



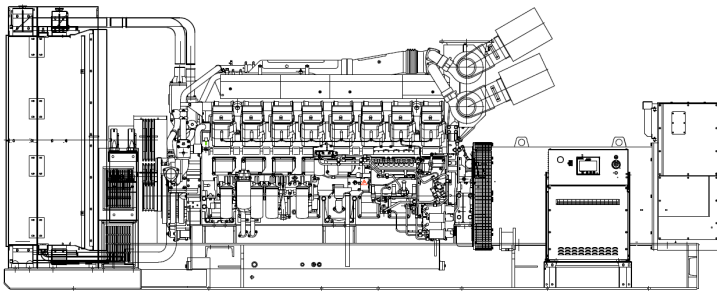
Ratings Range

		50 Hz
Standby:	kW	1950-2000
	kVA	2438-2500
Prime:	kW	1800-1804
	kVA	2250-2255



Standard Features

- Rehiko provides one-source responsibility for the generating system and accessories.
- Approved for use with certified renewable Hydrotreated Vegetable Oil (HVO) / Renewable Diesel (RD) fuels compliant with EN15940/ ASTM D975.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.
- The generator set accepts rated load in one step.
- A standard one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Alternator Protection
- Electronic, Isochronous Governor
- Oil Drain Extension
- Operation and Installation Literature
- Alternator Features:
 - The pilot-excited, permanent magnet generator (PMG) provides superior short-circuit capability.
 - The brushless, rotating-field generator has broad range reconnectability.
- Other features:
 - Rehiko designed controllers for guaranteed system integration and remote communication. See Controllers on page 3.
 - An electronic, isochronous governor delivers precise frequency regulation.
 - Multiple circuit breaker configurations.



Generator Ratings

Alternator	Voltage	Ph	Hz	150°C Rise		125°C Rise	
				Standby Rating kW/kVA	Amps	Prime Rating kW/kVA	Amps
7M4059	220/380	3	50	2000/2500	3798	1804/2255	3426
	230/400	3	50	2000/2500	3608	1804/2255	3254
	240/415	3	50	1950/2438	3391	1800/2250	3130

RATINGS: All three-phase units are rated at 0.8 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. Prime Power Ratings: 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 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for rating guidelines and complete ratings definitions. GENERAL GUIDELINES FOR DERATION : Altitude: Derate 5.0 % per 500 m (1640 ft) elevation above 1000m (3280 ft) up to maximum altitude of 4000m (13120 ft). Temperature: Derate 6.0 % per 10°C (18°F) temperature above 40°C (104°F) up to maximum temperature of 60° C (140° F).

This document is not contractual - Rehiko reserves the right to modify any of the characteristics without notice, in a constant effort to improve the quality of its products.

Alternator Specifications

Specifications	Generator	
Type	4-Pole, Rotating-Field	<ul style="list-style-type: none"> 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. Superior voltage waveform from two-thirds pitch windings and skewed stator. Brushless alternator with brushless pilot exciter for excellent load response.
Exciter type	Brushless, Permanent Magnet Generator	
Voltage regulator	Solid State, Volts/Hz	
Insulation:	NEMA MG1	
Material	Class H	
Temperature rise	125°C Prime, 150°C Standby	
Bearing: quantity, type	1, Sealed	
Coupling	Flexible Disc	
Amortisseur windings	Full	
Rotor balancing	125%	
Voltage regulation, steady state duty	3-Phase Sensing, ±0.25%	
Unbalanced load capability	100% of Rated Standby Current	
Peak motor starting kVA:	(35% dip for voltages below)	
380 V 7M4059 (4 bus bar)	7500 (50 Hz)	

Application Data

Engine

Engine Specifications	50 Hz
Engine model	S16R2-PTAW
Engine type	4-Cycle, Turbocharged
Cylinder arrangement	16-V
Displacement, L (cu. in.)	79.9 (4879)
Bore and stroke, mm (in.)	170 x 220 (6.69 x 8.66)
Compression ratio	14.0:1
Piston speed, m/min. (ft./min.)	660 (2165)
Main bearings: quantity, type	7, Precision Half-Shell
Rated rpm	1500
Max. power at rated rpm, kWm (BHP)	2167 (2905)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Governor: type, make/model	Electronic
Frequency regulation, no-load to full-load	Isochronous
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	50 Hz
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	506 (17867)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	508 (946)
Maximum allowable back pressure, kPa (in. Hg)	5.9 (1.7)
Exhaust outlet size at engine hookup, Mm (in.)	See ADV drawing

Engine Electrical

Engine Electrical System	50 Hz
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	35
Starter motor rated voltage (DC)	Dual, 24
Battery, recommended cold cranking amps (CCA):	
Qty., CCA rating	4, 1150
Battery voltage (DC)	12

Fuel

Fuel System	50 Hz
Fuel supply line, min. ID, mm (in.)	25 (1.0)
Fuel return line, min. ID, mm (in.)	19 (0.75)
Max. lift, engine-driven fuel pump, m (ft.)	1 (3)
Max. fuel flow, Lph (gph)	1128 (298.4)
Max. fuel pump restriction, kPa (in. Hg)	10 (3.0)
Fuel filter: quantity, type	4, Secondary
Recommended fuel	Diesel / RD / HVO

Lubrication

Lubricating System	50 Hz
Type	Full Pressure
Oil pan capacity, L (qt.)	200 (211)
Oil pan capacity with filter, L (qt.)	290 (306)
Oil filter: quantity, type	4, Cartridge
Oil Cooler	Water-Cooled

Application Data

Cooling

Radiator System	50 Hz
Ambient Temperature, °C (°F)	40 (104)
Engine jacket water capacity, L (gal.)	157 (41.5)
Engine charge air cooler water capacity, L (gal.)	33 (8.7)
Radiator system capacity, including engine, L (gal.)	515 (136)
Engine jacket water flow, Lpm, (gpm)	1650 (436)
Charge cooler water flow, Lpm (gpm)	920 (243)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	814 (46269)
Heat rejected to charge cooling water at rated kW, dry exhaust, kW(Btu/min.)	561 (31910)
Water pump type	Centrifugal
Fan diameter, including blades, mm(in)	1880 (74)
Fan, kWm (HP)	72 (96.5)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

Operation Requirements

Air Requirements	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm) ~	1995 (70453)
Combustion air, m ³ /min. (cfm)	191 (6744)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	168 (9573)
Generator, kW (Btu/min.)	73.1 (4157)

Fuel Consumption

Diesel, Lph (gph) at % load	Standby Rating
100%	518 (137.0)
75%	373 (98.7)
50%	269 (71.2)
25%	156 (41.3)

Diesel, Lph (gph) at % load	Prime Rating
100%	450 (119.0)
75%	338 (89.4)
50%	247 (65.3)
25%	134 (35.4)

** Fuel consumption is up to 4% higher when using HVO/RD than Diesel.

Controllers



APM603 Controller

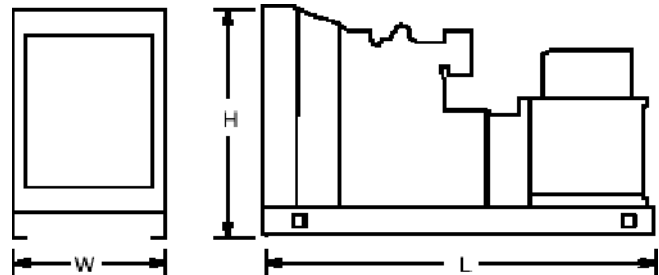
A 7-inch color TFT touchscreen for easy local access to data. Home screen can be customized to show critical data at a glance. Create a custom favorites list for quick access to important data.

Measurements are selectable in metric or English units. Supports Modbus protocol through serial bus and Ethernet networks, and supports SNMP and BACnet through Ethernet networks.

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 6378 x 2229 x 2507 (251.1 x 87.7 x 98.7)

Weight (radiator model), wet, max., kg (lb.): 16800 (36960)



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

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