



RFP: AC

- Modular
- High Power Density (2 VA/cubic inch)
- Create "Virtual Assets"
 - Single or multi-phase output
 - Parallel operation
- 0.95 PFC
- Brown-out simulation
- AC or DC output
- Up to 875 VA
- DC, 45 to 5000 Hz
- C.O.T.S.
- Universal AC/DC input via mainframe
- Web browser control
- User configurable
- Low C.O.O.
- Simple integration

PRODUCT OVERVIEW

ReFlex Power™ AC Module is a high density, modular programmable power supply. It has a dual output voltage range with a maximum of 875VA. Combining two or more modules "on the fly" allows multi-phase or parallel operations. Three phase delta and wye configurations are supported. This permits a small subset of module types to meet the voltage/current requirements of a large number of test regimes. For maximum flexibility, the AC module even has a DC output.

With voltage selection of either 0-140 VAC or 0-280 VAC and a 4.8 crest factor, this 875 VA source has the capacity to power non-linear loads typically encountered in the "real world." No need to specify more VA than you need just to handle inrush currents.

SYSTEM OVERVIEW

RFP™ provides a reconfigurable, flexible platform ideal for ATE and production test environments where it can provide programmable stimulus and bias power as well as programmable loads for the device(s) under test.

The EIA 4U high RFP™ mainframe can hold up to 12, single slot modules or combinations of the variety of single, dual and triple slot wide modules to configure (or reconfigure) the system for the particular requirements at hand. Each mainframe can support up to 6 KW of output power providing the highest power density available. Individual RFP modules employ a power factor (PFC) corrected single phase input when the system is powered via AC mains connection.

Up to 8 chassis of modules, potentially up to 95 assets, can be controlled via a single controller. The controller communicates to the individual modules via a high speed proprietary bus protocol providing very high data rates and a high degree of deterministic control. The RFP controller communicates to the host controller via an Ethernet LAN connection compliant with the LAN Extension for Instrumentation (LXI™) standard, assuring interoperability and ease of integration.

BENEFITS

- Reduced Cost of Ownership (COO)
 - Control multiple AC and DC power supplies and loads in one mainframe
 - Series and parallel operation allows large voltage and current test coverage with a single solution
 - Three phase delta and wye configurations supported
 - Controlled by RFP™ controller which is compliant with LXI™ standard for assured interoperability and ease of integration
 - IVI compliant drivers
 - TCP/IP network protocols
 - Up to 95 assets controlled by a single IP address
- Reduced space and logistics problems
 - High power density (2VA/cubic inch)
 - DC Coupled Output
 - C.O.T.S. availability
 - RFP™ also handles DC power and load modules
 - User configurable
- Ease of integration
 - Web browser control
 - Trigger operation
 - PFC to 0.95
- Brown-out simulation
 - Fast slew rate
 - Sequencing

SPECIFICATIONS

Current, Maximum: 140V Range
7A, not to exceed 875 VA
Overload: 10A for 0.5 Seconds

Current, Maximum: 280V Range
3.5A, not to exceed 875 VA
Overload: 5A for 0.5 Seconds

Frequency
DC, 45-5000 Hz

Crest Factor: 4.8 X FS rms current

RMS Regulation: 100% Resistive Load effect
Voltage Mode 0.1% of FS
Current Mode 0.1% of FS

RMS Regulation: 10% Line effect (< 100ms)
Voltage Mode 0.1% of FS
Current Mode 0.1% of FS

Programming Accuracy
Voltage 0.1% of FS + .02%/kHz
Current 1% of FS
Frequency 0.01% of setpoint

Programming Resolution
Voltage 0-140VAC 9mV, 0-280 18mV
Current 2.2mA
Frequency 0.1Hz thru 1kHz; 0.5Hz thru 5KHz

Temperature coefficient
Voltage .05% of FS per °C
Current .05% of FS per °C

Load Regulation
0.1% of full scale for 100% load change

Load Transient
100msec to within 0.5% of set point for 50%
load change

Line Regulation
0.1% within 100msec for 10% line change

Distortion
<1% to 500Hz
<2% to 2KHz
<5% to 5KHz

Output DC Offset: 0.1Vdc maximum

Efficiency: 72%

Stability: .4% of FS over 1000 hrs

Input (via RFP Mainframe)

Inrush Current
8.8A at 115Vac; 17.6A at 230Vac
14.6A at 270Vdc

Power Factor: up to 0.95

Hold-up time: 10ms

General

Remote Sense: 0.75Vrms per line
Input Trigger Response Time: $\leq 5\mu\text{sec}$

Analog Input: 0V to 5V

Overvoltage Protection
Range: 1.4% to 110%
Accuracy: 2% of setpoint
Response: 20ms

Overcurrent Protection
Range: 0.4% to 106%
Accuracy: 3% of setpoint
Response: 20ms

Auxiliary AC Output:
Isolated 0Vac to 31.6VAC, 2A max

Cooling:
Forced air convection, req. 40CFM airflow
at altitude and ambient temperature

Indicators
OUTPUT (LED, green)
POWER (LED, green)
FAULT (LED, red)

Connectors

Trigger: 9-pin D-sub
Positronic MD9F5R800X
Output: 13-pin D-sub
Positronic CBD13W6F5R800X

Environmental

Temp. Range, Operating: -10° C to 55° C

Temp. Range, Storage: -40° C to 70 °C

Humidity, Operating: 95%

Altitude, Operating: Up to 15,000 ft

Shock and vibration: Class 3 Mil-PRF-28800F

Regulatory

Certified to UL 61010-1, CSA C22.2 No.
61010.1 and IEC/EN 61010-1.
Compliance with EN61326 and FCC 21 CFR,
Subpart J
CE Mark is to EMC and LVD

Sag/Surge

Sag to 65% of nominal for 450ms at full output
power with AC input at $\geq 200\text{VAC}$.

Surge to 135% of nominal for 450ms at full out-
put with AC input $\leq 230\text{VAC}$.

Physical

Size: 3 RFP™ slots wide
4.2" (106.7mm) W x 6.75" (171.5mm)
H x 15" (381 mm) D
Weight: 13 lbs

Phase Programming Range

0-360 degree; B-phase and C-phase with re-
spect to A-phase; any module could be a A-
Phase (the master); adjacent modules to the
left of A-Phase would be B-Phase and C-Phase;
counterclockwise phasor rotation is assumed;
therefore the phase angle offset is lagging the
master reference

Programming Accuracy

1 degree plus 1 degree/kHz for balanced resis-
tive load measured with respect to A-phase,
at 25 degree C, +/- 5 degree

All specifications: 25° ± 5°C.

**All specifications are subject to change
without prior notification**