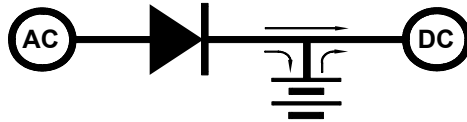


Station DC power reliability ensures a high station availability of mission-critical safety devices, controls, alarms, switchgear, instrumentation, PLCs and inverters. StatiVolt Rectifiers are designed and built for decades of robust, industrial duty and field serviceability. Over 40 years of their sales 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 AC Input V Range
• AC Input / Start Delay Timer
• Soft Walk-In Startup
• Charge Functions & Options
• Alarm / Annunciation Options
• Distribution Breakers
• Special Utility Options
• Tropical / Humidity / Fungus Proofing
• Seismic Anchor L Brackets

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, 125V, 250V. Rows include various amp ratings (5 to 1200) and cabinet styles (W, B, F).

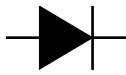
Warranty & Service

- 3 year full warranty
• 20 years parts & service available
• 30 year design life

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Specifications

Power Conversion Design

- Transformer input (60 or 50 Hz)
- Full-wave, silicon diode rectifier
- 2 pulse conversion (1Ø)
- 6 pulse conversion (3Ø, 7-50 kW)
- 12 pulse conversion (3Ø, 50-230 kW)
- 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

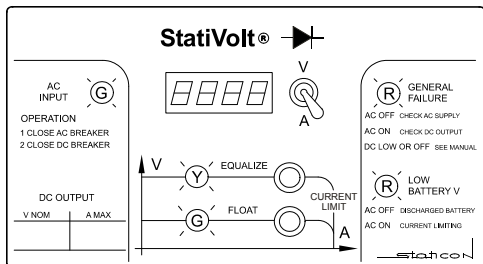
- Load sharing within 10% unit I_{DC}

Charge Functions & Options

- Choose from 4 charge functions
- Choose from 3 charge 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 9 alarm, 2 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	125 V	250 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	

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
- I²t 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

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, 12 pulse), 25% (3Ø, 6 pulse), 45% (1Ø)

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

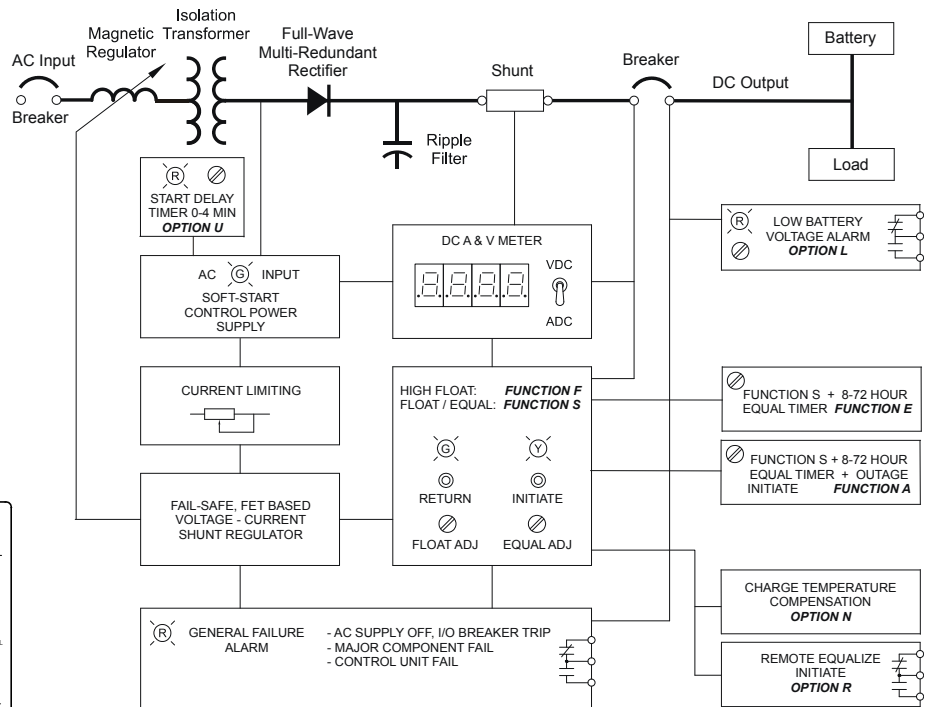
- Natural convection cooled
- -20°C to +40°C continuous operation
- RH < 95% non-condensing

Reliability

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

Design & Test Standards

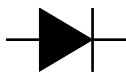
- CSA certified (C22.2 No. 107.1, 107.2)
- Generally per NEMA, ANSI, IEEE, IEC
- Magnetics designed for Class 220°C
- Magnetics operate at < 125°C



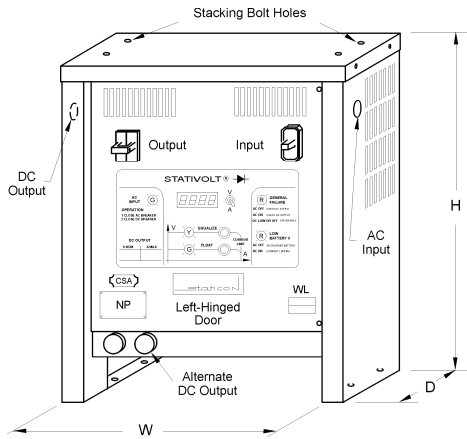
Control Label

Single-Line Diagram with Control Functions

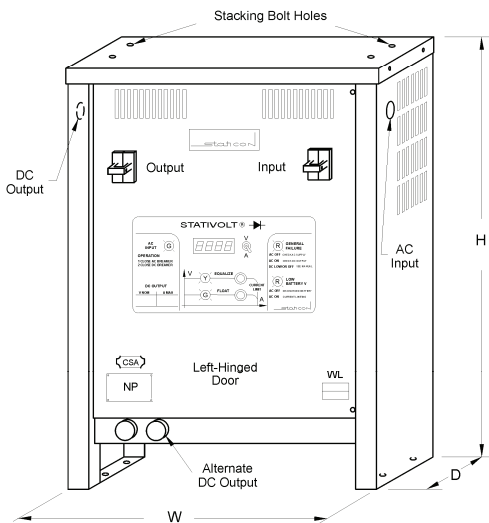




1Ø Standard Cabinets



Wall / Bench Mount Cabinet (W) Stackable



Bench / Floor Mount Cabinet (B) Stackable

Cabinet Options

- NEMA 2 / IEC 60529 IP22 drip shield.
- Zinc rich powder coat paint primer.
- Epoxy powder coat / baked paint .

Notes

- Actual sizes may vary from these standards per certain options / custom features.
- All dimensions in **mm (inches)**.
- Drawings are not to scale.

Standard Steel Cabinets

- NEMA type 1. Front access..
- 14 gage steel sides. Structural mounts.
- ASA 61 grey, powder coated enamel.

Installation

- Top / side cable entry.
- Required Ventilation Clearance:
- W Cabs: 102 (4) side / rear.
- B Cabs: 152 (6) side / rear.

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)

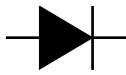
24	15	1Ø	W	610 (24)	508 (20)	381 (15)	50 (110)
24	25	1Ø	W	610 (24)	508 (20)	381 (15)	60 (132)
24	50	1Ø	W	610 (24)	508 (20)	381 (15)	70 (154)
24	75	1Ø	W	610 (24)	508 (20)	381 (15)	80 (176)
24	100	1Ø	B	762 (30)	559 (22)	508 (20)	110 (243)

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)

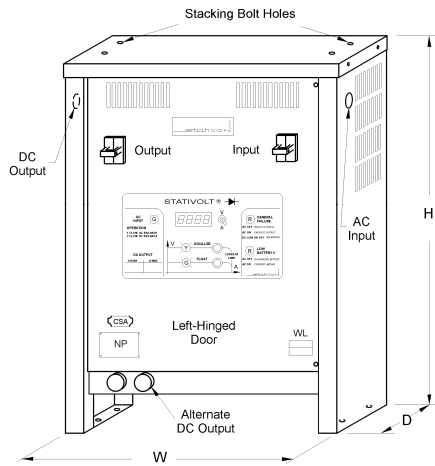
120	5	1Ø	W	610 (24)	508 (20)	381 (15)	60 (132)
120	15	1Ø	W	610 (24)	508 (20)	381 (15)	90 (198)
120	25	1Ø	B	762 (30)	559 (22)	508 (20)	120 (265)
120	50	1Ø	B	762 (30)	559 (22)	508 (20)	155 (342)
120	75	1Ø	B	762 (30)	559 (22)	508 (20)	232 (512)

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)

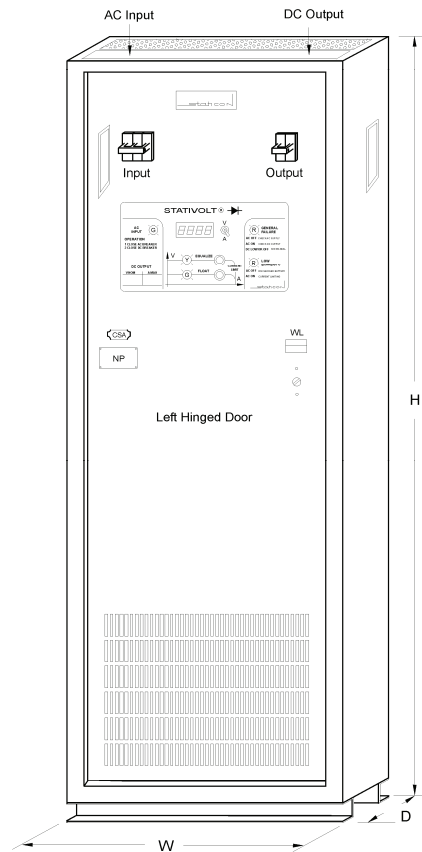




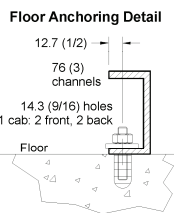
3Ø Standard Cabinets



Bench / Floor Mount Cabinet (B) Stackable



Floor Mount Cabinet (F)



Standard Steel Cabinets

NEMA type 1. Front access. 14 gage steel sides. Structural mounts. ASA 61 grey, powder coated enamel.

Cabinet Options

NEMA 2 / IEC 60529 IP22 drip shield. Zinc rich powder coat paint primer. Epoxy powder coat / baked paint .

Installation

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

Notes

Actual sizes may vary from these standards for certain options. All dimensions in mm (inches). Drawings are not to scale.

Table header with columns: Nominal DC V, Input A, Style, Dimensions H, W, D (mm and in), Weight kg (lb)

Table listing specifications for 3Ø cabinets with nominal DC voltages from 24V to 1200V.

Table listing specifications for 3Ø cabinets with nominal DC voltages from 48V to 1200V.

Table listing specifications for 3Ø cabinets with nominal DC voltages from 120V to 1200V.

Table listing specifications for 3Ø cabinets with nominal DC voltages from 240V to 1000V.



