

Load saver

Advanced electronic loads
for power electronics test
and burn-in



LOADSAVER

Cutting the cost of quality

LOADSAVER advanced electronic loads offer significant economic and performance benefits to power supply manufacturers involved in burn-in/ESS, product life testing and functional test of high-current units.

- more flexible than resistive loads
- programmable load profiling
- high achievable power levels
- over 80% reduction in energy wastage compared to conventional loads
- modularity for ease of maintenance and upgrade

ESS/burn-in and life testing increase product reliability but make a major contribution to the power bill.

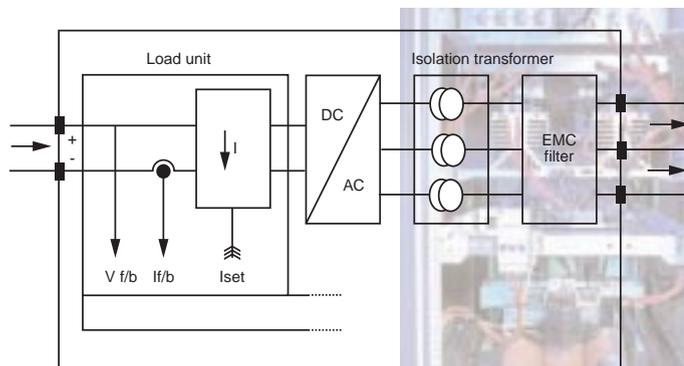
LOADSAVER electronic loads bring a revolutionary approach to test, recycling over 80% of power to cut deep into operating costs.

- utility costs for burn-in/life testing are reduced dramatically
- less than 20% of total load power appears as heat for removal from the test area
- the need for complex, unreliable air handling and water cooling equipment is eliminated

And these savings ignore reductions in cabling costs, air conditioning costs, and so on.

LOADSAVER is a range of recycling electronic loads covering all requirements from compact low power DC/DC converters through to high current power rectifiers - and even UPS systems. Easy configurability with changeable input modules allows maximum flexibility and re-use. Convenient automated control and monitoring over RS232, RS485 multi-drop or IEEE 488 simplifies integration into existing in-house quality-assurance procedures.

ESS results in a significantly more robust product with increased field reliability and reduced factory rework and warranty costs. LOADSAVER brings major economies to your ESS process.



Key to LOADSAVER's energy saving is its unique power-recycling unit. Power into the electronic loads is routed through a special DC/AC converter and back to the main AC supply. The combined efficiencies of the load and converter enable LOADSAVER to return over 80% of the power

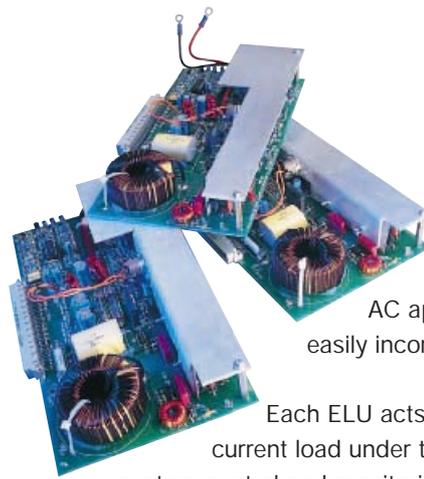
Whether you need a replacement for your existing resistor-based in-house set-up, or a complete turnkey solution for ensuring ultra-reliable power supplies, LOADSAVER is your economic ESS solution.

Simple, effective Windows based drivers integrate easily with your existing equipment and procedures to provide a highly efficient means of controlling power cycling and load profiling.

Modular

LOADSAVER is based on a highly flexible modular architecture which facilitates cost-effective solutions closely tailored to individual needs. Systems can be configured to meet current needs - and then upgraded with ease. Open-architecture principles facilitate the ready integration of additional power supply test instrumentation, allowing functional test to be integrated into the ESS burn-in process.

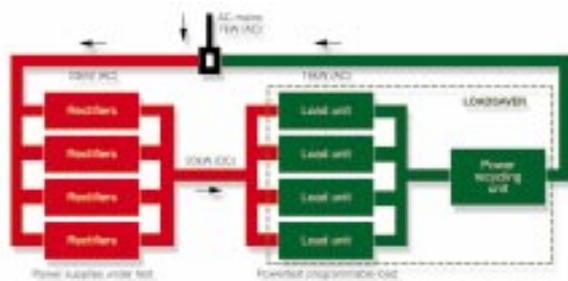
LOADSAVER comprises three standard families, with a choice of power-recycling unit up to 25kW. Individual electronic load units (ELUs) from 125W to 10kW can be configured. Importantly, ELUs can be paralleled, increasing power levels and the system's overall flexibility. Custom loads for DC/DC converters and



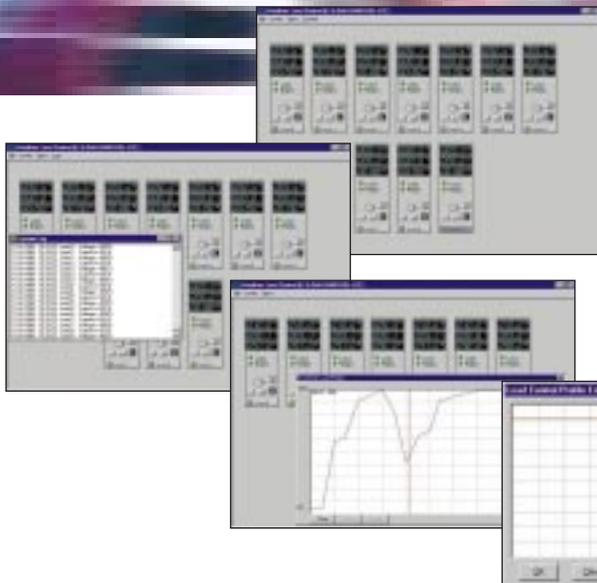
AC applications can be easily incorporated.

Each ELU acts as a programmable current load under the direction of the system control and monitoring (SCM) card.

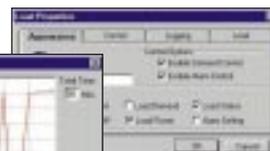
Unlike traditional resistive loads which generate enormous quantities of heat and are difficult to reconfigure, LOADSAVER ELUs transfer power to the output for recycling. Multiple ELUs feed into a common output bus which in turn feeds into the power-recycling unit where the energy is recycled back to the three phase AC mains.



LOADSAVER is controlled from a PC over an RS232 single drop or RS485 multi drop link to the SCM which provides constant current control and voltage, current and fault status monitoring. The ESCM, an enhanced SCM, offers higher precision, constant current, constant resistance, constant voltage and constant power modes. Optionally, IEEE 4888 interfacing can be used.



Windows-based virtual instrument software simplifies the generation and control of test programs, allowing users to manage the system as a single station running a single program, or as an array of burn-in cells. Simple set-up screens and load profile editor facilitate the definition of power/load cycling and timings.





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Outline specification

LOADSAVER family	ELU60	ELU120	ELU500
Efficiency	85% (typical)		
Size	19" cabinet on wheels		
Power recycling capacity options	12kW	20kW	25kW
Load rack	10-slot card rack, 4U high	Not applicable	Not applicable
Space for loads or load racks	12U (20U/24U options)	12U (20U/24U options)	12U (20U/24U options)
DC load options (*)	3 to 60V/25A/375W 1-channel, plug-in card	24 to 70V/65A/3kW, 2-channel, 4U high	40 to 420V/12.5A/5kW, 2-channel, 4U high
	5 to 25V/5A/125W 1-channel, plug-in card	24 to 70V/100A/3kW, 2-channel, 4U high	40 to 420V/25A/10kW, 1-channel, 4U high
		20 to 70V/100A/5kW, 2-channel, 4U high	
		85 to 130V/20Arms/1.5kW, 2-channel, 3U high	
		85 to 130V/20Arms/1.5kW, 2-channel, 4U high	
Step response	0.3s (ELU120, 500)/<5ms (ELU60), 25%-75% of final value		
Load unit protection	Automatic shutdown on over-temperature and DC voltage out of range Fusing on all unit inputs and outputs		
Control card (SCM)	10-channel control, 1% accuracy, RS232/RS485 option, constant current mode only		
Enhanced SCM	8-channel control, 0.2% accuracy, RS232/RS485 option, constant current/constant voltage/constant resistance/constant power modes		
Power	3-phase, user-specified voltage and frequency		
Protection	Automatic shutdown on over-temperature and loss of AC		
Conformance	EN 61010-1 (safety), EN 55081-2 and EN 55082-2 (EMC), CE		

(*) Contact for application specific load requirements

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