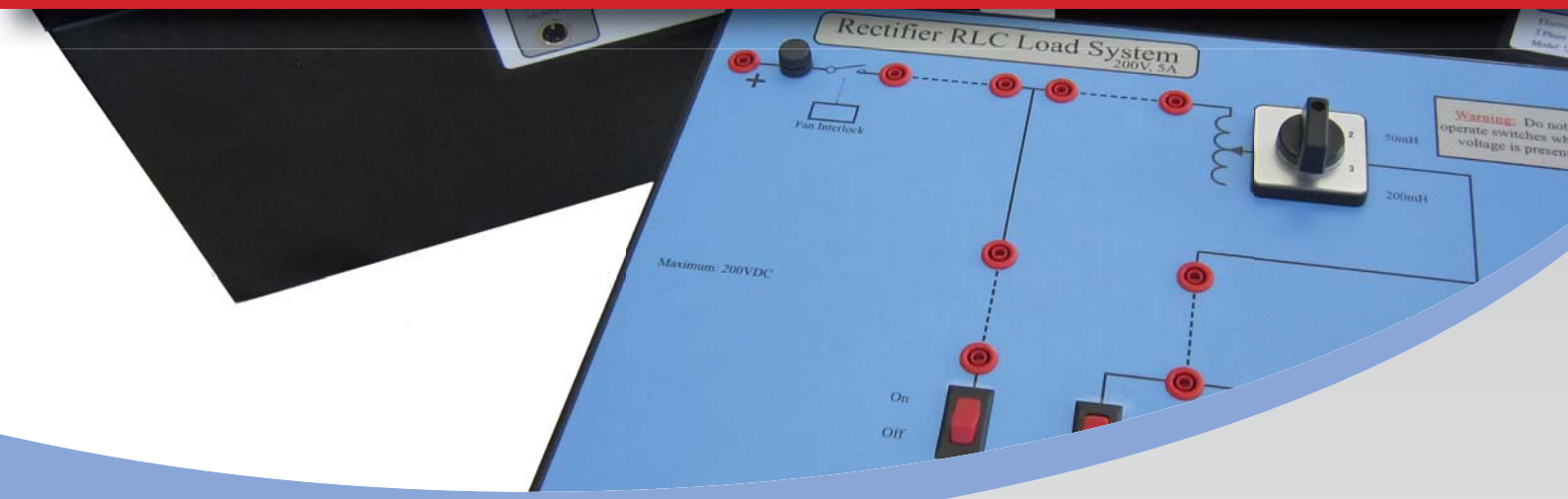
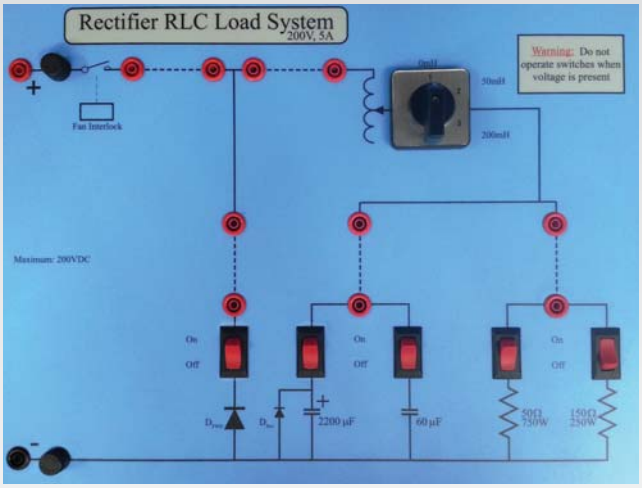
CREATIVE POWER TECHNOLOGIES

Load Test Set





The ULK-LOD1 is a flexible Single Phase/DC Load developed to operate in conjunction with the ULK-THY3 thyristor rectifier or ULK-INV4 inverter systems. These systems were developed for the Power Electronics teaching environment to provide both undergraduate and postgraduate students with integrated, flexible, digitally controlled Power Electronic converter platforms.

The ULK-LOD1 contains a user selectable tapped inductor as well as resistive and capacitive elements that enable students to explore the effects of different load types on thyristor rectifier and single phase inverter outputs.

Works with the ULK-THY3 and ULK-INV4 Modules

Features

- Selectable 1Φ / DC Load Configurations
- Compliments the ULK-THY3 and ULK-INV4 Modules
- Selectable Inductance
- Selectable Resistance
- Selectable Capacitance
- Support for in-line Clamp-On Current Probes
- Designed specifically for Education
- Fan Forced Cooling, with Protective Interlock
- Fuse Protection

Creative Power can produce custom software variations to suit specific customer requirements.

Teaching

The ULK-LOD1, ULK-INV4 and ULK-THY3 platforms provide an extremely flexible and comprehensive teaching and development tool for Power Electronic laboratories.

Comprehensive Inverter and Thyristor Rectifier undergraduate power laboratory experiments are available to API Affiliated Universities at no additional cost. These laboratory notes are based on the existing proven experiments used in the Electrical Engineering teaching program at RMIT University.

The laboratory experiments are available at an additional cost for non-API affiliated Universities.

Flexibility

Each test set is readily reconfigurable allowing it to be applied to experiments ranging from single device switching circuits to multiphase inverter or thyristor investigations.

The controller board has a Texas Instruments TMS320F2810 MCU core which can be custom programmed, integrating with standard library support structures (available separately) that provide an established starting point.

Safety

Safety within the undergraduate laboratory is a vital part of power electronics teaching.

The EPLTS range of products use 4mm shrouded safety sockets for all power connections. In addition, complete galvanic isolation is provided to all user control interfaces.

The Microcontroller and control circuitry is powered independently from the power stage to provide additional protection. This enables inverter switching from near zero voltages up to the inverter's maximum voltage rating.

Power Stage

Configuration	R / L / C
Input Voltage	0 - 200V DC 0 - 200V rms single phase
Input Current	5A
Cooling	Fan Forced
Temperature	-5°C to 55°C

Resistance

Configuration	Switch Selectable
Power Rating	1kW
Settings	50Ω, 750W 150Ω, 250W 37.5Ω, 1kW

Inductance

Configuration	Rotary Switch Selectable
Settings	0mH 50mH 200mH

Capacitance

Configuration	Switch Selectable
Settings	2200µF (DC Loads Only) 60µF (DC or AC Loads)

Freewheeling Diode

Configuration	Switch Selectable
Settings	Freewheeling Inductor current

Developed in conjunction with the School of Electrical and Computer Engineering, RMIT University.

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RMIT UNIVERSITY

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