

ac Power Solutions (cont'd)

(per phase for a sine wave with a resistive load at 0° to 40° C, within an output frequency range of 45 Hz to 1000Hz, and in ac coupled mode after a 30 minute warm-up unless otherwise noted. Note: For 6814B, 6834B and 6843A output voltage must be at least 50% of range.)¹

SPECIFICATIONS

		6811B	6812B	6813B	6814B	6834B	6843A
Number of phases		1	1	1	1	1/3	1
Output ratings (Maximum)	Power	375 VA	750 VA	1750 VA	3000 VA	4500 VA/1500 VA	4800 VA
	rms voltage	300 V	300 V	300 V	300 V (high range) 150 V (low range)	300 V (high range) 150 V (low range)	300 V (high range) 150 V (low range)
	rms current	3.25 A	6.5 A	13 A	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)	16A (300 V range) 32A (150 V range)
	Repetitive & non-repetitive peak current	40 A	40 A	80 A	40 A (300 V range) 80 A (150 V range)	60 A/20A (300 V range) 120 A/40 A (150 V range)	48 A (300 V range) 96 A (150 V range)
	Crest factor	12	6	6	4	4	3
	Load Power factor capability	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
	dc power	285 W	575 W	1350 W	N/A	N/A	N/A
	dc voltage	±425 V	±425 V	±425 V	N/A	N/A	N/A
	dc current	2.5 A	5.0 A	10.0 A	N/A	N/A	N/A
Output frequency range		dc; 45Hz to 1 kHz	dc; 45Hz to 1 kHz	dc; 45 Hz to 1 kHz	45Hz to 5 kHz	45 Hz to 5 kHz	45 Hz to 1 kHz
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)	-60 dB (relative to full scale)
Line regulation	(% of full scale)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Load regulation	(% of full scale)	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Maximum total harmonic distortion		0.25% at 50/60Hz 1% worst case 45 to 1 kHz	0.25% at 50/60Hz 1% worst case 45 to 1 kHz	0.25% at 50/60Hz 1% worst case 45 to 1 kHz	1% (45-1000Hz) 1% + 1%/kHz (>1 kHz - 5 kHz)	1% (45-1000Hz) 1% + 1%/kHz (>1 kHz - 5 kHz)	1% (45-1000 Hz) 1% + 1%/kHz (>1 kHz - 5 kHz)

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SPECIFICATIONS (CONTINUED)

		6811B	6812B	6813B	6814B	6834B	6843A
Programming accuracy (25° ± 5° C)							
Number of Phases		1	1	1	1	1/3	1
RMS Voltage (% of output + offset)	0.15% + 0.3 V (45 - 100Hz)	0.15% + 0.3 V (45 - 100Hz)	0.15% + 0.3 V (45 - 100Hz)	0.15% + 0.3 V (45 - 100Hz)	0.15% + 0.3 V (45 - 100Hz)	0.15% + 0.3 V (45 - 100Hz)	0.15% + 0.3 V (45 - 100Hz)
	0.5% + 0.3 V (>100 - 500 Hz)	0.5% + 0.3 V (>100 - 500 Hz)	0.5% + 0.3 V (>100 - 500 Hz)	0.5% + 0.3 V (>100 - 500 Hz)	0.5% + 0.3 V (>100 - 500 Hz)	0.5% + 0.3 V (>100 - 500 Hz)	0.5% + 0.3 V (>100 - 500 Hz)
	1% + 0.3 V (> 500 - 1000 Hz)	1% + 0.3 V (> 500 - 1000 Hz)	1% + 0.3 V (> 500 - 1000 Hz)	1% + 0.3 V (> 500 - 1000 Hz)	1% + 0.3 V (> 500 - 5000 Hz)	1% + 0.3 V (> 500 - 5000 Hz)	1% + 0.3 V (> 500 - 1000 Hz)
DC voltage		0.1% + 0.5 V	0.1% + 0.5 V	0.5% + 0.3 V	N/A	N/A	N/A
Frequency		0.01% + 10µHz	0.01% + 10µHz	0.01% + 10µHz	0.01% + 10µHz	0.01% + 10µHz	0.01% + 10µHz
3 Phase Mode (6834B only)		N/A	N/A	N/A	N/A	0.1° (45 - 100 Hz) 1° (>100 - 1kHz) 1° + 1°/kHz (>1 kHz - 5kHz)	N/A

For a complete list of specifications for Agilent's ac power solutions, please see the operating manual on our web site at <http://www.agilent.com/find/manuals>

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ac Power
Solutions

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SPECIFICATIONS (CONTINUED)

	6811B	6812B	6813B	6814B	6834B	6843A
Measurement accuracy (25 ± 5° C)						
Rms. voltage (45 - 100 Hz)	0.03% + 100 mV ³	0.03% + 100 mV ³	0.03% + 100 mV ³	0.05% + 250 mV	0.05% + 250 mV	0.05% + 250 mV
dc Voltage	0.05% + 150 mV ³	0.05% + 150 mV ³	0.05% + 150 mV ³	N/A	N/A	N/A
RMS Current (45 - 100 Hz) ⁴						
high range	0.05% + 10 mA	0.05% + 10 mA	0.05% + 10 mA	0.1% + 50 mA	0.1% + 50 mA (1Φ) 0.1% + 25 mA (3Φ)	0.1% + 50 mA
low range	0.05% + 1.5 mA	0.05% + 1.5 mA	0.05% + 1.5 mA	N/A	N/A	N/A
Power (VA) (45-100 Hz) ⁴						
high range	0.1% + 1.5 VA + 12 mVA/V	0.1% + 1.5 VA + 12 mVA/V	0.1% + 1.5 VA + 12 mVA/V	0.15% + 5 VA	0.15% + 5 VA (1Φ) 0.15% + 3 VA (3Φ)	0.15% + 9 VA
low range	0.1% + 1.5 VA +1.2 mVA/V	0.1% + 1.5 VA +1.2 mVA/V	0.1% + 1.5 VA +1.2 mVA/V	N/A N/A	N/A N/A	N/A N/A
Power (watts) (45-100 Hz) ⁴						
high range	0.1% + 0.3 W + 12 mW/V	0.1% + 0.3 W + 12 mW/V	0.1% + 0.3 W + 12 mW/V	0.15% + 5 W	0.15% + 5 W (1Φ) 0.15% + 3 W (3Φ)	0.15% + 9 W
low range	0.1% + 0.3 W + +1.2 mW/V	0.1% + 0.3 W + +1.2 mW/V	0.1% + 0.3 W + +1.2 mW/V	N/A N/A	N/A N/A	N/A N/A
Frequency	0.01% + 0.01 Hz	0.01% + 0.01 Hz	0.01% + 0.01 Hz	0.01% + 0.01 Hz	0.01% + 0.01 Hz	0.01% + 0.01 Hz
Power Factor	0.01	0.01	0.01	0.01	0.01	0.01
Regulatory Test Solutions IEC mode measurement system characteristics (6812B, 6813B and 6843A only)						
Output frequency range	N/A	50 /60 Hz	50 /60 Hz	N/A	N/A	50 /60 Hz
Reference impedance accuracy	N/A	3% (at 0.4 Ω and 796 mH) 1% (at 0.4 Ω and 796 mH at 25°)	3% (at 0.4 Ω and 796 mH) 1% (at 0.4 Ω and 796 mH at 25°)	N/A	N/A	3% (at 0.4 Ω and 796 mH) 1% (at 0.4 Ω and 796 mH at 25°)
Output voltage harmonic content ⁵	N/A	Compliant with IEC 868 and IEC 61000-3-2	Compliant with IEC 868 and IEC 61000-3-2	N/A	N/A	Compliant with IEC 868 and IEC 61000-3-2
Measurement accuracy						
Current magnitude (low range)	Fundamental Harmonics 2-49	0.03% + 1.5 mA 0.03% + 1mA + 0.2%/kHz	0.03% + 1.5 mA 0.03% + 1mA + 0.2%/kHz	N/A	N/A	0.03% + 3 mA 0.03% + 2 mA + 0.2%/kHz
Current magnitude (high range)	Fundamental Harmonics 2-49	0.05% + 5 mA 0.05% + 3 mA + 0.2%/kHz	0.05% + 5 mA 0.05% + 3 mA + 0.2%/kHz	N/A	N/A	0.05% + 6 mA 0.05% + 3 mA + 0.2%/kHz
Flicker	N/A	Compliant with IEC 868	Compliant with IEC 868	N/A	N/A	Compliant with IEC 868
Flicker Perceptibility (PST)	N/A	Compliant with IEC 868	Compliant with IEC 868	N/A	N/A	Compliant with IEC 868
Synchronization accuracy	N/A	<1ppm	<1ppm	N/A	N/A	<1ppm
Current shunt burden	N/A	0 volts	0 volts	N/A	N/A	0 volts
Current harmonic smoothing filter time constant	N/A	1.5 seconds	1.5 seconds	N/A	N/A	1.5 seconds
Pst integration time	N/A	1, 5, 10 or 15 minutes	1, 5, 10 or 15 minutes	N/A	N/A	1, 5, 10 or 15 minutes

IEC Mode Measurement System Characteristics

	Sample Rate	Window Width	Acquisition Overlap
50 Hz Operation			
Rectangular measurement window	12.8 kHz	16 cycles	None
Hanning measurement window	8.533 kHz	24 cycles	50%
50 Hz Operation			
Rectangular measurement window	15.360 kHz	16 cycles	None
Hanning measurement window	7.680 kHz	24 cycles	50%

Notes:

- ¹ It is possible to program the output frequency of the 6812B and 6813B from dc to 45 Hz (please 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 μ seconds per point
Frequency content of the measured signal must be limited to 4 k Hz or less to avoid aliasing effects
- ⁴ Select low measurement range for improved accuracy (10:1) for lower power measurements.
- ⁵ Single-phase operation.
- ⁶ Output voltage harmonic content specification is limited for the 6843A for half-wave rectified/Class C loads. Compliance will be tested, verified and reported by the RTS software for all Devices Under Test

ac Power Solutions (cont'd)

SUPPLEMENTAL CHARACTERISTICS (non-warranted characteristics determined by design that are useful in applying the product)

	6811B	6812B	6813B	6814B	6834B	6843A
Average programming accuracy (% of output + offset) rms current	1.2% + 50 mA	1.2% + 50 mA	1.2% + 50 mA	0.2% + 80 mA	0.2% + 80 mA (1Φ) 0.2% + 40 mA (3Φ)	0.2% + 80 mA
Average programming resolution						
rms voltage	125 mV	125 mV	125 mV	80 mV	80 mV	80 mV
dc voltage	250 mV	250 mV	250 mV	N/A	N/A	N/A
Overvoltage programming (OVP)	2 V peak	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 (1Φ), 2.5 mA (3Φ)	7.5 mA
peak current	12.5 mA	25 mA	25 mA	N/A	N/A	N/A
output frequency	10 μHz	10 μHz	10 μHz	10 μHz	10 μHz	10 μHz
phase	N/A	N/A	N/A	N/A	N/A	N/A
Average measurement resolution						
rms voltage	10 mV	10 mV	10 mV	10 mV	10 mV	10 mV
rms current	2 mA	2 mA	2 mA	3 mA	2 mA (1Φ)/6 mA (3Φ)	6 mA
Programmable output impedance						
resistance	0-1 Ω	0-1 Ω	0-1 Ω	N/A	N/A	N/A
inductance	20 μh - 1 mh	20 μh - 1 mh	20 μh - 1 mh	N/A	N/A	N/A
Remote sense capability	Up to 1 Vrms can be dropped across each load lead.			Up to 10 Vrms can be dropped across each load lead.		
Isolation to ground	300 Vrms/425 Vdc	300 Vrms/425 Vdc	300 Vrms/425 Vdc	300 Vrms	300 Vrms	300 Vrms
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)	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)	127.3 kg (280 lb)
Dimensions	See drawings on page 54			See drawings on page 55		

ac INPUT RATINGS

	6811B	6812B	6813B	6814B	6834B	6843A
Voltage range (Vac) *default factory setting	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 235 L-L (3Φ) 360 to 440 L-L (3Φ) (requires option 400)	*180 to 235 L-L (3Φ) 360 to 440 L-L (3Φ) (requires option 400)	*180 to 235 L-L (3Φ) 360 to 440 L-L (3Φ) (requires option 400)
Maximum input current (rms)¹	12 A (100 Vac) 10 A (120 Vac) 7.5 A (200/208 Vac) 6.5 A (230 Vac)	28 A (100 Vac) 24 A (120 Vac) 15 A (200/208 Vac) 13 A (230 Vac)	22 A (200/208 Vac) 24 A (120 Vac) 20 A (230 Vac)	18 A (208 Vac) 10 A (380 Vac)	24 A (208 Vac) 15 A (380 Vac)	24 A (208 Vac) 15 A (380 Vac)
Input power (max)²	1000 VA/700 W	2500 VA/1400 W	3800 VA/2600 W	5800 VA/4100 W	8900 VA/5900 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	47 to 63 Hz

¹ Measured at low line ² Measured at high line ³ Measured at high line

Ordering Information

Opt 001 Harmonic and Flicker Emissions Test (6812B, 6813B, 6843A only)
 Opt 002 Voltage and Frequency Disturbances Immunity Test (6812B, 6813B, 6843A only)
 Opt 003 Interharmonics Immunity Test (6812B, 6813B, 6843A only)
 Opt 009 All the RTS software (6812B, 6813B, 6843A only)
 Opt 0BN Service Manual, extra Operating Guide, and Programming Guide
 Opt 1CM Rack-mount Kit, p/n 5062-3977 (quantity 2) (support rails required) **E3664AC Cabinet Rails must be ordered when rack mounting the 6814B and 6834B Opt 1CM**
 Opt 1CP Rack-mount Kit with Handles, p/n 5062-3983 (support rails required) 6811B, 6812B, 6813B only
Support rails, p/n 12679B, required when rack mounting the 6811B, 6812B, and 6813B Opt 1CM and Opt 1CP

Opt 100 87 to 106 Vac, 48 to 63 Hz input (6811B, 6812B only) Japan only
 Opt 200 174-220 Vac, 48-63 Hz input (6813B only) Japan only
 Opt 230 191 to 254 Vac, 48-63 Hz input (6811B, 6812B only)
 Opt 400 360 to 440 Vac, 3-phase, 47 to 63 Hz input (6814B, 6834B, 6843A only) required for Europe
 Opt 83112 AWG, 200 to 240 Vac, unterminated (6812B, 6813B only)
 Opt 832 4 mm² wire size, unterminated (6813B only)

Opt 833 1.5 mm² wire size, 200 to 240 Vac, unterminated (6812B only)
 Opt 834 10 AWG, 100 to 120 Vac, unterminated (6812B only)
 Opt 841 Line Cord with NEMA L6-20P; 20 A 250 V Plug (6812B only)
 Opt 842 Line Cord with IEC 309; 32 A 220 V plug (6813B only)
 Opt 844 Line Cord with NEMA L6-30P; 30 A 250 V Locking Plug (6813B only)
 Opt 845 Line Cord with IEC 309; 16 A 220 V Plug (6812B only)
 Opt 846 Line Cord with NEMA L6-30P; 30 A 120 V Plug (6812B only)
 Opt 847 Line Cord with CEE 7/7; 16 A 220 V Plug (6812B only)
 Opt 848 Line Cord with BS 546; 15 A 240 V Plug (6812B only)
 For ac Line Cord and Cord Options information see pages 44-47.
 For Dimension Drawings see pages 58 and 59.

6814B and 6834B Accessories
 p/n 5060-3513 Three 30 A replacement fuses for 180 to 440 Vac line
 p/n 5063-2310 Heavy duty rack slide kit