

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N3307A

The Keysight N3307A (formerly Agilent) is a 250 W programmable DC electronic load module designed for use with the N3300A and N3301A multi-slot mainframes. It operates up to 150 V and 30 A, providing high-speed, precise testing of power supplies and power components in automated test environments.

SPECIFICATIONS

General

Interfaces	Via mainframe (GPIB, RS-232); local 14-pin analog programming and monitor connector on module rear panel
Display	None (uses the host mainframe display)
Programming Languages	SCPI
Input Off-state Resistance	200 k Ω (typical)

Physical

Power Supply	Powered directly from the mainframe backplane (N3300A or N3301A)
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	57 mm × 207 mm × 379 mm mm
Weight	3.12 kg kg

Input Ratings and Operating Ranges

Maximum Input Power	250 W
Maximum Input Voltage	150 V
Maximum Input Current	30 A
Minimum Operating Voltage	3.0 V at 30 A

Operating Modes & Accuracy

Constant Current (CC) Range Low	0 to 3 A
Constant Current (CC) Range High	0 to 30 A
Constant Voltage (CV) Range Low	0 to 15 V
Constant Voltage (CV) Range High	0 to 150 V
Constant Power (CP) Range	0 to 250 W
Constant Current (CC) Programming Resolution - Low Range	0.8 mA
Constant Current (CC) Programming Resolution - High Range	8 mA
Constant Voltage (CV) Programming Resolution - Low Range	4 mV
Constant Voltage (CV) Programming Resolution - High Range	40 mV

Transient and Dynamic Characteristics

Transient Mode Frequency Range	0.25 Hz to 10 kHz
Transient Mode Duty Cycle Range	3% to 97% (in 1% steps)
Current Slew Rate Low Range	0.0006 A/μs to 0.15 A/μs
Current Slew Rate High Range	0.006 A/μs to 1.5 A/μs
Maximum Number of List Mode Steps	100

Measurement and Readback Accuracy

Voltage Readback Resolution - Low Range	0.5 mV
Voltage Readback Resolution - High Range	5 mV
Current Readback Resolution - Low Range	0.08 mA
Current Readback Resolution - High Range	0.8 mA

Protection Features

Over-Voltage Protection (OVP) Threshold Range	Programmable up to 160 V
Over-Current Protection (OCP) Threshold Range	Programmable up to 33 A
Over-Power Protection (OPP) Threshold Range	~260 W
Over-Temperature Protection (OTP)	Yes
Reverse Voltage Protection	Yes (diode clamped)

Connectivity & Control Interfaces

Analog Programming Input Voltage Range	0 to 10 V
Current Monitor Output Scale Factor	0 to 10 V (corresponds to 0 to 30 A)

Physical and Mechanical Specifications

Form Factor

Single-slot electronic load module

General Specifications

Mainframe Compatibility

Keysight N3300A (6 slots), Keysight N3301A (2 slots)

Accuracy

Constant Current (CC) Programming Accuracy - Low Range $\pm(0.1\% + 7.5 \text{ mA})$

Constant Current (CC) Programming Accuracy - High Range $\pm(0.1\% + 30 \text{ mA})$

Constant Voltage (CV) Programming Accuracy - Low Range $\pm(0.05\% + 15 \text{ mV})$

Constant Voltage (CV) Programming Accuracy - High Range $\pm(0.05\% + 110 \text{ mV})$

Constant Current (CC) Readback Accuracy - Low Range $\pm(0.1\% + 6 \text{ mA})$

Constant Current (CC) Readback Accuracy - High Range $\pm(0.1\% + 25 \text{ mA})$

Constant Voltage (CV) Readback Accuracy - Low Range $\pm(0.05\% + 10 \text{ mV})$

Constant Voltage (CV) Readback Accuracy - High Range $\pm(0.05\% + 80 \text{ mV})$

Performance

Constant Resistance (CR) Range - Low Range $0.15 \text{ } \Omega$ to $15 \text{ } \Omega$

Constant Resistance (CR) Range - Medium Range $10 \text{ } \Omega$ to $1,000 \text{ } \Omega$

Constant Resistance (CR) Range - High Range $750 \text{ } \Omega$ to $50,000 \text{ } \Omega$

Ripple and Noise (Voltage, RMS) 6 mV

Ripple and Noise (Voltage, Peak-to-Peak) 60 mV

Ripple and Noise (Current, RMS) 6 mA

Current Slew Rate Programming Resolution - Low Range $0.0001 \text{ A}/\mu\text{s}$

Current Slew Rate Programming Resolution - High Range $0.001 \text{ A}/\mu\text{s}$

Constant Resistance (CR) Mode

Constant Resistance (CR) Programming Accuracy - Range 1	$\pm(1\% + 15 \text{ mS})$ (with 30 A input)
Constant Resistance (CR) Programming Accuracy - Range 2	$\pm(1\% + 1.2 \text{ mS})$ (with 3 A input)
Constant Resistance (CR) Programming Accuracy - Range 3	$\pm(1\% + 0.12 \text{ mS})$ (with 0.3 A input)
Constant Resistance (CR) Programming Resolution - Range 1	1.25 mS
Constant Resistance (CR) Programming Resolution - Range 2	0.1 mS
Constant Resistance (CR) Programming Resolution - Range 3	0.01 mS

Constant Power (CP) Mode

Constant Power (CP) Programming Accuracy	$\pm(3\% + 3.5 \text{ W})$
Constant Power (CP) Programming Resolution	100 mW

Temperature Coefficients

Voltage Programming Temperature Coefficient - Low Range	$\pm(0.005\% + 0.3 \text{ mV})$ per °C
Voltage Programming Temperature Coefficient - High Range	$\pm(0.005\% + 3 \text{ mV})$ per °C
Current Programming Temperature Coefficient - Low Range	$\pm(0.008\% + 0.1 \text{ mA})$ per °C
Current Programming Temperature Coefficient - High Range	$\pm(0.008\% + 1 \text{ mA})$ per °C
Voltage Readback Temperature Coefficient - Low Range	$\pm(0.005\% + 0.3 \text{ mV})$ per °C
Voltage Readback Temperature Coefficient - High Range	$\pm(0.005\% + 3 \text{ mV})$ per °C
Current Readback Temperature Coefficient - Low Range	$\pm(0.008\% + 0.15 \text{ mA})$ per °C
Current Readback Temperature Coefficient - High Range	$\pm(0.008\% + 1.5 \text{ mA})$ per °C

Remote Sensing

Maximum Remote Sense Voltage Drop	2 V per load lead
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Environmental

Storage Temperature Range	-40 °C to +75 °C
Maximum Operating Altitude	2000 m

TECHNOLOGY

Programmable DC Electronic Load Module

APPLICATIONS

Automated power supply testing, battery discharge testing, DC-DC converter verification

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