



## SLRd Industrial Chargers

### Single Phase Rectifiers



CSA-C22.2



Delivering quality

**ALCAD**

# SLRd

## KEY ADVANTAGES

### Ease of adjustment

Output float voltage, equalize voltage, current limit, and alarm levels are all soft-key adjustable.

### Easy serviceability

Control circuits, alarm circuits, and electrical subassemblies are modularized for easy replacement.

### Long life and reliability

Electronic and electrical components are engineered to assure long life and reliability. Typical MTBF is 100,000 hours minimum. The SLRd is designed to provide a system life expectancy of at least 20 years.

### Ease of installation

Cabinets are floor, wall or rack mountable and equipped with knockouts for cable or conduit entry. Input, output, and remote alarm connections are wired to easily accessible, internal terminals.

### Easy trouble-shooting

A complete service manual and coded wiring make troubleshooting easy.

### Lower maintenance costs

Control modules and many electrical subassemblies are standardized across the range of charger sizes. This minimizes spare parts inventory and simplifies maintenance.

### Extended battery life

Standard filtering and the temperature compensation option extends life of VRLA batteries.

## Designed for all industrial applications

- Alcad offers a new battery charger adapted to the operational and environmental requirements of industrial and utility applications.
- Each charger is capable of charging nickel cadmium, vented lead, VRLA, and gas recombination batteries.

## Robust, Reliable and Flexible

These are robust, industrial rectifiers utilizing microprocessor-controlled thyristor technology to provide high-reliability power supply and battery charger capabilities.



# SLRd

## SPECIFICATIONS

### Input

#### Voltage

- Single Phase: 120V, 208V, or 240V AC  $\pm$  10%

#### Frequency

- 60Hz  $\pm$  6%

### Output

#### Nominal voltage

- 24V, 48V, or 120V DC

#### Range of operating voltage

- Floating charge: 85% to 130% of rated DC voltage
- High rate charge: 85% to 130% of rated DC voltage

#### Current limit

- Adjustable from 20% - 100%. Factory set at 100% of charger rating.

#### Ripple voltage

- 30 mV max on 24V and 48V rectifiers with battery, 2% without
- 150 mV max on 120V rectifier with battery, 2% without
- Values measured when connected to a battery with an AH rating of at least four times the DC output current rating of the charger.

#### Charging characteristics

- Constant voltage during normal operation
- Constant current at current limit

#### Static regulation

Simultaneously:

- $\pm$  0.5% (typical) voltage from 0 to 100% load
- $\pm$  10% input voltage variation
- $\pm$  6% frequency variation

#### Input/Output isolation

- 1,500V DC between input, output, and ground.

### Protection

#### AC input breaker

- 2 pole, 10,000 AIC

#### DC output breaker

- 2 pole, 5,000 AIC

#### Other protections

- AC and DC surge suppression
- Soft start
- Reverse battery protection
- Automatic current limiting

#### Safety certification

- CSA C22.2 No. 107.1

### Mechanical

#### Enclosure

- NEMA 1 / IP20

#### Access

- Hinged front door

#### Paint finish

- ASA 61 light gray

#### Cooling

- Convection

#### Wiring

- 300V rating per NEC, NFPA #70 (wires identified), VW-1 rated, AWM

#### Magnetics

- Insulation class 180 system
- Voltage breakdown: 1500V minimum

#### Cable entry

- Top and bottom using knockouts

### Environmental

#### Temperature

- Operating: 0°C to 40°C (32°F to 104°F)
- Storage: -25°C to 70°C (-13°F to 158°F)
- Derating: 1.25% per °C from 40°C to 55°C
- (1.25% per 1.8°F from 104°F to 131°F)

#### Relative humidity

- up to 95% non-condensing

#### Audible noise

- Typically 45-60 dB(A) at 1m (3.28 ft.)

#### Altitude

- No derating up to 1000m (3,280 ft.)
- From 1,000m to 4,000m, derate by 7% per 1,000m (From 3,280 ft. to 13,120 ft., derate by 7% per 3,280 ft.)

### Standard Features

- Digital voltmeter and ammeter (1% accuracy)
- Manual 0-99 hour high rate timer
- Adjustable float and high-rate voltage settings
- Adjustable current limit
- AC input breaker
- DC output breaker
- Filtered DC output
- Form-C common alarm relay (2A @ 250VAC, 2A @ 24VDC, 0.1A @ 150VDC)
- Blocking diode
- High DC voltage shutdown
- Random paralleled operation with other chargers of similar power rating and current limit characteristics
- 255-event history with time and date stamp
- One year warranty

#### Indicators

- 2-line, 16-character LCD with bright LED backlit display
- Red fault LED
- Green system operational LED

#### Standard Alarms

- AC power failure
- Charger fault
- High DC voltage
- Low DC voltage
- Positive ground fault
- Negative ground fault
- High DC voltage shutdown
- Battery discharged alarm
- Ground fault alarms can be disabled for grounded systems

# SLRd

## Battery charger rating, heat loss \*, size and weight data \*\*

AMP RATING	24VDC				48VDC				120VDC			
	HEAT LOSS (BTU/HR)	CAB STYLE	WEIGHT (KG)	WEIGHT (LBS)	HEAT LOSS (BTU/HR)	CAB STYLE	WEIGHT (KG)	WEIGHT (LBS)	HEAT LOSS (BTU/HR)	CAB STYLE	WEIGHT (KG)	WEIGHT (LBS)
6	116	Wall	42	93	200	Wall	44	96	390	Wall	65	144
12	230	Wall	43	95	400	Wall	44	98	780	Wall	66	146
16	305	Wall	44	97	530	Wall	52	114	1030	Wall	77	169
20	385	Wall	45	99	660	Wall	53	116	1300	Wall	78	172
25	490	Wall	48	105	850	Wall	73	160	1660	Floor	113	250
30	575	Wall	49	107	990	Wall	74	163	1950	Floor	115	253
40	765	Floor	91	201	1320	Floor	133	293	2590	Floor	193	425
50	955	Floor	92	203	1650	Floor	134	296	3230	Floor	194	428

\* Heat loss is stated for normal number of cells, floating voltage and 100% rated current. \*\* Weights are approximate.

## Cabinet Dimensions

CABINET STYLE	DIMENSIONS IN millimeters			DIMENSIONS IN inches		
	Height	Width	Depth	Height	Width	Depth
Wall	686	397	356	27	15 5/8	14
Floor	1067	543	422	42	21 3/8	16 5/8

## Model Numbers

Specify Charger Model No.: **SLRd-VVV-AAA-XX**

where **VVV** is the DC voltage (024, 048, or 120)

**AAA** is the DC current (006 to 050)

**XX** is the level of filtering. Use «**F**» for the standard filter. Use «**FE**» for eliminator.

# SLRd

## BATTERIES

Alcad battery ranges enable tailored solutions, optimized for individual applications and operating conditions. Alcad makes sizing, ordering and installation easy.

## SERVICE

Alcad offers the following services to support all industrial battery, and battery charger products:

- Consulting/Site Surveys
- Commissioning/Installation
- Removal/Disposal
- Training
- Maintenance
- Maintenance Contracts
- Capacity Testing
- Spare Parts
- Turnkey Solutions & Design
- Battery Project Management

For services please email:  
alcadfieldservices@alcad.com

Or fax request to:  
203-234-8255

Attention: SERVICE

# OPTIONS

- **0-99 hour automatic high-rate timer on AC failure**
- **0-99 hour automatic high-rate timer on DC current limit**
- **28-day auto equalize timer**
- **Load sharing with  $\pm 5\%$  accuracy**
- **Digital AC voltmeter**
- **Relay board with 8 individual relays for standard alarms (2A @ 250VAC, 2A @ 24VDC, 0.1A @ 150VDC)**
- **Battery temperature compensation (0.2% of DC voltage per °C) available with cable lengths of 25, 50, 100 & 200 feet**
- **Eliminator filter - reduces output ripple voltage with battery disconnected e.g. DC power supply**
- **Relay rack mounting brackets (wall cabinets only)**
- **Drip cap rated for NEMA 2 / IP21**
- **Export packing**
- **Factory acceptance / witness testing**
- **Production test data**
- **Certified production test data**
- **Extended warranty – an additional 1, 2 or 3 years**
- **On-site commissioning**
- **Burn-in testing for 8, 24, or 48 hours**



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Doc No SLRd 2007  
Edition: July 2007

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