-turn precision output current control Three-position range switch for flexible output scaling Voltage control establishes compliance ceiling in constant current mode No output capacitor - high output impedance design for sensitive applications Remote analog programming with <6 ms settling (0–99% or 99%–<1% of rated output) Resistance programming accuracy: 1% of output + 0.04% of range Front panel + and – output terminals Typical Applications Resistivity and material characterization, semiconductor parameter testing, electrochemical cell operation, electromagnetics research, and precision current injection for device validation. Compatibility & Integration Accepts dual AC input voltage configurations. Remote programming via analog techniques enables integration into automated test systems.

6177C Characteristics / Specifications

PARAMETER	VALUE
Output Current Full Scale Ranges	0 to 500 mA, 0 to 50 mA, 0 to 5 mA
Maximum Voltage Compliance	50 V
Minimum Voltage Limit	0.5 V
Output Power Class	25 W
Regulation Class	0.0025 percent class
Current Resolution With 10 Turn Control	down to 0.5 uA class
Low Current Usable Region	on the order of 1 uA
Control	10 turn current control with range switch
Metering	metered output class
Topology	precision constant current source
AC Input	115 Vac 48 to 63 Hz single phase standard
Remote Programming Path	supported per operating manual family
Form Factor	benchtop laboratory current source
Output Capacitance	no output capacitor highZdesign
Ripple Class	very low ripple per OEM description
Stability Class	exceptional stability per OEM description
Series Family	HP 6177C / 6181C precision current sources

6177C Specifications

PARAMETER	VALUE
Three position output range switch	10 turn current control for high resolution
High output impedance with no output capacitor	Well regulated performance down to about 1 uA
Technical Specifications	Output Current Full Scale Ranges: 0 to 500 mA, 0 to 50 mA, 0 to 5 mA

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

performance down to the microamp region.

Applications

Semiconductor characterization, resistivity measurements, electrochemistry, and electromagnetics needingastable low noise constant current source.

Key Features

Constant current with voltage limit

Three position output range switch

10 turn current control for high resolution

High output impedance with no output capacitor

Well regulated performance down to about 1 uA

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Output Current Full Scale Ranges	0 to 500 mA, 0 to 50 mA, 0 to 5 mA
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Control	10 turn current control with range switch
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Topology	precision constant current source
AC Input	115 Vac 48 to 63 Hz single phase standard

Option 028: 230 Vac operation

Specifications

PARAMETER	VALUE
Remote Programming Path	supported per operating manual family
Form Factor	benchtop laboratory current source
Output Capacitance	no output capacitor highZdesign
Ripple Class	very low ripple per OEM description
Stability Class	exceptional stability per OEM description

PARAMETER	VALUE
Series Family	HP 6177C / 6181C precision current sources

Notes
Ratings from HP/Agilent 6177C product literature and operating manual family shared with 6181C. Confirm exact regulation and ripple figures on the calibration certificate for the specific serial number.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.