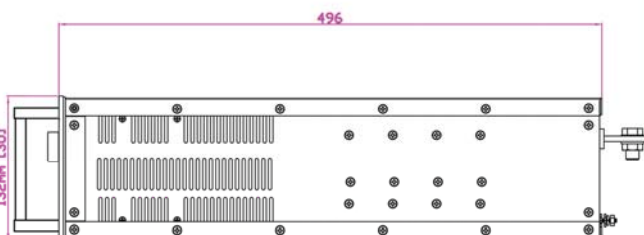
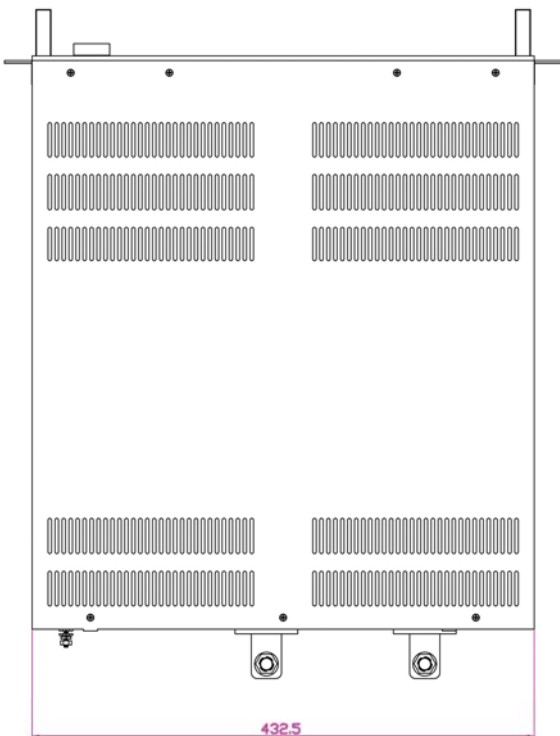
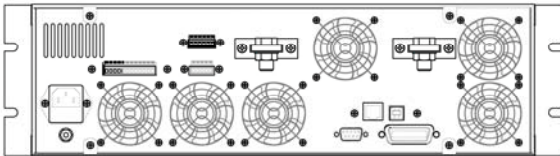
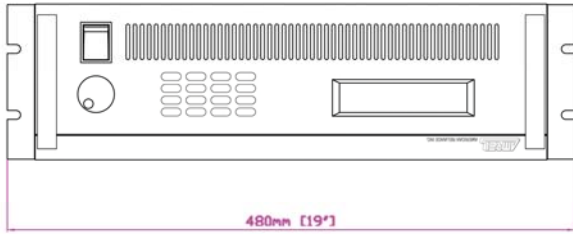


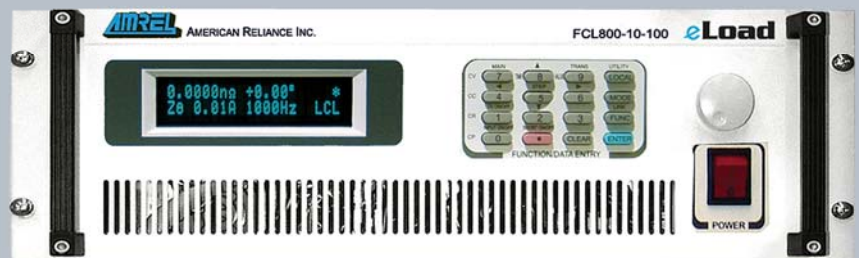
## FCL 3-View Dimensional Diagram



# FCL 800 & 1.5K Fuel Cell eLoad by AMREL

## Features and Benefits

- Embedded FRA (Frequency Response Analyzer) without the hassles of external cables
- Built-in Booster Power Supply to test down to 0Vdc at Full Operating Current
- Fully Integrated 800W & 1.5kW Air-cooled Electronic **eLoad**
- Impedance Measurement Software without the costs of purchasing additional software
- CC/CV/CR/CP Operating Modes to meet demanding application-specific requirements
- Dynamic Operation up to 20kHz provides accurate impedance measurements
- Dynamic Profile Loading Via Voltage and Current Sweeps for polarization curves, durability/Lifetime tests, simulate real-world applications and other dynamic test requirements
- LabView & LabWindows Drivers, Virtual Panel & SCPI commands for simple ATE Integration
- The one-box solution for testing electrical specs, validating performance targets and evaluating the Impedance-induced losses for Fuel Cells FCL Front Panel Diagram FCL Rear
- Widest Model Selection-10Vdc/20Vdc/30Vdc FCL rated at 100 or 200Amps and custom tailored models available



## Selector Guide

FCLXXX-YY-ZZZ  
xxx-Power YY-Voltage ZZZ-Current

Power	Voltage	Current (at 0Vdc Input Voltage)	Dimensions (L" X W" X H")
800W	10Vdc	100Adc	19.5" X 17" X 5.25"
800W	20Vdc	100Adc	19.5" X 17" X 5.25"
800W	30Vdc	100Adc	19.5" X 17" X 5.25"
800W	10Vdc	200Adc	19.5" X 17" X 5.25"
800W	20Vdc	200Adc	19.5" X 17" X 5.25"
800W	30Vdc	200Adc	19.5" X 17" X 5.25"
1.5kW	10Vdc	100Adc	19.5" X 17" X 5.25"
1.5kW	20Vdc	100Adc	19.5" X 17" X 5.25"
1.5kW	30Vdc	100Adc	19.5" X 17" X 5.25"
1.5kW	10Vdc	200Adc	19.5" X 17" X 5.25"
1.5kW	20Vdc	200Adc	19.5" X 17" X 5.25"
1.5kW	30Vdc	200Adc	19.5" X 17" X 5.25"
OPTIONS		EFU-L	USB & ETHERNET OPTION
		- L OPTION	LOW FREQUENCY 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% $\pm$ 0.1%
RESOLUTION	1/16000 of Rated Voltage
TRANSIENT TIME (SLOW)	0.150 ~ 153.6 (ms)
TRANSIENT TIME (FAST)	0.150 ~ 15.36 (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% $\pm$ 0.1% * FS
VMON ACCURACY	0.10% $\pm$ 0.1%
IMON ACCURACY	0.10% $\pm$ 0.1%
FREQUENCY RANGE	0.1Hz ~ 20kHz
ACCURACY	0.10%
AC INPUT	95~240Vac 48 ~ 62Hz
OPERATING TEMPERATURE	5°C ~ 40°C
DIMENSIONS	19.5" (L) x 17" (W) x 5.25" (H)

### 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

### CC MODE SPECIFICATIONS

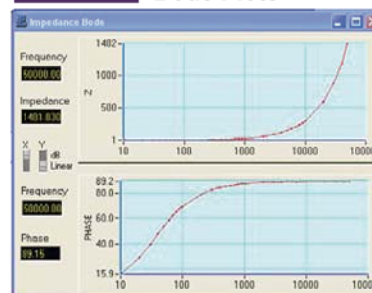
CCL RANGE	0 ~ 10% of $I_{MAX}$
CCM RANGE	0 ~ 50% of $I_{MAX}$
CCH RANGE	0 ~ 100% of $I_{MAX}$
ACCURACY	0.05% $\pm$ 0.1%
RESOLUTION	1/16000 of Rated Voltage
TRANSIENT TIME (SLOW)	0.150 ~ 153.6 (ms)
TRANSIENT TIME (FAST)	0.015 ~ 15.36 (ms)

### PROTECTION

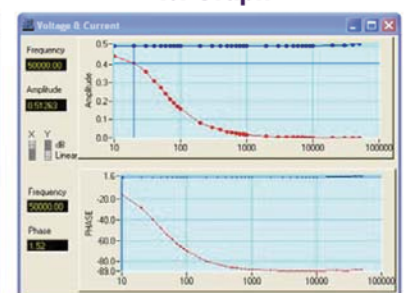
OVER POWER PROTECTION	110% * $P_{MAX}$
OVER VOLTAGE PROTECTION	105% * $V_{MAX}$
OVER CURRENT PROTECTION	110% * $I_{MAX}$
OVER TEMPERATURE PROTECTION	90°C $\pm$ 5°C
REVERSE MAXIMUM CURRENT	110Adc
REMOTE INHIBIT (RI)	Short
FAULT INDICATOR	SPDT Relay

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

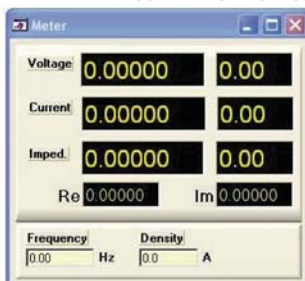
### Bode Plots



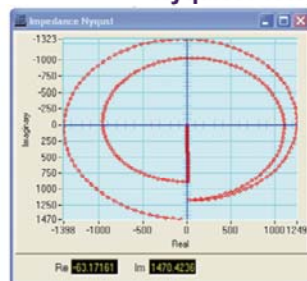
### V/I Graph



### Real Time Monitoring



### Nyquist Plots



### Control Panel

