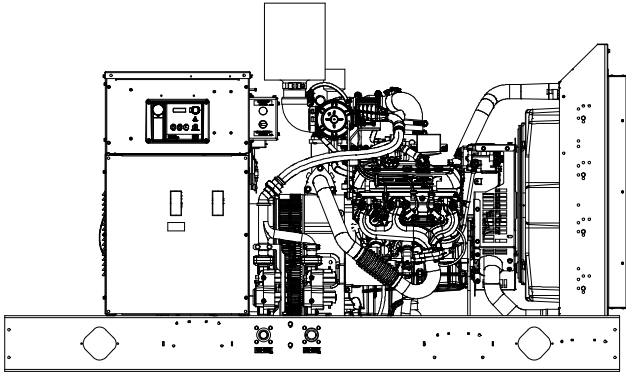


**EPA Certified for Stationary Emergency and Non-Emergency Applications**

Standby Rating – Stationary Emergency Applications

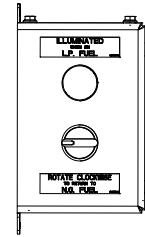
**Ratings Range**

		<b>60 Hz</b>
<b>Standby:</b>	<b>kW</b>	44-50
	<b>kVA</b>	44-63



**Standard Features**

- Rehlko 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 offers a cULus listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all generator set systems and components. Two-, five-, and ten-year extended limited warranties are also available for purchase in some jurisdictions.
- Alternator features:
  - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
  - The brushless, rotating-field alternator has broadrange reconnectability.
- Automatic dual-fuel NG/LP system with reset box is available.
- Dual fuel model features:
  - Natural gas is the primary fuel. Automatically transfers back to primary fuel when LPG fuel becomes low or generator stops and restarts.
  - The patented reset box on the generator provides the ability to manually transfer back to natural gas.



**Dual Fuel Reset Box**

**Generator Set Ratings**

Alternator	Voltage	Ph	Hz	Natural Gas 130°C Rise Standby Rating		LP Gas 130°C Rise Standby Rating	
				kW/kVA	Amps	kW/kVA	Amps
4P7BX	120/208	3	60	50/63	174	50/63	174
	277/480	3	60	50/63	76	50/63	76
	120/240	1	60	44/44	184	44/44	184
	120/240	3	60	50/63	151	50/63	151
4P10X	120/208	3	60	50/63	174	50/63	174
	277/480	3	60	50/63	76	50/63	76
	347/600	3	60	50/63	61	50/63	61
	120/240	1	60	50/50	209	50/50	209
4Q10X	120/240	3	60	50/63	151	50/63	151
4Q10X	120/240	1	60	50/50	209	50/50	209

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:* 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-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

### Alternator Specifications

Specifications	Alternator
Manufacturer	Rehiko
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent Magnet
Leads: quantity, type	12, Reconnectable
4P7BX, 4P10X	4, 110-120/220-240 V
4Q10X	Solid State, Volts/Hz
Voltage regulator	NEMA MG1
Insulation:	Class H
Material	130°C, Standby
Temperature rise	1, Sealed
Bearing: quantity, type	Flexible Disc
Coupling	Full
Amortisseur windings	125%
Rotor balancing	Controller Dependent
Voltage regulation, no-load to full-load	100% of Rating
One-step load acceptance	100% of Rated Standby Current
Unbalanced load capability	(35% dip for voltages below)
Peak motor starting kVA:	180 (60 Hz)
480 V 4P7BX (12 lead)	144 (60 Hz)
240 V 4Q10X (4 lead)	275 (60 Hz)
480 V, 600V 4P10X (12 lead)	

- The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
- The brushless, rotating-field alternator has broadrange reconnectability.
- 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 dripproof construction.

### Application Data

#### Engine

Engine Specifications	60 Hz
Manufacturer	Rehiko
Engine: model, type	KG04V06T-6CXS, 4.3L, Turbocharged
Cylinder arrangement	V-6
Displacement, L (cu. in.)	4.3 (262)
Bore and stroke, mm (in.)	101.6 x 88.4 (4.00 x 3.48)
Compression ratio	9.8:1
Rated rpm	1800
Max. power at rated rpm, kW (HP)	75.0 (100.6)
Cylinder head material	Cast Iron
Crankshaft material	Nodular Iron
Valve (exhaust) material	Forged Steel
Governor type	Electronic
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.5%
Frequency	Fixed
Air cleaner type, all models	Dry

#### Exhaust

Exhaust System	60 Hz	
	Nat. Gas	LP Gas
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	10.0 (358)	
Exhaust temperature at rated kW, dry exhaust, °C (°F)	561 (1042)	590 (1094)
Maximum allowable overall back pressure, kPa (in. Hg)	27.9 (8.2)	
Maximum allowable back pressure after catalyst, kPa (in. Hg)	19.7 (5.8)	
Exhaust outlet size at engine hookup, mm (in.)	See ADV drawing	

#### Engine Electrical

Engine Electrical System	60 Hz
Ignition system	Electronic, Distributor
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, 650
Battery voltage (DC)	12

### Fuel

Fuel System		60 Hz
Fuel type	Natural Gas, LP Gas, or Dual Fuel	
Fuel supply line inlet	1 NPTF	
Natural gas fuel supply pressure, kPa (in. H <sub>2</sub> O)	1.24-2.74 (5-11)	
LPG vapor withdrawal fuel supply pressure, kPa (in. H <sub>2</sub> O)	1.24-2.74 (5-11)	

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 <sub>4</sub> and higher, % by volume	0.3 max.	2.5 max.
Sulfur, ppm mass	25 max.	
Lower heating value, MJ/m <sup>3</sup> (Btu/ft. <sup>3</sup> ), min.	33.2 (890)	84.2 (2260)

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

### Lubrication

Lubricating System		60 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.) §	4.26 (4.5)	
Oil pan capacity with filter and oil cooler, L (qt.) §	4.73 (5)	
Oil filter: quantity, type §	1, Cartridge	

§ Rehiko recommends the use of Rehiko Genuine oil and filters.

### Cooling

Radiator System		60 Hz
Ambient temperature, °C (°F)*	50 (122)	
Engine jacket water capacity, L (gal.)	7.33 (1.9)	
Radiator system capacity, including engine, L (gal.)	15.5 (4.1)	
Engine jacket water flow, Lpm (gpm)	102 (27)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	50.6 (2880)	
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	533 (21)	
Fan, kWm (HP)	2.2 (2.9)	
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	See TIB-118	

\* Enclosure with internal silencer reduces ambient temperature capability by 5°C (9°F).

### Operation Requirements

Air Requirements		60 Hz
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm)†	136 (4800)	
Combustion air, m <sup>3</sup> /min. (cfm)	4.0 (141)	
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	30.9 (1760)	
Alternator, kW (Btu/min.)	7.7 (440)	

† Air density = 1.20 kg/m<sup>3</sup> (0.075 lbm/ft<sup>3</sup>)

Fuel Consumption‡		60 Hz
Natural Gas, m <sup>3</sup> /hr. (cfh) at % load		Standby Ratings
100%	19.5 (688)	
75%	15.4 (542)	
50%	11.1 (393)	
25%	7.0 (247)	

LP Gas, m <sup>3</sup> /hr. (cfh) at % load		Standby Ratings
100%	8.7 (308)	
75%	6.9 (245)	
50%	5.0 (178)	
25%	3.1 (110)	

‡ Nominal fuel rating: Natural gas, 37 MJ/m<sup>3</sup> (1000 Btu/ft.<sup>3</sup>)  
LP vapor, 93 MJ/m<sup>3</sup> (2500 Btu/ft.<sup>3</sup>)

LP vapor conversion factors:  
8.58 ft.<sup>3</sup> = 1 lb.  
0.535 m<sup>3</sup> = 1 kg.  
36.39 ft.<sup>3</sup> = 1 gal.

### Controllers



#### APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric

**Standard Features**

- Air Cleaner Restrictor Indicator
- Alternator Protection
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Gas Fuel System (includes fuel mixer, electronic secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Operation and Installation Literature
- Open Unit Accessory Kit (stone guards, radiator duct flange, flexible exhaust)

**Available Options**

**Approvals and Listings**

- cULus (UL 2200 and CSA)
- Hurricane Rated Enclosure
- IBC Seismic Certification

**Enclosed Unit**

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

**Open Unit**

- Exhaust Silencer, Critical (kit: PA-352663)
- Flexible Exhaust Connector, Stainless Steel

**Fuel System**

- Dual Fuel NG/LPG (automatic changeover)
- Flexible Fuel Line
- Fuel Filter Kit

**Controller**

- Common Fault Relay
- Two Input/Five Output Module
- Remote Annunciator Panel
- Remote Emergency Stop
- Run Relay
- Manual Speed Adjust

**Cooling System**

- Block Heater, 1500 W, 110-120 V  
Required for ambient temperatures below 10°C (50°F)
- Radiator Duct Flange

**Electrical System**

- Alternator Strip Heater
- Battery
- Battery Charger
- Battery Charger Temperature Compensation
- Battery Heater
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)

**Miscellaneous**

- Certified Test Report
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Rodent Guards

**Literature**

- General Maintenance
- NFPA 110
- Overhaul
- Production

**Warranty**

- 2-Year Basic Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty
- 10-Year Major Components Limited Warranty

**Other Options**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

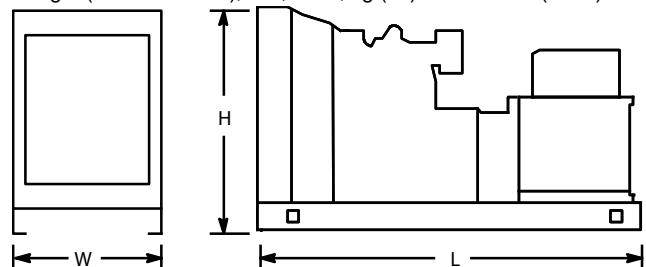
**Dimensions and Weights**

Overall Size, L x W x H, max., mm (in.):

Wide Skid	2200 x 1040 x 1318 (86.6 x 40.9 x 51.9)
Narrow Skid	2200 x 864 x 1318 (86.6 x 34.0 x 51.9)

Weight (radiator model), wet, max., kg (lb.):

830 (1830)



NOTE: This drawing is provided for reference only and should not be used for planning