



LaM^ARCHE®

ISO 9001 CERTIFIED



23" A96 Cage shown above with 4(four) A96 rectifiers

A96 **130 VDC SWITCHMODE UTILITY RECTIFIER/ BATTERY CHARGER**

The LaMarche A96 provides highly reliable, hot swappable 130 VDC power with full load sharing capability in a compact, modular rectifier system. At a height of only 4RU in a four across 23" rack configuration it offers high power density combined with high efficiency. There is no need to shut down the system to change a rectifier. With current limiting circuitry, voltage regulation, high efficiency and high power factor, the A96 is the ultimate modular rectifier for Utility applications.

The A96 is more than a rectifier/battery charger, it is also a power supply/battery eliminator. The loss of one rectifier will not affect the operation of the remaining rectifiers. Complete front panel accessibility and a plug-and-go design ensure quick, convenient installation without the possibility of wiring errors. Installing a unit only takes a minute.

Adverse power conditions do not affect the A96 DC output. Its AC input line regulation operates over a range of 185-264 volts, with a frequency range of 45-66Hz. This allows the A96 to be used with any 50/60 Hz, 208-240 Volt service line, eliminating the need and expense of stocking different rectifiers for each input voltage. Steady state output voltage remains within $\pm 1/2\%$ of the setting from no load to full load to handle charging today's diverse battery technologies. A standard 23" Rack Mounted Power Cage can hold up to 4(four) 20 Amp rectifiers which will provide a total of 80 Amps of power.

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Standard Features

- >85% efficiency including series output diode
- Single Phase AC Input
- Compact, Modular System
- Power Supply/Battery Eliminator
- Hot Plug-In Design
- Power Factor Correction Circuitry
- Selective High Voltage Shutdown
- Load Sharing
- Walk-In Circuit
- Output Voltage & Current Test Points
- Fan Cooling
- Float/Equalize Switch
- Adjustable Float Voltage
- Adjustable Equalize Voltage
- 4 Across Mounting in a 23" Configuration

LED Status Indicators

- Fan Failure
- Over-temperature
- High Voltage Shutdown
- AC Available
- Current Limit
- Thermal Control
- DC Amps
- DC Volts

Available Model

- 130 Volts DC, 20 Amps

Options

- Alarm Control Panel with Master Equalize
- Temperature Compensation
- Remote Communications Panel (SCADA compatible)
- Consult factory for 3 across mounting in a 19" configuration

A96 130VDC SWITCHMODE UTILITY RECTIFIER/ BATTERY CHARGER

130 VDC 60L or 92 NC	Model No.	DC Output		Nominal Current Draw* @100% Load (Amps)	Overall Dimensions WxDxH		Cable Entry** (when facing unit)		Mounting	Shipping Weight			
		Amps	Volts		Rectifier Dim	Cage Dim	AC input	DC output		Rectifier		Cage	
	lbs	kgs	lbs	kgs									
A96-20-130V-V1	20	130V	15	5.25"x14.5"x7" 133x368x178mm	21.38"x20.43"x7" 543x519x178mm	Left	Right	23" Rack	14	6.4	40	18.2	

*AC Current Draws based @ 100% load and standard battery cells of 60L(130V). Maximum current draw is typically less than 105% of ratings shown.

**Connections are on rear of cage

Input

Input Voltage Range

185-264 VAC Single Phase
Nominal Full Load Draw: 15A

Input Frequency Range

45-66 Hz

Power Factor

Power factor correction circuitry corrects the input power factor > 0.95

Output

Regulation

Dynamic response (with battery). Maximum voltage transient will not exceed $\pm 10\%$ of initial steady state voltage for a step change from 20% to 100% of the full rated load.

Recovery to steady state voltage regulation range does not exceed 50ms and all transient behavior disappears within 100ms.

Steady State

Typical output voltage is $\pm 1/2\%$ of the setting from no load to full load over the specified input voltage, and ambient temperature ranges.

Current Limit

Maximum output current limited at 105% of its rated value.

Filtering

Electromagnetic Interference (EMI)

EMI (conducted or radiated) rated in accordance with FCC Part 15. Class "A" limits.

Ripple Voltage

Ripple Voltage does not exceed 30 mv RMS when connected to a battery with an Amp-Hour capacity of four times the rated output of the rectifier.

Protection

Walk-In Circuit

Output voltage will gradually increase after the charger is turned on, eliminating surges and over-shoot.

Selective High Voltage Shutdown

Output blocking diode prevents paralleled rectifiers from being affected by high voltage output bus.

Input Inrush Current

Limited to 10Amps per rectifier

Specifications subject to change without notice

P25-DSA96-1
ECN 15636
11-02

Status and Indicators

Fan failure LED

A Red LED illuminates when the cooling fan is not operating

Over-Temperature LED

A Red LED illuminates upon over temperature of the rectifier.

High DC Voltage Shutdown LED

A Red LED illuminated when the rectifier has shutdown due to the output voltage being greater than 150V.

AC Available LED

A Green LED illuminates when adequate AC voltage is present.

Current Limit LED

A Red LED illuminates when the rectifier is in current limit.

Thermal Control LED

A Yellow LED illuminates when the rectifier is operating at reduced output due to excessive internal temperatures.

DC Amps LED

A Green LED illuminates when the rectifier is operating and producing current

DC Volts LED

A Green LED illuminates when the rectifier is operating between 109 VDC and 148 VDC.

Environmental

Operating Temperature

-40°C (-40°F) to 55°C (130°F)

Storage Temperature

-40°C (-40°F) to 85°C (185°F)

Humidity

0% to 95% relative humidity, non-condensing

Additional

Audible Noise

Less than 54dBa at any point three feet from any vertical surface of the rectifier.

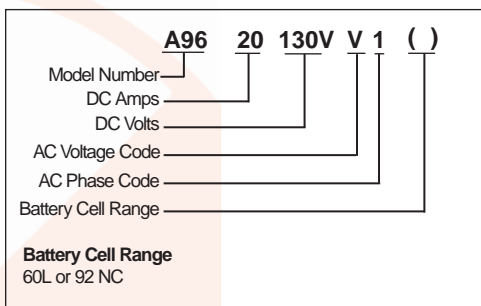
Hot Plug-In

Allows addition or removal of units(s) without requiring a system shutdown.

Cooling

Fan Cooled

Model Number Nomenclature



Ordering Information

When ordering, please specify:

- LaMarche Model Number A96
- Number and Type of Battery Cells
- Options

Controls

Float/Equalize Switch

Rectifier may be equalized locally via front panel switch

Float Voltage

Adjustable From
120.0-135.0V

Equalize Voltage

Adjustable From
130.0-144.0V

Load Sharing

When two or more equivalent LaMarche rectifiers are connected in parallel, they will share the load equally within $\pm 15\%$ for individual unit outputs greater than 10% of the rated output. Balance is accomplished by output voltage adjustment.

Remote Sensing

To compensate for voltage drops, the DC output voltage sensing may be connected to battery or load terminals.

Warranty

The LaMarche A96 has been thoroughly tested and found to be in proper operating condition upon shipment from the factory and is warranted to be free from any defect in workmanship and material for a period of 12 months from date of purchase.



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