

DC Electronic Loads

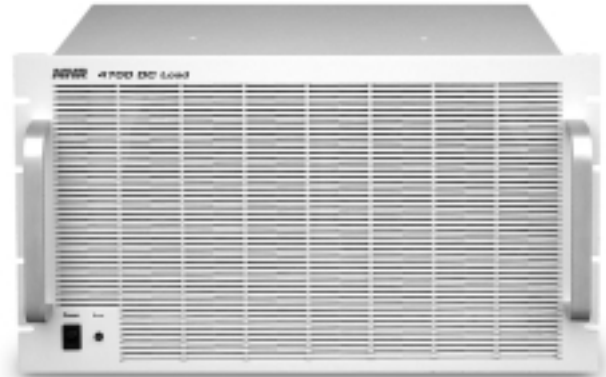
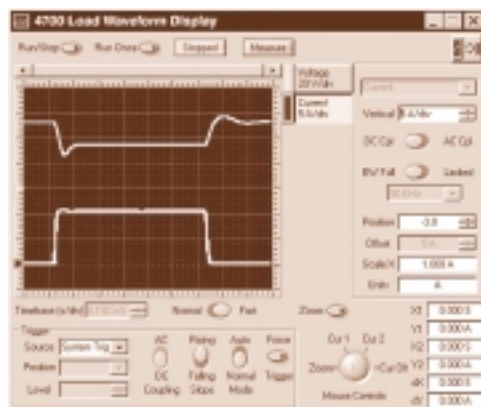
High-Power Load 4700 Series

- ❑ 6 kW / 120 V / 1200 A in a 10½-inch chassis
- ❑ Full current at 1 V and operation down to 0.15 V
- ❑ Field parallelable to 36 kW

The 4700 Series Electronic Loads are intended for testing applications that require a high-current / high-power load with precision internal measurement capability, exceptional reliability, combined with the inherent simplicity and safety of air cooling. The Load is controlled through a PC soft-panel or within an automatic test station. Typical power conversion products to be tested include higher-power DC supplies, telecom rectifiers, fuel cells and batteries.

PRECISION INTERNAL MEASUREMENTS

The 4700 Load is designed to eliminate the need for separate external instruments to make precision measurements. With an internal measurement system equivalent to a 5½-digit DMM, high accuracy measurements of voltage, current and power are provided. Additional benefits of the built-in measurement capability are faster testing speeds and the cost savings from a more streamlined tester architecture.



LOW VOLTAGE OPERATION

To meet the low voltage testing requirements of newer power subsystems, certain batteries and fuel cells, the 4700 Load delivers full-current down to 1 V. Even lower voltage operation down to 0.15 V can be achieved at linearly reduced current levels.

PARALLELEABLE FOR HIGHER POWER/CURRENT

To meet higher power/current applications, a single “master” load can be paralleled and synchronized with up to five “slave” loads for a total capability of up to 36 kW. Special circuitry assures no single load will reach its over-power limits ahead of others. This built-in versatility assures the test engineer need only buy what is required today, knowing that should more power be needed in the future, additional loads can be added with no special modifications.

FAULT TOLERANT

The 4700 Load is designed to be protected and keep running under just about any condition, even certain internal component failures. Protection against over-voltage, over-current, over-power, reverse-voltage, and internal over-temperature have always been standard. New is controller intelligence that monitors subcircuit performance and redistributes the current load as necessary. This fault tolerant technique allows the user to continue testing with proper warning of a fault condition. Further load robustness is assured through an extensive startup self test and a closed-cover calibration capability.

MODEL 4700 SPECIFICATIONS

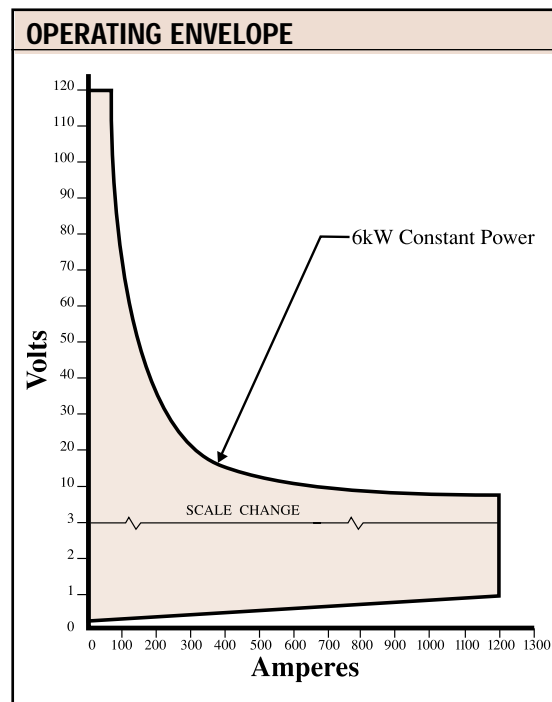
RATINGS	
Max. Power/Chassis	6 kW
Parallelable Chassis	6 for a total of 36kW
Current/Chassis	1200 A
Voltage	0.15 - 120 V

PROGRAMMABLE MODES	
Constant Current	
Range	0 - 120, 1200 A/Chassis
Accuracy (Set)	0.12% S + 0.08% R
Resolution	0.025% R
Constant Voltage	
Range	0.15 - 6.6, 20, 66, 120V
Accuracy	0.05% S + 0.05% R
Resolution	0.025% R
Constant Power	
Range	I R x V R
Accuracy	1% S + 1% R
Resolution	0.025% R
Constant Resistance	
Range	15% - 3000% of VR/IR
Accuracy	2% S
Slew Rate	
Range	6 A/S - 120 A/μS
Resolution	< 2 μS
Accuracy	1% ± 5μS
Short Circuit	
Range	120A 1200A
Resistance	8.33mΩ 833 μΩ
Current	200A 2000A
Transient Generator	
Repetition	Single Burst or Continuous
Settings	100
Period	40 μS - 20 S (0.05Hz - 25kHz)
Delay	20 μS - 20 S
Resolution	10 μS
Accuracy	1% ± 5 μS

CONTROL	
PC	Pentium-class μP with 16 MB RAM, SVGA display 800x600 resolution, 500 MB hard drive
OS	Windows 95, 98, 2000
Communications	RS 232
Drivers	Microsoft ActiveX/COM-compliant (VB, VC++) National Instruments LabVIEW, LabWindows/CVI

PHYSICAL	
Size (HWD)	10.5 x 19 x 22-inch
Weight	130 lbs
Operating Temperature	0 - 40° C at full power and <75% duty cycle
Input Power	115/230 VAC ± 10%, 47 - 63 Hz

MEASUREMENT INSTRUMENTATION	
Current	
Range	0 - 120, 1200 A
Accuracy	0.12% M + 0.06% R
Resolution	0.0015% R
DC Voltage	
Range	0-6.6, 66, 166 V
Accuracy	0.01% M + 0.02% R
Resolution	0.0015% R
Power	
Range	IR x VR
Accuracy	I Accuracy + V Accuracy
Resolution	0.0015% R
Waveform Capture	
Bandwidth	12.5 kHz
Accuracy	1% R
Channels	V & I, MUX'd
Digitizing Rate	50 - 50K Samples/S
Memory	4K Samples/Channel
Timebase	20 μS - 8 S
Triggering	System or External



Specifications apply at 23° +/- 5° C after a 10 minute warm up and are subject to change without notice.

Abbreviation Key
 R - Range
 S - Set
 M - Meter Reading



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