1.5. Key Features of the AC1000

KEY LOCKOUT	This feature locks out the keys on the front panel, preventing the operator from changing parameters or settings during testing.
SOFTWARE CURRENT LIMIT	A programmable software current limit keeps the output current from exceeding a pre-programmed level.
OVER-CURRENT FOLD BACK	A programmable over-current fold back feature maintains a constant output current even with a varying load. The output voltage will expand or collapse in order to maintain a pre-programmed current level.
3 WAY POWER ON CONDITION	Controls the way the AC1000 powers up: with the output enabled, with the output disabled, or with the output configured in the same condition as when the source was turned off.
PROGRAMMABLE VOLTAGE AND FREQUENCY LIMITS	Separate programmable HI/LO output voltage and frequency limits.
3 PROGRAMMABLE MEMORY LOCATIONS	Equipped standard with 3 fully programmable memory locations capable of storing voltage, current limit, frequency and power meter configuration. Memory locations can be toggled while the output is enabled.
PLC IN/OUT	Programmable logic control bus allows the operator to read test processing and failure conditions as well as control the output relay (ON/OFF) and toggle memory locations 1, 2, and 3.
OMNIA 8100 SERIES INTEGRATION	Can be integrated with an OMNIA 8106 multi-function tester to form a complete testing solution. Take control of DUT power settings during Functional Run testing from the OMNIA's easy-to-use interface.

3. SPECIFICATIONS AND CONTROLS

3.1. AC1000 Functional Specifications

INPUT	
Phase	Single Phase
Voltage	115 / 230V selectable, ± 10 % variation
Frequency	50/60 Hz ± 5%
Fuse	20A Slow-Blo 250VAC Internal
OUTPUT	
Max Power	1000 VA
Max Current	Volt Range 1: 8.4 Amps Volt Range 2: 4.2 Amps
Phase	Single Phase, 2 wire
Total Harmonic Distortion (THD)	≤ 0.5% at 45 - 500Hz (Resistive Load)
Crest Factor (Output Current)	≥ 4
Line Regulation	± 0.1V
Load Regulation	± 0.5% (Resistive Load)
Combined Regulation (Hardware)	± (0.5% + 0.1V) (Resistive Load) Response Time < 100µS
Combined Regulation (Firmware)	± 0.1V (Resistive Load) Response Time < 1S
SETTING	
Voltage Setting	Range 1: 0 - 150V Range 2: 0 - 300V Resolution: 0.1V Accuracy: ± (1.5% of setting + 2 counts)
Frequency Setting	Range: 45-500Hz Resolution: 0.1Hz, 45.0 - 99.9Hz, 1Hz, 100 - 500Hz Accuracy: ± 0.02% of setting
Current Hi Limit (OC Fold=OFF) OC Fold Back (OC Fold = ON)	Volt Range 1: OFF, 0.01 - 8.40 Resolution: 0.01 Amps Accuracy: ± (2.0% of setting + 2 counts) Volt Range 2: OFF, 0.01 - 4.20 Resolution: 0.01 Amps Accuracy: ± (2.0% of setting + 2 counts) OC Fold Back Response Time: < 1.5S

MEASUREMENT	
Voltage Measurement	Range: 0.0 - 300.0V Resolution: 0.1V Accuracy: ± (1.5% of reading + 2 counts)
Frequency Measurement	Range: 0.0 - 500.0Hz Resolution: 0.1Hz Accuracy: ± 0.1Hz
Current Measurement	Range 1: 0.000-3.500A Resolution: 0.001A Accuracy: ± (2.0% of reading + 2 counts) Range 2: 3.00 - 35.00A Resolution: 0.01A Accuracy: ± (2.0% of reading + 2 counts)
Power Measurement	Range 1: 0.0 - 350.0W Resolution: 0.1W Accuracy: ± (5.0% of reading + 3 counts) PF ≧0.05 Range 2: 300 - 4000W Resolution: 1W Accuracy: ± (5.0% of reading + 3 counts) PF ≧0.05
Power Factor	Range : 0.000 - 1.000 Accuracy: ± (8.0% of reading + 2 counts) W / VA, calculated and displayed to three significant digits.
GENERAL	
PLC Remote Control	Input: Test, Reset, Recall memory 1 through 3 (Standard), Recall memory 1 through 7 (Optional)
	Output: Fail ,Test-in Process
Memories	3 Memories (Standard), 7 Memories (Optional)
Safety	Over Current, Over Voltage, Over Temperature
OC Fold Back	On/Off , Setting On when output current over the Hi-Limit setting it will fold back output voltage to keep output current constant at the Hi-Limit.
Security	Lock key to prevent accidental parameter changes
PLC Remote Control	Input: Test, Reset, Recall memory 1 through 3 (Standard), Recall memory 1 through 7 (Optional)
Dimensions	2U (W x H x D) (430 X 89 X 560 mm) (16.93” x 3.50” x 22.05”)
Weight	39.7kgs (87.52lbs)

- Product specifications are subject to change without notice.

3.2. Instrument Controls

3.2.1. Front Panel Controls

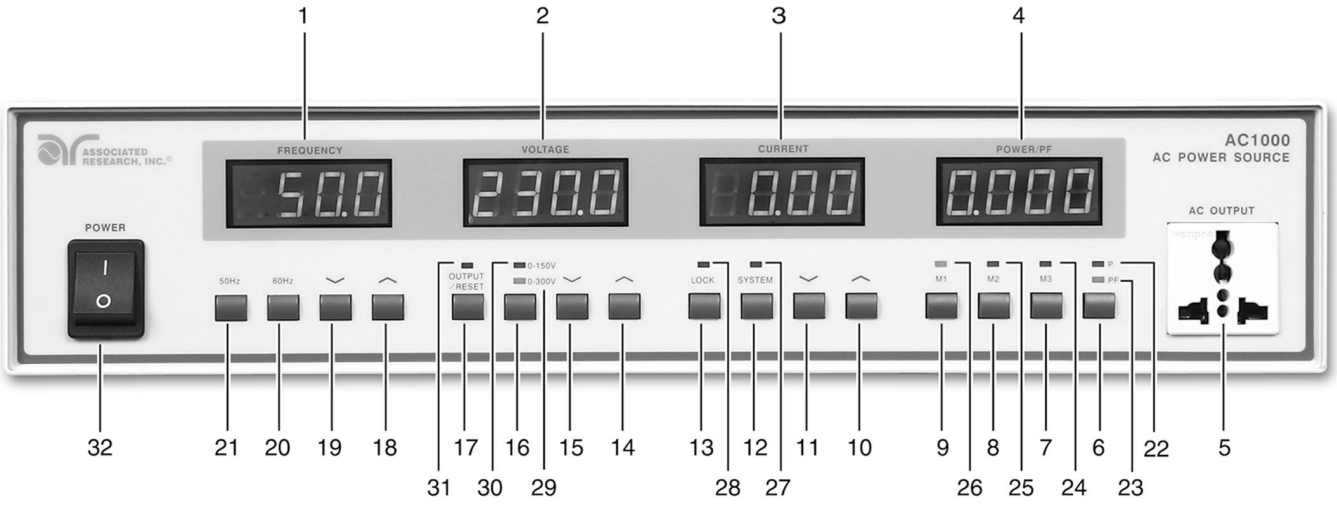

Figure 2.0(a)

1. **Frequency Display:** Shows the output frequency during operation. Shows the parameter item when in the system setting mode. Shows the error condition if an error has occurred.

2. **Voltage Display:** Shows the output voltage during operation. Shows the parameter item when in the system setting mode.

3. **Current Display:** Shows the Hi-limit of output current during operation. Shows the parameter condition and value when in the system setting mode.

4. **Power/PF Display:** Displays the output power (watts) or power factor.

5. **Universal AC Output Socket:** Output Socket (15A).

6. **P/PF Select Button:** Toggles display of output power or power factor.

7. **M3 Button:** Stores settings in memory or recalls memory M3.

8. **M2 Button:** Stores settings in memory or recalls memory M2.

9. **M1 Button:** Stores settings in memory or recalls memory M1.

10. **Current Up Key:** Increments the output current to a higher value during operation or selects the system condition in the system setting mode.

11. **Current Down Key:** Increments the output current to a lower value during operation or selects the system condition in the system setting mode.

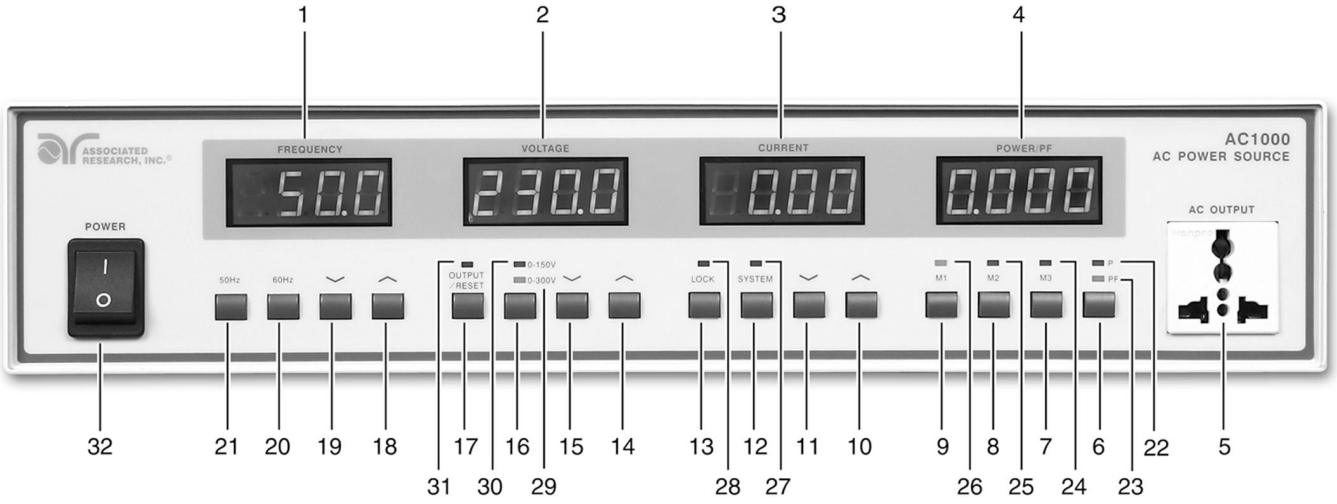

Figure 2.0(b)

12. **SYSTEM Key:** Enters or exits the system setting mode.

13. **LOCK Key:** Disables all the keys on the front panel.

14. **Voltage Up Key:** Increments the output voltage to a higher value during operation or selects the system item in system setting mode.

15. **Voltage Down Key:** Increments the output voltage to a lower value during operation or selects the system item in system setting mode.

16. **Range Key:** Toggles between the High (0-300V) and Low Voltage Ranges (0-150V).

17. **OUTPUT/RESET Key:** Turns the output ON and OFF. Resets the source if an error occurs.

18. **Frequency Up Key:** Increments the output frequency to a higher value during operation.

19. **Frequency Down Key:** Increments the output frequency to a lower value during operation.

20. **60 Hz Frequency Key:** Press to set the output frequency to 60 Hz.

21. **50 Hz Frequency Key:** Press to set the output frequency to 50 Hz.

22. **Wattmeter Indicator:** When this LED is ON, the display shows the output power.

23. **Power Factor Indicator:** When the LED is ON, the display shows the output power factor.

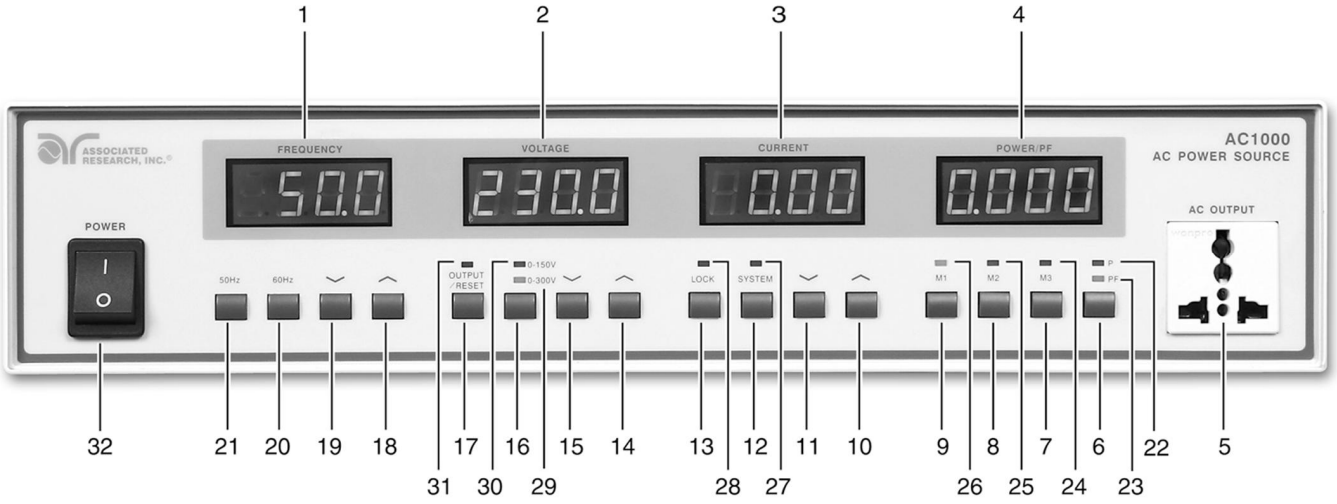

Figure 2.0(c)

24. M3 Indicator: When the LED is ON, the output is set according to M3.

25. M2 Indicator: When the LED is ON, the output is set according to M2.

26. M1 Indicator: When the LED is ON, the output is set according to M1.

27. SYSTEM Indicator: When the LED is ON, the system setting menu is activated.

28. LOCK Indicator: When this LED is ON, all the keys are disabled.

29. 0-300V Indicator: When the LED is ON the output is set to High range.

30. 0-150V Indicator: When the LED is ON, the output is set to Low range.

31. OUTPUT/RESET Indicator: When the LED is ON the source is operating normally. When the LED is blinking the source has experienced an error.

32. Power Switch: Turns the power source ON or OFF.

3.2.2. Rear Panel Controls

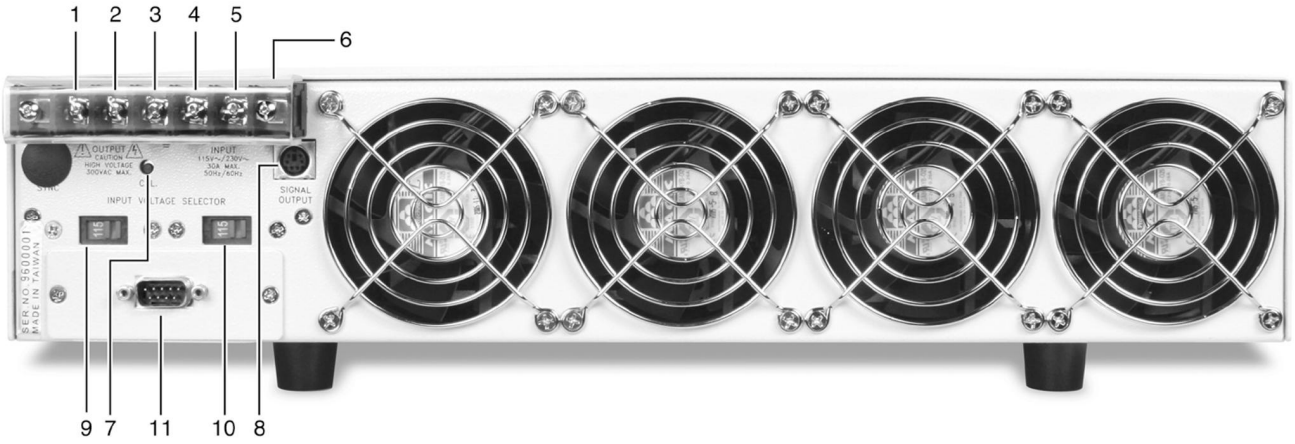

Figure 3.0(a)

1. **Line Output Terminal:** High voltage output screw terminal.

2. **Neutral Output Terminal**: Neutral (return) screw terminal.

3. **Ground Input Terminal**: Earth ground (chassis) connection for line cord.

4. **Line Input Terminal**: High voltage input screw terminal for line cord.

5. **Neutral Input Terminal**: Neutral (return) screw terminal for line cord.

6. **Terminal Block Shield**: Screw-mounted plastic shield limits access to high voltage terminals.

7. **Calibration Key**: Press and hold during power-up to enter Calibration Mode.

8. **Remote Signal Output**: 6-pin mini-DIN female connector for monitoring FAIL and PROCESSING output relay signals (see **Section 5.0** for more detailed information).

9. **Input Voltage Selection Switch 1**: Configures the power source to accept 115 VAC or 230 VAC inputs (must be set in the same configuration as Input Voltage Selection Switch 2).

10. **Input Voltage Selection Switch 2**: Configures the power source to accept 115 VAC or 230 VAC inputs (must be set in the same configuration as Input Voltage Selection Switch 1).

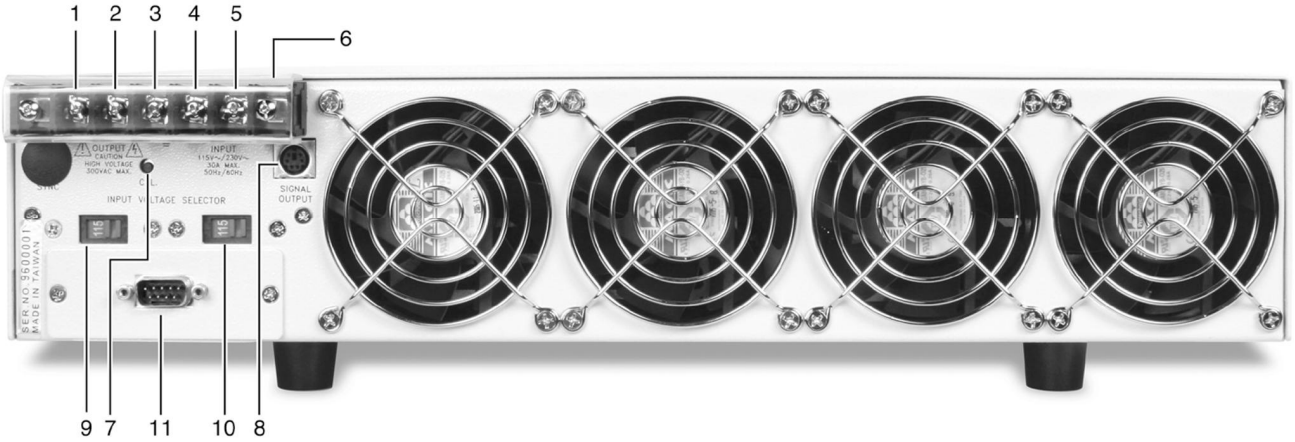

Figure 3.0(b)

11. **Remote Signal Input**: 9-in D sub-miniature female connector for remote control of TEST, RESET, and MEMORY SELECTION functions (See **Section 5.0 Connection of Remote I/O** for more detailed information).