

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

**Power Series Transfer Switch**

**200-5000 Amps**



Bypass Isolation Transfer Switch, 100% Service Entrance Rated  
200 – 5000A, up to 600VAC, 50/60 Hz  
3 or 4 poles  
NEMA 1 or 3R  
Closed Transition  
UL1008 Listed  
CSA C22.2 No. 178 Certified

**CODES AND STANDARDS:**



UL1008 Listed



NFPA 70, 99, 110, 37



NEC 700, 701, 702, 708



ISO9001, 8528, 3046, 7637, Pluses #2b, 4



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41



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



IEC 61000 EMC Testing & Measuring



CSA C22.2 No. 178 Certified

**DESCRIPTION:**

Generac's Service Entrance Power Series 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.

Typical bypass isolation switch controllers only control the ATS contactor. Generac's design allows the switch controller to remain active in both the ATS and bypass modes, thus providing control to either contactor. This ability of the controller to remain active and control the bypass isolation contactor provides "N+1" redundancy of a second fully functioning ATS.

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 3 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. If the TSCT times out and the transfer switch has not reached synchronization, the transfer switch will remain connected to the current Source, and a failure to transfer alarm will be displayed. The switch can also be configured to operate in open transition mode if there is a fail to transfer in closed transition.

## Service Entrance Rated, Bypass Isolation Power Frame Type, Closed Transition

### STANDARD FEATURES:

- Single motion rack-out with doors closed
- Front Access
- Entry is Top or Bottom
- Isolated Compartments for improved safety
- Dual ATS capability – Bypass contactor can be controlled by the ATS controller in the bypass mode of operation. The design allows the switch controller to remain active in both the ATS and Bypass modes, thus providing control to either contactor. This ability of the controller to remain active to control the Bypass isolation contactor provides “N+1” redundancy of a second fully functioning ATS.
- 4.3 inch Color Display
- 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

### VOLTAGE AND FREQUENCY SENSING:

- 3-Phase under and over voltage sensing on normal and emergency sources, plus load
- Under and over frequency sensing on normal, emergency, and load
- 3-Phase sequence sensing for phase sensitive loads
- 3-Phase voltage unbalance and loss sensing

### CONTACTS:

- Source available:
  - Source-1 Present, 2-N.O. & 2 N.C.
  - Source-2 Present, 2-N.O. & 2 N.C.
- Switch position:
  - Source-1 Position, 1-N.O. & 1-N.C.
  - Source-2 Position, 1-N.O. & 1 N.C.
- Pre Transfer Contacts: 1-N.O. & 1 N.C.

## Standard Control Parameters Available

### 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

*Up to 20 available with Expandable Input/Output Modules*

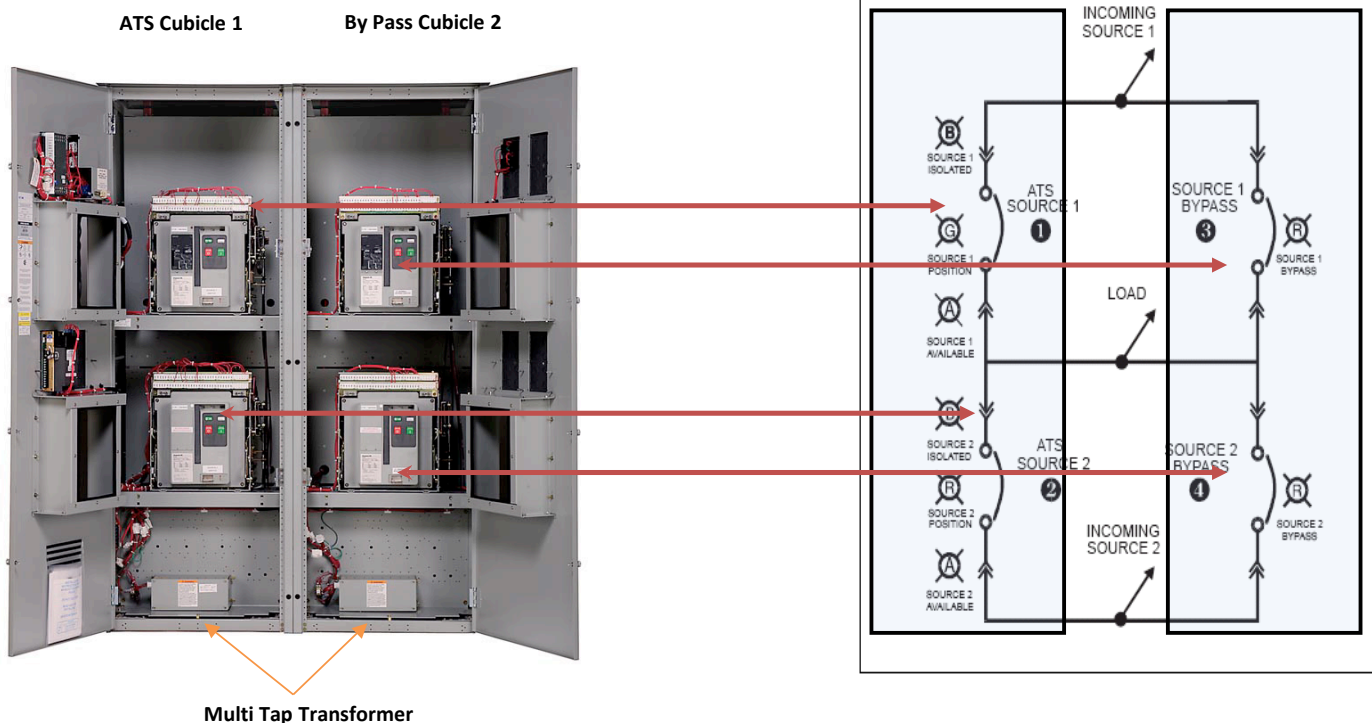
### OPTIONAL FEATURES:

- Dual Draw Out
- 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
- TVSS
- Stainless steel cover for controller
- 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.

# Service Entrance Rated, Bypass Isolation Power Frame Type, Closed Transition



## UL 1008 Withstand and Close-On Ratings as Listed (kA):

### Rating When Used with Upstream Circuit Breaker

Transfer Switch Ampere Rating	3-Cycle 600V (kA)	30-Cycle 600V (kA)
200–3200	100	85
4000	100	85 <sup>1</sup>
5000	—	85 <sup>1</sup>

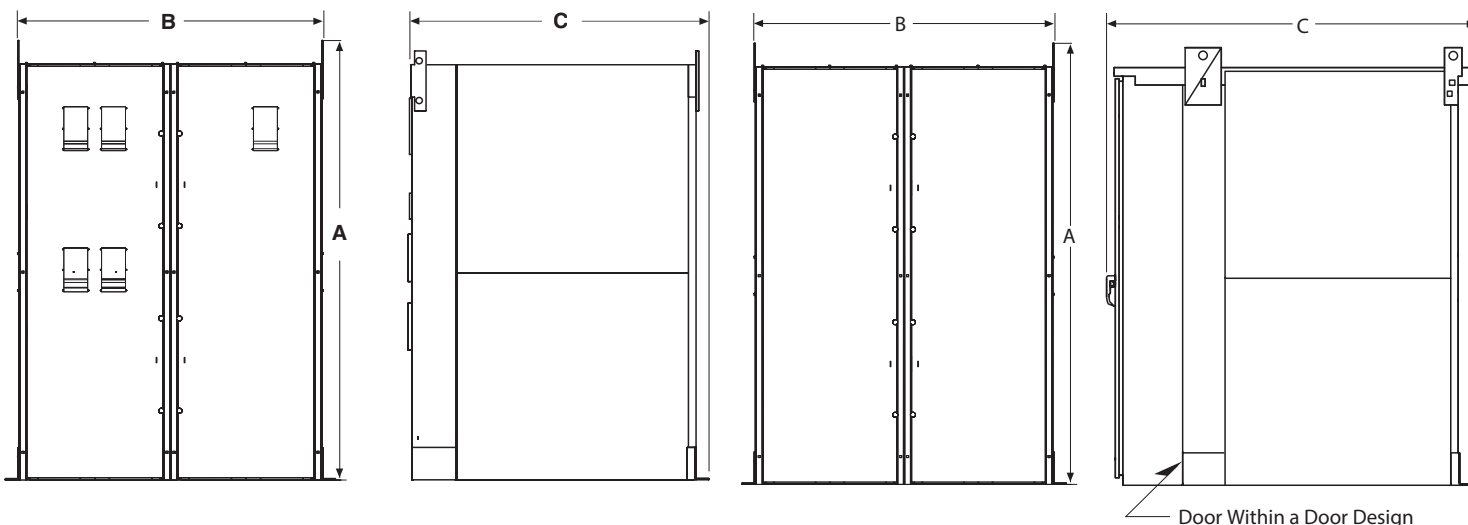
1. UL1066 short-time withstand rating.

# Service Entrance Rated, Bypass Isolation Power Frame Type, Closed Transition

## UNIT DIMENSIONS:

200–3200 Drawout/Single NEMA 1

200–3200 Drawout/Single NEMA 3R



### Bypass Isolation, Power Frame Drawout Transfer Switches

Approximate Dimensions in Inches (mm)

NEMA 1 Enclosed Drawout Transfer Switch					
Ampere Rating	Poles	Height A	Width B	Depth C	Shipping Weight Lbs (kg)
200–2000	3	90.00 (2286.0)	64.00 (1625.6)	60.00 (1524.0)	3100 (1409)
200–2000	4	90.00 (2286.0)	64.00 (1625.6)	60.00 (1524.0)	3700 (1682)
2500–3200	3	90.00 (2286.0)	64.00 (1625.6)	60.00 (1524.0)	4700 (2136)
2500–3200	4	90.00 (2286.0)	64.00 (1625.6)	60.00 (1524.0)	5500 (2500)

NEMA 3R Enclosed Drawout Transfer Switch					
Ampere Rating	Poles	Height A	Width B	Depth C	Shipping Weight Lbs (kg)
200–2000	3	90.00 (2286.0)	64.00 (1625.6)	75.00 (1905.0)	3700 (1682)
200–2000	4	90.00 (2286.0)	64.00 (1625.6)	75.00 (1905.0)	4300 (1955)
2500–3200	3	90.00 (2286.0)	64.00 (1625.6)	75.00 (1905.0)	5300 (2410)
2500–3200	4	90.00 (2286.0)	64.00 (1625.6)	75.00 (1905.0)	6000 (2730)

### Standard Terminals

Dual rated Cu/Al

Ampere Rating	Normal, Emergency and Load	Neutral
200–2000	(6) 3/0–750 MCM	(24) 4/0–500 MCM
2500	(9) 3/0–750 MCM	(30) 3/0–500 MCM
3200	(9) 3/0–750 MCM	(30) 3/0–500 MCM

\*For 4000 and 5000A dimensions, please contact factory.