



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

| Alternator | Voltage | Ph | Hz | Standby Rating | | Prime Rating | |
|------------|---------|----|----|----------------|------|--------------|------|
| | | | | 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

| 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 ₂ O) | 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

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

- _____
- _____
- _____
- _____

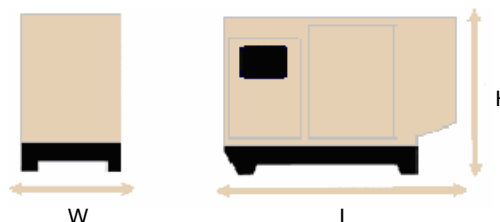
Dimensions and Weights

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.

DISTRIBUTED BY:



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