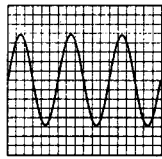
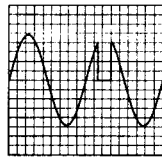


HP 6800
Series
HP 6811B
HP 6812B
HP 6813B
HP 6814B
HP 6834B

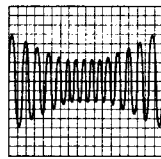
HP 6800 Series Waveform Examples with a Resistive Load



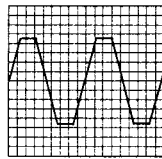
Low distortion sine wave



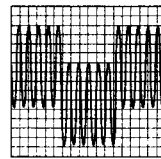
Phase referenced cycle dropout



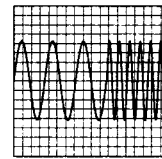
Voltage amplitude change



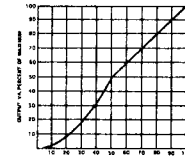
Programmable distortion with programmable slew rate



Waveform with a dc offset (clipped sine wave)



Frequency change



VA Capabilities for the 6814B, 6834B, 6843A

Specifications Per phase for a sine wave with a resistive load at 0° to 40° C, within an output frequency range of 45 Hz to 1000 Hz, and in ac coupled mode unless otherwise noted¹

	HP 6811B	HP 6812B	HP 6813B	HP 6814B	HP 6834B
Number of phases	1	1	1	1	1/3
Output frequency range	dc; 45 Hz to 1 kHz	dc; 45 Hz to 1 kHz	dc; 45 Hz to 1 kHz	45 Hz to 5 kHz	45 Hz to 5 kHz
Output ratings					
Power	375 VA	750 VA	1750 VA	3000 VA	4500 VA
Maximum rms voltage	300 V	300 V	300 V	300 V _{rms} (high range) 150 V _{rms} (low range)	300 V _{rms} (high range) 150 V _{rms} (low range)
Maximum rms current	3.25 A	6.5 A (real-time mode)	13 A (real-time mode)	² 10 A (300 V range) ² 20 A (150 V range)	² 15 A/5 A (300 V range) ² 30 A/10 A (150 V range)
Maximum repetitive and nonrepetitive peak current	40 A	40 A	80 A	40 A (300 V range) 80 A (150 V range)	60 A/20 A (300 V range) 120 A/40 A (150 V range)
Crest factor	12	6	6	4	4
DC voltage range	±425 V	±425 V	±425 V	N/A	N/A
Maximum dc current	2.5 A	5 A	10 A	N/A	N/A
Constant voltage ripple and noise (20 kHz to 10 MHz)	-60 dB (relative to full scale)	-60 dB (relative to full scale)	-60 dB (relative to full scale)	-60 dB (relative to full scale)	-60 dB (relative to full scale)
Line regulation	0.1%	0.1%	0.1%	0.1%	0.1%
Load regulation	0.5%	0.5%	0.5%	0.5%	0.5%
Maximum total harmonic distortion	0.25% at 50 Hz/60 Hz 1% worst case 45 Hz to 1 kHz	0.25% at 50 Hz/60 Hz 1% worst case 45 Hz to 1 kHz	0.25% at 50 Hz/60 Hz 1% worst case 45 Hz to 1 kHz	1% (45-1000 Hz) 1% + 1% kHz (>1 kHz - 5 kHz)	1% (45-1000 Hz) 1% + 1% kHz (>1 kHz - 5 kHz)
Programming accuracy (25° C ± 5° C)					
rms voltage	0.15% + 0.3V (45 to 100 Hz) 0.5% + 0.3V (>100 to 500 Hz) 1% + 0.3V (>500 to 1000 Hz)	0.15% + 0.3V (45 to 100 Hz) 0.5% + 0.3V (>100 to 500 Hz) 1% + 0.3V (>500 to 1000 Hz)	0.15% + 0.3V (45 to 100 Hz) 0.5% + 0.3V (>100 to 500 Hz) 1% + 0.3V (>500 to 1000 Hz)	0.15% + 0.3V (45 to 100 Hz) 0.5% + 0.3V (>100 to 500 Hz) 1% + 0.3V (>500 to 5000 Hz)	0.15% + 0.3V (45 to 100 Hz) 0.5% + 0.3V (>100 to 500 Hz) 1% + 0.3V (>500 to 5000 Hz)
DC voltage	0.1% + 0.5V	0.1% + 0.5V	0.5% + 0.3V	N/A	N/A
Frequency	0.01% + 10 μHz	0.01% + 10 μHz	0.01% + 10 μHz	0.01% + 10 μHz	0.01% + 10 μHz
(HP 6834B in 3Φ mode)					
Phase	N/A	N/A	N/A	N/A	0.1° (45-100 Hz) 1° (>100-1 kHz) 1% + 1%/k Hz (>1 kHz-5 kHz)
Measurement accuracy (25° ± 5° C)					
rms voltage (45-100 Hz)	0.03% + 100 mV ³ + 250 mV	0.03% + 100 mV ³	0.03% + 100 mV ³	0.05% + 250 mV (45 Hz-1kHz) 0.05% + 0.05%/k Hz + 250 mV	0.05% + 250 mV (45 Hz-1kHz) 0.05% + 0.05%/k Hz + 250 mV
DC voltage rms current ⁴ (45-100 Hz)	0.03% + 150 mV ³ 0.05% + 10 mA ³	0.03% + 150 mV ³ 0.05% + 10 mA ³	0.03% + 150 mV ³ 0.05% + 10 mA ³	N/A 0.1% + 50 mA	N/A 0.1% + 25 mA 0.1% + 50 mA ⁵
Frequency	0.01% + 0.01 Hz ³	0.01% + 0.01 Hz ³	0.01% + 0.01 Hz ³	0.01% + 0.01 Hz	0.01% + 0.01 Hz
Power (VA) ⁴ (45-100 Hz)	0.1% + 1.5 VA + 12 mVA/V ³	0.1% + 1.5 VA + 12 mVA/V ³	0.1% + 1.5 VA + 12 mVA/V ³	0.15% + 5 VA	0.15% + 5 VA 0.15% + 3 VA
Power (watts) ⁴ (45-100 Hz)	0.1% + 0.3 W + 12 mW/V ³	0.1% + 0.3 W + 12 mW/V ³	0.1% + 0.3 W + 12 mW/V ³	0.15% + 5 W	0.15% + 5 W 0.15% + 0.3W ⁵
Power factor ⁴	0.01	0.01	0.01	0.01	0.01
Isolation to ground	300 Vrms	300 Vrms	300 Vrms	300 Vrms	300 Vrms

30-minute warm-up period
Specifications subject to change without notice

¹ It is possible to program the output frequency of HP 6812B and 6813B from dc to 45 Hz (see note 3).

² Full current is available at voltages between 50% and 100% of the output voltage range.

³ Product may be operated between dc and 45 Hz subject to the following conditions: measurements may be extended to 4.5 Hz at full accuracy only by selecting a digitization

rate of 250 μseconds per point; frequency content of the measured signal must be limited to 4 kHz or less to avoid aliasing effects.

⁴ High current measurement range shown

⁵ Single-phase operation

AC Source/Analyzers

200

AC Power Source/Analyzers (cont'd)

HP 6800 Series
HP 6811B
HP 6812B
HP 6813B
HP 6814B
HP 6834B

Supplemental Characteristics Non-warranted characteristics determined by design that are useful in applying the product

	HP 6811B	HP 6812B	HP 6813B	HP 6814B	HP 6834B
Average programming resolution					
rms voltage	125 mV	125 mV	125 mV	80 mV	80 mV
DC voltage	250 mV	250 mV	250 mV	N/A	N/A
Overvoltage programming (OVP)	2 V peak	2 V peak	2 V peak	2 V peak	2 V peak
rms current	2 mA	4 mA	4 mA	5 mA	7.5 mA/2.5 mA
Peak current	12.5 mA	12.5 mA	25 mA	N/A	N/A
Output frequency	10 µHz	10 µHz	10 µHz	10 µHz	10 µHz
Phase	N/A	N/A	N/A	N/A	0.001" (45 Hz to 5 kHz)
Average measurement resolution					
rms voltage	10 mV	10 mV	10 mV	10 mV	10 mV
rms current	2 mA	2 mA	2 mA	3 mA	2 mA/6 mA
Net weight	28.2 kg (62 lb)	28.2 kg (62 lb)	32.7 kg (72 lb)	79.5 kg (175 lb)	87.7 kg (193 lb)
Shipping weight	31.8 kg (70 lb)	31.8 kg (70 lb)	36.4 kg (80 lb)	119.1 kg (262 lb)	127.3 kg (280 lb)
Size	136.2 mm H x 425.5 mm W x 574.7 mm D (5.2 in x 16.75 in x 18.22 in)			266.7 mm H x 425.5 mm W x 262.6 mm D (10.5 in x 16.75 in x 10.3 in)	

Remote Sensing: Up to 10 Vrms can be dropped across each load lead.

Command Processing Time: The average time for the output rms voltage to start to change after receiving an HP-IB command is 10 milliseconds.

Calibration Interval: One year

HP-IB Capabilities: SH1, AH1, T6 L4, SR1, RL1 PPO, DC1, DT1, E1, and CO, and a command set compatible with IEEE-488.2 and SCPI

Regulatory Compliance: Listed to UL-1244; certified to CSA 22.2 No. 231; conforms to IEC 1010

RFI Suppression: Complies with CISPR-11, Group 1, Class A

Warranty Period: Three years

AC Input Ratings

	HP 6811B	HP 6812B	HP 6813B	HP 6814B	HP 6834B
Voltage range (Vac)	87 to 106 Vac *104 to 127 Vac 174 to 220 Vac 191 to 254 Vac	87 to 106 Vac *104 to 127 Vac 174 to 220 Vac 191 to 254 Vac	174 to 220 Vac *191 to 254 Vac	*180 to 254 L-L (3Φ) 360 to 440 L-L (3Φ)	*180 to 254 L-L (3Φ) 360 to 440 L-L (3Φ)
Maximum input	12 A (at 100 Vac) 10 A (at 120 Vac)	28 A (at 100 Vac) 24 A (at 100, 120 Vac)	22 A (at 200/208 Vac)	18 A	24 A
Current (rms)¹	7.5 A (at 200/208 Vac) 6.5 A (at 230 V)	15 A (at 200, 208 Vac) 13 A (230 Vac)	20 A (at 220/230/240 Vac)	10 A	15 A
Input power (max)²	100 VA/ 700 W	2500 VA/1400 W	3800 VA/2600 W	5800 VA/4100 W	8900 VA/5900 W
Input frequency	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz
Price	\$5,500	\$7,040	\$9,690	\$11,730	\$14,180

* Input power configuration for the standard unit

¹ Measured at low line

² Measured at high line

Ordering Information

	Price
Opt 0BN Extra Documentation	+\$36
Opt 1CM Rackmount Kit (p/n 5062-3977)	+\$41
Opt 1CP Rackmount Kit with Handles, HP 6811B, 6812B, 6813B only (p/n 5062-3983)	+\$92
Opt 001 Harmonic Flicker - Emissions Test Software (6812B, 6813B)	+\$3,000
Opt 002 Voltage & Frequency - Immunity Test Software (6812B, 6813B)	+\$1,250
Opt 003 Interharmonics - Immunity Test Software (6812B, 6813B)	+\$2,000
Opt 009 Harmonic & Flicker, Voltage & Frequency and Interharmonics Test Software (6812B, 6813B)	+\$5,625
Opt 100 87 to 106 Vac, 48 to 63 Hz (Japan only), HP 6811B, 6812B	\$0
Opt 200 174 to 220 Vac, 47 to 63 Hz. If Option 200 is not ordered, the ac source will be configured to operate at 191 to 254 Vac, 47 to 63 Hz. (HP 6813B)	\$0
Opt 230 191 to 254 Vac, 48 to 63 Hz (HP 6811B, 6812B)	\$0
Opt 831 12 AWG, 200 to 240 Vac, unterminated (HP 6811B, 6812B, 6813B)	\$0
Opt 832 4 mm ² wire size, unterminated (HP 6813B)	\$0
Opt 833 1.5 mm ² wire size, 200 to 240 Vac, unterminated (HP 6811B, 6812B)	\$0
Opt 834 10 AWG, 100 to 120 Vac, unterminated (HP 6811B, 6812B)	\$0
Opt 841 Line Cord with NEMA 6-20P; 20 A, 250 V Plug (HP 6811B, 6812B, 6813B)	+\$15
Opt 842 Line Cord with IEC 309, 32 A, 220 V Plug (HP 6813B)	+\$77

Opt 844 Line Cord with NEMA L6-30P, 30 A, 250 V Locking Plug (HP 6813B)	+\$56
Opt 845 Line Cord with IEC 309; 16A, 220 V Plug (HP 6811B, 6812B)	+\$36
Opt 846 Line Cord with NEMA L5-30P; 30 A, 120 V Plug (HP 6811B, 6812B)	+\$56
Opt 847 Line Cord with CEE 7/7; 16 A, 220 V Plug (HP 6811B, 6812B)	+\$36
Opt 848 Line Cord with BS 546; 15 A, 240 V Plug (HP 6811B, 6812B)	+\$36
Support rails (p/n 12679B) required when rackmounting the HP 6812B and 6813B Opt 1CM and Opt 1CP	\$115
Opt 400 360 to 440 Vac, 3-phase, 47 to 63 Hz operation (HP 6814B, 6834B)	+\$867
Support rail kit p/n 5064-0001 must be ordered with Opt 1CM for rackmounting the HP 6814B and 6834B	\$75

Accessories

HP p/n 5060-3513 Three 30-A replacement fuses for 180 to 235 Vac line (HP 6814B, 6834B)	\$29
HP p/n 5060-3512 Three 16-A replacement fuses for 360 to 440 Vac line (HP 6814B, 6834B)	\$29
HP p/n 5063-2310 Heavy-duty rack slide kit (HP 6814B, 6834B)	\$300
Available modification:	
Opt J01 26 Vrms/100 mA Aux output	
HP 6811B, 6812B, 6813B	\$2,400
HP 6834B	\$2,800