

# Power Series Transfer Switch

1,000 – 5,000 Amps

Service Entrance Rated · Bypass Isolation · Power Frame Type · Closed Transition

- Bypass Isolation Transfer Switch, 100% Service Entrance Rated
- 1,000 – 5,000 A, up to 600 VAC, 50/60 Hz
- 3 or 4 Poles
- NEMA 1 or 3R
- Closed Transition
- UL1008 Listed
- CSA C22.2 No. 178 Certified



Image used for illustration purposes only

## Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.



UL 1008 Listed



CSA C22.2 No. 178 Certified



NFPA 37, 70, 99, 110



NEC 700, 701, 702, 708



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41



IEC 61000 EMC Testing and Measuring



IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

## Description

Generac's Service Entrance Bypass Isolation, Power Frame Type Transfer Switch integrates automatic power switching with required disconnecting, grounding, and bonding for use as service entrance equipment. The integrated service entrance power switch meets all National Electrical Code requirements for service entrance use in a compact package. The switches are rated for full load transfers in critical operating, emergency, legally required, and optional power systems. Designed with integral overcurrent protection and a 100% rated disconnect breaker for unmatched safety, performance, and reliability. The full assembly is listed to UL 1008 with exceptional 3 cycle withstand and close on ratings.

Generac's Bypass, Power Frame Type Transfer Switch has short time ratings for selective coordination and a high speed switching time of < 3 cycles to minimize the effect of power disturbances. The power switching devices are interchangeable between the ATS and Bypass. The switching mechanism is enabled for safe manual transfer under load. With integral contact wear indication, preventative maintenance can be scheduled when convenient for the user ensuring maximum uptime. System parameters can be uploaded with a USB drive in moments, minimizing installation time.

The control's 4.3 inch color display and mimic bus diagram simplifies programming, routine operation, data presentation, and setting adjustments. The intuitive, grouped data screens along with the supervisory and highly customizable data acquisition allow the user to configure to their needs. Standard features include Modbus® RTU, extensive user customizable input/outputs, 450 event log with capture for the most recent 12 events, plus three phase sensing on both sources, plus load for voltage, frequency, sequencing, loss, and unbalance.

An automatic closed transition transfer switch (make-before-break) requires the normal and emergency sources to be synchronized. The controller monitors the voltage and frequency of both power sources with an anticipatory algorithm; phase angles must be within 8 electrical degrees. A synchronization timer is initiated (TSCT, 1-60 min adjustable) to complete the transfer and parallels 100ms or less. The switch will operate in open transition mode if there is a fail to transfer in closed transition, and a Closed Transition Fail error will be displayed.

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## STANDARD FEATURES

### GENERAL

- Single Motion Rack-out with Doors Closed
- Front Access
- Cable Entry is Side, Rear, Top, and Bottom
- Drawout Design
- Isolated Compartments for Improved Safety
- Mimic Diagram with Source Available and Connected LED Indication
- Field-Selectable Multi-tap Transformer Panel Permits Operation on a Wide Range of System Voltages
- Event Logging and Recording 450 Time-Stamped Events
- System TEST Pushbutton
- Programmable Plant Exerciser
- Modbus® RTU
- ATC-900 Controller
- Operating Temperature -4 ° to 158 °F (-20 ° to 70 °C)

### VOLTAGE AND FREQUENCY SENSING

- Three Phase Under and Over Voltage Sensing on Normal and Emergency Sources, Plus Load
- Under and Over Frequency Sensing on Normal, Emergency, and Load
- Three Phase Sequence Sensing for Phase Sensitive Loads
- Three Phase Voltage Unbalance and Loss Sensing

### CONTACTS

- Source Available:
  - Source-1 Present, 1-N.O. and 1-N.C.
  - Source-2 Present, 1-N.O. and 1-N.C.
- Switch Position:
  - Source-1 Position, 1-N.O. and 1-N.C.
  - Source-2 Position, 1-N.O. and 1-N.C.

### STANDARD CONTROL PARAMETERS

- Up to 20 Parameters Available with Expandable Input/Output Modules

### CONTROL INPUTS (4 STANDARD)

- Monitor Mode
- Bypass Timers
- Lockout
- Manual Retransfer On/Off
- Manual Retransfer
- Slave In
- Remote Engine Test
- Preferred Source Selection
- Go to Emergency
- Emergency Inhibit
- ATS on Bypass
- Go to Neutral

### CONTROL OUTPUTS (4 STANDARD)

- Load Sequence
- Selective Load Shed
- Load Bank Control
- Pre/Post-Transfer
- Pre-Transfer
- User Remote Control
- Source 1 Available (Standard)
- Source 2 Available (Standard)
- Source 1 Connected
- Source 2 Connected
- ATS Not in Automatic
- General Alarm
- ATS in Test
- Engine Test Aborted
- Cooldown in Process
- Engine Start Contact Status
- Generator 1 Start Status
- Generator 2 Start Status
- Emergency Inhibit On
- ATS On Bypass

## CONFIGURABLE OPTIONS

### GENERAL

- Digital Multi-Function Power Quality Metering
- Ethernet Connectivity
- Remote Annunciator Panel with Control
- Remote Multi-Switch Annunciator Panel with Control
- 2 or 4 Position Selector Switch
- Transient Voltage Surge Suppression (TVSS)
- Padlockable Cover for Contoller
- Padlockable Cover for Device Panel
- Selectable Retransfer
- Manual Generator Retransfer

### SERVICE ENTRANCE RATED

For service entrance and other applications, Digitrip solid-state trip units can be integrated into the power switching section. This eliminates the need for separate upstream protective devices, saving cost and space. Available with various combinations of long, short time, instantaneous, ground fault protection and communications. *Contact factory for optional trip units, including trip units equipped with an Arc Flash Reduction Maintenance System.*

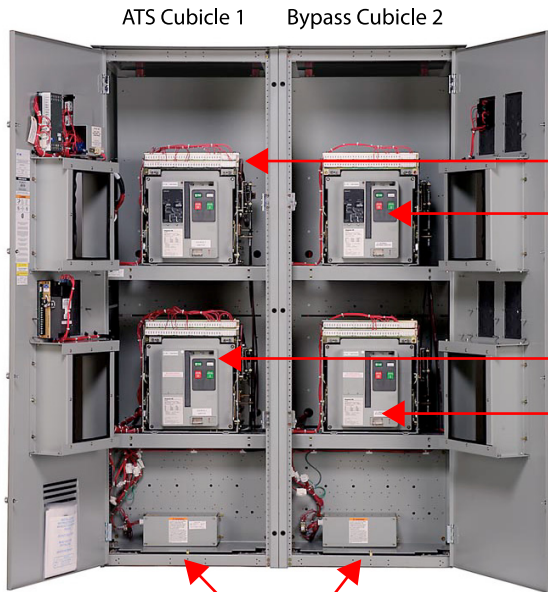
### CAM-LOK™ QUICK CONNECT TERMINALS

- Male Receptacle, E1016 Series
- Color Coded to Industry Standard
- Hinged Thermoplastic Covers
- 100% Ground Ampacity

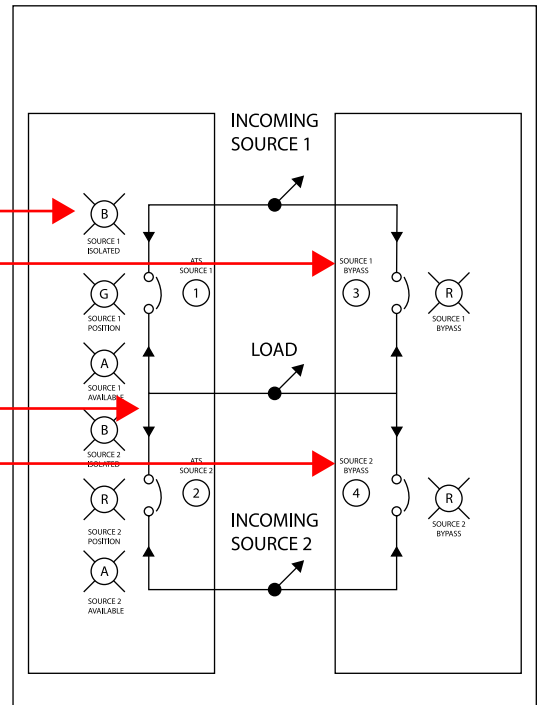
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Multi-Tap Transformer



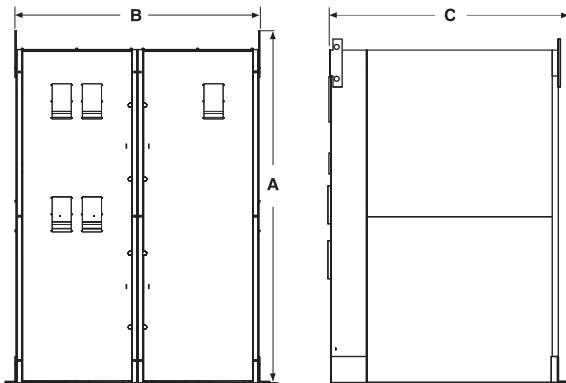
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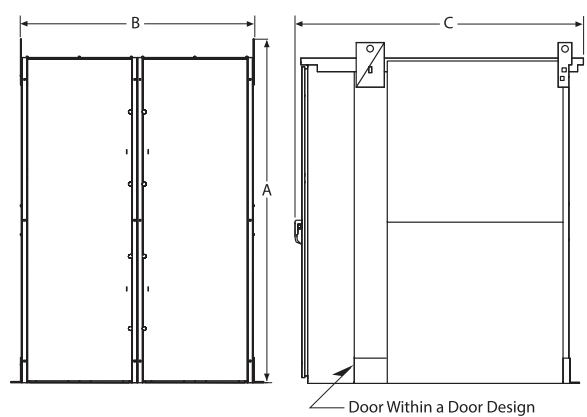
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## UNIT DIMENSIONS\*

200 - 3,200A Drawout NEMA 1



200 - 3,200A Drawout NEMA 3R



**Service Entrance Rated, Bypass Isolation, Power Frame, Closed Transition, 200 – 3,200 A, Drawout**

Amperes	Poles	Enclosure Type (NEMA)	in (mm)			Cu/Al		lbs (kg)
			A (Height)	B (Width)	C (Depth)	Load Side, Normal and Standby Source	Neutral Connection	Weight
1,000 - 2,000	3	1	90.0 (2,286)	64.0 (1,626)	60.0 (1,524)	(6) 1/0-750 MCM	(24) 4/0-500 MCM	3,100 (1,409)
		3R	90.0 (2,286)	64.0 (1,626)	75.0 (1,905)	(6) 1/0-750 MCM	(24) 4/0-500 MCM	4,100 (1,864)
	4	1	90.0 (2,286)	64.0 (1,626)	60.0 (1,524)	(6) 1/0-750 MCM	–	3,700 (1,682)
		3R	90.0 (2,286)	64.0 (1,626)	75.0 (1,905)	(6) 1/0-750 MCM	–	4,700 (2,136)
2,500 - 3,200	3	1	90.0 (2,286)	64.0 (1,626)	60.0 (1,524)	(9) 1/0-750 MCM	(36) 4/0-500 MCM	4,700 (2,136)
		3R	90.0 (2,286)	64.0 (1,626)	75.0 (1,905)	(9) 1/0-750 MCM	(36) 4/0-500 MCM	5,700 (2,591)
	4	1	90.0 (2,286)	64.0 (1,626)	60.0 (1,524)	(9) 1/0-750 MCM	–	5,500 (2,500)
		3R	90.0 (2,286)	64.0 (1,626)	75.0 (1,905)	(9) 1/0-750 MCM	–	6,500 (2,955)

For 4,000 and 5,000 A dimensions, please contact factory.

### UL 1008 Withstand and Closing Ratings

Ampere Rating	Rating When Used with Upstream Circuit Breaker	
	3 Cycle 600 V (kA)	30 Cycle 600 V (kA)
1,000	100	85
1,200	100	85
1,600	100	85
2,000	100	85
2,500	100	85
3,200	100	85
4,000	100	85
5,000	–	85 <sup>1</sup>

<sup>1</sup> UL 1066 short-time withstand rating

\* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings. Contact factory for dimensions on Cam-Lok™ option switches