CFS 100 Series

Single Phase AC or DC Power Testing Simplified...

AC Power DC Power

CFS108	CFS116	CFS140
800 VA	1600 VA	4000 VA
AC Mode: 40 - 500 Hz 5 - 150 V_{LN} / 5 - 300 V_{LN}		
DC Mode: 5 - 200Vdc / 5 - 400Vdc		

USB UNIVERSAL SERIAL BUS RS232 LAN

Look no further for cost effective single phase AC or DC power test solutions than the compact CFS100 Series programmable power sources. Designed to perform a wide range of AC and/or DC tests with excellent performance and reliability, the APS CFS100 units are industry work horses.

Available in three power levels of 800 VA, 1600 VA and 4000 VA, a wide range of commercial, industrial and aviation type equipment testing is covered. The CFS108 can be operated from either 115V or 230V AC power. Models CFS116 and CFS140 can be operated from single phase 230V or split phase 208V AC power.

CFS100 Series Features:

- Choice of Power Levels to fit your Requirements
- AC and DC Mode Output Capability
- Wide AC Frequency Range of 40 Hz to 500 Hz covers both industrial/commercial and avionics/defense applications
- Extensive List of Measurements
- Fifty Memory Locations with Nine Test Steps for Pass/Fail Measurements against pre-set Limits
- Voltage Drop-out Test Capability built-in
- Programmable Start/Stop Phase Angle
- Standard USB and RS232 Remote Control Interfaces
- Optional Ethernet / LAN Interface for ATE Test System Use
- Single Phase AC Input on all models
- CE Mark

APS™ ADAPTIVE POWER SYSTEMS
Worldwide Supplier of Power Conversion Equipment

Toll Free 1-866-517-8400 www.adaptivepower.com

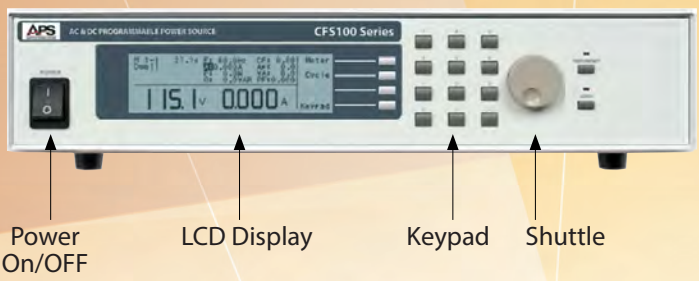
EASY POWER TESTING OF AC OR DC PRODUCTS

Testing both AC and DC powered products for performance to specifications and proper operation has never been easier or more cost effective than with the CFS100 Series programmable power sources. These compact rack mountable units make it easy to test single phase AC products or DC powered products, all with the same instrument.

Available in three power levels, the CFS100 units feature an intuitive menu driven user interface with a large backlit LCD display that shows settings and measurements.

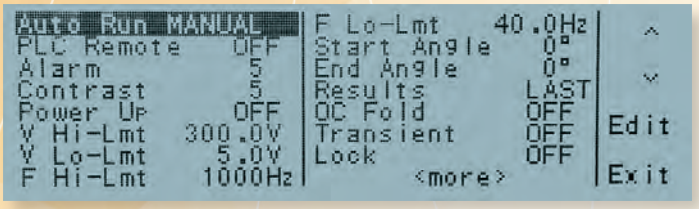
Two modes of operation are available to the user:

- **Manual Mode** - Allows manual settings of all output parameters
- **Program Mode** - Allows sequencing through up to 9 test steps, each having distinct output settings and measurement pass/fail test limits

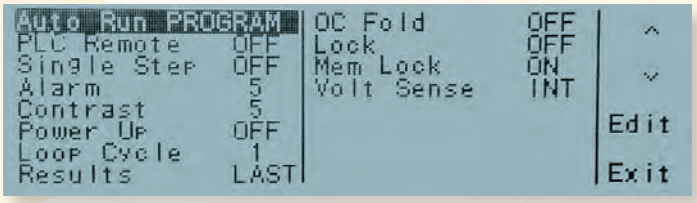


Programs can be stored in the 50 available non-volatile memory locations for quick recall. Each program memory can be assigned a name for easy reference to a test requirement or EUT. For quick setups of lab work, Manual mode is an easy way to change output values and observe measurement data without any limit testing.

Manual Mode or Pass / Fail Limit Testing



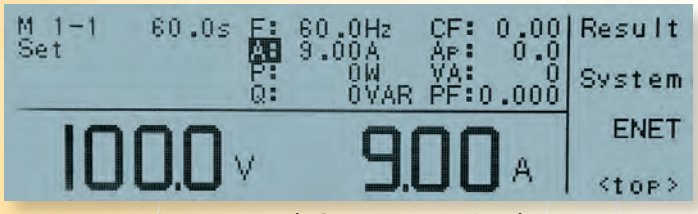
Manual Mode Setup Screen



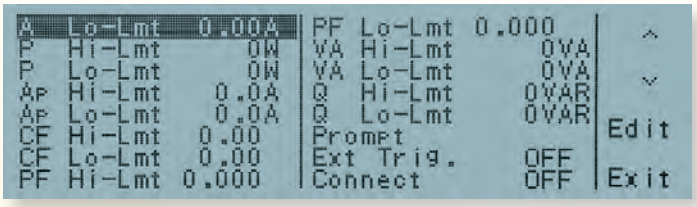
Program Mode Setup Screen

Manual Mode allows setting individual output parameter settings and limits. By setting limits on voltage and frequency, accidental output settings that could damage an EUT can be avoided. When the Test Output button is pushed, power is applied to the EUT and the LCD screen displays all measurement values. Large characters are used for Voltage and one other parameter selected from the available measurements in the upper half of the display.

Program Mode allows a sequence of up to nine timed test steps to be applied to the EUT. At each step, measurements are taken and compared to pre-set pass/fail limits. If all selected measurements pass, the output proceeds to the next test step once the programmed dwell time has expired. If not, an alarm sounds and the power to the EUT is cut. This mode is ideal for production test and pass fail testing without the need to develop test software.



Program Mode Step Metering Display



Test Limits Setup Screen

AC or DC Output Connections

All load connections are made at the rear panel. Both AC or DC output are available on the same output terminal strip. An output safety cover is provided.

Instrument Specifications

MODEL		CFS108	CFS116	CFS140
OUTPUT SPECIFICATIONS - AC MODE				
Power Rating		800 VA	1600 VA	4000 VA
AC Output Terminals		Rear Panel (L, N, G), Floating Neutral		
Voltage Ranges	Low / High	5 - 150V / 5 - 300V		
	Resolution	0.1 V		
	Accuracy	± (0.2% setting + 0.3 V)		
Current	150V Range	9.2 A	18.4 A	36.8 A
	300V Range	4.6 A	9.2 A	18.4 A
Over Current Capability		4x Rated, 110% for 1000 msec		
Peak Cur.	150V Range	36.8 A	73.6 A	147.2 A
	300V Range	18.4 A	36.8 A	73.6 A
Crest Factor		≥ 3 to 1		
Frequency	Range	40 - 500 Hz		
	Resolution	0.1 Hz		
	Accuracy	± 0.1 Hz		
Start/Stop Phase	Range	0 - 359°		
	Accuracy	±1%, 45- 65 Hz		
Harmonic Distortion (Full Resistive Load)		< 1.0%, 80-140V on Low Range		
		< 1.0%, 160-280V on High Range		
Line Regulation		± 0.1 V for a 10% Line Change		
Load Regulation		± 1.0% Range + 1V, R Load		
Response time		< 400 usec		
Protection		Over Current, Short Circuit, Over Voltage, Under Voltage, Over Temperature		

MODEL		CFS108	CFS116	CFS140
MEASUREMENT SPECIFICATIONS- AC MODE				
Voltage	Range	0.0 - 400.0 V		
	Resolution	0.1 V		
	Accuracy	± (1.0% + 0.2V)	± (1.0% Rdg + 0.5V) > 5 V	
Frequency	Range	0.0 - 500.0 Hz		
	Resolution	0.1 Hz		
	Accuracy	± 0.1 Hz		
Current RMS	Range (L)	0.005-1.2 A	0.005-2.4 A	n/a
	(H)	1.00-13.00 A	2.00-26.00 A	0.05-52.00 A
	Res. (L)	0.001 A		
	(H)	0.01 A		
	Acc. (L)	± (1.0% Rdg + 0.005A)		
	(H)	± (1.0% Rdg + 0.05A)		
Current Peak	Range	0.0 - 38.0 A	0.0 - 79.0 A	0.0 - 152.0 A
	Resolution	0.1 A		
	Accuracy	± (1.0% Rdg + 0.5A)		
Power	Range (L)	0.0- 120.0 W	0.0- 240.0 W	n/a
	(H)	100-1300 W	200-2600 W	0-5200 W
	Res. (L)	0.1 W		
	(H)	1 W		
	Acc. (L)	±(2% Rdg + 1.5W) @PF>0.2	±(2% Rdg + 3W) @PF>0.2	±(2% Rdg + 5W) @PF>0.2, V> 5V, I > 0.05A
	(H)	±(2% Rdg + 1.5W) @PF>0.2	±(2% Rdg + 3W) @PF>0.2	
Power Factor	Range	0.000 - 1.000		
	Resolution	0.001		
	Accuracy	Calculated W/VA		

MODEL		CFS108	CFS116	CFS140
OUTPUT SPECIFICATIONS - DC MODE				
Power Rating		400 W	800 W	2000 W
DC Voltage Ranges		5 -200Vdc / 5 - 400Vdc		
	Resolution	0.1 Vdc		
	Accuracy	± (0.2% Setting + 0.3V)		
Ripple & Noise RMS-VL VH		< 450 mV < 700 mV	< 500 mV < 800 mV	< 900 mV < 1500 mV
Ripple & Noise p-p		< 2.0 Vpp		< 3.0 Vpp
Max. Current	VL (< 87V)	4.6 A	9.2 A	18.4 A
	VH (<174V)	2.3 A	4.6 A	9.2 A
	Accuracy	± (2.0% Setting + 0.2 A)		

MODEL		CFS108	CFS116	CFS140
MEASUREMENT SPECIFICATIONS -DC MODE				
Voltage DC	Range	0.0 - 400.0 Vdc		
	Accuracy	± (0.2% Setting + 0.3V)		
Current DC	Range	0.05-6.5Adc	0.05-13.0Adc	0.05-26.0Adc
	Accuracy	± (1.0% Setting + 0.05 Adc)		
Power	Range	0 - 1300 W	0 - 2600 W	0-5200 W
	Accuracy	±(2% Rdg+1.5W	±(2% Rdg+3W)	±(2% Rdg+5W)

MODEL	CFS108	CFS116	CFS140
SYSTEM PARAMETERS			
Operating Modes	Program Mode, Manual Mode		
Single Step Mode	On / Off selectable		
Alarm Level	0 through 9, 0 = OFF, 9 = HIGH		
LCD Contrast	0 through 9, 0 = OFF, 9 = HIGH		
Power Up Settings	Output OFF, Output ON or LAST		
Timer	Seconds, Minutes, Hours		
Loop Cycle	0 - 9999, 0 = Cont. 1 = OFF		
Voltage Surge/Drop	ON, OFF		
Over Current Fold-back	ON, OFF		

MODEL	CFS108	CFS116	CFS140
TEST MODE PARAMETERS			
Memories	1 through 50		
Steps / Memory	1 through 9		
Memory Cycling	0 - 9999, 0 = Cont., 1 = OFF		
Test Limits	Frequency, Current Hi/Lo, Power Hi/Lo, App. Power Hi/Lo, PF Hi/Lo		
Ramp Up or Down	0.0 - 999.9		
Delay	0.5 - 999.9		
Dwell	0.5 - 999.9		
Step Cycles	0 - 9999, 0 = Cont., 1 = OFF		
Connect	ON, OFF		
Surge / Drop Voltage	ON: Start 0-20ms, Duration 0-20ms OFF: Start 0-99ms, Duration 0-99ms		

MODEL	CFS108	CFS116	CFS140
INTERFACES AND I/O			
Remote Control	RS232, USB		
LAN / Ethernet[1]	Option -LAN		
Digital Outputs	Pass, Fail, Test in Progress, DB9, rear panel, Relay contact closures		
Output Sync Signal	+5Vdc Out, BNC connector, rear panel		

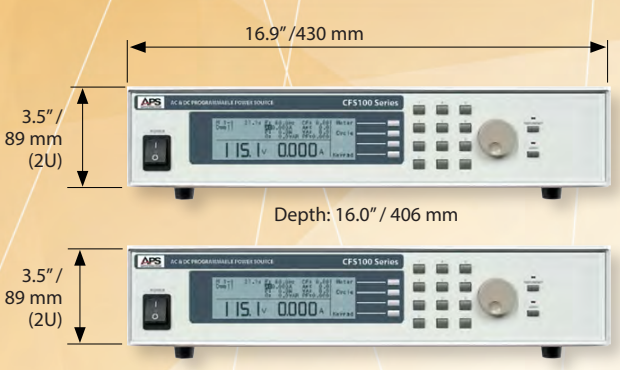
Note1: LAN option includes RS232 but deletes USB interface.

Instrument Specifications - Continued

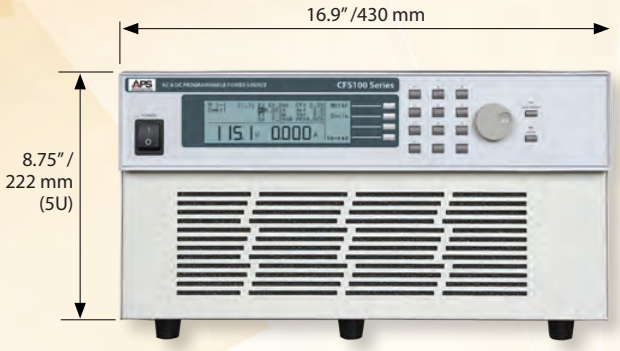
MODEL	CFS108	CFS116	CFS140
AC INPUT SPECIFICATIONS			
Input Phases	1ø		
Frequency	47 - 500 Hz		
Input Voltage	115/230Vac±10%	230 Vac ± 10%	
Max. Input Current@115V	12 A	n/a	n/a
Max. Input Current@230V	6 A	12 A	30 A
Efficiency	> 80 % @ Full Load		
AC Line Cord, IEC 60320	C13	C19	Terminal Strip

MODEL	CFS108	CFS116	CFS140
MECHANICAL & ENVIRONMENTAL SPECIFICATIONS			
Dimensions (WxHxD)	432x89x406 mm 17" x 3.5" x 16"	432x89x508 mm 17" x 3.5" x 20"	432x222x508 mm 17" x 8.75" x 20"
Rack Mount	Handle & Rack Ear Kit included		
Weight	19 Kg 42 lbs.	30.8 Kg 68 lbs.	64.8 Kg 143 lbs.
Operating Environment			
Temperature	5 - 40° C / 41 - 104° F		
Fan Cooled	Dual Speed		Variable speed
Humidity	20 - 80% R.H. Non-condensing		
Altitude - Operating	2000 meters / 6,562 feet		
Storage	7620 meters / 25,000 feet		
Regulatory			
Safety & EMC	CE		

Dimensions



Front Panel Views CFS108, CFS116



Front Panel View CFS140

Ordering Information

MODEL	DESCRIPTION	MODEL	DESCRIPTION
CFS108	AC&DC Power Source, 800VA, USB/RS232	CFS140-208	AC&DC Power Source, 4000VA, USB/RS232
CFS108-LAN	AC&DC Power Source, 800VA, LAN/RS232	CFS140-208-LAN	AC&DC Power Source, 4000VA, LAN/RS232
CFS116-208	AC&DC Power Source, 1600VA, USB/RS232	CFS140-230	AC&DC Power Source, 4000VA, USB/RS232
CFS116-208-LAN	AC&DC Power Source, 1600VA, LAN/RS232	CFS140-230-LAN	AC&DC Power Source, 4000VA, LAN/RS232
CFS116-230	AC&DC Power Source, 1600VA, USB/RS232		
CFS116-230-LAN	AC&DC Power Source, 1600VA, LAN/RS232		

Service and Support

Adaptive Power Systems' customer support is second to none. Our Customer Support Program provides the training, repair, calibration, and technical support services that our customers value. So, in addition to receiving the right test equipment, our customers can also count on excellent support before, during and after the sale. With company owned support and service centers around the world, support is never far away.

New Product Warranty: AC Sources & Loads: 1 year, DC Power Supplies: 2 years.
Complete calibration and repair services are offered at our US, European and Chinese manufacturing facilities (see contact info below). Calibrations are to original factory specifications and are traceable to NIST (National Institute of Standards and Technology).

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