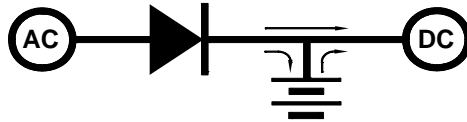


Station DC power reliability ensures a high station availability of mission-critical safety devices, controls, alarms, switchgear, instrumentation, PLCs and inverters. StatiVolt Rectifiers are designed and built for decades of robust, industrial duty and field serviceability. Over 40 years of their sales and applications to batteries and critical DC loads is testimony to their reliability.



Features

Reliability by Design

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

Regulated DC Power

- Constant V battery charging & supply
• Minimal noise & ripple voltage
• Remote sensing built-in

Protection

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

Versatile Functions & Options

- Input Power Factor Correction
• Extra Wide Input V Range
• AC Input / Start Delay Timer
• Battery Charge Functions
• Battery Charge Options
• Alarm / Annunciation Options
• Distribution Breakers
• Special Utility Options
• Tropical / Humidity Proofing

DC System Capability

- Simple, parallel rectifier operation
• Rectifier(s) + Battery + Distribution
• Total, single-vendor DC power solutions



Table with columns: DC Amps, AC In, Cabinet Style, DC Power (kW) at 12V, 24V, 48V, 120V, 240V. Rows include various amp ratings (5 to 1200) and cabinet styles (W, B, F).

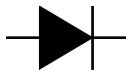
Warranty & Service

- 2 year comprehensive warranty
• 5 year major component warranty
• 25 year design life, easily field-serviced

Contents

Specifications 2
1Ø Cabinets 3
3Ø Cabinets 4
Model Numbers, Options 5





Specifications

Power Conversion Design

- Transformer input (60 or 50 Hz)
- Full-wave, silicon diode rectifier
2 pulse conversion (1Ø)
6 pulse conversion (3Ø, 50-150 A)
12 pulse conversion (3Ø, 200-1200 A)
- Soft switching, low noise

Output Control

- Closed-loop, negative feedback control
- Analog circuitry (no digital electronics)
- High speed electronic V sensing
- FET based voltage-to-current control
- Failsafe, magnetic shunt regulation

Steady-State V Regulation

- ±0.5% (full load, ±10% ACV, ±5% ACf)

Output V Range

- Nominal V +20% for float / equalize V

Dynamic V Response

- ±5% for 50% step-loads (battery load)
- Recovery in 3-6 cycles (50-100 ms)

Output Ripple Voltage

- ≤ 1% rms (on resistive load)
- ≤ 0.5 % rms (on typical battery)

Parallel Rectifier Operation

- Load sharing within 10% unit I_{DC}

Charge Functions & Options

- Choose from 4 functions
- Choose from 3 options

Annunciation & Meters

- Standard annunciation & meters:
 - AC Normal green LED
 - General Fail red LED, contacts
 - Float / Equal green / yellow LEDs
 - V+A Meter digital, 1% accuracy
- Choose from 8 alarm / meter options
- Contacts are form 'C' contacts rated:
 - 10 A @ 120 V_{AC} , 5 A @ 30 V_{DC}

Full Load Efficiency (%)

DC Amps	AC	12 V	24 V	48 V	120 V	240 V
5	1Ø				82	83
15	1Ø	66	76	81	83	84
25	1Ø	67	77	82	84	85
50	1Ø	69	79	84	86	
75-100	1Ø	70	80	85		
150	1Ø	70				
50	3Ø				90	90
75	3Ø			90	90	90
100-800	3Ø		85	90	91	92
1000-1200	3Ø		85	90	91	

In-Rush & Input power Factor

- In-rush I = 3x full load A for 1-3 cycles
- Input PF ≈ 0.80 (PF ≥ 0.90 optional)

Input Harmonic Distortion

- Full load V THD is < 3%, I THD is:
 - ≈ 15% (3Ø units), 35% (1Ø units)

Audible Noise

- 55-65 dBA (at 1 m, rating dependent)

Cabinets

- EEMAC / NEMA type 1, per CSA
- Front accessible, side / top cable entry
- 14 / 10 gage steel panels / mounts
- Powder coated, baked enamel finish

Environmental Requirements

- Natural convection cooled, top, side, rear clearances required for air flow.
- -20°C to +40°C continuous operation
- RH < 95% non-condensing

Reliability

- MTBF is 300 k hrs (1Ø), 200 k hrs (3Ø)
- MTRR is 1 hour (spares on / near site)

Design & Test Standards

- CSA certified (C22.2 No. 107.1, 107.2)
- Generally per NEMA, ANSI, IEEE, IEC
- Magnetics operate at max. 125°C
- Magnetics designed for Class 220°C

Protection

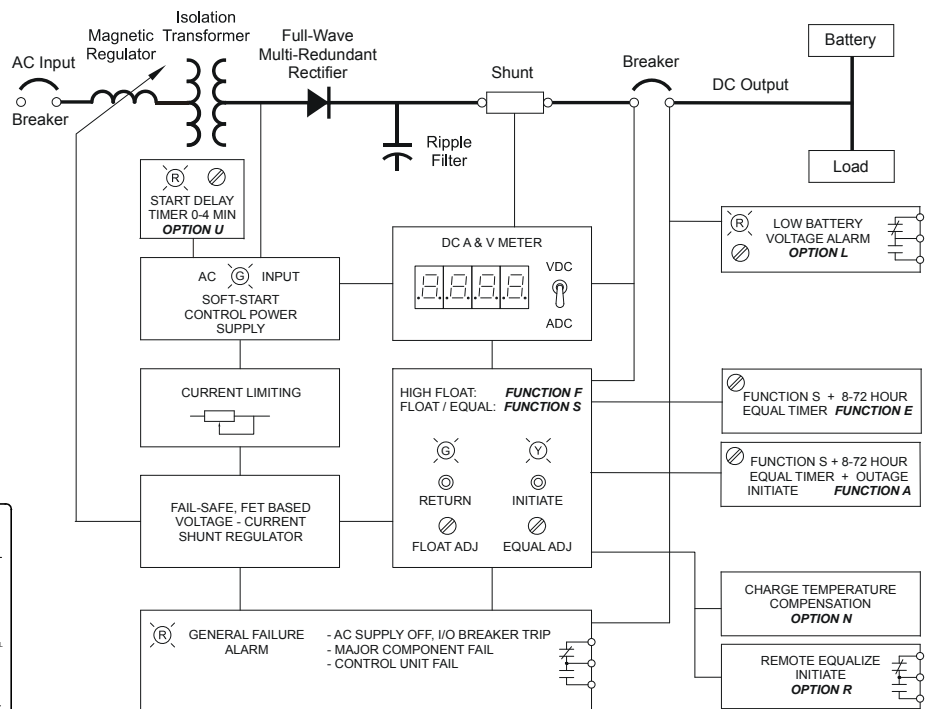
- AC breaker rated I ≈ 1.5 x full load I_{AC}
- DC breaker rated I ≈ 1.5 x full load I_{DC}
- Input transformer, electrical isolation
- I² t breaker coordinated diode arrays
- Failsafe I limit set at 120% of rated I_{DC}
- Optional charge I limit to 20 A / 100 AH

Surge Tolerance

- Inherent, inductive surge tolerance is 4 kV (1Ø) & 6 kV (3Ø) peak for 8 ms
- Withstands ANSI / IEEE C62.41 (IEC 6080-4) standard surge V waveforms

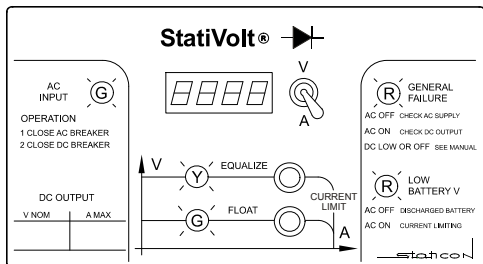
Electromagnetic Interference

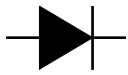
- Conducted / radiated EMI within CSA C108.8 & FCC Part 15 Class B limits



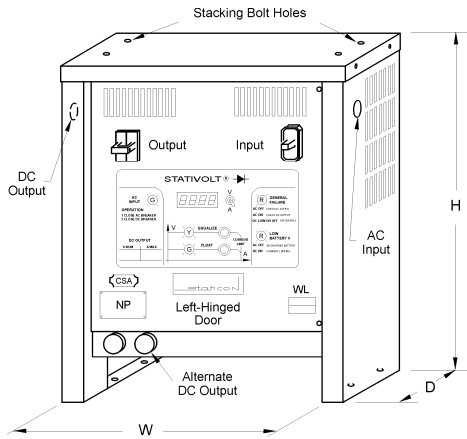
Control Label

Single-Line Diagram with Control Functions

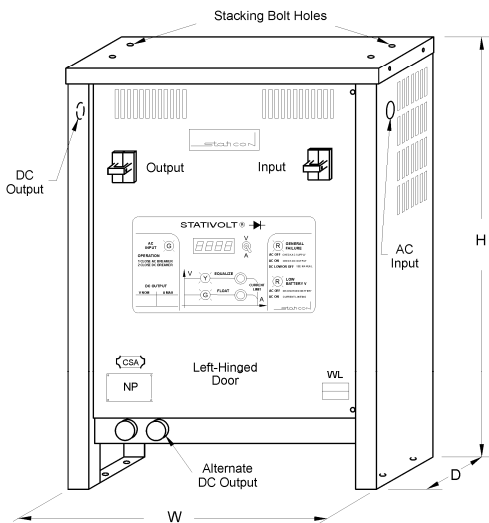




1Ø Standard Cabinets



Wall / Bench Mount Cabinet (W) Stackable



Bench / Floor Mount Cabinet (B) Stackable

Notes

Actual systems may vary from these cabinet standards according to job-specific options or custom features.

All dimensions in mm (inches). Drawings are not to scale.

Nominal DC V	Input A	Style	Dimensions H	Dimensions mm (in)		Weight kg (lb)
				W	D	

12	15	1Ø	W	610 (24)	508 (20)	381 (15)	35 (77)
12	25	1Ø	W	610 (24)	508 (20)	381 (15)	40 (88)
12	50	1Ø	W	610 (24)	508 (20)	381 (15)	60 (132)
12	75	1Ø	W	610 (24)	508 (20)	381 (15)	70 (154)
12	100	1Ø	W	610 (24)	508 (20)	381 (15)	80 (176)
12	150	1Ø	B	762 (30)	559 (22)	508 (20)	90 (198)

24	15	1Ø	W	610 (24)	508 (20)	381 (15)	50 (110)
24	25	1Ø	W	610 (24)	508 (20)	381 (15)	60 (132)
24	50	1Ø	W	610 (24)	508 (20)	381 (15)	70 (154)
24	75	1Ø	W	610 (24)	508 (20)	381 (15)	80 (176)
24	100	1Ø	B	762 (30)	559 (22)	508 (20)	110 (243)

48	15	1Ø	W	610 (24)	508 (20)	381 (15)	70 (154)
48	25	1Ø	W	610 (24)	508 (20)	381 (15)	80 (176)
48	50	1Ø	W	610 (24)	508 (20)	381 (15)	105 (232)
48	75	1Ø	B	762 (30)	559 (22)	508 (20)	130 (287)
48	100	1Ø	B	762 (30)	559 (22)	508 (20)	140 (309)

120	5	1Ø	W	610 (24)	508 (20)	381 (15)	60 (132)
120	15	1Ø	W	610 (24)	508 (20)	381 (15)	90 (198)
120	25	1Ø	B	762 (30)	559 (22)	508 (20)	120 (265)
120	50	1Ø	B	762 (30)	559 (22)	508 (20)	155 (342)

240	5	1Ø	W	610 (24)	508 (20)	381 (15)	80 (176)
240	15	1Ø	B	762 (30)	559 (22)	508 (20)	125 (276)
240	25	1Ø	B	762 (30)	559 (22)	508 (20)	155 (342)

Construction

NEMA type 1 cabinets. Front access. 14 gage steel panels. 10 gage mounting channels. Standard finish is ASA 61 grey, powder coated, baked enamel.

Installation

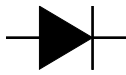
Top / side cable entry.

Required Ventilation Clearance:

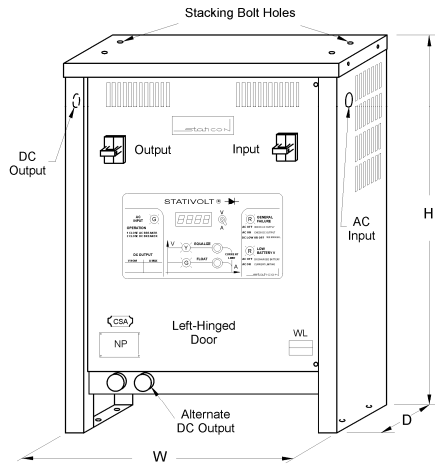
W Cabs: 102 (4) side / rear.

B Cabs: 152 (6) side / rear.

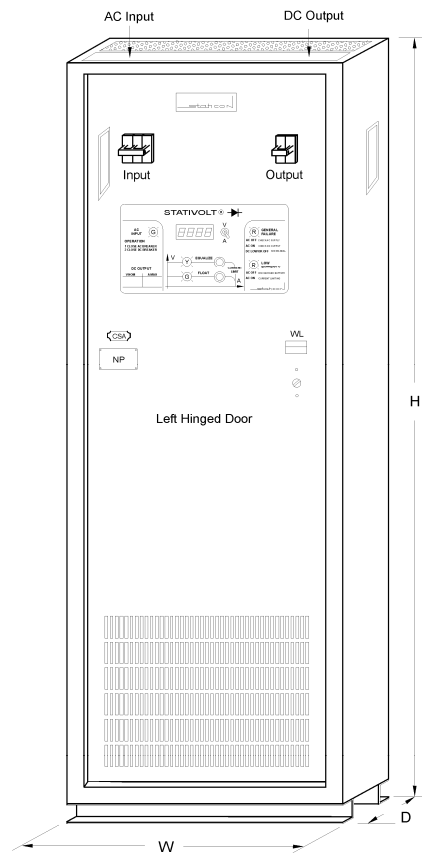




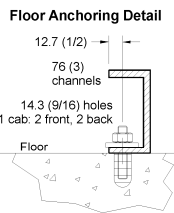
3Ø Standard Cabinets



Bench / Floor Mount Cabinet (B) Stackable



Floor Mount Cabinet (F)



Construction

NEMA type 1 cabinets. Front access.
 14 gage steel panels.
 10 gage mounting channels.
 Standard finish is ASA 61 grey, powder coated, baked enamel.

Notes

Actual systems may vary from these cabinet standards according to job-specific options or custom features.
 All dimensions in mm (inches).
 Drawings are not to scale.

Installation

Top / side cable entry.
 Required Ventilation Clearance:
 B Cabs: 152 (6) side / rear.
 F Cabs: 305 / 610 (12 / 24) rear / top.

Nominal DC V	Input A	Style	Dimensions H	W	mm (in) D	Weight kg (lb)
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24	100	3Ø	B	762 (30)	559 (22)	508 (20)	115 (255)
24	150	3Ø	B	762 (30)	559 (22)	508 (20)	175 (386)
24	200	3Ø	F	1600 (63)	610 (24)	610 (24)	250 (551)
24	300	3Ø	F	1600 (63)	610 (24)	610 (24)	300 (661)
24	400	3Ø	F	1600 (63)	610 (24)	610 (24)	350 (772)
24	500	3Ø	F	1905 (75)	610 (24)	610 (24)	400 (882)
24	600	3Ø	F	1905 (75)	610 (24)	610 (24)	450 (992)
24	800	3Ø	F	1905 (75)	610 (24)	610 (24)	540 (1191)
24	1000	3Ø	F	1905 (75)	762 (30)	762 (30)	680 (1499)
24	1200	3Ø	F	1905 (75)	762 (30)	762 (30)	820 (1808)

48	75	3Ø	B	762 (30)	559 (22)	508 (20)	155 (342)
48	100	3Ø	B	762 (30)	559 (22)	508 (20)	180 (397)
48	150	3Ø	F	1600 (63)	610 (24)	610 (24)	270 (595)
48	200	3Ø	F	1600 (63)	610 (24)	610 (24)	330 (728)
48	300	3Ø	F	1600 (63)	610 (24)	610 (24)	440 (970)
48	400	3Ø	F	1600 (63)	610 (24)	610 (24)	475 (1047)
48	500	3Ø	F	1905 (75)	610 (24)	610 (24)	500 (1102)
48	600	3Ø	F	1905 (75)	610 (24)	610 (24)	560 (1235)
48	800	3Ø	F	1905 (75)	762 (30)	762 (30)	650 (1433)
48	1000	3Ø	F	1905 (75)	762 (30)	762 (30)	860 (1896)
48	1200	3Ø	F	1905 (75)	762 (30)	762 (30)	1030 (2271)

120	50	3Ø	B	762 (30)	559 (22)	508 (20)	215 (474)
120	75	3Ø	B	762 (30)	559 (22)	508 (20)	250 (551)
120	100	3Ø	F	1600 (63)	610 (24)	610 (24)	380 (838)
120	150	3Ø	F	1600 (63)	610 (24)	610 (24)	450 (992)
120	200	3Ø	F	1600 (63)	610 (24)	610 (24)	520 (1146)
120	300	3Ø	F	1600 (63)	610 (24)	762 (30)	660 (1455)
120	400	3Ø	F	1905 (75)	762 (30)	762 (30)	770 (1698)
120	500	3Ø	F	1905 (75)	762 (30)	762 (30)	950 (2094)
120	600	3Ø	F	1905 (75)	762 (30)	762 (30)	1050 (2315)
120	800	3Ø	F	1905 (75)	914 (36)	914 (36)	1200 (2646)
120	1000	3Ø	F	1905 (75)	914 (36)	914 (36)	1350 (2976)
120	1200	3Ø	F	2057 (81)	914 (36)	914 (36)	1620 (3571)

240	50	3Ø	F	1600 (63)	610 (24)	610 (24)	300 (661)
240	75	3Ø	F	1600 (63)	610 (24)	610 (24)	330 (728)
240	100	3Ø	F	1600 (63)	610 (24)	610 (24)	520 (1146)
240	150	3Ø	F	1905 (75)	610 (24)	610 (24)	630 (1389)
240	200	3Ø	F	1905 (75)	762 (30)	762 (30)	730 (1609)
240	300	3Ø	F	1905 (75)	762 (30)	762 (30)	1050 (2315)
240	400	3Ø	F	1905 (75)	762 (30)	762 (30)	1200 (2646)
240	500	3Ø	F	1905 (75)	762 (30)	762 (30)	1350 (2976)
240	600	3Ø	F	1905 (75)	762 (30)	762 (30)	1620 (3571)
240	800	3Ø	F	2057 (81)	914 (36)	914 (36)	2160 (4762)
240	1000	3Ø	F	2057 (81)	914 (36)	914 (36)	2700 (5952)



