

# AMERICAN RELIANCE, INC.

## FEL-SERIES PROGRAMMABLE ELECTRONIC LOADS FOR ULTRA-LOW VOLTAGE & FUEL CELL APPLICATIONS

- Air-Cooled • Superior Performance and Reliability • Widest Selection • "One-Box" Interface Design
- Custom Design and Modifications • Down to 0.2 Volt Operation



1200A@  
0.4 Vdc

### LOW VOLTAGE PROGRAMMING

One of the most unique attractions of the FEL Series is its ability to operate well below the typical voltage levels commonly found in the general market place. All models provide operation down to 0.2-Volt depended upon the operating current level.

### CUSTOMER DESIGN AND MODIFICATIONS

The FEL Series delivers the ultimate in flexibility to provide specific programmable load solutions for any lab or ATE environment. If your application requires unique power requirements or custom voltage or current combination, and analog or digital programming, AMREL can assist in meeting your stringent specification. With years of power supply and electronic load experience, AMREL's engineering staff will work as part of your team to resolve your test problems. Custom units are typically available within 6 to 8 weeks.

### KEY FEATURES

- ▶ Co-existent GPIB and RS-232 Standard Interface
- ▶ Four Constant Operating Modes: Power, Voltage, Current, and Resistance
- ▶ Close-Case Calibration
- ▶ Simultaneous display of any Two Selectable Parameter Combinations
- ▶ Six Programmable Protection Modes: Overvoltage (OVP), Undervoltage (UVP), Overcurrent (OCP), Undercurrent (UCP), Overpower (OPP), and Underpower (UPP)
- ▶ Over Temperature (OTP) Protection
- ▶ 12-bit resolution
- ▶ "C" Operand for Battery Testing
- ▶ Analog Programming 0-10Vdc
- ▶ Power Bandwidth up to 10KHz
- ▶ 99-Point of Dynamic Power Profile Programming Capability
- ▶ Power Off Memory
- ▶ 256-Point of Recording and Printing Capability with Date Stamp
- ▶ 256-programmable Slew Rates Capability
- ▶ LabWindows and LabView Drivers
- ▶ Custom Units Available



## AVAILABLE MODELS

| MODEL     | INPUT VOLTAGE V (MAX) | INPUT CURRENT A (MAX) | INPUT POWER W (MAX) | MAX INPUT CURRENT @0.4 Vdc |
|-----------|-----------------------|-----------------------|---------------------|----------------------------|
| FEL 60-1  | 10Vdc                 | 50 Adc                | 60W                 | 50 Amps                    |
| FEL 150-1 | 10Vdc                 | 100 Adc               | 150W                | 75 Amps                    |
| FEL 300-1 | 10Vdc                 | 200 Adc               | 300W                | 100 Amps                   |
| FEL 600-1 | 10Vdc                 | 600 Adc               | 600W                | 300 Amps                   |
| FEL1.2K-1 | 10Vdc                 | 1200 Adc              | 1.2KW               | 600 Amps                   |
| FEL2.0K-1 | 10Vdc                 | 1200 Adc              | 2.0KW               | 1200 Amps                  |

Input Voltage of 20Vdc available: Designate -2 instead of -1 for the above model numbers

## SPECIFICATIONS



- **AC LINE INPUT:**  
120/240 Vac  $\pm$  10%
- **LINE FREQUENCY:**  
50/60 Hz
- **TOPOLOGY: LINEAR:**  
Constant Voltage (CV)  
Constant Current (CC)  
Constant Resistance (CR)  
Constant Power (CP)
- **INPUT VOLTAGE:**  
0.2 to 10 or 20 Volts
- **INPUT CURRENT:**  
0 to 1200 Amps
- **INPUT POWER:**  
60 to 2000 Watts

- **PROGRAMMING RESOLUTION:**  
Voltage -  $V_{max}/4000$   
Current -  $I_{max}/4000$   
Resistance -  $R_{max}/4000$  or  
 $S_{max}/4000$   
Power -  $P_{max}/4000$

- **PROGRAMMING ACCURACY:**  
CV -  $\pm 0.1\% + 0.1\%$  of Range  
CC -  $\pm 0.5\% + 0.1\%$  of Range  
CR -  $\pm 0.5\% + 0.5\%$  of Range  
CP -  $\pm 2\% + 1\%$  of Range

- **READBACK ACCURACY:**  
CV -  $\pm 0.2\%$  of 0.1% of Range  
CC -  $\pm 0.2\%$  of 0.1% of Range  
CR -  $\pm 1\%$   
CP -  $\pm 3\%$

- **DRIFT**

(over 8 hours & 30 minutes' warm-up period):

CC - 200 PPM/C  
CV - 200 PPM/C  
CR - 500 PPM/C  
CP - 500 PPM/C

- **PROGRAMMING METHOD:**

4x4 Keypad (font panel)  
RS-232C Interface  
GPIB Interface IEEE488.2

- **DISPLAY:**

20x2 (Characters x Rows)  
Backlit

