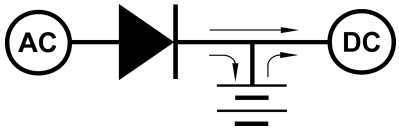
Station DC power reliability ensures a high station availability of mission-critical safety devices, controls, alarms, switchgear, instrumentation, inverters and railroad auxiliary DC power. **StatiVolt ® Rectifiers** are designed and built for decades of robust, industrial duty and field serviceability. These are combined and integrated with proven **VRLA** or **NiCd batteries** to provide on-line, self-contained, single vendor UPS solutions. Staticon has provided such systems for decades.



Charger Features

Reliability by Design

- Robust industrial duty
- Silicon diode rectifier stack
- Electronic + magnetic V regulation
- Failsafe, soft-switching, low noise
- Natural convection cooled

Regulated DC Power

- Constant V_{dc} charging & supply
- Minimal noise & ripple voltage

Protection

- Input & output circuit breakers
- Inherent surge rejection
- Transformer isolation
- Output current limiting
- Failsafe output V control

Versatile Functions & Options

- Input Power Factor Correction
- Timer Delayed Start-up
- Charge Functions & Options
- Digital PLC Alarm Monitor
- Digital Multi-Function Power Meter
- Alarm / Annunciation Options
- Special Utility Options
- Tropical / Marine / Fungus Proofing

DC UPS Features

Vdc	Rectifier I_{dc} Amps	Battery Max. Ah *	% Eff
24	15-150	760	75
48	15-100	760	80
72	15-100	760	85
125	15-75	380	85

* Valve-regulated lead acid, 12 V blocks

DC UPS System Solutions

- Simple, parallel rectifier operation
- Rectifiers + Battery + Distribution
- Batteries sized per IEEE 485 / 1115
- Completely assembled and tested
- Breaker protected
- Single or double cabinets
- Total front access
- Optional battery monitoring
- Optional DC distribution breakers

Design & Test Standards

- CSA SPE-1000 inspected & approved
- Built to CSA C22.2 No. 107.1, 107.2
- Magnetics designed for Class H, 180°C
- Magnetics operate at < 125°C

Warranty

- 3 year system full warranty
- 30 year design life
- 20 year charger parts & service availability
- 5 year VRLA battery full warranty
- 5 year VRLA battery pro-rated warranty
- 5 year NiCd battery full warranty
- 20 year NiCd battery pro-rated warranty

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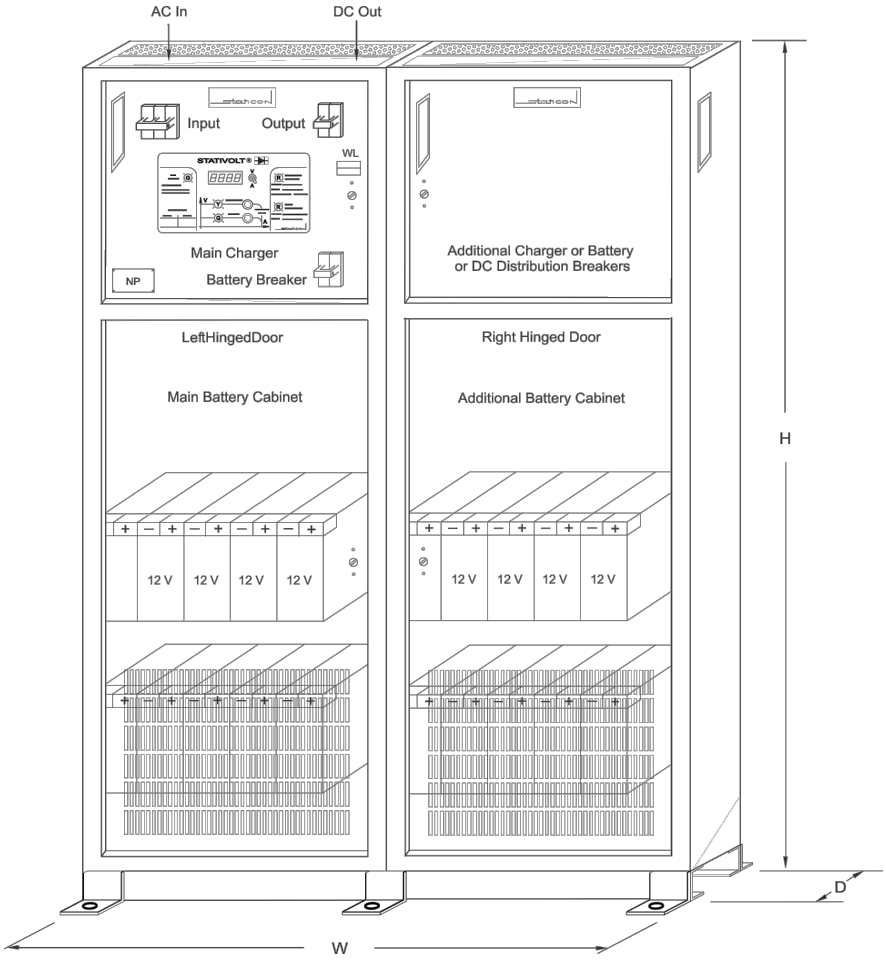
DC UPS Systems



Rectifier DC V	Rectifier DC A	Max. Battery Ah (VRLA)	No. of Cabinets	Dimensions mm (in) H	W	D	Mass kg (lbs)
24	**15-75**	380	1	1600 (63)	762 (30)	762 (30)	450 (990)
24	**100-150**	760	1	1905 (75)	762 (30)	762 (30)	750 (1650)
48	**15-50**	380	1	1600 (63)	762 (30)	762 (30)	650 (1430)
48	**75-100**	380	1	1905 (75)	762 (30)	762 (30)	750 (1650)
48	**75-100**	760	2	1905 (75)	1524 (60)	762 (30)	1380 (3036)
72	**15-25**	190	1	1600 (63)	762 (30)	762 (30)	580 (1276)
72	**50-100**	380	1	1905 (75)	762 (30)	762 (30)	990 (2178)
72	**50-100**	760	2	1905 (75)	1524 (60)	762 (30)	1860 (4092)
125	**15-25**	125	1	1600 (63)	762 (30)	762 (30)	580 (1276)
125	**15-75**	190	1	1905 (75)	762 (30)	762 (30)	870 (1914)
125	**15-75**	380	2	1905 (75)	1524 (60)	762 (30)	1620 (3564)

Standard Sheet Steel Cabinets

NEMA 1 (IEC 60529 IP 20)
Front access via doors
14 gage side panels
10 gage component mounts
Sheet steel between charger & battery
Front & back panel ventilation
Powder coated baked enamel

Cabinet Options

NEMA 2, IEC60529 IP22 drip shield
Zinc rich powder coat paint primer
Epoxy powder coat / baked paint
Key-lockable door handles

Installation

Top or bottom cable entry
Required Ventilation Clearance:
152 mm (6 in) side / rear
152 mm (6 in) rear / top

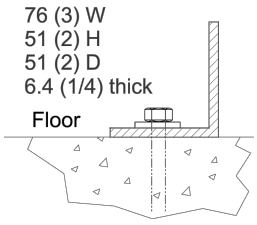
VRLA Battery

12 V blocks (6 cells); 15 year life
5 yr full + 5 yr pro-rated warranty

NiCd Battery

1.2 V cells; 25 year life
5 yr full + 20 yr pro-rated warranty

Floor Anchor Angle



Notes

Sizes may vary for certain options
Add 152 (6) to height for drip shield
All dimensions in **mm** (**inches**)
Drawing is not to scale

DC UPS Capacity Sizing

Staticon will size batteries in accordance with IEEE Std 485 – Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications, or IEEE Std 1115 – Recommended Practice for Sizing Nickel-Cadmium Batteries for Stationary Applications. Staticon will size chargers in accordance with IEEE Std 946 – Recommended Practice for the Design of DC Auxiliary Power Systems for Generating Stations.

IEEE Std 485 (VRLA) or IEEE 1115 (NiCd), Project Battery Load Profile for Battery Capacity Sizing

Load Period	Nom V	Load W	Min V	Load A	Duration (min)	Battery Ah Removed	Description
1							
2							
3							
						Q =	Total discharge duration & capacity Ah

Temperature Correction Factor: _____ (__ °C) from customer

Design Margin: ____ from customer

Aging Factor: 1.25 IEEE de-facto standard

A proper IEEE sizing chart will accompany each quoted, sized battery system, based on the above information.

IEEE Std 946, Charger Ampere Output Rating

Total Ah Removed : Q = P1 Ah + P2 Ah + P3 Ah + … Ah = _____ Ah

Max. Continuous DC Load : I_{LC} = _____ W / __ V float = _____ A

Max. Non-continuous DC Load : I_{LN} = QR / T = (_____ Ah x ___) / __ h = _____ A (battery charging)

Required Charger Size : $I_{DC} = I_{LC} + I_{LN}$ = _____ A use ____ A charger(s)

Q = Battery Ah removed I_{LC} = Max. continuous DC loads I_{LN} = Max. non-continuous load (battery charging)

R = Battery charge factor = 1.1 (VRLA) or 1.3 (NiCd) T = Required battery recharge time

This charger sizing information is included in each DC UPS quotation.