

# AC6800B Series Basic AC Power Sources

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## Because You Can't Afford Downtime

Engineer reliability into your designs with a new basic AC source alternative from Keysight and test with confidence that your products will perform as designed...

Maximize your uptime with the new Keysight Technologies, Inc. AC6800B Series basic AC power sources, and test your devices with confidence your products will perform as designed – even if voltage from the AC power grid is fluctuating or you are facing extreme inrush current or transient spikes.

### Keysight's new AC6800B Series basic AC sources offer the quality and capability you need:

- **Intuitive user interface** – If you've used a Keysight DC power supply, you'll feel right at home with these AC sources.
- **Flexible I/O** – LAN/LXI Core and USB (standard), and GPIB (optional). And you can access and control the source remotely via a standard browser.
- **Low cost of ownership** – backed with global support and the longest standard warranty in the industry.

Models up to 4000 VA are available to meet your basic AC source requirements.

## Models and Options

| Models    |  |
|-----------|--|
| AC6801B   | Basic AC power source, 500 VA, 310 V, 2.5 A                                      |
| AC6802B   | Basic AC power source, 1000 VA, 310 V, 5 A                                       |
| AC6803B   | Basic AC power source, 2000 VA, 310 V, 10 A                                      |
| AC6804B   | Basic AC power source, 4000 VA, 310 V, 20 A                                      |
| Options   |  |
| AC68BALGU | Upgrade - user-installable analog interface board for AC6800B Series AC sources  |
| AC68BFIU  | Upgrade - user-installable inhibit interface board for AC6800B Series AC sources |
| AC68GPBU  | Upgrade - user-installable GPIB interface board for AC6800B Series AC sources    |
| AC68BRAC3 | Rack mount flange kit for AC6801B, AC6802B, AC6803B                              |
| AC68BRAC6 | Rack mount flange kit for AC6804B  |

# A New Basic AC Power Source Alternative for Bench and Production-Line Testing

Whether you want to manually control your basic AC source on your R&D bench or program it to use in a fully automated test rack, it must provide stable, dependable AC power to your DUT.



Choose from models up to 4000 VA, all with 0 to 310 Vrms and 40 to 500 Hz capability.

- You can use the AC6800B Series basic AC power sources for:
- Simple tasks such as simulating global AC power conditions
  - Testing varying frequency and voltage combinations to simulate real-world conditions
  - Power factor correction testing and similar AC + DC applications (for example, test your input circuitry to look at ripple voltage)

| AC6800 series basic AC sources       |   |          |           |           |
|--------------------------------------|---|----------|-----------|-----------|
|                                      | AC6801B   | AC6802B  | AC6803B   | AC6804B   |
| Phases                               | Single-phase  |          |           |           |
| Maximum output power                 | 500 VA  | 1000 VA  | 2000 VA   | 4000 VA   |
| AC output mode                       |   |          |           |           |
| Voltage ranges (low/high range)      | 155 Vrms/310 Vrms   |          |           |           |
| Maximum rms current (low/high range) | 5 A/2.5 A   | 10 A/5 A | 20 A/10 A | 40 A/20 A |
| Frequency                            | 40 to 500 Hz  |          |           |           |
| DC output mode                       |   |          |           |           |
| Voltage ranges (low/high range)      | 219 V/438 V   |          |           |           |
| Maximum current (low/high range)     | 4 A/2 A   | 8 A/4 A  | 16 A/8 A  | 32 A/16 A |
| Power capacity                       | 400 W   | 800 W    | 1600 W    | 3200 W    |
| Measurements & I/O                   |   |          |           |           |
| Measurements                         | Voltage, current, power, AC, DC and AC+DC                               |          |           |           |
| Transients                           | Basic transient capability via optional analog card (Option: AC68BALGU) |          |           |           |
| I/O                                  | LAN/LXI Core with remote Web interface                                  |          |           |           |
|                                      | USB   |          |           |           |
|                                      | GPIB (Option: AC68GPBU)   |          |           |           |

## Need higher-performance capabilities?

If you need to generate and analyze more-sophisticated waveforms, harmonics or more complex transient signals, the Keysight 6800C Series AC power source/analyzers with built-in arbitrary waveform generator give you the ability to source and analyze more-complex AC applications up to 1750 VA.

See [www.keysight.com/find/ACSources](http://www.keysight.com/find/ACSources) for more information.



## Easy Operation with an Intuitive, Time-Tested User Interface

The AC6800B's simple user interface allows you to easily access and view setup and measurement information directly from the front panel or programmatically. And you won't need to spend a lot of time learning to use the interface. If you've used an Keysight DC power supply, you'll feel right at home with the AC6800B Series basic sources.

### Set your display to show just the information you want

Simply click through the metering options to modify the display to show your measurement priorities and increasing levels of details.

The information displayed indicates both the setting levels and the selected output coupling mode or configuration to allow you to control the AC source programmatically.

Measurements may be AC coupled, DC coupled, or AC+DC coupled independent of the output coupling mode.

Whether you use the front panel or control your AC source programmatically via SCPI (Standard Commands for Programmable Instruments), you can fully access all features.

## Flexible I/O to meet your needs

Keysight AC6800B Series basic AC power sources come with LAN/LXI Core and USB interfaces (standard). For your legacy applications, an optional GPIB interface is also available that you can easily install yourself.

### Set up, monitor and operate your AC6800B sources remotely

You can use the built-in Web server to remotely access and control your AC6800B Series AC sources via a standard browser. This control goes above and beyond the LXI Core specification, giving you the ability to monitor and control the instrument from anywhere.

### Add more flexibility with an optional analog input board to add basic transient signals

If you want to generate non-sinusoidal output waveforms or output transient events, use the optional analog input, which allows you to create analog waveforms using your function generator. See page 12 to learn more about the analog card's characteristics. The analog input option is also useful in situations where you want to control the output voltage level with an external DC control signal.

|                       |      |                      |          |
|-----------------------|------|----------------------|----------|
| 141.4V <sub>rms</sub> |      | 5.00A <sub>rms</sub> |          |
| CV                    | HIGH | 100.0Vac             | 100.0Vdc |
| 100.0Hz               |      | Lan                  |          |

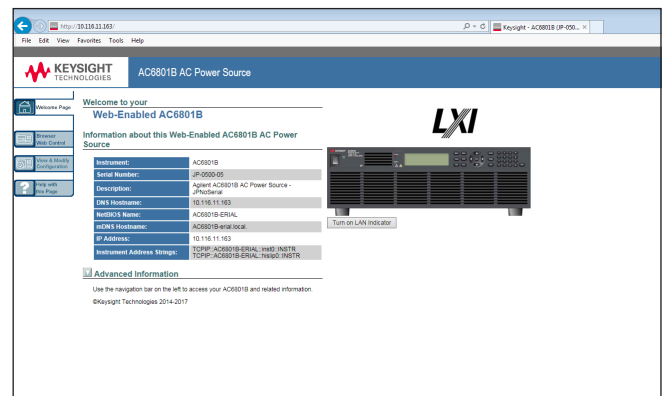
See basic voltage and current measurement information.

|                       |      |                      |          |
|-----------------------|------|----------------------|----------|
| 141.4V <sub>rms</sub> |      | 5.00A <sub>rms</sub> |          |
| 707.0W                |      | 707.1VA              |          |
| 1.00PF                |      |                      |          |
| CV                    | HIGH | 100.0Vac             | 100.0Vdc |
| 100.0Hz               |      | Lan                  |          |

See voltage, current and power measurement information.

|           |          |          |          |
|-----------|----------|----------|----------|
| 100.0V AC | 3.53A AC | 8.53Apk  | 707.0W   |
| 100.0V DC | 3.53A DC | 8.53ApkH | 707.1VA  |
| 141.4Vrms | 5.00Arms | 1.00PF   | 0.0VAR   |
| CV        | HIGH     | 100.0Vac | 100.0Vdc |
| 100.0Hz   |          | Lan      |          |

See full details of all measurement information available.



## Low Cost of Ownership – Backed with Global Support and the Industry’s Longest Standard Warranty

In manufacturing test applications, the upfront cost of your power supplies is just one factor in the total cost of test. Keysight’s new AC6800B Series sets a new standard for reliability, so you can expect the lowest overall cost of ownership. You can:

- Increase your confidence in your AC source uptime. With the industry’s longest standard warranty for an AC power source, you’ll see a lower total cost of ownership and fewer budgetary surprises.
- Take advantage of Keysight’s network of global service and support centers. You can easily move AC6800B Series sources between global locations. If you ever need a repair, Keysight’s global support network offers the convenience of nearby support.
- Easily document calibration. Each AC6800B Series AC source ships with a printed copy of the commercial calibration certificate along with all the test data obtained from the calibration cycle.

### Example applications where AC6800B basic AC sources are ideal

- **Testing universal power supplies designed to work globally**  
The AC6800 AC source can be used to output the voltages and frequencies found around the world. The AC6800 has many built-in measurements, it can accurately measure power in Watts, VA, and phase angle. Inrush current can be measured consistently by setting the phase angle at which the voltage turns on.
- **Testing avionic electronics designed for 400 Hz**  
If you need single-phase 400 Hz power on the bench to check avionic electronics the AC6800B series can supply clean power. The AC6800 series offers a wide variety of input voltages and frequencies and can provide 500 VA to 4 kVA. It is currently used in development, manufacturing, and repair of avionic electronics.
- **Testing commercial light drivers and ballasts**  
LED drivers and fluorescent ballasts can be tested up to 310 VAC which ideal for testing electronics to  $277 \text{ VAC} \pm 10\%$ . In manufacturing, many ballasts can be verified in parallel with an AC source capable of 500 VA to 4 kVA. An AC6800B series is used to output steady voltage allowing the ballast to be tested for efficiency and output regulation.



## Definitions

## Specifications

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 40 °C after a 30-minute warm-up period. Specifications apply at the output terminals. Accuracy specifications are warranted for three years.

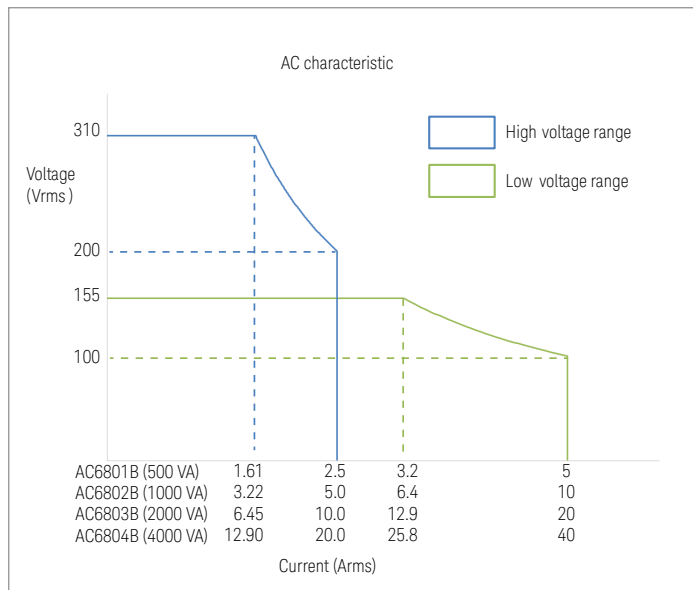
## Supplemental characteristics/typical values

Supplemental characteristics are not warranted but are descriptions of performance determined either by design or by type testing. All supplemental characteristics are typical unless otherwise noted.

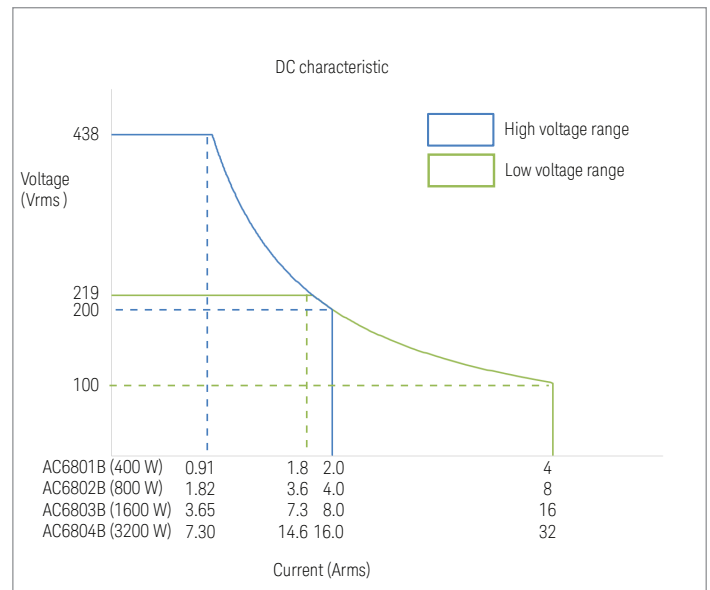
## Specifications

| Model  | AC6801B                                |            | AC6802B   | AC6803B   | AC6804B |
|--|--|------------|-----------|-----------|---------|
| Output ratings for AC mode (155 V/310 V range) |  |            |           |           |         |
| Rated voltage range                            | 1 to 155 Vrms/2 to 310 Vrms            |            |           |           |         |
| Voltage setting accuracy <sup>1</sup>          | 0.35% of full scale                    |            |           |           |         |
| Output phases                                  | Single                                 |            |           |           |         |
| Maximum rms current <sup>2</sup>               | 5 A/2.5 A                              | 10 A/2.5 A | 20 A/10 A | 40 A/20 A |         |
| Load power factor capability                   | 0 to 1 (leading or lagging)            |            |           |           |         |
| Maximum power                                  | 500 VA                                 | 1 kVA      | 2 kVA     | 4 kVA     |         |
| Frequency setting range                        | 40 to 500 Hz                           |            |           |           |         |
| Frequency accuracy                             | ± 0.02%                                |            |           |           |         |
| Output ratings for DC mode (155 V/310 V range) |  |            |           |           |         |
| Rated voltage range                            | 1.4 to 219 V/2.8 to 438 V              |            |           |           |         |
| Voltage setting accuracy <sup>3</sup>          | 0.3% of full scale/0.25% of full scale |            |           |           |         |
| Maximum rms current <sup>4</sup>               | 4 A/2 A                                | 8 A/4 A    | 16 A/8 A  | 32 A/16 A |         |
| Maximum power                                  | 400 W                                  | 800 W      | 1600 W    | 3200 W    |         |

1. For an output voltage of 13.5 to 155 V/27 to 310 V, no load, and 23 ± 5 °C.
2. For an output voltage of 1 to 100 V/2 to 200 V. Limited by the output power when the output voltage is 100 to 155 V/200 to 310 V.
3. For an output voltage of 19 to 219 V/38 to 438 V, no load, and 23 ± 5 °C.
4. For an output voltage of 1.4 to 100 V/2.8 to 200 V. Limited by the output power when the output voltage is 100 to 219 V/200 to 438 V.



AC6800B steady-state AC output characteristic.



AC6800B steady-state DC output characteristic.

## Specifications (Continued)

| Model  | AC6801B         |  | AC6802B  | AC6803B  | AC6804B  |
|--|-----------------|--|--|--|--|
| Output voltage stability (155 V/310 V range)     |                 |  |  |  |  |
| Load regulation <sup>1</sup>                     |                 | For 40 to 100 Hz: ± 0.15 V/± 0.3 V                                   |  |  |  |
|  |                 | For other frequencies: ± 0.5 V/± 1 V                                 |  |  |  |
| Measurements <sup>2, 3</sup> (155 V/310 V range) |                 |  |  |  |  |
| Voltage accuracy <sup>4</sup>                    | RMS, AC, DC     | For 45 to 65 Hz and DC: ± (0.5% of reading + 0.35 V/0.7 V)           |  |  |  |
|  |                 | Typical: ± (0.25% of reading + 0.15 V/0.3 V)                         |  |  |  |
|  |                 | For all other frequencies: ± (0.7% of reading + 1.0 V/2.0 V)         |  |  |  |
| Current accuracy <sup>5, 6</sup>                 | RMS, AC, DC     | For 45 to 65 Hz and DC:<br>± (0.5% of reading +<br>0.02 A/0.01 A)    | For 45 to 65 Hz and DC:<br>± (0.5% of reading +<br>0.04 A/0.02 A)    | For 45 to 65 Hz and DC:<br>± (0.5% of reading +<br>0.08 A/0.04 A)    | For 45 to 65 Hz and DC:<br>± (0.5% of reading +<br>0.16 A/0.08 A)    |
|  |                 | Typical: ± (0.25% of<br>reading + 0.02 A/0.01 A)                     | Typical: ± (0.25% of<br>reading + 0.04 A/0.02 A)                     | Typical: ± (0.25% of<br>reading + 0.08 A/0.04 A)                     | Typical: ± (0.25% of<br>reading + 0.16 A/0.08 A)                     |
|  |                 | For all other frequencies:<br>± (0.7% of reading +<br>0.04 A/0.02 A) | For all other frequencies:<br>± (0.7% of reading +<br>0.08 A/0.04 A) | For all other frequencies:<br>± (0.7% of reading +<br>0.16 A/0.08 A) | For all other frequencies:<br>± (0.7% of reading +<br>0.32 A/0.16 A) |
| AC power accuracy<br>(45 to 65 Hz) <sup>7</sup>  | W <sub>AC</sub> | ± (2% of reading + 0.5 W)  | ± (2% of reading + 1 W)  | ± (2% of reading + 2 W)  | ± (2% of reading + 4 W)  |
|  |                 | Typical:<br>± (1% of reading + 0.5 W)                                | Typical:<br>± (1% of reading + 1 W)                                  | Typical:<br>± (1% of reading + 2 W)                                  | Typical:<br>± (1% of reading + 4 W)                                  |
| DC power accuracy <sup>7</sup>                   | W <sub>DC</sub> | ± (2% of reading + 0.5 W +<br>0.02 W/0.01 W per VDC)                 | ± (2% of reading + 1 W +<br>0.04 W/0.02 W per VDC)                   | ± (2% of reading + 2 W +<br>0.08 W/0.04 W per VDC)                   | ± (2% of reading + 4 W +<br>0.16 W/0.08 W per VDC)                   |
|  |                 | Typical:<br>± (1% of reading + 0.5 W +<br>0.01 W/0.005 W per VDC)    | Typical:<br>± (1% of reading + 1 W +<br>0.02 W/0.01 W per VDC)       | Typical:<br>± (1% of reading + 2 W +<br>0.04 W/0.02 W per VDC)       | Typical:<br>± (1% of reading + 4 W +<br>0.08 W/0.04 W per VDC)       |

- For an output voltage of 80 to 155 V/160 to 310 V, a load power factor of 1, a step change in output current from 0 A to maximum rms current (or its reverse) using the output terminal on the rear panel.
- RMS, AC, DC, and power (W) are derived using the following equations:
  - $$\text{RMS} = \sqrt{\frac{1}{N} \sum (\text{instantaneous voltage or current})^2}$$
  - $$\text{DC} = \frac{1}{N} \sum (\text{instantaneous voltage or current})$$
  - $$\text{AC} = \sqrt{\text{RMS}^2 - \text{DC}^2}$$
  - $$W_{\text{TOTAL}} = \frac{1}{N} \sum (\text{instantaneous voltage} \times \text{instantaneous current})$$
  - $$W_{\text{DC}} = V_{\text{DC}} \times I_{\text{DC}}$$
  - $$W_{\text{AC}} = W_{\text{TOTAL}} - W_{\text{DC}}$$
- Further measurement information:
  - Sample window: 100 ms to 125 ms for AC or AC+DC output coupling (an integer multiple of the output waveform period), 125 ms for DC output.
  - Update interval: Approximately 3 times/sec, averaging up to 16 intervals when averaging is turned on.
  - Peak current value returns the maximum of the absolute values of the instantaneous current samples in a single measurement interval (averaging off).
  - The meter display is set to "RMS" in AC+DC meter coupling, "AC" in AC meter coupling, and "DC" in DC meter coupling.
- AC mode: For an output voltage of 13.5 to 155 V/27 to 310 V and  $23 \pm 5^\circ\text{C}$ .  
DC mode: For an output voltage of 19 to 219 V/38 to 438 V and  $23 \pm 5^\circ\text{C}$ .
- For a waveform of crest factor 3 or less, an output current in the range of 5 to 100% of the maximum rms current, and  $23 \pm 5^\circ\text{C}$ .
- Peak current measurement accuracy information available in "Supplemental Characteristics" section.
- For an output voltage of 50 V or greater, an output current in the range of 10 to 100% of the maximum rms current, DC or an output frequency of 45 to 65 Hz, a load power factor of 1, and  $23 \pm 5^\circ\text{C}$ .



## Supplemental Characteristics

| Model  | AC6801B  | AC6802B                                   | AC6803B                                   | AC6804B                                   |
|--|--|---|---|---|
| Input rating                                   |  |   |   |   |
| Nominal input rating                           | 100 to 120 Vrms/200 to 240 Vrms, 50 Hz or 60 Hz, single-phase              |   |   |   |
| Input voltage range                            | 90 to 132 Vrms/180 to 264 Vrms (auto detected when the power is turned on) |   |   |   |
| Input frequency range                          | 47 Hz to 63 Hz   |   |   |   |
| Apparent power                                 | 800 VA or less   | 1600 VA or less                           | 3200 VA or less                           | 6400 VA or less                           |
| Power factor <sup>1</sup>                      | 0.9 (typical)  |   |   |   |
| Input current                                  | 8 A/4 A or less<br>(at 100 V/200 V)  | 16 A/8 A or less<br>(at 100 V/200 V)      | 32 A/16 A or less<br>(at 100 V/200 V)     | 64 A/32 A or less<br>(at 100 V/200 V)     |
|  | 6.7 A/3.5 A or less<br>(at 120 V/230 V)                                    | 13.4 A/7.0 A or less<br>(at 120 V/230 V)  | 26.8 A/14.0 A or less<br>(at 120 V/230 V) | 53.6 A/28.0 A or less<br>(at 120 V/230 V) |
| Output ratings for AC mode (155 V/310 V range) |  |   |   |   |
| Programmable voltage range                     | 0 to 157.5 Vrms/0 to 315 Vrms  |   |   |   |
| Voltage setting resolution                     | 0.1 V  |   |   |   |
| Frequency setting resolution                   | 0.1 Hz   |   |   |   |
| Voltage THD <sup>2</sup>                       | 0.5% or less   |   |   |   |
| Efficiency <sup>3</sup>                        | 70% or greater   |   |   |   |
| Maximum repetitive peak current <sup>4</sup>   | 15 A/7.5 A   | 30 A/15 A                                 | 60 A/30 A                                 | 120 A/60 A                                |
| Output ratings for DC mode (155 V/310 V range) |  |   |   |   |
| Programmable voltage range                     | -222.5 to 222.5 V/-445 to 445 V  |   |   |   |
| Voltage setting resolution                     | 0.1 V  |   |   |   |
| Maximum repetitive peak current <sup>4</sup>   | 12 A/6 A   | 24 A/12 A                                 | 48 A/24 A                                 | 96 A/48 A                                 |
| Ripple noise <sup>5</sup>                      | 0.7 Vrms/1.4 Vrms (typical)  |   |   |   |
| Output voltage stability                       |  |   |   |   |
| Temperature coefficient <sup>6</sup>           | 100 ppm/°C (typical)   |   |   |   |
| Output voltage response time <sup>7</sup>      | 150 us (typical)   |   |   |   |
| Line regulation <sup>8</sup>                   | ± 0.15% of full scale  |   |   |   |
| Measurements (135 V/270 V range)               |  |   |   |   |
| Voltage measurement resolution                 | 0.1 V  |   |   |   |
| Current measurement resolution                 | 0.01 A   |   |   |   |
| Peak current measurement accuracy <sup>9</sup> | ± (2% of reading + 0.1 A/0.05 A) (typical)                                 | ± (2% of reading + 0.2 A/0.1 A) (typical) | ± (2% of reading + 0.4 A/0.2 A) (typical) | ± (2% of reading + 0.8 A/0.4 A) (typical) |
| Power measurement resolution                   | 0.1 W, 1 W (for 1000 W or more)  |   |   |   |

- For an output voltage of 100 V/200 V (155 V/310 V range), maximum rms current, and a load power factor of 1.
- At an output voltage of 50 to 155 V/100 to 310 V, a load power factor of 1, and in AC mode.
- For AC mode, at an output voltage of 100 V/200 V, maximum rms current, load power factor of 1, and an output frequency of 40 to 500 Hz.
- For a periodic, pulsed current waveform with the total rms current under the specified maximum rms current.
- For 5 Hz to 1 MHz components measured at the output terminals on the rear panel.
- For an output voltage of 100 V/200 V, an output current of 0 A, and within the operating temperature range.
- For DC mode, an output voltage of 100 V/200 V, a load power factor of 1, and settling within a band of  $\pm$  1% about nominal, under a step change in output current from 0A to the maximum rms current (or its reverse).
- For line voltage and frequency changes within the rated range.
- For a waveform of crest factor 3 or less, an output current in the range of 5 to 100% of the Maximum repetitive peak current, and  $23 \pm 5$  °C.



## Supplemental Characteristics (Continued)

| Model  | AC6801B   | AC6802B                                  | AC6803B                                  | AC6804B                                     |
|--|---|--|--|---|
| Common   |   |  |  |   |
| Isolation to ground  | 310 Vrms or 438 VDC   |  |  |   |
| Insulation resistance<br>(Between input and chassis, output and chassis, input and output) | 500 Vdc, 30 MΩ or more  |  |  |   |
| Withstand voltage<br>(Between input and chassis, output and chassis, input and output)     | 1.5 kV AC for 1 minute  |  |  |   |
| Earth continuity   | 25 A AC, 0.1 Ω or less  |  |  |   |
| Electromagnetic compatibility (EMC) <sup>1</sup>   | Complies with the requirements of the following directive and standards   |  |  |   |
|  | EMC Directive 2004/108/EC   |  |  |   |
|  | EN 61326-1  |  |  |   |
|  | Under following conditions: The maximum length of all connecting cables and wires to the unit is less than 3 m. |  |  |   |
| Safety   | Complies with the requirements of the following directive and standards   |  |  |   |
|  | Low Voltage Directive 2006/95/EC  |  |  |   |
|  | EN 61010-1  |  |  |   |
|  | Class I   |  |  |   |
|  | Pollution Degree 2  |  |  |   |
| Environment  |   |  |  |   |
| Operating environment  | Indoor use, Overvoltage Category II   |  |  |   |
| Operating temperature and humidity range   | 0 to 40 °C (32 to 104 °F), 20% to 80% R.H. non-condensing   |  |  |   |
| Storage temperature and humidity range   | -10 to 60 °C (14 to 140 °F), 90% or less R.H. non-condensing  |  |  |   |
| Altitude   | Up to 2000 m  |  |  |   |
| Acoustic noise   | < 70 dbA  |  |  |   |
| Physical   |   |  |  |   |
| Dimensions (Depth includes Barrier Block Safety Cover)                                     | 429 x 128 x 368 mm<br>16.9 x 5.0 x 14.5"  | 429 x 128 x 368 mm<br>16.9 x 5.0 x 14.5" | 429 x 128 x 583.5 mm<br>16.9 x 5.0 x 23" | 429 x 262 x 613.5 mm<br>16.9 x 10.3 x 24.2" |
| Weight   | Approx. 8 kg (17.64 lb)   | Approx. 11 kg (24.25 lb)                 | Approx. 15 kg (33.07 lb)                 | Approx. 31 kg (68.34 lb)                    |
| Input terminal   | IEC 320 inlet   | M4 terminal block                        | M6 terminal block                        | M6 terminal block                           |
| Output terminal  | M4 terminal block   | M4 terminal block                        | M4 terminal block                        | M6 terminal block                           |
| LAN interface  |   |  |  |   |
| Hardware   | IEEE 802.3 100Base-TX or 10Base-T Ethernet  |  |  |   |
|  | Complies with LXI Specification version 1.4 Class C   |  |  |   |
|  | IPv4, RJ-45 connector2  |  |  |   |
| Communication protocol   | VXI-11, HiSLIP, or SCPI-RAW   |  |  |   |
| Program message terminator   | VXI-11 and HiSLIP: LF or END during reception, LF + END during transmission                                     |  |  |   |
|  | SCPI-RAW: LF during reception, LF during transmission   |  |  |   |
| USB interface  |   |  |  |   |
| Hardware   | Complies with USB 2.0; Data rate: 12 Mbps (full speed)  |  |  |   |
| Program message terminator   | LF or EOM during reception, LF + EOM during transmission  |  |  |   |
| Device class   | Complies with the USBTMC-USB488 device class specifications   |  |  |   |
| GPIB interface (Option AC68GPBU)   |   |  |  |   |
| Hardware   | Complies with IEEE Std 488.1-1978   |  |  |   |
|  | SH1, AH1, T6, L4, SR1, RL1, PPO, DC1, DT1, C0, E1   |  |  |   |
| Program message terminator   | LF or EOI during reception, LF + EOI during transmission  |  |  |   |
| Primary address  | 1 to 30   |  |  |   |

1. Only on models that have CE marking on the panel. AC68xx models will not be in compliance with EMC limits unless the ferrite core is attached on the load wires.

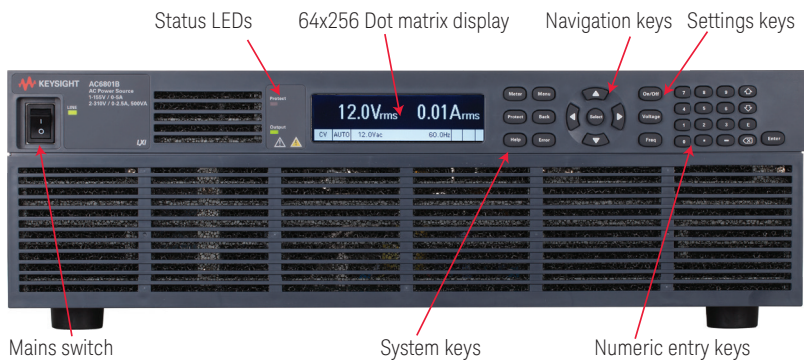
## Supplemental Characteristics (Continued)

| Model   |   |                              | AC6801B  | AC6802B      | AC6803B      | AC6804B      |
|---|---|------------------------------|--|--------------|--------------|--------------|
| Common interface specifications                 |   |                              |  |              |              |              |
| Software protocol                               |   |                              | IEEE Std 488.2-1992  |              |              |              |
| Command language                                |   |                              | SCPI Specification 1999.0  |              |              |              |
| Save/recall states                              |   |                              | Save and recall up to ten instrument states in non-volatile memory   |              |              |              |
| Accessories included                            |   |                              |  |              |              |              |
| Power cord                                      |   |                              | 1 standard power cord 1 length: Approx. 2.5 m  | Not included | Not included | Not included |
| Ferrite core                                    |   |                              | 1  |              |              |              |
| Cable tie                                       |   |                              | 1  |              |              |              |
| Analog programming interface (Option AC68BALGU) |   |                              |  |              |              |              |
| Input   | Maximum voltage   |                              | ± 15 V   |              |              |              |
|   | Connector   |                              | BNC  |              |              |              |
|   | Impedance   |                              | 10 kΩ ± 5% (unbalanced)  |              |              |              |
|   | Isolation voltage                                       |                              | ± 100 Vmax   |              |              |              |
| EXT-AC mode <sup>2</sup>                        | Input voltage range                                     |                              | 0 V to +10 V (DC)  |              |              |              |
|   | Voltage amplification ratio (155 V/310 V range)         |                              | 15.5x/31x (Outputs an AC voltage of 0 V to 155 V/0 V to 310 V with respect to a DC voltage input of 0 V to 10 V)     |              |              |              |
|   | Frequency setting range                                 |                              | 40 Hz to 500 Hz  |              |              |              |
|   | Other output rating specifications                      |                              | Same as the specifications of the output rating for AC mode  |              |              |              |
| EXT-DC mode                                     | Input voltage range                                     | When ATT is OFF              | 0 V to ± 2.19 Vpeak (0 V to 1.55 Vrms sine wave)   |              |              |              |
|   |   | When ATT is ON               | 0 V to ± 10 V (DC)   |              |              |              |
|   | Input frequency range                                   | When ATT is OFF <sup>3</sup> | 40 to 500 Hz (sine wave)/40 to 100 Hz (rectangular wave)/DC  |              |              |              |
|   | Frequency response                                      | When ATT is OFF              | −0.3 dB at 500 Hz with respect to 55 Hz (typical)  |              |              |              |
|   | Voltage amplification ratio (155 V/310 V range)         | When ATT is OFF              | 100x/200x<br>(Outputs an AC voltage of 0 to 155 V/0 to 310 V with respect to a AC voltage input of 0 to 1.55 V)      |              |              |              |
|   |   | When ATT is ON               | 21.9x/43.8x<br>(Outputs a DC voltage of 0 to ± 219 V/0 to ± 438 V with respect to a DC voltage input of 0 to ± 10 V) |              |              |              |
|   | Other output rating specifications                      |                              | Same as the specifications of the output rating for DC mode  |              |              |              |
| Output voltage distortion ratio <sup>4</sup>    |   |                              | Main specifications + 0.5% or less   |              |              |              |
| Output voltage temperature coefficient          |   |                              | Main specifications + 200 ppm/°C (typical)   |              |              |              |
| Insulation resistance                           | Between input (BNC) and chassis, input (BNC) and output |                              | 500 V DC, 30 MΩ or more  |              |              |              |
| Withstand voltage                               | Between input (BNC) and chassis, input (BNC) and output |                              | 500 V AC for 1 minute  |              |              |              |

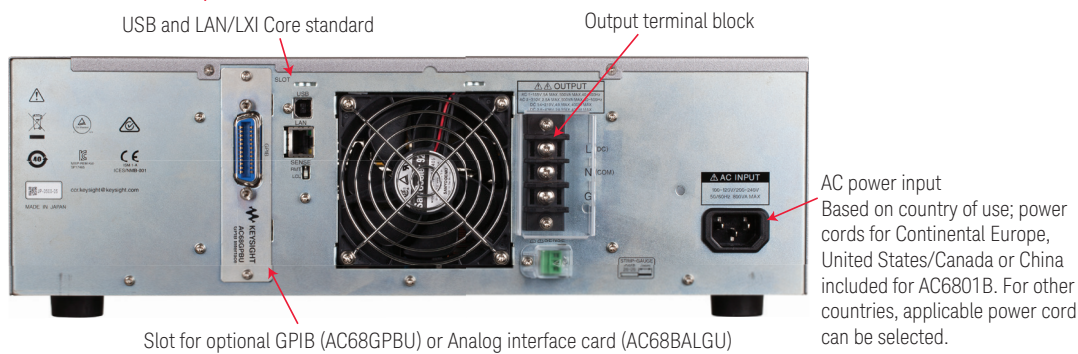
1. Based on country of use; power cords for Continental Europe, United States/Canada or China included. For other countries, applicable power cord can be selected.
2. Set ATT to 'ON' in EXT-AC mode at all times.
3. The measurable range of voltage, current, and power is DC and 40 to 500 Hz. To improve measurement stability of an AC output, set the frequency to match the frequency of the external input signal.
4. When DC voltage is applied for EXT-AC mode or when a sine wave with distortion ratio of 0.1% or less is applied for EXT-DC mode.

# Just the Capability You Need

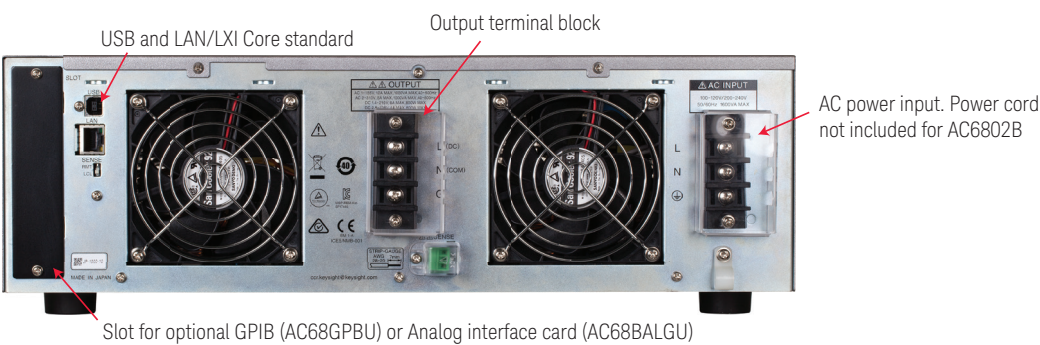
## AC6801/2/3B front panel



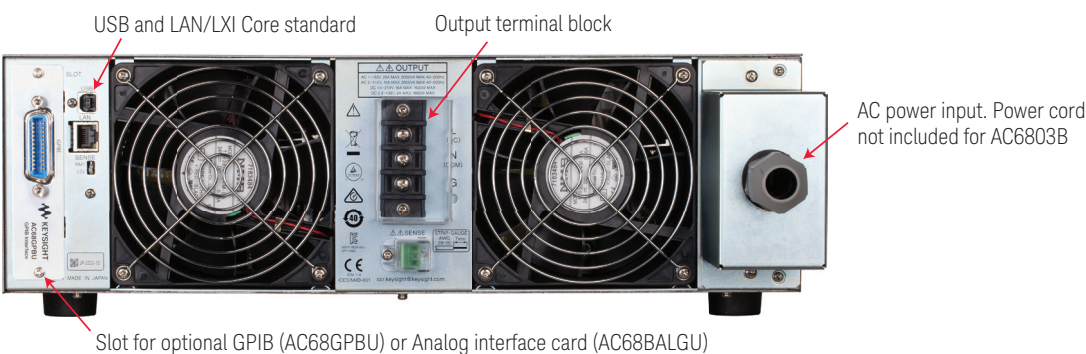
## AC6801B rear panel



## AC6802B rear panel

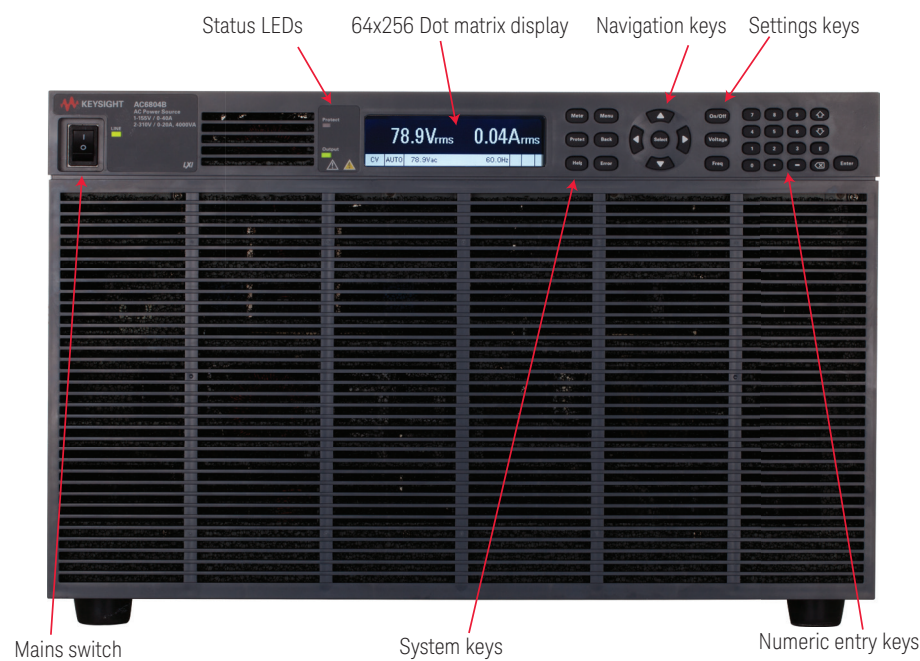


## AC6803B rear panel

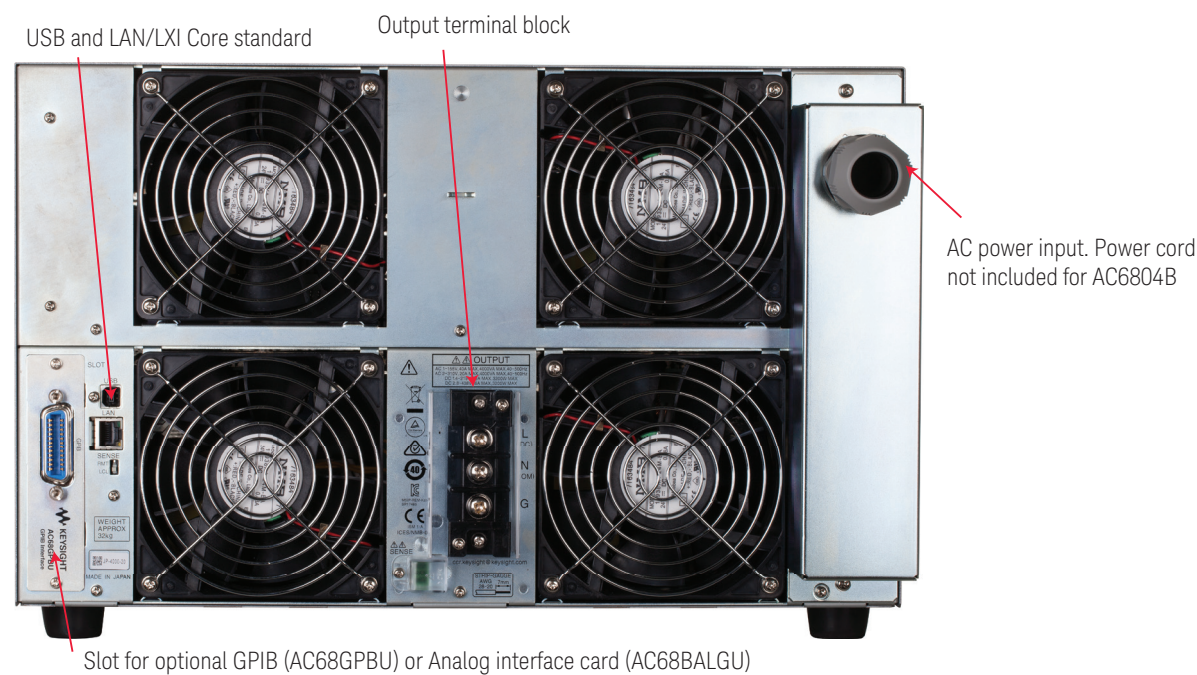


# Just the Capability You Need

## AC6804B front panel

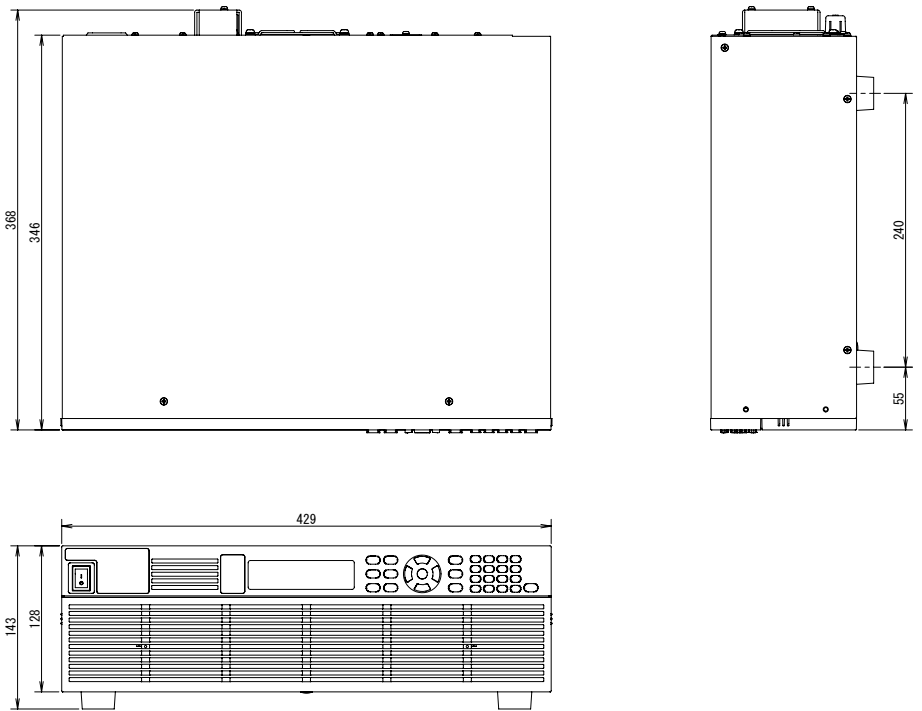


## AC6804B rear panel

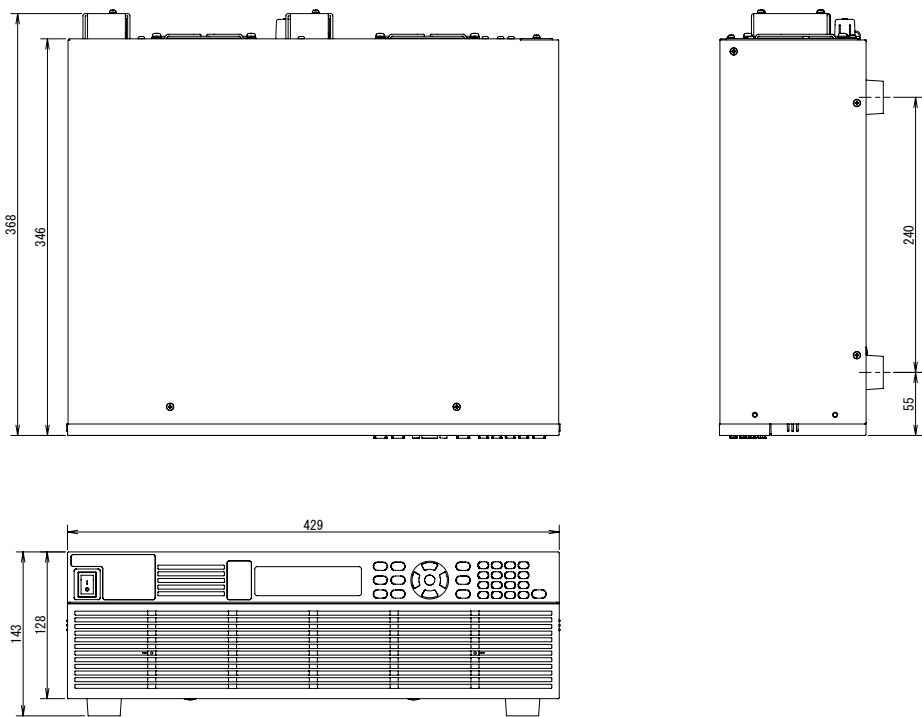


# Supplemental Characteristics (Continued)

## Model AC6801B



## Model AC6802B

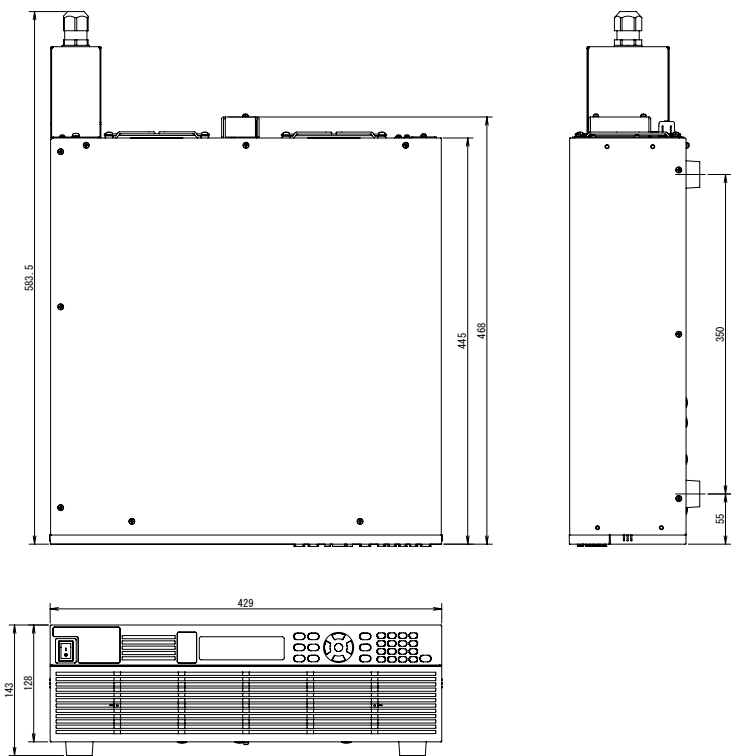


All dimensions in millimeters.



# Supplemental Characteristics (Continued)

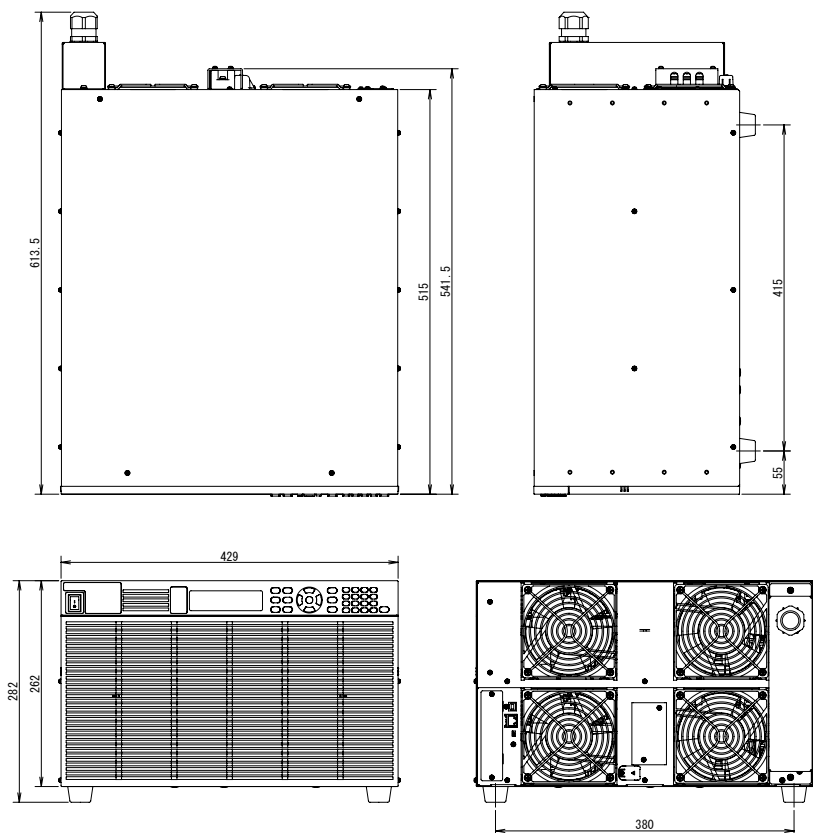
## Model AC6803B



All dimensions in millimeters.

## Supplemental Characteristics (Continued)

### Model AC6804B



All dimensions in millimeters.

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Электрон  
Связь**

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