

Model: **KM12M**

**KOHLER** POWER SYSTEMS

220-240 V

Diesel

**ISO 9001**  
KOHLER  
POWER SYSTEMS  
NATIONALLY REGISTERED

## Ratings Range

		KM12M 50 Hz	
Standby:	kW	12	
	kVA	12	
Prime:	kW	11	
	kVA	11	



## 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.
- A one-year limited warranty covers all systems and components.
- Mitsubishi engine with 12-volt battery charging alternator.
- Mecc Alte single-bearing alternator with insulation class H.
- Unit mounted radiator with 50°C (122°F) ambient air capability.
- Skid and vibration isolators.
- Subbase fuel tank, 50 L (13 gal.).
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- Battery, battery rack, and cables.
- Industrial exhaust silencer (loose).
- Operation and installation literature.

## Generator Set Ratings

Alternator	Voltage	Ph	Hz	Standby Rating		Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
	110/220	1	50	12/12	55	11/11	50
ECO28-1L	115/230	1	50	12/12	52	11/11	48
	120/240	1	50	12/12	50	11/11	46

**RATINGS:** All single-phase units are rated at 1.0 power factor. See TIB-109 for generator set derate tables. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions.

**PRP:** Prime power is available for an unlimited number of annual operating hours in variable load applications in accordance with ISO-8528/1. A 10% overload capability is available for a period of 1 hour within a 12-hour period of operating in accordance with ISO-3046/1.

**ESP:** The emergency standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO-8528/1. Overload is not allowed. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

# Alternator Specifications

- NEMA-MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards compliance for temperature rise and motor starting.
- Sustained short-circuit current greater than 300% of the rated current for up to 10 seconds.
- Self-ventilated and dripproof 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.

Specifications	
Ratings voltage	230 V
Standby rating @ 27°C, kVA	—
Prime rating @ 40°C, kVA	13.5
Efficiency @ full load	87.6%
Air flow, m <sup>3</sup> /min. (cfm)	5.3 (187)
Direct axis subtransient reactance (X <sup>"</sup> d)	—

Specifications	Alternator
Manufacturer	Mecc Alte
Type	4-Pole, Rotating-Field
Exciter type	Brushless
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State
Insulation:	NEMA MG1
Material	Class H
Bearing: quantity, type	1, Sealed
Coupling	Direct
Voltage regulation, no-load to full-load	±1%

## Application Data

### Engine

Engine Specifications	
Manufacturer	Mitsubishi
Engine model	S4L2.SD
Engine type	4-Cycle, Naturally Aspirated
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	1.75 (107)
Bore and stroke, mm (in.)	78 x 92 (3.1 x 3.6)
Compression ratio	22:1
Piston speed, m/min. (ft./min.)	276 (906)
Rated rpm	1500
Max. power at rated rpm, kWm (BHP)	16.6 (22)
Governor type	Mechanical
Frequency regulation, no-load to full-load	ISO 5%
Frequency regulation, steady state	±2.5%
Air cleaner type, all models	Dry

### Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	2.9 (103)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	410 (770)
Maximum allowable back pressure, kPa (in. Hg)	7.0 (2.1)
Exhaust outlet size at engine hookup, mm (in.)	60.5 (2.38)

### Engine Electrical

Engine Electrical System	
Battery charging alternator:	12 Volt
Ground (negative/positive)	Negative
Volts (DC)	12
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each	One, 680
Battery voltage (DC)	12

### Fuel

Fuel System	
Max. fuel flow, Lph (gph)	18 (4.8)
Fuel prime pump	Electric
Recommended fuel	#2 Diesel
Fuel tank capacity, L (gal.)	50 (13.2)

### Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.)	5.4 (5.6)
Oil pan capacity with filter, L (qt.)	5.9 (6.4)

# Application Data

## Cooling

### Radiator System

Ambient temperature, °C (°F)	50 (122)
Radiator system capacity, including engine, L (gal.)	4.9 (1.3)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	14 (796)
Water pump type	Centrifugal
Fan, kWm (HP)	0.5 (0.7)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.1 (0.4)

## Operation Requirements

### Air Requirements

Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm) *	48 (1695)
Combustion air, m <sup>3</sup> /min. (cfm)	1.1 (39)

\* Air density = 1.20 kg/m<sup>3</sup> (0.075 lbf/ft<sup>3</sup>)

### Fuel Consumption

Diesel, Lph (gph) at % load	Standby Rating
110%	—
Diesel, Lph (gph) at % load	Prime Rating
100%	4.4 (1.2)
75%	3.4 (0.9)
50%	2.6 (0.7)

## Controllers



### Decision-Maker™ 1000

#### Automation

- Test LEDs
- Voltage and speed stabilization

#### Engine Parameters

- Engine speed indication (with LCD message)
- Battery voltage indication (with LCD message)
- Elapsed hour meter (with LCD message)
- Fuel solenoid control
- Starter control

#### Measurements

- Frequency, Hz (with LCD message)

#### Operation and/or Safety Lights

- Oil pressure fault
- Water temperature fault
- Fail to start fault
- Overspeed fault (≥60 kVA)
- Set ready for load
- Charging alternator fault
- General alarm
- General fault
- Panel lamp
- Emergency stop fault

#### Safety Devices

- Overspeed fault
- Automatic standby

#### Miscellaneous

- Fault reset
- Three-phase with or without neutral, two-phase, or single-phase use

## Available Accessories

### Enclosed Unit

- Sound Enclosure, 60.7 dB @ 7 m (23 ft.), Standby (with enclosed critical silencer)

### Open Unit

- Exhaust Silencer, Critical 40 dB(A) Reduction
- Exhaust Silencer, Residential 29 dB(A) Reduction
- Extension, 40 cm (16 in.)
- Flexible Exhaust Connector
- Protection Mesh

### Cooling System

- Block Heater [recommended for ambient temperatures below 0°C (32°F)]
- Radiator core guard

### Controller

#### Automation

- External Starting Order
- Plug Preheating
- Remote Start Capability
- Utility Sensing, 3-Phase

#### Engine Parameters

- Plug Preheating Control
- Water Preheating Control

#### Measurements

- Analog Indicator
- Line Voltages, Volts
- Phase Currents, Amps
- Single Voltages, Volts

#### Safety Devices

- Overload or Short-Circuit Fault
- Differential Triggering Fault

#### Miscellaneous

- Alarm Horn
- Differential Protection with Time and Sensitivity Adjustment
- External ATS Position
- Permanent Insulation Controller

### Fuel System

- Automatic Fuel Tank Fill Kit
- Subbase Fuel Tank with Secondary Containment Basin
- Subbase Fuel Tank Leak Alarm
- Water Separator Fuel Filter

### Electrical System

- Battery Charger, Equalize/Float Type
- Battery Isolator Switch

### Engine

- Air Cleaner, Heavy Duty (with air restriction indicator)
- Electronic Isochronous Governor
- Lube Oil Drain Pump

### Miscellaneous Accessories

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

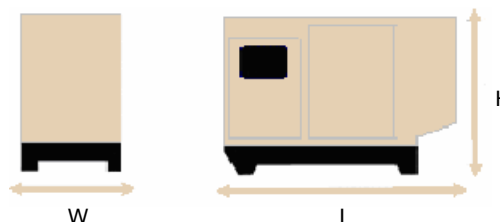
## Dimensions and Weights

### Open Model



Overall Size, L x W x H, mm (in.): 1405 x 715 x 1053 (55 x 28 x 41.5)  
 Weight, wet, kg (lb.): 506 (1115)

### With Available Accessory Enclosure



Overall Size, L x W x H, mm (in.): 1750 x 715 x 1230 (69 x 28 x 48)  
 Weight, wet, kg (lb.): 654 (1441)

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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