KOHLER®

# Diesel Generator

## 7.5 kVA, 10 kVA and 12.5 kVA

| Prime Ratings Range | | | |
|---|---|---|---|
| | KDG0008P1 | KDG0010P1 | KDG0013P1 |
| | 50Hz | 50 Hz | 50Hz |
| kVA | 7.5 | 10 | 12.5 |

CPCB II Emission Compliant


## The Kohler Advantage

- One-stop solution for the generating system and accessories
- Manufactured in India with global expertise
- Compact design with ease of maintenance
- Maux winding provides excellent motor starting capability
- Flexible & creative customized solutions to meet customer needs
- Fast response time
- One-year or 1500 hours as per standard warranty terms from date of initial startup

## Special Features

- Natural aspirated industrial diesel engine with superior efficiency and operating economy
- Integral vibration isolation eliminates the need for under-unit vibration spring isolators
- Advanced Digital Controller (ADC) with 3 auto crank cycles
- Alternator features:
  - Alternator meets Indian and international standards
  - Self-ventilated and dripproof of IP23 construction
  - Superior voltage waveform by 2/3 pitch wound stator
  - Sustained short circuit current of up to 300% of the rated current for up to 20 seconds
- Silencer located inside canopy

## Standard Features

- Engine mounted alternator
- Single - bearing alternator with insulation Class H
- Unit mounted radiator with 50°C ambient temperature
- Base frame mounted fuel tank with minimum 8 hrs running capacity
- Dry type air filter with restriction indicator
- DG circuit breaker
- Electric start with battery
- Conveniently located fuel level indicator
- Exhaust tail pipe as standard scope of supply
- Weather proof enclosures to withstand harsh climate
- All routine service points on one side of canopy
- Riser blocks for lifting and handling

## Conformance Standards

- ISO 3046
- BS 5514
- ISO 8528
- BS EN 60034
- BS5000
- VDE 0530
- NEMA MG1-32
- IEC34
- AS1359
- CSA C22.2-100

## Generator Set Ratings

| Genset | Engine | Alternator | Voltage | Phase | Hz | Prime Rating | | Amps |
|---|---|---|---|---|---|---|---|---|
| | | | | | | kWe | kVA | |
| KDG0008P1 | KDW702-GSI2 | ECP3-1L/2 | 415 | 3 | 50 | 6 | 7.5 | 10.4 |
| KDG0008P1 | KDW702-GSI2 | ECP3-1L/2 | 230 | 1 | 50 | 6 | 7.5 | 32.6 |
| KDG0010P1 | KDW1003-GSI2 | ECP3-1L/2 | 415 | 3 | 50 | 8 | 10 | 13.9 |
| KDG0010P1 | KDW1003-GSI2 | ECP3-1L/2 | 230 | 1 | 50 | 8 | 10 | 43.5 |
| KDG0013P1 | KDW1003-GSI2 | ECP3-1L/2 | 415 | 3 | 50 | 10 | 12.5 | 17.4 |
| KDG0013P1 | KDW1003-GSI2 | ECP3-2L/2 | 230 | 1 | 50 | 10 | 12.5 | 54.3 |

PRIME POWER RATINGS: Prime power ratings apply to installations where utility power is unavailable or unreliable. 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, overload power in accordance with ISO-3046/1 and BS 5514. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions.

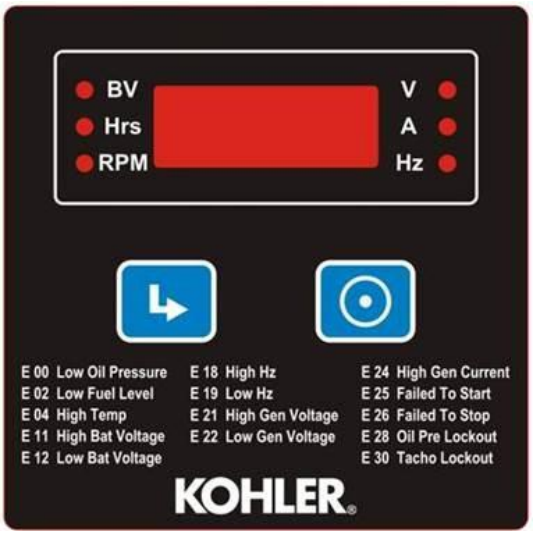
## Engine Specifications

| Specifications | 7.5 kVA | 10 kVA | 12.5 kVA |
|---|---|---|---|
| Engine model | KDW702-GSI2 | KDW1003-GSI2 | KDW1003-GSI2 |
| Engine aspiration | Natural aspiration | Natural aspiration | Natural aspiration |
| No. of cylinders & arrangement | 2, Inline | 3, Inline | 3, Inline |
| Displacement, L (cu. in.) | 0.686 (41.86) | 1.08 (65.90) | 1.08 (65.90) |
| Bore and stroke, mm (in.) | 75 x 77.6 (2.95 x 3.05) | 75 x 77.6 (2.95 x 3.05) | 75 x 77.6 (2.95 x 3.05) |
| Compression ratio | 22.8:1 | 22.8:1 | 22.8:1 |
| Governor: type, Class | Mechanical, Class A2 | Mechanical, Class A2 | Mechanical, Class A2 |
| Frequency regulation, steady state | ISO 8528 G2 | ISO 8528 G2 | ISO 8528 G2 |
| Air cleaner type, Qty | Dry, 1 | Dry, 1 | Dry, 1 |
| Unit-mounted radiator ambient temperature °C (°F) | 50 (122) | 50 (122) | 50 (122) |
| Max. power kWm (BHP) @ rated speed (rpm) | 9.5 (12.7) @ 3000 | 15 (20.1) @ 3000 | 15 (20.1) @ 3000 |
| **Diesel Fuel Consumption** | | | |
| 100% Load (Lph) | 2.6 | 3 | 3.8 |
| 75% Load (Lph) | 2 | 2.7 | 3.2 |
| **Lube Oil Consumption** | | | |
| 100% load (Lph) | 0.011 | 0.019 | 0.019 |
| **Fuel System** | | | |
| Fuel prime pump | Mechanical | Mechanical | Mechanical |
| Fuel filter : Type, Qty | Spin-on, 2 | Spin-on, 2 | Spin-on, 2 |
| Recommended fuel | HSD-ASTM D2 | HSD-ASTM D2 | HSD-ASTM D2 |
| Fuel tank capacity, L | 50 | 60 | 60 |
| Fuel filter change period | Initial - 50 hrs / 3 months, Subsequent 250 hrs / 6 months whichever is earlier | Initial - 50 hrs / 3 months, Subsequent 250 hrs / 6 months whichever is earlier | Initial - 50 hrs / 3 months, Subsequent 250 hrs / 6 months whichever is earlier |
| **Lubrication System** | | | |
| System type | Forced lubrication | Forced lubrication | Forced lubrication |
| Lube oil type | Kohler Oil | Kohler Oil | Kohler Oil |
| Oil pan capacity with filter, L | 4.9 | 4.9 | 4.9 |
| Oil filter: Quantity, Type | 1, spin on | 1, spin on | 1, spin on |
| Oil and oil filter change period | Initial - 50 hrs / 3 months, Subsequent 250 hrs / 6 months whichever is earlier | Initial - 50 hrs / 3 months, Subsequent 250 hrs / 6 months whichever is earlier | Initial - 50 hrs / 3 months, Subsequent 250 hrs / 6 months whichever is earlier |
| **Exhaust System** | | | |
| Max. allowable back pressure, KPa (in.Hg) | 4 (1.2) | 5.3 (1.5) | 5.3 (1.5) |
| Exhaust outlet size at engine hookup, mm (in) | 75 (2.95) | 75 (2.95) | 75 (2.95) |
| Silencer Type, Quantity | Residential, 1 | Residential, 1 | Residential, 1 |
| Exh. temperature at rated kW, dry exhaust, °C (°F) | 600 (1112) | 600 (1112) | 600 (1112) |
| **Cooling System** | | | |
| Ambient temperature, °C (°F) | 50 (122) | 50 (122) | 50 (122) |
| Coolant capacity including engine, L (gal) | 3.8 (0.83) | 4 (0.88) | 4 (0.88) |
| Water pump type | Impeller | Impeller | Impeller |
| Fan diameter, including blades, mm (in.) | 350 (13.78) | 380 (14.96) | 380 (14.96) |
| **Engine Electrical System** | | | |
| Starter Motor rated voltage VDC | 12 V | 12 V | 12 V |
| Battery charger | 12 V, 5 Amp | 12 V, 5 Amp | 12 V, 5 Amp |
| Ground (negative/positive) | Negative | Negative | Negative |
| Battery type-<br><br>Amp/hour<br>Quantity | Lead acid<br><br>35<br>1 | Lead acid<br><br>35<br>1 | Lead acid<br><br>35<br>1 |
| Battery voltage, VDC | 12 | 12 | 12 |

## Alternator Specifications

| Specifications | 7.5 kVA | 10 kVA | 12.5 kVA |
|---|---|---|---|
| Type | 2 Pole | 2 Pole | 2 Pole |
| Exciter type | Brushless | Brushless | Brushless |
| Voltage regulator | DSR | DSR | DSR |
| Insulation<br>- Material<br>- Temperature rise, Prime | <br>Class H<br>125°C | <br>Class H<br>125°C | <br>Class H<br>125°C |
| Bearing: Quantity, Type | 1, Sealed | 1, Sealed | 1, Sealed |
| Coupling | Flexible disk | Flexible disk | Flexible disk |
| Voltage regulation | +/-1.5% | +/-1.5% | +/-1.5% |
| Excitation | Self excitation | Self excitation | Self excitation |
| Frequency, Fixed, Hz | 50 | 50 | 50 |
| Short circuit ratio | 1.13 | 1.13 | 1.13 |
| Full load current - 3 phase<br>- 1 phase | 10.4<br>32.6 | 13.9<br>43.5 | 17.4<br>54.3 |
| Prime at 125° C, kVA | 40 | 50 | 62.5 |

# Advanced Digital Controller (ADC2000)




## Standard Features

- Master switch: Control On/Off
- Event Log
- Remote two-wire start/stop capability
- One-source responsibility for generating system & accessories
- Automatic start with programmed cranking cycle
- Field software upgrade possibility
- Operating temperature: -20°C to 70°C (-4°F to 158°F)
- Storage temperature: -20°C to 70°C (-4°F to 158°F)
- Humidity: 0-95% condensing
- Control Panel
  - Alternator to control panel connection with copper cable only
  - MCCB/MCB details : with short circuit and overload protection

| | 7.5 kVA | 10 kVA | 12.5 kVA |
|---|---|---|---|
| Output copper cable size (Sq. mm) : 3 Ph (1 run) | 2.5 | 4 | 4 |
| Output copper cable size (Sq. mm) : 1 Ph (1 run) | 6 | 16 | 16 |

## Optional Features

- Microprocessor based AMF control panel
- GPRS based generator monitoring system

## Controller Information

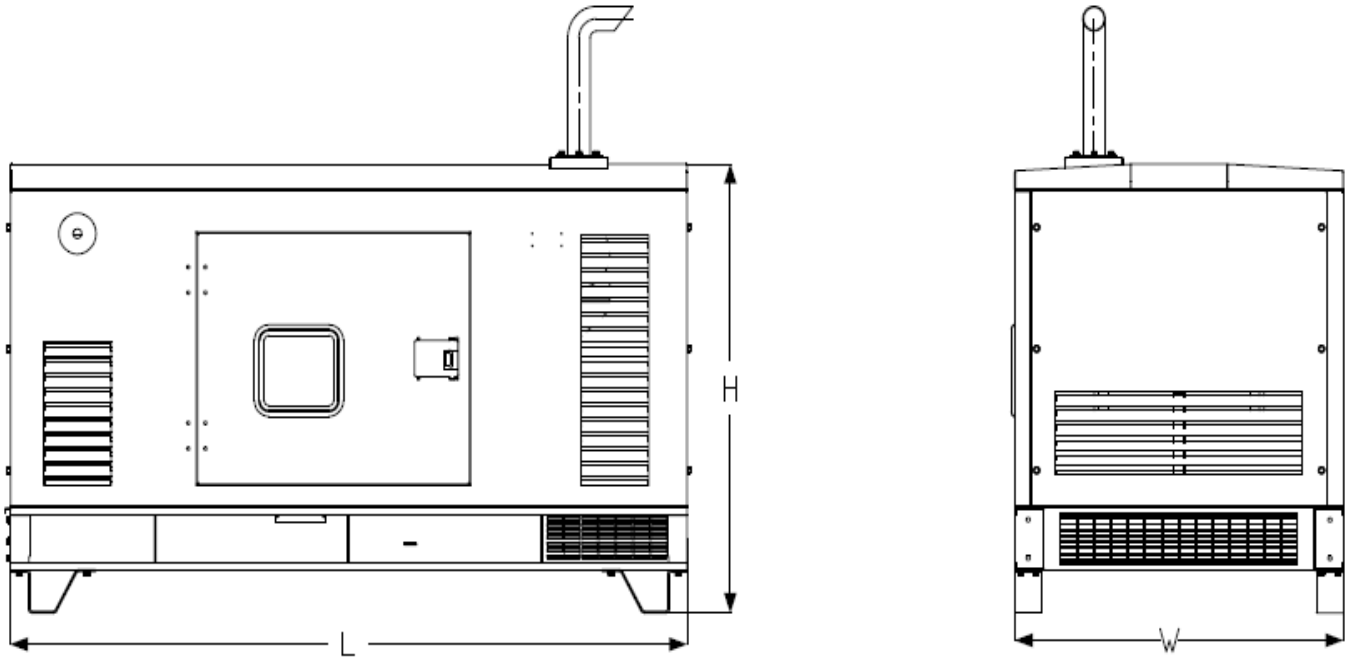
| LED Display | LED Display Faults | Display Warnings | Optional Accessories | Power Requirements |
|---|---|---|---|---|
| Runtime hours | High engine temperature | Low battery voltage | Mains sensing relay | 8 to 16 VDC with fuse protection |
| Engine speed | Low oil pressure | High battery voltage | Earth leakage protection | 40 mA @ 12 VDC |
| Battery voltage | Overspeed / underspeed | Low fuel level | | |
| Current | Over and under voltage | Maintenance alarm | | |
| Voltage | Over and under frequency | | | |
| Frequency | Auxiliary fault | | | |
| | Low fuel level | | | |
| | Over load current | | | |
| | Phase reversal (3 Phase) | | | |

## Regulatory Compliance

| Specifications | 7.5 kVA | 10 kVA | 12.5 kVA |
|---|---|---|---|
| As per ISO 8178-5 mode cycle (Engine emission) | CPCB-II compliant | CPCB-II compliant | CPCB-II compliant |
| Noise level measured at 1 meter distance | < 75 dB (A) | < 75 dB (A) | < 75 dB (A) |

## Dimensions and weight

| Specifications | 7.5 kVA | 10 kVA | 12.5 kVA |
|---|---|---|---|
| Overall Size, L x W x H (mm) | 1450 x 800 x 1002 | 1750 x 850 x 1052 | 1750 x 850 x 1052 |
| Weight, dry, max (kg) | 361 | 411 | 419 |




**NOTE :** Drawing provided is for reference only and should not be used for planning installation. Please contact the Company for latest updated details.

All the data is as per respective manufacturers' specification.
Please refer O & M manual for maintenance and preservation guidelines.

KOHLER reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

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