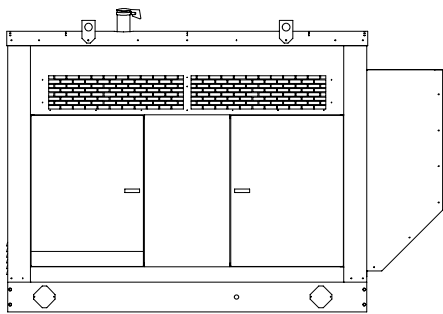




Ratings Range

| | | 60 Hz | 50 Hz |
|----------|-----|--------|--------|
| Standby: | kW | 95-130 | 84-104 |
| | kVA | 95-163 | 84-130 |
| Prime: | kW | 90-115 | 77-96 |
| | kVA | 90-144 | 77-120 |



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set is UL 2200 listed.
- The generator set accepts rated load in one step.
- A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Alternator features:
 - The Fast-Response™ III wound field (WF) design alternator provides excellent voltage response and short-circuit capability using an auxiliary power brushless exciter.
 - The unique Fast-Response™ II excitation system delivers excellent voltage response and short circuit capability using a permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Controllers are available for all applications. See controller features inside.
 - The electronic, isochronous governor incorporates an integrated drive-by-wire throttle body actuator delivering precise frequency regulation.

Generator Set Ratings

| Alternator | Voltage | Ph | Hz | Natural Gas | | | | LP Gas | | | |
|----------------|---------|----|---------|----------------------------|--------|--------------------------|--------|----------------------------|--------|--------------------------|------|
| | | | | 130° C Rise Standby Rating | | 105° C Rise Prime Rating | | 130° C Rise Standby Rating | | 105° C Rise Prime Rating | |
| | | | | kW/kVA | Amps | kW/kVA | Amps | kW/kVA | Amps | kW/kVA | Amps |
| 4S11W/ 4S11 | 120/208 | 3 | 60 | 125/156 | 434 | 115/144 | 399 | 105/131 | 364 | 96/120 | 333 |
| | 127/220 | 3 | 60 | 125/156 | 410 | 115/144 | 377 | 105/131 | 344 | 96/120 | 315 |
| | 120/240 | 3 | 60 | 125/156 | 376 | 115/144 | 346 | 105/131 | 316 | 96/120 | 289 |
| | 120/240 | 1 | 60 | 95/95 | 396 | 90/90 | 375 | 95/95 | 396 | 86/86 | 358 |
| | 139/240 | 3 | 60 | 125/156 | 376 | 115/144 | 346 | 105/131 | 316 | 96/120 | 289 |
| | 220/380 | 3 | 60 | 120/150 | 228 | 110/138 | 209 | 105/131 | 199 | 96/120 | 182 |
| | 277/480 | 3 | 60 | 125/156 | 188 | 115/144 | 173 | 105/131 | 158 | 96/120 | 144 |
| | 347/600 | 3 | 60 | 125/156 | 150 | 115/144 | 138 | 105/131 | 126 | 96/120 | 115 |
| | 110/190 | 3 | 50 | 104/130 | 395 | 96/120 | 365 | 96/120 | 365 | 88/110 | 334 |
| | 115/200 | 3 | 50 | 104/130 | 375 | 96/120 | 346 | 96/120 | 346 | 88/110 | 318 |
| | 120/208 | 3 | 50 | 104/130 | 361 | 96/120 | 333 | 96/120 | 333 | 88/110 | 305 |
| | 110/220 | 3 | 50 | 104/130 | 341 | 96/120 | 315 | 96/120 | 315 | 88/110 | 289 |
| | 110/220 | 1 | 50 | 84/84 | 382 | 77/77 | 350 | 84/84 | 382 | 77/77 | 350 |
| | 220/380 | 3 | 50 | 104/130 | 198 | 96/120 | 182 | 96/120 | 182 | 88/110 | 167 |
| | 230/400 | 3 | 50 | 104/130 | 188 | 96/120 | 173 | 96/120 | 173 | 88/110 | 159 |
| 240/416 | 3 | 50 | 104/130 | 180 | 96/120 | 167 | 96/120 | 167 | 88/110 | 153 | |
| 4S13W/ 4S13 | 120/208 | 3 | 60 | 130/163 | 451 | 115/144 | 399 | 110/138 | 382 | 100/125 | 347 |
| | 127/220 | 3 | 60 | 130/163 | 426 | 115/144 | 377 | 110/138 | 361 | 100/125 | 328 |
| | 120/240 | 3 | 60 | 130/163 | 391 | 115/144 | 346 | 110/138 | 331 | 100/125 | 301 |
| | 120/240 | 1 | 60 | 100/100 | 417 | 91/91 | 379 | 100/100 | 417 | 91/91 | 379 |
| | 139/240 | 3 | 60 | 130/163 | 391 | 115/144 | 346 | 110/138 | 331 | 100/125 | 301 |
| | 220/380 | 3 | 60 | 125/156 | 237 | 115/144 | 218 | 110/138 | 209 | 100/125 | 190 |
| | 277/480 | 3 | 60 | 130/163 | 195 | 115/144 | 173 | 110/138 | 165 | 100/125 | 150 |
| | 347/600 | 3 | 60 | 130/163 | 156 | 115/144 | 138 | 110/138 | 132 | 100/125 | 120 |
| | 110/190 | 3 | 50 | 104/130 | 395 | 96/120 | 365 | 96/120 | 365 | 88/110 | 334 |
| | 115/200 | 3 | 50 | 104/130 | 375 | 96/120 | 346 | 96/120 | 346 | 88/110 | 318 |
| | 120/208 | 3 | 50 | 104/130 | 361 | 96/120 | 333 | 96/120 | 333 | 88/110 | 305 |
| | 110/220 | 3 | 50 | 104/130 | 341 | 96/120 | 315 | 96/120 | 315 | 88/110 | 289 |
| | 110/220 | 1 | 50 | 90/90 | 409 | 80/80 | 364 | 90/90 | 409 | 80/80 | 364 |
| | 220/380 | 3 | 50 | 104/130 | 198 | 96/120 | 182 | 96/120 | 182 | 88/110 | 167 |
| | 230/400 | 3 | 50 | 104/130 | 188 | 96/120 | 173 | 96/120 | 173 | 88/110 | 159 |
| 240/416 | 3 | 50 | 104/130 | 180 | 96/120 | 167 | 96/120 | 167 | 88/110 | 153 | |
| 4V11W/ 4V11 | 120/240 | 1 | 60 | 110/110 | 458 | 105/105 | 438 | 100/100 | 417 | 91/91 | 379 |
| | 110/220 | 1 | 50 | 96/96 | 436 | 87/87 | 395 | 88/88 | 400 | 80/80 | 364 |

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. **Standby Ratings:** Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. **Prime Power Ratings:** Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION:** *Altitude:* Derate 0.5% per 100 m (328 ft.) elevation above 1500 m (4921 ft.) up to a maximum elevation of 3000 m (9842 ft.). *Temperature:* Derate 2.0% per 10°C (18°F) temperature above 25°C (77°F) up to 50°C (122°F).

Alternator Specifications

| Specifications | Alternator |
|---|--|
| Manufacturer | Kohler |
| Type | 4-Pole, Rotating-Field |
| Exciter type | |
| Wound field (WF) | Wound Exciter Field with Separate Excitation Power Winding |
| Permanent magnet (PM) | Brushless, Permanent-Magnet |
| Leads: quantity, type | |
| 4S11W/4S11, 4S13W/4S13 | 12, Reconnectable |
| 4V11W/4V11 | 4, 110-120/220-240 |
| Voltage regulator | Solid State, Volts/Hz |
| Insulation: | NEMA MG1 |
| Material | Class H |
| Temperature rise | 130°C, Standby |
| Bearing: quantity, type | 1, Sealed |
| Coupling | Flexible Disc |
| Amortisseur windings | Full |
| Voltage regulation, no-load to full-load | |
| Wound field (WF) alternator | ±0.25% Average |
| Permanent magnet (PM) alternator | ±2% Average |
| 550 controller (with 0.5% drift due to temperature variation) | 3-Phase Sensing, ±0.25% |
| Unbalanced load capability | 100% of Rated Standby Current |
| One-step load acceptance | 100% of Rating |

| Specifications | Alternator |
|-----------------------------------|------------------------------|
| Peak motor starting kVA: | (35% dip for voltages below) |
| 480 V, 380 V 4S11W/4S11 (12 lead) | 460 (60Hz), 350 (50Hz) |
| 480 V, 380 V 4S13W/4S13 (12 lead) | 515 (60Hz), 370 (50Hz) |
| 240 V, 220 V 4V11W/4V11 (4 lead) | 350 (60Hz), 285 (50Hz) |

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and drip-proof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Fast-Response™ III wound field (WF) brushless alternator with auxiliary power brushless exciter for excellent load response.
- Fast-Response™ II brushless alternator with brushless exciter for excellent load response.

Application Data

Engine

| Engine Specifications | 60 Hz | 50 Hz |
|--|--|------------|
| Manufacturer | General Motors | |
| Engine: model, type | Industrial Powertrain, Vortec 8.1 L, 4-Cycle, Turbocharged | |
| Cylinder arrangement | V-8 | |
| Displacement, L (cu. in.) | 8.1 (496) | |
| Bore and stroke, mm (in.) | 108 x 111 (4.25 x 4.37) | |
| Compression ratio | 9.1:1 | |
| Piston speed, m/min. (ft./min.) | 399 (1311) | 332 (1092) |
| Main bearings: quantity, type | Alum. Lead Silicon Alloy | |
| Rated rpm | 1800 | 1500 |
| Max. power at rated rpm, kW (HP) | 146 (195) | 118 (158) |
| Cylinder head material | Cast Iron | |
| Piston type and material | Strutless Flat Top, Hypereutectic Cast Alum. | |
| Crankshaft material | Cast Nodular Undercut Rolled Fillet | |
| Valve (exhaust) material | Int.-A193 Exh. Inconel | |
| Governor type | Electronic | |
| Frequency regulation, no-load to full-load | Isochronous | |
| Frequency regulation, steady state | ±0.5% | |
| Frequency | Field-Convertible | |
| Air cleaner type, all models | Dry | |

Exhaust

| Exhaust System | 60 Hz | 50 Hz |
|---|------------|------------|
| Exhaust manifold type | Dry | |
| Exhaust flow at rated kW, m ³ /min. (cfm) | 26.1 (920) | 18.7 (660) |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 649 (1200) | |
| Maximum allowable back pressure, kPa (in. Hg) | 10.2 (3.0) | |
| Exhaust outlet size at engine hookup, mm (in.) | 71 (2.8) | |

Engine Electrical

| Engine Electrical System | 60 Hz | 50 Hz |
|--|------------------------------------|-------|
| Ignition system | Individual Coil Near Plug Ignition | |
| Battery charging alternator: | | |
| Ground (negative/positive) | Negative | |
| Volts (DC) | 12 | |
| Ampere rating | 70 | |
| Starter motor rated voltage (DC) | 12 | |
| Battery, recommended cold cranking amps (CCA): | | |
| Qty., rating for -18°C (0°F) | One, 630 | |
| Battery voltage (DC) | 12 | |

Fuel

| Fuel System | 60 Hz | 50 Hz |
|--|-----------------------|-------|
| Fuel type | LP Gas or Natural Gas | |
| Fuel supply line inlet | 1.5 NPTF | |
| Natural gas/LPG fuel supply pressure, measured at the generator set fuel inlet downstream of any fuel system equipment accessories, kPa (in. H ₂ O) | 1.74-2.74 (7.0-11.0) | |

| Fuel Composition Limits * | Nat. Gas | LP Gas |
|---|------------|-------------|
| Methane, % by volume | 90 min. | — |
| Ethane, % by volume | 4.0 max. | — |
| Propane, % by volume | 1.0 max. | 85 min. |
| Propene, % by volume | 0.1 max. | 5.0 max. |
| C ₄ and higher, % by volume | 0.3 max. | 2.5 max. |
| Sulfur, ppm mass | 25 max. | |
| Lower heating value, kJ/m ³ (Btu/ft ³), min. | 26.6 (890) | 67.5 (2260) |

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

Application Data

Lubrication

| Lubricating System | 60 Hz | 50 Hz |
|---------------------------------------|---------------|-------|
| Type | Full Pressure | |
| Oil pan capacity, L (qt.) | 8.0 (8.5) | |
| Oil pan capacity with filter, L (qt.) | 8.5 (9.0) | |
| Oil filter: quantity, type | 1, Cartridge | |

Cooling

| Radiator System | 60 Hz | 50 Hz |
|--|-------------|-----------|
| Ambient temperature, °C (°F) | 45 (113) | |
| Engine jacket water capacity, L (gal.) | 10.0 (2.6) | |
| Radiator system capacity, including engine, L (gal.) | 24.2 (6.4) | |
| Engine jacket water flow, Lpm (gpm) | 125 (33) | 102 (27) |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) | 110 (6260) | 72 (4100) |
| Heat rejected to engine oil at rated kW, kW (Btu/min.) | 1.4 (81) | 1.2 (68) |
| Water pump type | Centrifugal | |
| Fan diameter, including blades, mm (in.) | 599 (23.6) | |
| Fan, kWm (HP) | 10.4 (14.0) | 6.0 (8.1) |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O) | 0.125 (0.5) | |

Operation Requirements

| Air Requirements | 60 Hz | 50 Hz |
|---|-------------|-------------|
| Radiator-cooled cooling air, m ³ /min. (scfm) [†] | 306 (10800) | 232 (8200) |
| Combustion air, m ³ /min. (cfm) | 8.8 (312) | 6.2 (220) |
| Heat rejected to ambient air: | | |
| Engine, kW (Btu/min.) | 72.0 (4100) | 44.1 (2510) |
| Alternator, kW (Btu/min.) | 13.7 (780) | 9.8 (560) |

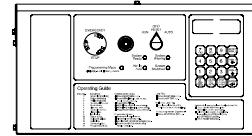
[†] Air density = 1.20 kg/m³ (0.075 lbm/ft³)

| Fuel Consumption [‡] | 60 Hz | 50 Hz |
|---|------------|------------|
| Natural Gas, m³/hr. (cfh) at % load | | |
| Standby Rating | | |
| 100% | 46.8(1651) | 39.6(1400) |
| 75% | 38.9(1372) | 31.3(1105) |
| 50% | 27.9 (984) | 22.8 (806) |
| 25% | 18.4 (650) | 15.1 (535) |
| 0% | 10.4 (369) | 8.8 (310) |
| Prime Rating | | |
| 100% | 43.9(1549) | 36.6(1293) |
| 75% | 35.8(1266) | 29.0(1023) |
| 50% | 26.1 (923) | 21.4 (757) |
| 25% | 17.7 (624) | 14.6 (515) |
| 0% | 10.4 (369) | 8.8 (310) |
| LP Gas, m³/hr. (cfh) at % load | | |
| Standby Rating | | |
| 100% | 16.5 (582) | 14.4 (509) |
| 75% | 13.3 (469) | 11.8 (416) |
| 50% | 10.0 (354) | 8.4 (298) |
| 25% | 6.4 (226) | 5.8 (205) |
| 0% | 3.7 (130) | 3.1 (108) |
| Prime Rating | | |
| 100% | 15.3 (541) | 13.5 (475) |
| 75% | 12.4 (438) | 10.9 (384) |
| 50% | 9.4 (331) | 8.0 (281) |
| 25% | 6.1 (217) | 5.6 (196) |
| 0% | 3.7 (130) | 3.1 (108) |

[‡] Fuel consumption is based on 1015 Btu/standard cu. ft. natural gas.

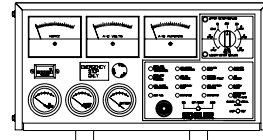
LP vapor conversion factors:
 8.58 ft.³ = 1 lb.
 0.535 m³ = 1 kg.
 36.39 ft.³ = 1 gal.

Controllers



Decision-Maker™ 550 Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. Alternator safeguard circuit protection. 12- or 24-volt engine electrical system capability. Remote start, remote annunciation, and remote communication options. Refer to G6-46 for additional controller features and accessories.



Decision-Maker™ 3+, 16-Light Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options. Refer to G6-30 for additional controller features and accessories.

Weather or Sound Enclosures

- See the weather enclosure specification sheet for more information.
- Enclosed insulated critical silencer with tailpipe and rain cap.
- Skid-mounted, corrosion-resistant construction with hinged and removable doors.
- Fade-, scratch-, and corrosion-resistant Kohler cream beige finish.
- Lockable, flush-mounted door latches.
- Air inlet louvers and baffles that prevent rain and snow entry.
- Pitched enclosure roof to prevent water accumulation.

Additional Standard Features

- Alternator Protection (standard with 550 controller)
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Gas Fuel System (includes fuel mixer, secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation
- Low Fuel Pressure Shutdown
- Oil Drain Extension
- Operation and Installation Literature

Available Accessories

Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)

Cooling System

- Block Heater
[recommended for ambient temperatures below 10°C (50°F)]

Fuel System

- Flexible Fuel Line
(required when the generator set skid is spring mounted)
- Gas Filter
- LP Gas Liquid Withdrawal
- Manual Valve
- Secondary Gas Solenoid Valve

Electrical System

- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater

Engine and Alternator

- Alternator, Wound Field (WF)
- Alternator, Permanent Magnet (PM)
- Air Cleaner Restrictor Indicator
- Alternator Strip Heater
- CSA Certification
- Engine Fluids (oil and coolant) Added
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)
- Optional Alternators
- Rated Power Factor Testing
- Rodent Guards
- Safeguard Breaker (not available with 550 controller)
- Voltage Regulation, 1%
- Voltage Regulator Sensing, 3-Phase

Literature and Maintenance

- General Maintenance Literature Kit
- Maintenance Kit (includes standard air, oil, and fuel filters)
- NFPA 110 Literature
- Overhaul Literature Kit
- Production Literature Kit

Controller (550 and 16-Light)

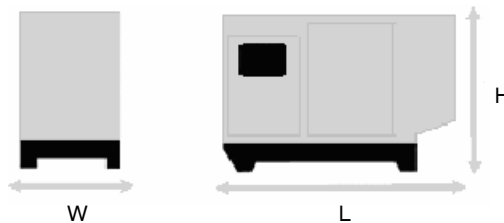
- Common Failure Relay Kit
- Communication Products and PC Software (550 controller only)
- Customer Connection Kit
- Dry Contact Kit (isolated alarm)
- Engine Prealarm Sender Kit
- Local Emergency Stop Kit
- Prime Power Switch
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop Kit
- Remote Mounting Cable
- Run Relay Kit

Miscellaneous Accessories

- _____
- _____
- _____
- _____
- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, mm (in.):
 Standard 2400 x 1040 x 2028 (94.5 x 40.9 x 79.9)
 Optional Upfit Kit 2908 x 1040 x 2028 (114.5 x 40.9 x 79.9)
 Weight (radiator model), wet, kg (lb.):



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

DISTRIBUTED BY: