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

With Available Enclosure Accessory

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 9 dB(A) reduction exhaust silencer (loose).
- Operation and installation literature.

Generator Set Ratings

				Standby Rating		Prime Rating	
Alternator	**Voltage**	**Ph**	**Hz**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**
	220	1	50	12/12	55	11/11	50
ECO28-1L	230	1	50	12/12	52	11/11	48
	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^3/min. (cfm)	5.3 (187)
Direct axis subtransient reactance (X"d)	—

Specifications	Alternator
Manufacturer	Mecc Alte
Exciter type	Brushless
Leads: quantity, type	12, Reconnectable
Type	4-Pole, Rotating-Field
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^3/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_2O)	0.1 (0.4)

Operation Requirements

Air Requirements	
Radiator-cooled cooling air, m^3/min. (scfm) *	48 (1695)
Combustion air, m^3/min. (cfm)	1.1 (39)

* Air density = 1.20 kg/m^3 (0.075 lbm/ft^3)

Fuel Consumption	
Diesel, Lph (gph) at % load	**Standby Rating**
110% (standby rating)	—
Diesel, Lph (gph) at % load	**Prime Rating**
100% (of the prime rating)	4.4 (1.2)
75% (of the prime rating)	3.4 (0.9)
50% (of the prime rating)	2.6 (0.7)

Controller

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

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-565-3381, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KohlerPower.com

Kohler Power Systems, EMEA Headquarters
ZI Senia 122
12, rue des Hauts Flouviers
94517 Thiais Cedex, France
Phone (33) 1 41 735500, Fax (33) 1 41 735501

Kohler Power Systems
Asia Pacific Headquarters
7 Jurong Pier Road
Singapore 619159
Phone (65) 6264-6422, Fax (65) 6264-6455

Available Accessories

Enclosed Unit

- ❑ Sound Enclosure M126, 60.7 dB(A) @ 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

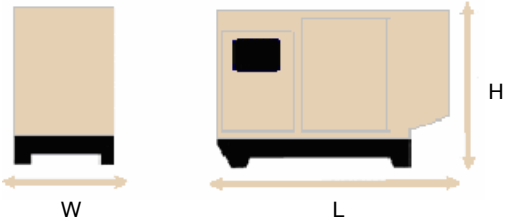
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____

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 Enclosure Accessory



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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