

Residential Backup Transfer Switch Solutions

Transfer Switch Solutions



3.1 Automatic Transfer Switches

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Revision notes

Volume 1—Residential and Light Commercial, CA08100002E

Tab 3—Residential Backup Transfer Switch Solutions

Revision date	Section	Change page(s)	Description
04/22/2019	All	All	Updated to April 2019 print revision date



Powering Business Worldwide

3.1

Residential Backup Transfer Switch Solutions

Automatic Transfer Switches

Residential Automatic Transfer Switches

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Product Description

50, 100, 150, 200 and 400 A Fully Automatic

All Eaton automatic transfer switches (ATS) monitor utility and generator voltages and will automatically connect to the appropriate source of power. Eaton offers two types of automatic transfer switches to suit your personal backup power needs—the standard ATS EGSX series with load shedding capabilities and the Green ATS EGSU series that provides a truly active load management solution.

Green Line of Automatic Transfer Switches

With the rising cost of commodities and fuel in today's economy, consumers are concerned with maximizing the value of their purchases.

Electrical loads are now intelligently managed with Eaton's Green Line of automatic transfer switches. The active load management inside each Green ATS allows the consumer to use 100% of the power rated output of the generator and/or use a smaller generator, reducing upfront installation costs and saving on ongoing fuel consumption costs.

As a part of Eaton's commitment to quality, every Green ATS, at no extra cost, will ship with a CHSPT2ULTRA whole surge protector, which will help prevent potential damage to valued electronics caused by power surges in the utility line.

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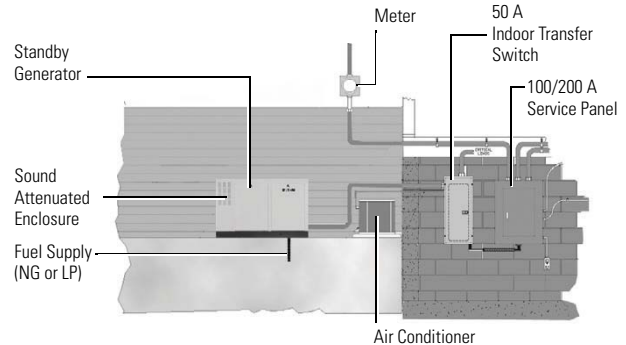
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Application Description

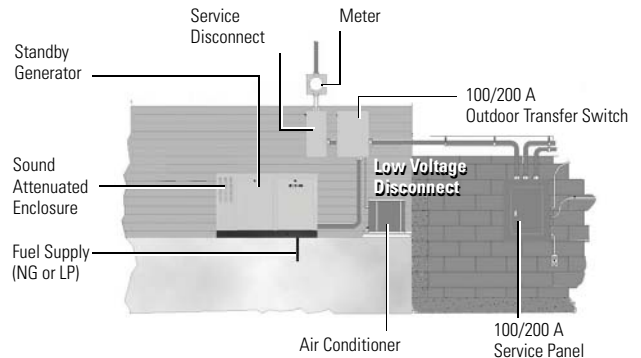
50, 100, 150, 200 and 400 A Switches

100, 200 and 400 A switches are capable of "whole house" power transfer in residential/small business applications.

50 A—Indoor Installation—Selected Load Pre-Wired



100/200 A—Outdoor Installation—Whole House Pre-Wired



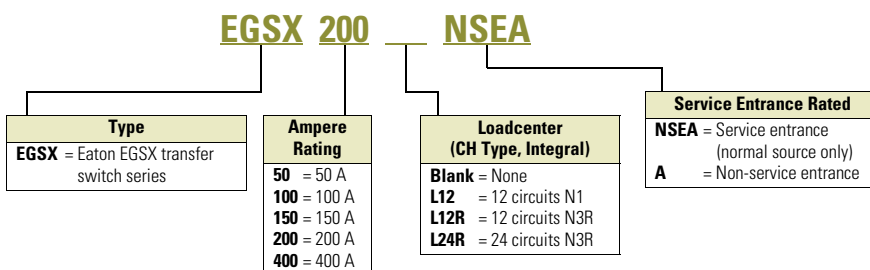
Standards and Certifications

- UL 1008 listed
- UL 67 listed
- CSA

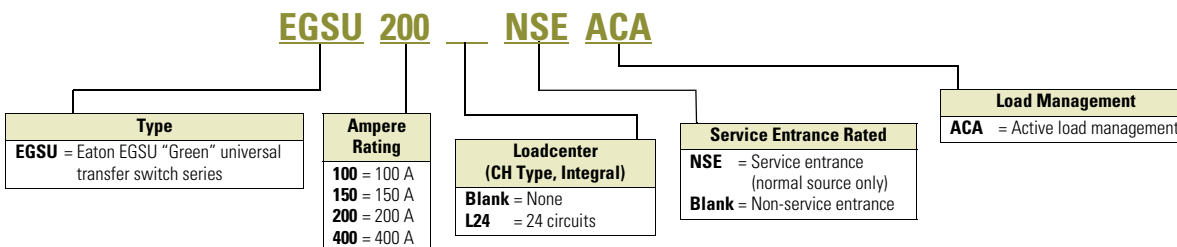


Catalog Number Selection

Standard Automatic Transfer Switches—EGSX Series



Green Automatic Transfer Switches—EGSU Series



3.1

Residential Backup Transfer Switch Solutions

Automatic Transfer Switches

Product Selection

EGSX50L12R

Standard Automatic Transfer Switches ①



Ampere Rating	Voltage	Service Entrance Rated	No. of Load Shed Contacts	Contactors Wire Size Range(s)	No. of Cables per Phase	Withstand Current (rms) at 240 Vac	No. of Circuits Included ②	Frequency (Hz)	Enclosure Type	Most Common Generator Sizes (kW) ③	Catalog Number
50	120/240	No	2	#14–#6	1	5000	12	50/60	NEMA 1 (indoor)	9, 11	EGSX50L12
50	120/240	No	2	#14–#6	1	5000	12	50/60	NEMA 3R (outdoor)	9, 11	EGSX50L12R
100	120/240	No	2	#14–#2/0	1	10,000	—	50/60	NEMA 3R (outdoor)	9, 11, 16	EGSX100A
100	120/240	Yes	2	#14–#2/0	1	10,000	—	50/60	NEMA 3R (outdoor)	9, 11, 16	EGSX100NSEA
100	120/240	No	2	#14–#2/0	1	10,000	24	50/60	NEMA 3R (outdoor)	9, 11, 16	EGSX100L24RA
150	120/240	Yes	2	#4–300 kcmil	1	10,000	—	50/60	NEMA 3R (outdoor)	16, 20, 22	EGSX150NSEA
200	120/240	No	2	#4–300 kcmil	1	10,000	—	50/60	NEMA 3R (outdoor)	16, 20, 22	EGSX200A
200	120/240	Yes	2	#4–300 kcmil	1	10,000	—	50/60	NEMA 3R (outdoor)	16, 20, 22	EGSX200NSEA
400	120/240	Yes	2	750 kcmil–2 300 kcmil–1/0	1/2	35,000	—	50/60	NEMA 3R (outdoor)	>22	EGSX400NSEA

EGSU200NSEACA

Green Automatic Transfer Switches ④—Featuring Active Load Management Technology



Ampere Rating	Voltage	Service Entrance Rated	Contactors Wire Size Range(s)	No. of Cables per Phase	Withstand Current (rms) at 240 Vac	No. of Circuits Included ②	Frequency (Hz)	Enclosure Type	Most Common Generator Sizes (kW) ④	Catalog Number ⑤
100	120/240	No	#14–#2/0	1	10,000	—	50/60	NEMA 3R (outdoor)	9, 11, 16	EGSU100ACA
100	120/240	Yes	#14–#2/0	1	10,000	—	50/60	NEMA 3R (outdoor)	9, 11, 16	EGSU100NSEACA
100	120/240	No	#14–#2/0	1	10,000	24	50/60	NEMA 3R (outdoor)	9, 11, 16	EGSU100L24RACA
150	120/240	Yes	#4–300 kcmil	1	10,000	—	50/60	NEMA 3R (outdoor)	16, 20, 22	EGSU150NSEACA
200	120/240	No	#4–300 kcmil	1	10,000	—	50/60	NEMA 3R (outdoor)	16, 20, 22	EGSU200ACA
200	120/240	Yes	#4–300 kcmil	1	10,000	—	50/60	NEMA 3R (outdoor)	16, 20, 22	EGSU200NSEACA
400	120/240	Yes	750 kcmil–2 300 kcmil–1/0	1/2	35,000	—	50/60	NEMA 3R (outdoor)	>22	EGSU400NSEACA

Notes

- ① Standard ATS “EGSX” Series compatible with Generac generators only.
- ② Uses CH type circuit breakers.
- ③ UNIVERSAL ATS: compatible with any single-phase, 120/240 V generator brand.
- ④ For reference only. Generator size must be determined with proper/actual load calculations.
- ⑤ Whole house surge Cat. No. CHSPT2ULTRA included in every Green ATS “EGSU” Series.

ATS Ready Loadcenter

From the far-reaching power failures brought on by hurricanes and snow/ice storms, to the increasing power outage concerns and an aging electrical infrastructure, backup power is more important than ever. Eaton's ATS Ready loadcenter addresses future backup power needs by enabling a fast, efficient installation of an automatic transfer switch kit to convert from utility power to generator power.

The ATS Ready loadcenter gives homebuilders and electrical contractors the flexibility to install a generator ready system or to install a loadcenter and easily add an ATS in the future. Backup power had never been that versatile before.

ATS Ready Loadcenter Features

- CH Premium Type 200 A single-phase MCB 36-circuit loadcenter
- 50 A ATS "EGSX" type kit for factory or field installation (compatible with Eaton generators only)
- 22 circuits for non-essential loads and 14 circuits for essential backup power loads
- Versatile, space-saving design
- For use with 9 or 11 kW air-cooled generators
- CH cover included
- Lifetime warranty on CH loadcenter and breakers
- NEMA 1 design
- UL Listed

ATS Ready Loadcenter

	Description	Catalog Number
 <p>CH36B200EGP</p>	<p>ATS Ready loadcenter Kit CHEGSX50KIT must be ordered separately Loadcenter only. Includes provision for ATS kit</p>	CH36B200EGP
 <p>CHEGSX50KIT</p>	<p>ATS "EGSX" kit for ATS Ready loadcenter Field-installable automatic transfer switch kit ATS Ready loadcenter CH36B200EGP must be ordered separately Intuitive, easy installation Compatible with Generac generators only</p>	CHEGSX50KIT
 <p>CH36B200EGPK</p>	<p>ATS Ready LC with factory-installed ATS kit Factory assembled Compatible with Generac generator only. Generator needed to complete backup power system</p>	CH36B200EGPK

3.1

Residential Backup Transfer Switch Solutions

Automatic Transfer Switches

Dimensions

Approximate Dimensions in Inches (mm)

Automatic Transfer Switches

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Catalog Number	Width	Height	Depth	Weight Lbs (kg)
EGSX50L12	14.25 (362.0)	21.00 (533.4)	4.00 (101.6)	25 (11.33)
EGSX50L12R	14.25 (362.0)	21.00 (533.4)	6.00 (152.4)	29 (13.15)
EGSX100A	14.46 (367.3)	16.87 (428.5)	5.32 (135.1)	25 (11.33)
EGSX100NSEA	14.46 (367.3)	16.87 (428.5)	5.32 (135.1)	28 (12.70)
EGSX100L24RA	14.46 (367.3)	29.33 (744.0)	5.32 (135.1)	38 (17.24)
EGSX200A	14.46 (367.3)	25.08 (637.0)	5.25 (133.4)	35 (15.87)
EGSX150NSEA	14.46 (367.3)	29.20 (741.7)	5.32 (135.1)	45 (20.41)
EGSX200NSEA	14.46 (367.3)	29.20 (741.7)	5.32 (135.1)	45 (20.41)
EGSU100L24RACA	14.46 (367.3)	29.33 (745.0)	5.32 (135.1)	38 (17.24)
EGSU100ACA	14.46 (367.3)	16.87 (428.5)	5.32 (135.1)	25 (11.33)
EGSU100NSEACA	14.46 (367.3)	16.87 (428.5)	5.32 (135.1)	28 (12.70)
EGSU150NSEACA	14.46 (367.3)	29.20 (741.7)	5.32 (135.1)	45 (20.41)
EGSU200ACA	14.46 (367.3)	25.08 (637.0)	5.25 (133.4)	35 (15.88)
EGSU200NSEACA	14.46 (367.3)	29.20 (741.7)	5.32 (135.1)	45 (20.41)
EGSU400NSEACA	23.14 (587.8)	35.55 (903.0)	10.00 (254.0)	120 (54.43)
CH36B200EGPK	14.31 (363.5)	47.50 (1206.5)	3.88 (98.6)	40 (18.14)

All Panels are Manufactured in the USA and Meet UL 1008



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Product Description

A manual transfer switch is a device that is mounted next to the loadcenter (distribution panel) in the home or small business. The manual transfer switch is used in conjunction with a portable backup power generator and serves the purpose of turning selected circuits on and off during a power outage. The transfer switch panel allows the owner to start up a generator to restore power to critical circuits when utility power is not available.

The owner designates which circuits are critical, such as the refrigerator and certain lights. Sometimes called emergency power panels or emergency generator panels, manual transfer switch panels provide the homeowner or small business owner with a safe and easy way to continue using electrical appliances when the utility power is unavailable temporarily.

Application Description

Manual transfer switches are most often used in residential, agricultural and light commercial applications. Comfort and safety are key concerns of many homeowners who are dependent on an uninterrupted supply of electricity.

The increase in our dependence on power is due in part to the popularity of home offices and in-home health care. Various heavily populated regions of the United States experience periodic power outages due to extreme weather conditions, such as ice and snowstorms, heat waves, tornadoes or hurricanes. These regions that include the Pacific Northwest, Atlantic Coast and the Gulf Coast are the strongest markets for portable generators and manual transfer switches.

Features, Benefits and Functions

Eaton offers two manual transfer switch backup power solutions:

- Manual transfer switches
- Generator panels

Manual Transfer Switches

- Panel and components sold separately
- Hardwired generator connection
- Ideal for new construction/larger loads
- Sturdy copper bus construction
- Uses CH and CHT circuit breaker types (sold separately)
- Mechanically interlocked main disconnects to prevent paralleling of normal and emergency power source
- Indoor and outdoor designs available



**Manual Transfer Switch
Indoor Design**



**Manual Transfer Switch
Indoor/Outdoor Design**

Generator Panels

- Mechanically interlocked main disconnects prevent paralleling of normal and emergency power source
- Panel and components sold separately
- Integral plug-in generator connection (power inlet box)
- All circuit breakers are included—switching duty rated
- Includes dual wattmeters for load balancing
- Indoor and outdoor designs available



**Generator Panel
Indoor Design**



**Generator Panel
Outdoor Design**

Standards and Certifications

- UL 67 listed
- UL 1008 listed



Reference Information

Cross-Reference

Watts	Number of Circuits	Ampere Rating	Catalog Number Eaton	Gen/Tran ^①	EmerGen ^①	Square D	Generac ^②
5000	4–8	30	CH48GEN3060R	—	—	QQ48M30DSGP	—
15,000	8–16	60	CH816GEN6060	—	—	QQ48M60DSGP	—
5000	6	20	CH6EGEN2060	20216	6-5000	—	—
5000	6	20	CH6EGEN2060R	R20216	6-5000 + RTE657	—	—
5000	6	20	CH6EGEN2060SU	—	—	—	—
5000	6	20	CH6EGEN2060RSU	—	—	—	—
7500	10	30	CH10EGEN3060	302110-20	10-7500	—	—
7500	10	30	CH10EGEN3060R	R30211-20	10-7500 + RTE1075	—	—
7500	10	30	CH10EGEN3060SUR	—	—	—	—
7500	10	30	CH10EGEN3060RSU	—	—	—	—
7500	10	30	CH10GEN5030SN	—	—	—	—
7500	10	30	CH10GEN5030RSN	—	—	—	—
12,000	10	50	CH10GEN5050SN	—	—	—	—
12,000	10	50	CH10GEN5050RSN	—	—	—	—

Notes

- ^① Gen/Trans device is not supplied with a power cord.
- ^② Generac device is 7200 maximum watts on six-circuit device and 12,000 maximum watts on 10-circuit device.

Product Selection



Manual Transfer Switches and Generator Panels Selection

Enclosure Type	Watts	Number of Circuits	Ampere Rating	Main/Emergency Ampere Rating	Feeder Breakers	Included Accessories	Catalog Number
Standard Manual Transfer Switch							
NEMA 3R	5000	4–8	30	Provision	Provision	None	CH48GEN3060R
NEMA 1	10,000	8–16	60	Provision	Provision	None	CH816GEN6060
Generator Panel							
NEMA 1	5000	6	20	60/20	5–1P151–1P20	None	CH6EGEN2060
NEMA 3R	5000	6	20	60/20	5–1P151–1P20	None	CH6EGEN2060R
NEMA 1	5000	6	20	60/20	5–1P151–1P20	Two-pole surge protector	CH6EGEN2060SUR
NEMA 3R	5000	6	20	60/20	5–1P151–1P20	Two-pole surge protector	CH6EGEN2060RSU
NEMA 1	7500	10	30	60/30	6–1P152–1P2012P30	None	CH10EGEN3060
NEMA 3R	7500	10	30	60/30	6–1P152–1P2012P30	None	CH10EGEN3060R
NEMA 1	7500	10	30	60/30	7–1P152–1P2012P30	Two-pole surge protector	CH10EGEN3060SUR
NEMA 3R	7500	10	30	60/30	7–1P152–1P2012P30	Two-pole surge protector	CH10EGEN3060RSU
Switched Neutral Manual Transfer Switch							
NEMA 1	7500	10	30	50/30	6–1P15, 2–1P20, 1–2P30	None	CH10GEN5030SN
NEMA 3R	7500	10	30	50/30	6–1P15, 2–1P20, 1–2P30	None	CH10GEN5030RSN
NEMA 1	12,000	10	50	50/50	6–1P15, 2–1P20, 1–2P30	None	CH10GEN5050SN
NEMA 3R	12,000	10	50	50/50	6–1P15, 2–1P20, 1–2P30	None	CH10GEN5050RSN



Power Inlet Boxes

Description	Ampere Rating	Voltage	Catalog Number
Flush flange kit (for use with generator panel only)	—	120/240 V	CHEGENFKIT
Power inlet box	20	120/240 V	EGSPIB20
Power inlet box	30	120/240 V	EGSPIB30
Power inlet box	50	120/240 V	EGSPIB50

Warranty

Manual Transfer Switch

- 15-year loadcenter warranty
- Lifetime branch breaker warranty

Generator Panel

- 15-year loadcenter warranty
- Lifetime branch breaker warranty

3.2

Residential Backup Transfer Switch Solutions

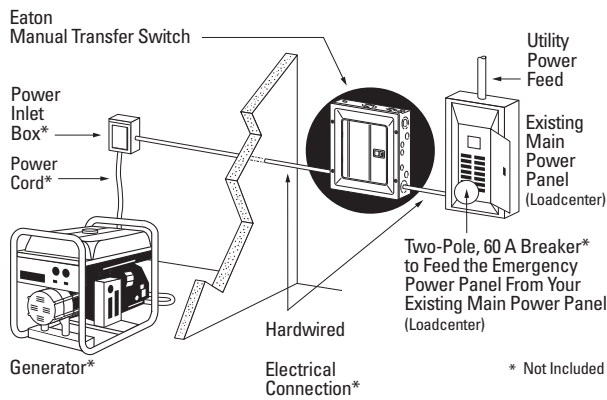
Manual Transfer Switches

Technical Data and Specifications

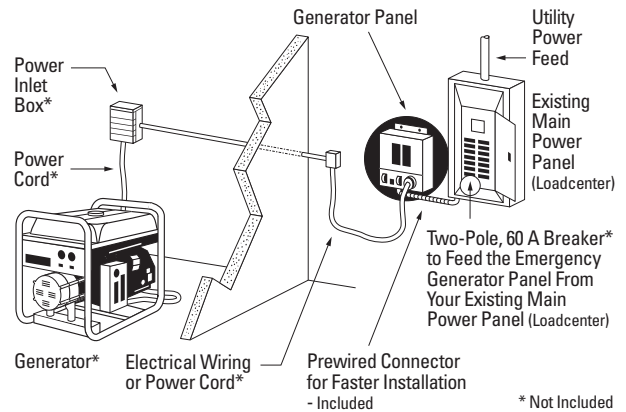
- 10,000 AIC rating
- Switching devices must be circuit breakers
- Manual transfer switch must be supplied with neutral and ground
- Power inlet box must be connected to a circuit breaker for generator protection

Installation Diagrams

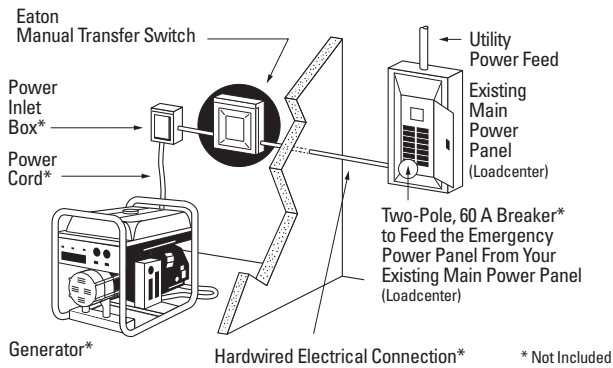
Manual Transfer Switches—Indoor Installation Diagram



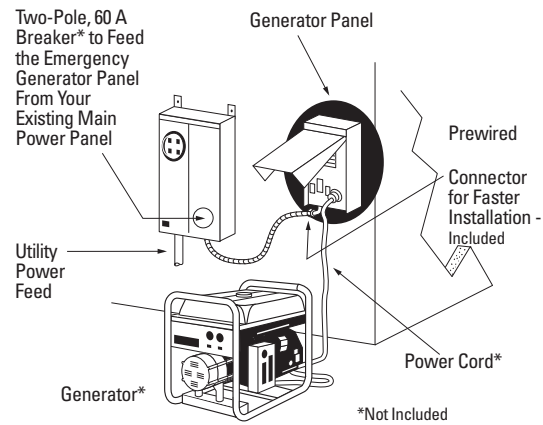
Generator Panels—Indoor Installation Diagram



Manual Transfer Switches—Outdoor Installation Diagram



Generator Panels—Outdoor Installation Diagram



Dimensions

Approximate Dimensions in Inches (mm)

Manual Transfer Switch

Enclosure Type	Height	Width	Depth	Weight Lbs (kg)	
				6-Circuit	10-Circuit
NEMA 1	16.75 (425.5)	14.31 (363.5)	3.88 (98.5)	24 (11)	26 (12)
NEMA 3R	13.00 (330.2)	11.00 (279.4)	3.56 (90.4)	29 (13)	31 (14)

Generator Panel

Enclosure Type	Height	Width	Depth	Weight Lbs (kg)	
				6-Circuit	10-Circuit
NEMA 1	13.23 (336.0)	11.41 (289.8)	4.10 (104.1)	24 (11)	26 (12)
NEMA 3R	17.12 (434.8)	9.45 (240.0)	7.16 (181.9)	29 (13)	31 (14)