

# 3.1

## Residential Standby Backup Power Solutions

### Standby Generators

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#### Standby Generator Systems



EGENX20A



EGEN70

#### Product Description

A standby generator system is a package of equipment specifically designed to provide substitute electrical power to a residence in the event of a utility power outage. These systems are comprised of a generator, transfer switch and the connections necessary for installation. Eaton's standby generator line consists of air-cooled and liquid-cooled models ranging from 8000 watts up to 150,000 watts.

#### Air-Cooled Standby

Eaton's air-cooled generators range from 8 to 22 kW and these units are perfect for automatically backing up every circuit within a home such as air conditioner units, refrigerators, lighting, furnace fans, sump pumps and water pumps.

Eaton's air-cooled standby generators offer fully automatic operation and provide most homeowners with enough power for complete whole house comfort. These units all operate at ultra quiet 66 dB, or less, sound level.

#### Liquid-Cooled Standby

Eaton's liquid-cooled generators feature automotive style engines that range from 22 to 150 kW of power output. These units run so quietly that you'll forget that you own a generator until you need it. These units are available in steel or aluminum enclosures and are available in single- and three-phase in four voltages: 120/240 V, single-phase; 120/208 V, three-phase; 240 V, three-phase; and 277/480 V, three-phase.

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#### Application Description

Standby generator systems 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. Many regions of the United States experience periodic power outages due to extreme weather conditions such as ice and snowstorms, heat waves, tornadoes or hurricanes.

Eaton highly recommends that any generator system be installed by a qualified electrician and/or generator installer.

#### Features, Benefits and Functions

Eaton's generator systems offer a wide range of features. All systems feature:

- Powerful engines
- Reliable Eaton transfer switches and control systems using switching duty rated circuit breakers
- Weekly exercise function
- Automatic transfer systems feature automatic start/stop

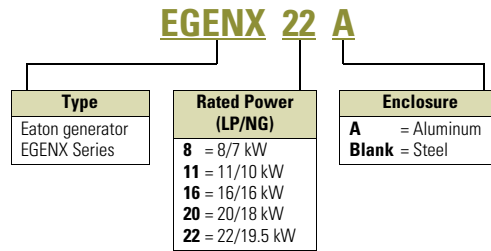
#### Standards and Certifications

- CSA, cUL® and UL 2200 listed and approved
- SCAQMD (selected models only)
- All transfer switches are UL 67 and UL 1008 listed as "Transfer Switches"
- All generators are UL 2200 listed

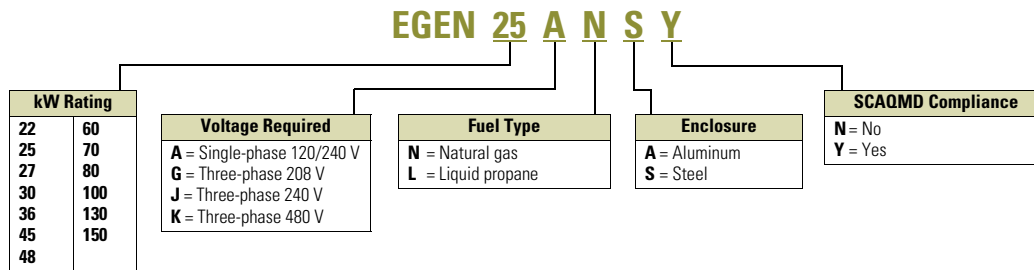


### Catalog Number Selection

#### Air-Cooled Generators



#### Liquid-Cooled Generators



### Product Selection

#### Air-Cooled Generators





Rated Power kW (LP/NG)	Maximum Rated Amperes at 240 Vac (LP/NG)	Main Line Circuit Breaker Amperes	Enclosure Material	Engine Size	Number of Cylinders	Fuel Type	GFI Receptacle	SCAQMD Compliant	Sound Emissions (dB at 7 m)	Limited Warranty (yrs)	Catalog Number <sup>①</sup>
8/7	33.3/29.2	35	Steel	410 cc	1	Liquid propane/ natural gas	No	Yes	62	5	<b>EGENX8</b>
11/10	45.8/41.7	50	Aluminum	530 cc	2	Liquid propane/ natural gas	No	Yes	63	5	<b>EGENX11A</b>
16/16	66.6/66.6	65/55	Aluminum	992 cc	2	Liquid propane/ natural gas	No	Yes	66	5	<b>EGENX16A</b>
20/18	83.3/75.0	90	Aluminum	999 cc	2	Liquid propane/ natural gas	Yes	Yes	66	5	<b>EGENX20A</b> <sup>②</sup>
22/19.5	91.7/81.2	100	Aluminum	999 cc	2	Liquid propane/ natural gas	Yes	Yes	67	5	<b>EGENX22A</b> <sup>②</sup>

#### Notes

- ① Battery to be furnished by others. Recommended size: Group 26R, 12 V, 225 CCA min.
- ② Includes base fascia (No. EGENFASCIA) as standard.

## Accessories

## Generator Accessories—Air and Liquid-Cooled Generators

	Description	Catalog Number
	<b>General Accessories</b>	
	Air-cooled transportation cart	EGENCART
	Bisque paint kit for 2009 model lineup	EGENPAINT
	Display shell—bisque color	EGENSHELL
	Generator fascia for air-cooled models. Bisque color (included as standard on EGENX20A and EGENX22A models)	EGENFASCIA
<b>EGEMOBILE</b>	<b>Wireless Remote Monitoring</b>	
	Advanced wireless remote monitor w/smart device connectivity. Air-cooled/liquid-cooled generators. 2009 models or newer	EGEMOBILE
	Adapter wire harness kit for EGEMOBILE. Required for liquid-cooled generators only 22–150 kW. 2009 models or newer	EGENKIT
	Basic in-house remote wireless monitor. Compatible with air/liquid-cooled models. 2009 models or newer	EGENinHOME
	Adapter wire harness kit for EGENinHOME. Required for liquid-cooled units only 22–150 kW. 2009 models or newer	EGENinHOMEKIT
<b>Cold Weather Kits</b>	<b>Cold Weather Kits</b>	
	Cold weather kit for all air-cooled generator models (8–20 kW). Battery and crankcase warmer	6212CH
	22, 27, 36, 45 and 60 kW (2.4 L) cold weather kit	5630CH
	25 and 30 kW (1.5 L) cold weather kit	6175CH
	100 and 130 kW (6.8 L) cold weather kit	5633CH
	48 (5.4 L), 80 (4.6 L) and 70 and 150 kW (6.8 L) cold weather kit	5632CH
	25 and 30 kW (1.6 L) cold weather kit for models prior to February 2012	5629CH
	48 kW (4.2 L) cold weather kit for models prior to February 2012	5631CH
<b>Extreme Cold Weather Kits</b>	<b>Extreme Cold Weather Kits</b>	
	25 and 30 kW extreme cold weather kit 1.5 L engine	6174CH
	25 and 30 kW extreme cold weather kit 1.6 L engine (prior to February 2012)	5615CH
	22, 27, 36, 45 and 60 kW extreme cold weather kit for 2.4 L engine	5616CH
	48 kW extreme cold weather kit for 5.4 L engine	6204CH
	48 kW extreme cold weather kit for 4.2 L engine (prior to February 2012)	5618CH
	70, 100 and 130 kW generator extreme cold weather kit for 6.8 L engine gear drive	5620CH
	80 kW extreme cold weather kit for 4.6 L engine	5619CH
	150 kW generator extreme cold weather kit for 6.8 L engine direct drive	5667CH
	Extreme cold weather kit (engine warmer) for air-cooled 8–10 kW, 410/530 cc engines (after April 2010)	5863CH
	Extreme cold weather kit (engine warmer) for air-cooled 14–20 kW, 760/992/999 cc engines (after April 2010)	5864CH
<b>Maintenance Kits</b>	<b>Maintenance Kits</b>	
	8 kW generator maintenance kit 410 cc engine. For #EGENX8 model only	6482CH
	11 kW generator maintenance kit 530 cc engine. For #EGENX11A model only	6483CH
	16 kW generator maintenance kit, 992 cc engine. For #EGENX16A model only	6484CH
	20 kW generator maintenance kit, 999 cc engine. For #EGENX20A model only	6485CH
	22 kW generator maintenance kit, 999 cc engine. For #EGENX22A model only	6485CH
	8 kW generator maintenance kit 410 cc engine. #EGEN8 vintage model only	5662CH
	10 kW generator maintenance kit 530 cc engine. #EGEN10 vintage model only	5663CH
	14 and 17 kW generator maintenance kit, 760/990 cc engine. #EGEN14 and #EGEN17-17A vintage models only	5664CH
	14 and 17 kW generator maintenance kit, 760/990 cc engine. For #EGENX14 and #EGENX17-17A vintage models only	6484CH
	20 kW generator maintenance kit, 999 cc engine. #EGEN20A vintage model only	5665CH
	22 and 27 kW generator maintenance kit, 2.4 L engine	5656CH
	25 and 30 kW generator maintenance kit, 1.5 L engine	6176CH
	25 and 30 kW generator maintenance kit, 1.6 L engine (prior to February 2012)	5655CH
	36 kW generator maintenance kit, 2.4 L engine	5984CH
	45 kW generator maintenance kit, 2.4 L engine	6172CH
	48 kW generator maintenance kit, 4.2 L engine	5658CH
	60 kW generator maintenance kit, 2.4 L engine	6171CH
	80 kW generator maintenance kit, 4.6 L engine	5985CH
	70, 100, 130 and 150 kW generator maintenance kit, 6.8 L engine	5660CH

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#### Sizing Guidelines

When selecting the essential circuits that will be switched to “Backup Power,” it is important that the sum of the combined circuit loads does not exceed the wattage/ampere capacity of the generator. To help you with your selection of essential circuits, please add up the total wattage of all electrical devices to be connected at one time. This total should NOT be greater than the generator’s wattage capacity.

Refer to Eaton Generator Sizing Guide Publication Number TD00405018E and consult with a trained professional.

#### Circuit Selection <sup>①②③</sup>

Device	Common Running Watts
Air conditioner (12,000 btu)	1700
Air conditioner (24,000 btu)	3800
Air Conditioner (40,000 btu)	6000
Battery charger (20 amp)	500
Circular saw (6-1/2-inch)	800–1000
Clothes dryer (electric)	5750
Clothes dryer (gas)	700
Clothes washer	1150
Coffee maker	1750
Compressor (1 hp)	2000
Compressor (1/2 hp)	1400
Compressor (3/4 hp)	1800
Curling iron	700
Dehumidifier	650
Electric blanket	400
Electric range (per element)	1500
Electric skillet	1250
Freezer	700
Furnace fan (3/5 hp)	875
Garage door opener	500–750
Hair dryer	1200
Hand drill	250–1100
Iron	1200
Jet pump	800
Light bulb	100
Microwave oven	700–1000
Milk cooler	1100
Oil burner on furnace	300
Oil fired space heater (140,000 btu)	400
Oil fired space heater (30,000 btu)	150
Oil fired space heater (85,000 btu)	225
Radio	50–200
Refrigerator	700
Slow cooker	200
Submersible pump (1 hp)	2000
Submersible pump (1/2 hp)	1500
Submersible pump (1-1/2 hp)	2800
Sump pump	800–1050
Table saw (10-inch)	1750–2000
Television	200–500
Toaster	1000–1650

#### Dimensions

Approximate Dimension in Inches (mm)

##### Air-Cooled Standby

Catalog Number	Length	Width	Height	Weight in Lbs (kg)
EGENX8	48.00 (1219.2)	25.00 (635.0)	29.00 (736.6)	360 (163.0)
EGENX11A	48.00 (1219.2)	25.00 (635.0)	29.00 (736.6)	373 (169.2)
EGENX16A	48.00 (1219.2)	25.00 (635.0)	29.00 (736.6)	437 (198.2)
EGENX20A	48.00 (1219.2)	25.00 (635.0)	29.00 (736.6)	451 (204.6)
EGENX22A	48.00 (1219.2)	25.00 (635.0)	29.00 (736.6)	476 (216.0)

##### Liquid-Cooled Standby

Catalog Number	Length	Width	Height	Weight in Lbs (kg)
EGEN22	62.00 (1574.8)	29.00 (736.6)	34.00 (863.6)	895 (406.3)
EGEN25	63.00 (1600.2)	30.00 (762.0)	35.00 (889.0)	875 (397.3)
EGEN27	64.00 (1625.6)	31.00 (787.4)	36.00 (914.4)	891 (404.5)
EGEN30	60.00 (1651.0)	32.00 (812.8)	37.00 (939.8)	935 (424.5)
EGEN36	77.00 (1955.8)	34.00 (863.6)	45.00 (1143.0)	1683 (764.1)
EGEN45	78.00 (1981.2)	35.00 (889.0)	46.00 (1168.4)	1414 (642.0)
EGEN48	79.00 (2006.6)	36.00 (914.4)	47.00 (1193.8)	1703 (773.2)
EGEN60 <sup>④</sup>	80.00 (2032.0)	37.00 (939.8)	48.00 (1219.2)	1650 (749.1)
EGEN70 <sup>④</sup>	97.00 (2463.8)	37.00 (939.8)	48.00 (1219.2)	2185 (992.0)
EGEN80 <sup>④</sup>	115.00 (2921.0)	36.80 (934.7)	79.00 (2006.6)	2010 (912.5)
EGEN100 <sup>④</sup>	116.00 (2946.4)	36.80 (934.7)	80.00 (2032.0)	2705 (1228.1)
EGEN130 <sup>④</sup>	117.00 (2971.8)	36.80 (934.7)	81.00 (2057.4)	2873 (1304.3)
EGEN150 <sup>④</sup>	118.00 (2997.2)	36.80 (934.7)	82.00 (2082.8)	2666 (1210.4)

#### Notes

- ① The rated wattage of lights can be taken from light bulbs. The rated wattage of tools, appliances and motors can usually be found on a data plate or decal affixed to the device.
- ② If the appliance, tool or motor does not give wattage, multiply 120 volts times the ampere rating to determine watts (volts x amps = watts) for single-phase only.
- ③ Some electric motors (induction types) require about three times more watts of power for starting than for running. This surge lasts for only a few seconds. Be sure you allow for this high starting wattage when selecting electrical devices that will be energized by the backup power system:  
Figure the watts required to start the largest motor.  
Add that to the total running watts of all other connected loads.
- ④ All weights provided for steel enclosures only.