

dc ELECTRONIC LOADS

Specifications (cont'd)

Supplemental Characteristics (continued)

	HP 6060B, 60502B	HP 6063B, 60503B	HP 60501B	HP 60504B	HP 60507B
Analog programming bandwidth	10 kHz (-3-dB frequency)	10 kHz (-3-dB frequency)	10 kHz (-3-dB frequency)	10 kHz (-3-dB frequency)	10 kHz (-3-dB frequency)
Analog programming accuracy					
Current (low range)	4.5% ± 75 mA	3% ± 8 mA	4.5% ± 40 mA	4% ± 200 mA	4.5% ± 75 mA
Current (high range)	4.5% ± 250 mA	3% ± 20 mA	4.5% ± 130 mA	4% ± 400 mA	4.5% ± 200 mA
Temperature coefficient	100 ppm/°C ± 6 mA/°C	150 ppm/°C ± 1 mA/°C	100 ppm/°C ± 3 mA/°C	100 ppm/°C ± 12 mA/°C	150 ppm/°C ± 6 mA/°C
Voltage	0.8% ± 200 mV	0.5% ± 150 mV	0.8% ± 200 mV	0.8% ± 200 mV	0.8% ± 375 mV
Temperature coefficient	100 ppm/°C ± 1 mV/°C	120 ppm/°C ± 10 mV/°C	100 ppm/°C ± 1 mV/°C	100 ppm/°C ± 1 mV/°C	120 ppm/°C ± 12.5 mV/°C
Analog programming voltage	0 to 10 V	0 to 10 V	0 to 10 V	0 to 10 V	0 to 10 V
Readback specifications					
Current readback resolution	17 mA (via HP-IB) 20 mA (front panel)	2.7 mA (via HP-IB) 10 mA (front panel)	9 mA (via HP-IB) 10 mA (front panel)	34 mA (via HP-IB) 100 mA (front panel)	17 mA (via HP-IB) 20 mA (front panel)
Temperature coefficient	50 ppm/°C ± 5 mA/°C	100 ppm/°C ± 1 mA/°C	65 ppm/°C ± 3 mA/°C	100 ppm/°C ± 8 mA/°C	100 ppm/°C ± 5 mA/°C
Voltage readback resolution	17 mV (via HP-IB) 20 mV (front panel)	67 mV (via HP-IB) 100 mV (front panel)	17 mV (via HP-IB) 20 mV (front panel)	20 mV (via HP-IB) 20 mV (front panel)	40 mV (via HP-IB) 100 mV (front panel)
Voltage readback accuracy	0.05% ± 45 mV	0.1% ± 150 mV	0.05% ± 45 mV	0.1% ± 45 mV	0.1% ± 90 mV
Temperature coefficient	50 ppm/°C ± 1.2 mV/°C	100 ppm/°C ± 8 mV/°C	50 ppm/°C ± 1.2 mV/°C	100 ppm/°C ± 2 mV/°C	100 ppm/°C ± 5 mV/°C
Analog monitor accuracy					
Current monitor (0 to 10 V out)	4% ± 85 mA	3% ± 10 mA	4% ± 40 mA	4% ± 170 mA	3% ± 85 mA
Temperature coefficient	50 ppm/°C ± 6 mA/°C	100 ppm/°C ± 1 mA/°C	60 ppm/°C ± 3 mA/°C	100 ppm/°C ± 10 mA/°C	100 ppm/°C ± 6 mA/°C
Voltage monitor (0 to 10 V out)	0.25% ± 40 mV	0.4% ± 240 mV	0.25% ± 40 mV	0.4% ± 60 mV	0.4% ± 120 mV
Temperature coefficient	50 ppm/°C ± 0.2 mV/°C	70 ppm/°C ± 1.2 mV/°C	50 ppm/°C ± 0.2 mV/°C	100 ppm/°C ± 2 mV/°C	100 ppm/°C ± 5 mV/°C
Remote sensing	5-Vdc maximum between sense and load input				
Minimum operating voltage	2 volts (1.2 V typical)	2 volts (1.2 V typical)	2 volts (1.2 V typical)	2 volts (1.4 V typical)	2 volts (1.4 V typical)
Programmable short	0.033 Ω (0.020 Ω typical)	0.20 Ω (0.10 Ω typical)	0.066 Ω (0.040 Ω typical)	0.017 Ω (0.012 Ω typical)	0.033 Ω (0.025 Ω typical)
Programmable open (typical)	20 kΩ	80 kΩ	20 kΩ	20 kΩ	20 kΩ
Drift (over 8-hour interval)					
Current	0.03% ± 10 mA	0.03% ± 15 mA	0.03% ± 5 mA	0.03% ± 20 mA	0.03% ± 10 mA
Voltage	0.01% ± 10 mV	0.01% ± 20 mV	0.01% ± 10 mV	0.01% ± 10 mV	0.01% ± 25 mV
dc Isolation voltage	± 240 Vdc, between any input and chassis ground				
Digital inputs	$V_{ih} = 0.9 V$ max at $I_{ih} = -1 mA$ / $V_{il} = 3.15 V$ min (pull-up resistor on input)				
Digital outputs	$V_{oh} = 0.72 V$ max at $I_{oh} = 1 mA$ / $V_{ol} = 4.4 V$ min at $I_{ol} = -20 \mu A$				
Net weight (approx.)	6060B: 6.12 kg (13.5 lb) 60502B: 3.2 kg (7 lb)	6063B: 6.12 kg (13.5 lb) 60503B: 3.2 kg (7 lb)	3.2 kg (7 lb)	5.4 kg (13 lb)	5.4 kg (13 lb)
Shipping weight	6060B: 8.16 kg (18 lb) 60502B: 4.5 kg (10 lb)	6063B: 8.16 kg (18 lb) 60503B: 4.5 kg (10 lb)	4.5 kg (10 lb)	7.3 kg (16 lb)	7.3 kg (16 lb)

Notes:

- Operating temperature range is 0 to 55° C. All specifications apply for 25° C ± 5° C, except as noted.
- Maximum continuous power available is derated linearly from 40° C to 75% of maximum at 55° C.
- dc current accuracy specifications apply 30 seconds after input is applied.

HP 6050A, 6051A Weight

Net weight: HP 6050A: 9.5 kg (21 lb); HP 6051A: 5.5 kg (12 lb)

Shipping weight: HP 6050A: 13.6 kg (30 lb);

HP 6051A: 7.5 kg (17 lb)

Size:

HP 6050A: 425.5 mm W × 177 mm H × 624.7 mm D (16.75 in W × 7 in H × 24.6 in D)

HP 6051A: 213 mm W × 177 mm H × 624.7 mm D (8.4 in W × 7 in H × 24.6 in D)

HP 6060B, 6063B: 425.5 mm W × 88.1 mm H × 396 mm D (16.75 in W × 3.5 in H × 24.6 in D)

Ordering Information

HP Model	Price	Options							
		Front panel inputs	ac Input			Rack Mount kit			Extra manuals
			100 Vac Japan only	220 Vac	240 Vac	800	908	909	
6050A	\$2,000	—	\$0*	\$0*	\$0*	—	+\$40†	+\$100†	+\$55*
6051A	\$1,700	—	\$0*	\$0*	\$0*	+\$85†	+\$80†	—	+\$55*
6060B	\$2,250	+\$85*	\$0*	\$0*	\$0*	—	+\$35*	+\$80*	+\$35*
6063B	\$2,550	+\$85*	\$0*	\$0*	\$0*	—	+\$35*	+\$80*	+\$35*
60501B	\$1,400	—	—	—	—	—	—	—	+\$35*
60502B	\$1,730	—	—	—	—	—	—	—	+\$35*
60503B	\$1,990	—	—	—	—	—	—	—	+\$35*
60504B	\$2,450	—	—	—	—	—	—	—	+\$35*
60507B	\$2,550	—	—	—	—	—	—	—	+\$35*

† Options 908 and 909 for the HP 6050A, and Options 800 and 908 for the HP 6051A, require either the slide kit (p/n 1494-0059) or slide rails to support the weight of the load mainframe. Slide kits can be purchased using the above part number.

* This feature is available as an option.

— This feature is not available.

HP-IB Interface Capabilities

The following HP-IB functions are implemented: SH1, AH1, L4, SRI, DCI, DTI, and RLI.

Regulatory Compliance: Listed to UL 1244; certified to CSA 556B; conform to IEC 348; standalone models carry the CE mark

RFI Suppression: Standalone models comply with CISPR-II Group 1 Class B

Option Descriptions

Opt 020 Front Panel Inputs (for HP 6060B and 6063B only)

Opt 100 87 to 106 Vac, 47 to 66 Hz (for Japan only)

Opt 220 191 to 233 Vac, 47 to 66 Hz

Opt 240 209 to 250 Vac, 47 to 66 Hz

Opt 800 Rack Mount Kit for two units (for HP 6051A) mounted side-by-side (HP p/n 5061-9694 and 5062-3978)

Opt 908 Rack Mount Kit (HP p/n 5062-3978 with an HP 6050A, HP p/n 5062-3960 with HP 6051A, and HP p/n 5062-3974 with an HP 6060B and 6063B)

Opt 909 Rack Mount Kit with Handles (HP p/n 5062-3984 when mounting an HP 6050A and HP p/n 5062-3975 when mounting an HP 6060B and 6063B)

Opt 910 Extra manual set, including one each of the operating manual, programming reference manual, and service manual. The programming manual is available with the mainframe, and therefore not with individual modules (operating manuals and programming manuals are shipped with standard units only).