

**Bypass Isolation
Contactor Type
Closed Transition**

Power Series Transfer Switch

100-1200 Amps



Bypass Isolation Transfer Switch
 100 – 1200A, 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 Bypass Isolation Contactor transfer switches are double-throw with an over center design to ensure safe, positive transfer between power sources. The switches are 3 cycle rated to ease breaker selection and coordination. The mechanism is field proven and operated via a reliable, compact solenoid for high speed transfer of loads between power sources. The contacts are silver composite for long life, resisting pitting or burning. The switches are rated for full load transfers in critical operating, emergency, legally required, and optional power systems.

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, with 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.

Power Series, Bypass Isolation, Contactor Type, Closed Transition

STANDARD FEATURES:

- Double-throw, solenoid-operated transfer mechanism
- Isolated Compartments for improved safety
- Entry is top and/or bottom
- Single motion rack-out with doors closed
- 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.
- Field-selectable multi-tap transformer panel permits operation on a wide range of system voltages
- Mimic diagram with Source Available and Connected LED indication
- 4.3 inch Color Display
- 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):

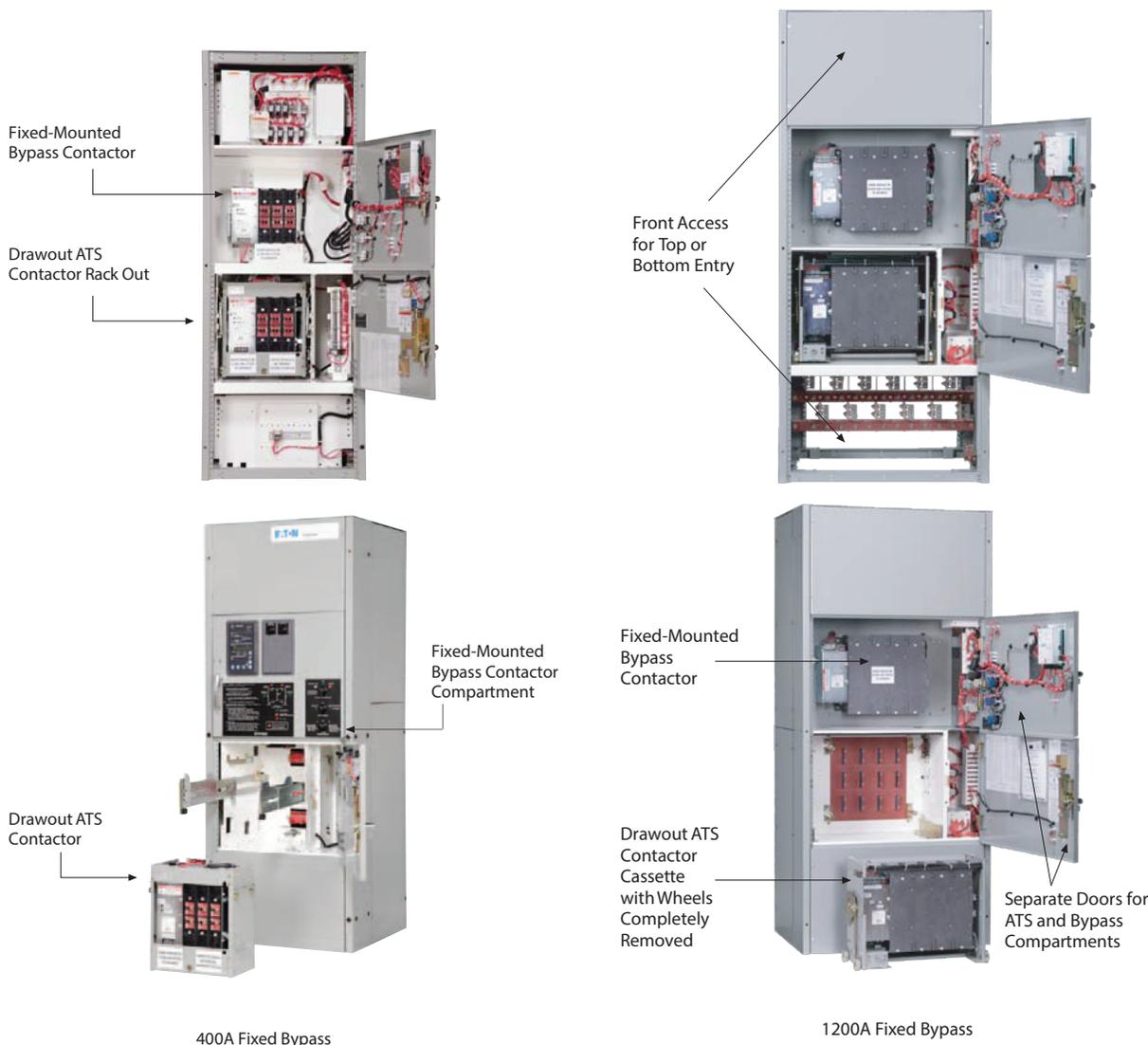
- Load sequence
- Selective Load shed
- Load bank control
- Pre/post-transfer
- Pre-transfer
- User remote control
- Source 1 available (standard)
- Source 2 available (standard)
- Source 1 connected
- Source 2 connected
- ATS not in automatic
- General alarm
- ATS in test
- Engine test aborted
- Cooldown 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

Power Series, Bypass Isolation, Contactor Type, Closed Transition



400A Fixed Bypass

1200A Fixed Bypass

UL 1008 WITHSTAND AND CLOSE-ON RATINGS AS LISTED (kA):

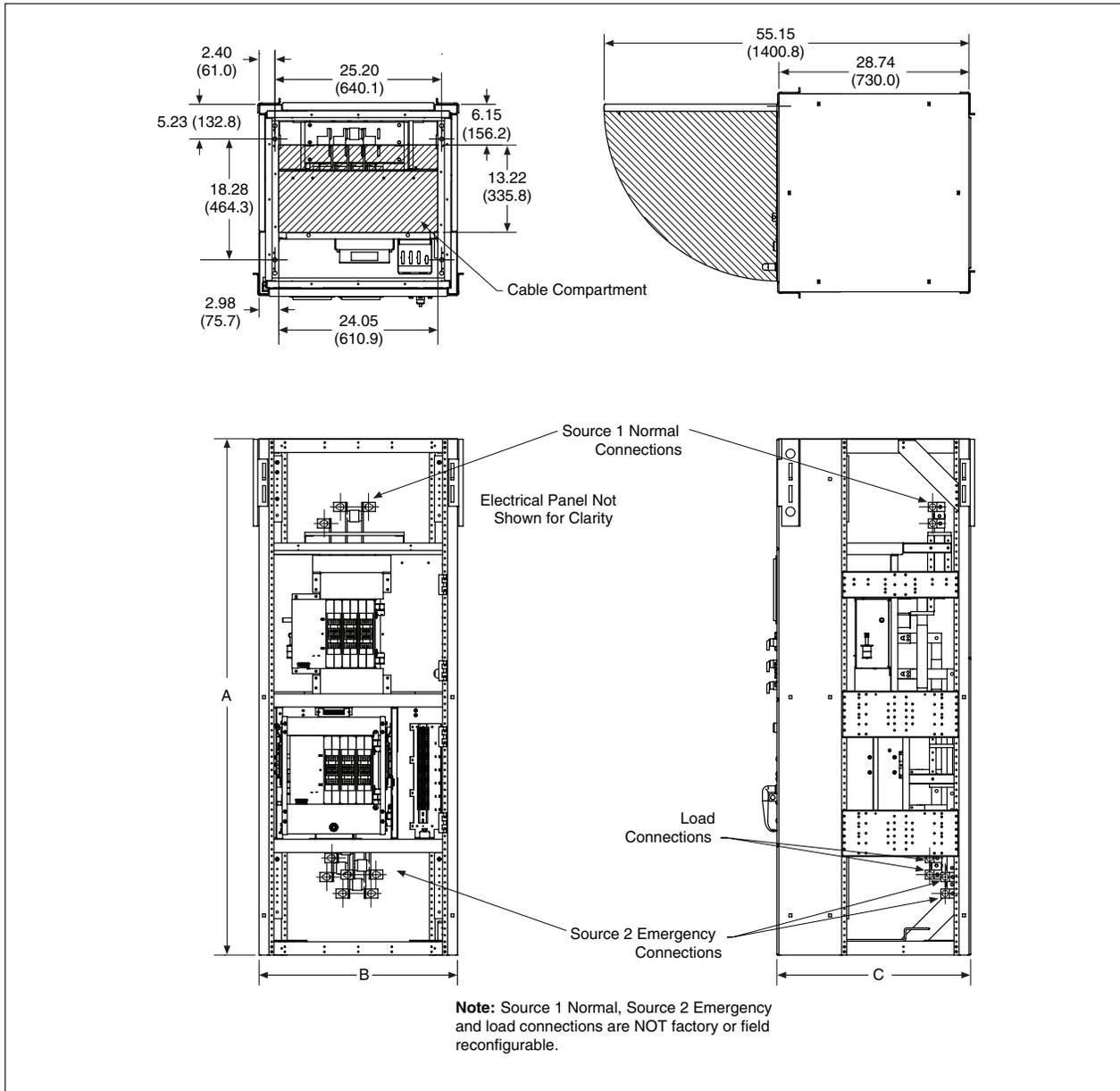
Ampere Rating	Rating When Used with Upstream Fuse				Rating (kA)	Test Voltage	Fuse Type	Maximum Fuse Amperes
	480V Any Breaker	480V Specific Breaker	600V Any Breaker	600V Specific Breaker				
100	30	50	22	35	100	480	RK5	200
200	30	50	22	35	100	600	RK5	400
400	30	50	42	65	200	600	RK5	600
600	50	65	42	65	200	600	L	1200
800	50	65	42	65	200	600	L	1200
1000	50	65	42	65	200	600	L	1600
1200	50	65	42	65	200	600	L	1600

Power Series, Bypass Isolation, Contactor Type, Closed Transition

Unit Dimensions:

Bypass Isolation Transfer Switches, 100–400A, Fixed Bypass/Single Draw Out

(Consult factory for dual drawout)



Bypass Isolation NEMA 1 and NEMA 3R Dimensions in Inches (mm)

Ampere Rating	Enclosure			Standard Terminals			Weight in Lbs (kg)
	Height A	Width B	Depth ¹ C	Normal and Emergency	Load	Neutral	
100–200 at 480/600V	78.07 (1983.0)	30.00 (762.0)	29.30 (744.2)	(1) #6–350 MCM	(1) #6–350 MCM	(3) #6–350 MCM	625 (284)
225–400 at 480V	78.07 (1983.0)	30.00 (762.0)	29.30 (744.2)	(1) 3/0–750 MCM	(1) 3/0–750 MCM	(1) 3/0–750 MCM	625 (284)

¹ For NEMA 3R, add 15.48 inches (393.2 mm) to depth.

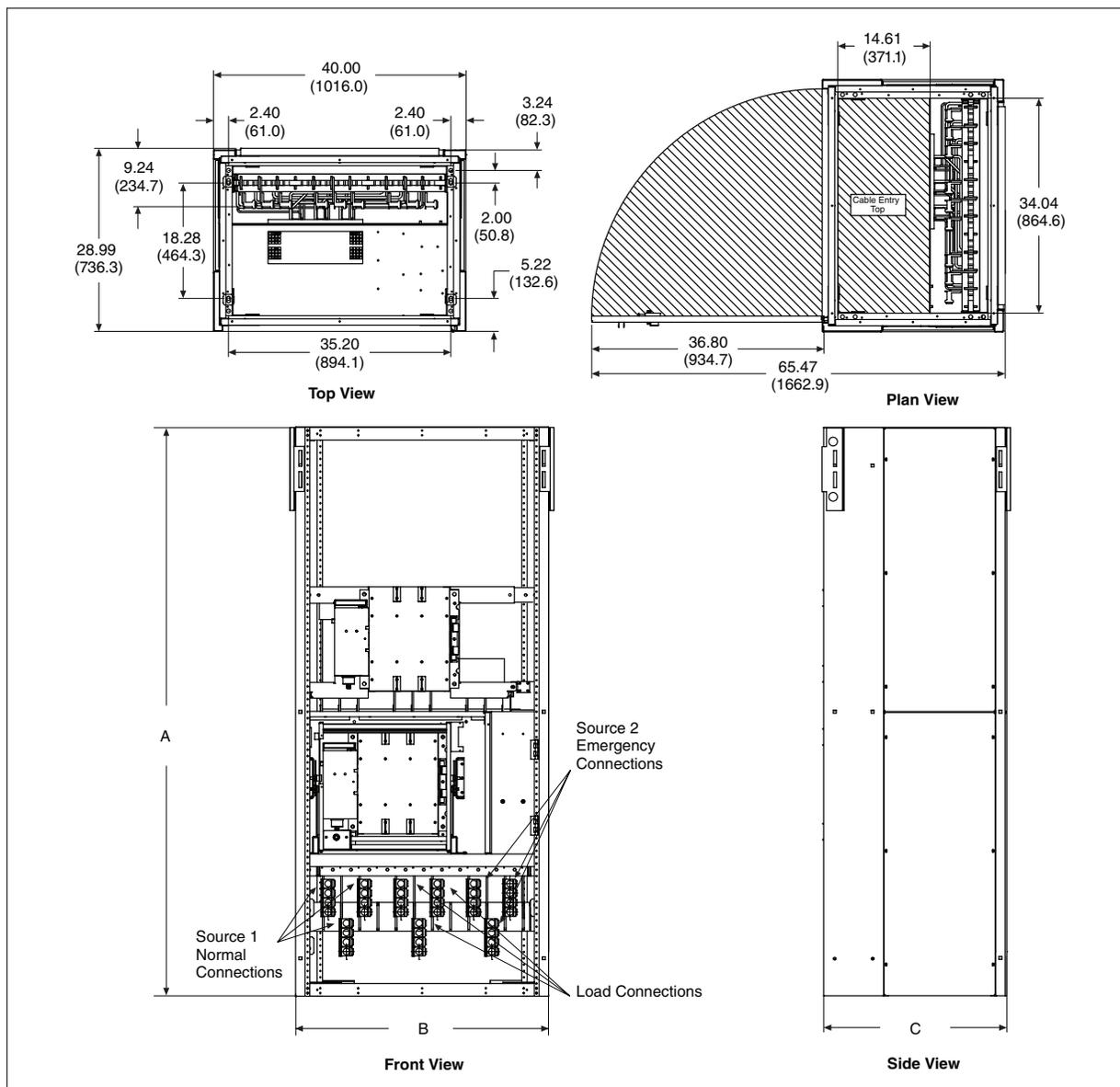
* 400A, 600V configurations use 600–1200 amp dimensions

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Bypass Isolation Contactor NEMA 1 and NEMA 3R
Dimensions in Inches (mm)

Switch Ampere Rating	Enclosure			Standard Terminals			Weight in Lbs (kg)
	Height A	Width B	Depth ¹ C	Normal and Emergency	Load	Neutral	
600–1200 ^{1&2}	90.00 (2286.0)	40.00 (1016.0)	28.99 (736.3)	(2) 3/0–750 MCM	(2) 3/0–750 MCM	(12) 3/0–750 MCM	1800 (817) NEMA 1
600–1200 ^{1&2}	90.00 (2286.0)	40.00 (1016.0)	44.47 (1129.5)	(2) 3/0–750 MCM	(2) 3/0–750 MCM	(12) 3/0–750 MCM	1850 (840) NEMA 3R

¹ NEMA 3R dimensions. If seismic mounting brackets are required, then the width will be 46.00 inches (1168.4 mm).

² Utilized for 400A, 600V configurations.