AMERICAN RELIANCE, INC.

LPL Low-Profile eLoad by AMREL

Why the LPL?

In ATE System Applications rack space is a highly coveted asset. Traditional modular loads require at least 3U (5.25") of rack space, additional mainframe cost, and is limited in power rating, typically below 300W. AMREL's LPL offers a standalone 1U (1.75") dc electronic load solution ranging from 150W to 800W without the added cost of a mainframe or sacrificing valuable rack space. The LPL provides an economical solution with all the necessary ATE capabilities in an ultra-compact package. Why spend your rack space and budget when you don't need to?

Markets and Applications:

- **Power Electronics Testing**
  - DC-DC Converters
  - AC-DC Power Supplies
  - Switching Power Supplies
  - POL (Point of Loads)
- **Aerospace/Defense & Automotive Power Electronics/Components Testing**
- **Battery Chargers & Load Profile Simulation**
- **Battery Testing and Characterization**
- **Laboratory and R&D Design Validation**
- **Aerospace/Defense & Automotive ATE and Integrated Test Systems**
- **Bench-top Applications**
- **DC power sources/Energy Storage**
  - Batteries
  - Fuel Cells
  - Ultracapacitors
  - Solar PV Cells

Features and Benefits

AMREL's LPL (Low Profile) series dc electronic load provides the ideal ATE solution occupying 1U (1.75") of Rack Space, and offers the industry's highest power density & widest model selection

- **Widest Model Selection:** 150W, 300W, 600W, 800W Models: 60V, 120V, 400V, 600V, 800V
- **Save Rack Space:** All LPL Models are 1U high & "Zero" stackable
- **Maximize ROI:** In-rack Closed-case Calibration
- **Ultra-low Compliance Voltage:** Ultra-low Voltage Operation
- **Reliable:** Individual FET Protection to isolate power stage failures
- **Maximized Uptime:** Redundant Over-temperature and Over-power Protection
- **Fast Response:** 25us independently Programmable Rise/Fall Time
- **Quiet:** Fan speed control for reduced acoustic noise under light load conditions.
- **Flexible Test Platform:** Five Modes of Operation: CC, CR, CV, CP and Pulse Load Shaping
- **Intuitive Front Panel Control:** User-friendly Function Hot Keys, Full Keypad & Digital Encoder
- **Integrated DMM:** 14-bit 5-digit Voltage and Current Measurement Display
- **Two Loads in One:** Ultra-low Current Range Option for Optimized Accuracy
- **More Ranges:** 3 Full Scale Ranges (100%, 50% & 10%)
- **More Protections:** Anti-Oscillation & Programmable Protections: OV, UV, OC, UC, OP, & UP
- **More Interfaces:** Co-resident GPIB/RS-232 & Field-enabled Ethernet/USB Option Available
- **ATE Ready:** Standard LabWindows and LabVIEW Drivers and SCPI Command Set
- **Bench-top Test Automation Ready:** Four Step profiles; 32 step points for each profile
- **Fuel Cell Application Ready:**
  - o Impedance Measurement via Frequency Response Analyzer (FRA)
  - o Current Interruption Mode for Fuel Cell Testing
  - o Ultra-low compliance voltage to operate at high current down to 0.1Vdc
  - o Virtual Panel provides Polarization Curve Sweep and Voltage/Current Cycling Capability
- **0 ~ 10Vdc PLC or DAQ Control Ready:**
  - o 0~10Vdc External Analog Programming
  - o External On/Off Control
  - o External Mode Selection Available
  - o Front Panel Key Lockout prevents unwanted key entry
- **More System Integration Features & Options:**
  - o Standard Remote Inhibit (RI) for Interlock Capability
  - o Standard Dry Contact Fault for Redundant System Protection
  - o Isolated Analog Control/Monitor Option
  - o External DC Contactor
  - o Reverse Polarity/Isolation Relay Option
- **Battery Testing:** "C" Operand for battery testing.
- **Ideal for Unique Test Applications:** Custom Tailored Ratings & Features Available

20 BEST IN TEST 06
TEST & MEASUREMENT WORLD AWARD WINNER

LPL SELECTOR GUIDE

LPL XXX - YY - ZZZ

XXX - POWER YY - VOLTAGE ZZZ - CURRENT

Power	Voltage	Current (at 0Vdc Input Voltage)	Dimensions (L" X W" X H")
800W	60Vdc	100Adc	21" X 17" X 1.75"
800W	120Vdc	80Adc	21" X 17" X 1.75"
800W	400Vdc	40Adc	21" X 17" X 1.75"
800W	600Vdc	30Adc	21" X 17" X 1.75"
600W	60Vdc	100Adc	21" X 17" X 1.75"
600W	120Vdc	60Adc	21" X 17" X 1.75"
600W	400Vdc	30Adc	21" X 17" X 1.75"
600W	600Vdc	20Adc	21" X 17" X 1.75"
600W	800Vdc	15Adc	21" X 17" X 1.75"
300W	60Vdc	100Adc	21" X 17" X 1.75"
300W	120Vdc	50Adc	21" X 17" X 1.75"
300W	400Vdc	15Adc	21" X 17" X 1.75"
300W	600Vdc	10Adc	21" X 17" X 1.75"
300W	800Vdc	6Adc	21" X 17" X 1.75"
150W	60Vdc	50Adc	21" X 17" X 1.75"
150W	120Vdc	25Adc	21" X 17" X 1.75"
150W	400Vdc	8Adc	21" X 17" X 1.75"
150W	600Vdc	5Adc	21" X 17" X 1.75"
150W	800Vdc	3Adc	21" X 17" X 1.75"
OPTIONS		EFU-L	USB & ETHERNET OPTION
		- XX OPTION; XX = UL Current Rating	ULTRA-LOW RANGE OPTION
		- R OPTION	RELAY OPTION

CV MODE SPECIFICATIONS

CVL RANGE	0 ~ 10% of V_{MAX}
CVM RANGE	0 ~ 50% of V_{MAX}
CVH RANGE	0 ~ 100% of V_{MAX}
ACCURACY	0.05% ± 0.1%
RESOLUTION	1/16000 of Rated Voltage
TRANSIENT TIME (SLOW)	0.250 ~ 255.9 (ms)
TRANSIENT TIME (FAST)	0.250 ~ 25.59 (ms)

CR and CP MODE SPECIFICATIONS

Please reference website datasheet for details

GENERAL SPECIFICATIONS

REMOTE INTERFACES	RS-232, GPIB & USB/ETHERNET
ANALOG PROGRAMMING	0 ~ 10Vdc
ACCURACY	0.15% ± 0.1% * FS
VMON ACCURACY	0.10% ± 0.1%
IMON ACCURACY	0.10% ± 0.1%
FREQUENCY RANGE	0.1Hz ~ 20kHz
ACCURACY	0.10%
AC INPUT	95~240Vac 48 ~ 62Hz
OPERATING TEMPERATURE	5°C ~ 40°C
DIMENSIONS	21" (L) x 17" (W) x 1.75" (H)

CC MODE SPECIFICATIONS

CCL RANGE	0 ~ 10% of i_{MAX}
CCM RANGE	0 ~ 50% of I_{MAX}
CCH RANGE	0 ~ 100% of I_{MAX}
ACCURACY	0.05% ± 0.1%
RESOLUTION	1/16000 of Rated Voltage
TRANSIENT TIME (SLOW)	0.250 ~ 255.9 (ms)
TRANSIENT TIME (FAST)	0.250 ~ 25.59 (ms)

PROTECTION

OVER POWER PROTECTION	110% * P_{MAX}
OVER VOLTAGE PROTECTION	105% * V_{MAX}
OVER CURRENT PROTECTION	110% * I_{MAX}
OVER TEMERPATURE PROTECTION	90°C ± 5°C
REVERSE MAXIMUM CURRENT	110Adc
REMOTE INHIBIT (RI)	Short
FAULT INDICATOR	SPDT Relay

Other Programmable Protections:
OPP, OVP, OCP, UVL & Anti-Oscillation

DIELECTRIC STRENGTH

Primary Circuit to Chassis	1500Vac for 1 Minute
Primary Circuit to Load Terminal	1500Vac for 1 Minute
Load Terminal to Chassis	1500Vdc for 1 Minute

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