

KDxxxx- 4 designates a 60 Hz generator set with a Tier 4 EPA-Certified engine.

Ratings Range

		60 Hz
Standby:	kW	3250
	kVA	4062
Prime:	kW	2950
	kVA	3688
Continuous:	kW	2450
	kVA	3062

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.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A standard three-year or 1000-hour limited warranty for standby applications. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications. Five-year basic and five-year comprehensive warranties are also available.
- A standard one-year warranty with unlimited hours for continuous power applications.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controller on page 4.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).

General Specifications

Orderable Generator Model Number	GMKD3250- 4
Manufacturer	Kohler
Engine: model	KD83V16
Alternator Choices	KH07631TO4D KH07632TO4D KH09370TO4D KH07640TO4D KH08590TO4D KH09390TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	480 V, 600 V, 4160 V, 6600 V, or 12470V, 13200V, 13800 V
Controller	APM603
Fuel Consumption, L/hr (gal./hr) 100% at Standby	829 (219.2)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	739 (195.3)
Fuel Consumption, L/hr (gal./hr) 100% at Continuous Power	616 (162.8)
DEF Consumption, L/hr (gal./hr) 100% at Standby	66.4 (17.5)
DEF Consumption, L/hr (gal./hr) 100% at Prime Power	66.5 (17.6)
DEF Consumption, L/hr (gal./hr) 100% at Continuous Power	58.5 (15.5)
Emission Level Compliance (KDxxxx)	Tier 4
Open Unit Noise Level @ 7 m dB(A) at Rated Load	99
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating		80°C Rise Continuous Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH07631TO4D	277/480	3	60	3250/4062	4886	2950/3688	4436	2450/3062	3684
	2400/4160	3	60	3250/4062	564	2950/3688	512	2450/3062	425
	3810/6600	3	60	3250/4062	356	2950/3688	323	2450/3062	268
	7200/12470	3	60	3250/4062	189	2950/3688	171	2450/3062	142
	7620/13200	3	60	3250/4062	178	2950/3688	162	2450/3062	134
	7970/13800	3	60	3250/4062	170	2950/3688	155	2450/3062	129
KH07632TO4D	277/480	3	60	3250/4062	4886	2950/3688	4436	2450/3062	3684
	347/600	3	60	3250/4062	3909	2950/3688	3549	2450/3062	2947
	7200/12470	3	60	3250/4062	189	2950/3688	171	2450/3062	142

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 ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.



Industrial Diesel Generator Set - KD3250-4
Tier 4 EPA-Certified for Stationary, Prime, Continuous Applications

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating		80°C Rise Continuous Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH09370TO4D	277/480	3	60	3250/4062	4886	2950/3688	4436	2450/3062	3684
	2400/4160	3	60	3250/4062	564	2950/3688	512	2450/3062	425
KH07640TO4D	3810/6600	3	60	3250/4062	356	2950/3688	323	2450/3062	268
	277/480	3	60	3240/4050	4871	2950/3688	4436	2440/3050	3669
KH08590TO4D	277/480	3	60	3250/4062	4886	2950/3688	4436	2440/3050	3669
	347/600	3	60	3250/4062	3910	2960/3700	3560	2450/3062	2947
KH09390TO4D	277/480	3	60	3240/4050	4871	2940/3675	4420	2420/3025	3639

Engine Specifications	60 Hz
Manufacturer	Kohler
Engine: model	KD83V16
Engine: type	4-Cycle, Turbocharged, Intercooled
Cylinder arrangement	16-V
Displacement, L (cu. in.)	83 (5048)
Bore and stroke, mm (in.)	175 x 215 (6.89 x 8.46)
Compression ratio	16.0:1
Piston speed, m/min. (ft./min.)	774 (2539)
Main bearings: quantity, type	9, Precision Half Shells
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	3490 (4680)
Cylinder head material	Cast Iron
Crankshaft material	Steel
Valve (exhaust) material	Steel
Governor: type, make/model	KODEC Electronic Control
Frequency regulation, no-load to-full load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Lubricating System	60 Hz
Type	Full Pressure
Oil pan capacity with filter (initial fill), L (qt.) §	420 (444)
Oil filter: quantity, type §	8, Cartridge
Oil cooler	Water-Cooled
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Fuel System	60 Hz
Fuel supply line, min. ID, mm (in.)	25 (1.0)
Fuel return line, min. ID, mm (in.)	19 (0.75)
Max. fuel flow , Lph (gph)	1050 (277.4)
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	- 50/50 (- 14.8/14.8)
Maximum diesel fuel lift, m (ft.)	3.7 (12)
Max. return line restriction, kPa (in. Hg)	30 (8.9)
Fuel filter: quantity, type	3, Primary Engine Filter 2, Fuel/Water Separator
Recommended fuel	#2 Diesel ULSD

	Diesel Fuel Consumption	DEF Consumption
	Standby Rating	Standby Rating
% load	Lph (gph)	Lph (gph)
100%	829 (219.2)	66.4 (17.5)
75%	616 (162.8)	58.5 (15.5)
50%	427 (112.8)	44.8 (11.8)
25%	244 (64.6)	24.4 (6.5)
10%	138 (36.3)	12.4 (3.3)
Prime Rating		Prime Rating
% load	Lph (gph)	Lph (gph)
100%	739 (195.3)	66.5 (17.6)
75%	560 (148.0)	56.0 (14.8)
50%	396 (104.6)	39.6 (10.5)
25%	229 (60.4)	22.9 (6.0)
10%	107 (28.2)	9.6 (2.5)
Continuous Rating		Continuous Rating
% load	Lph (gph)	Lph (gph)
100%	616 (162.8)	58.5 (15.5)
75%	474 (125.1)	47.4 (12.5)
50%	336 (88.8)	33.6 (8.9)
25%	202 (53.4)	20.2 (5.3)
10%	120 (31.6)	10.8 (2.8)

Radiator System	60 Hz
Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	375 (99)
Radiator system capacity, including engine, L (gal.)	1192 (315)
Engine jacket water flow, Lpm (gpm)	2707 (715)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	ESP 1150 (65400) PRP 1050 (59712) COP 950 (54026)
Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.)	ESP 1100 (62556) PRP 950 (54026) COP 700 (39809)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	2438 (96)
Fan, kWm (HP)	100 (134)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

Remote Radiator System†	60 Hz
Exhaust manifold type	Dry
Connection sizes:	Class 150 ANSI Flange
Water inlet/outlet, mm (in.)	216 (8.5) Bolt Circle
Intercooler inlet/outlet, mm (in.)	178 (7.0) Bolt Circle
Static head allowable above engine, kPa (ft. H ₂ O)	250 (83.6)
† Contact your local distributor for cooling system options and specifications based on your specific requirements.	

Exhaust System	60 Hz
Exhaust flow at rated kW, m ³ /min. (cfm)	671 (23701)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	475 (887)
Maximum allowable back pressure, kPa (in. Hg)	See TIB- 119
Exh. outlet size at eng. hookup, mm (in.)	See ADV drawing

Electrical System	60 Hz
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	140
Starter motor qty. at starter motor power rating, rated voltage (DC)	Standard: 2 @ 9 kW, 24; Redundant (optional); 2 @ 15 kW, 24
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each, type (with standard starters)	4, 1110, AGM
Quantity, CCA rating each, type (with redundant starters)	8, 1110, AGM
Battery voltage (DC)	12

Air Requirements	60 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)‡	3823 (135000)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m ³ /min. (scfm)‡	1214 (42887)
	ESP 258 (9100) PRP 241 (8504) COP 208 (7360)
Combustion air, m ³ /min. (cfm)	
Heat rejected to ambient air:	
	ESP 170 (9668) PRP 160 (9099) COP 140 (7962)
Engine, kW (Btu/min.)	
Alternator, kW (Btu/min.)	179 (10200)

‡ Air density = 1.20 kg/m³ (0.075 lbm/ft³)

Alternator Specifications	60 Hz
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet Pilot Exciter
Voltage regulator	Solid-State, Volts/Hz
Insulation:	NEMA MG1, UL 1446, Vacuum Pressure Impregnated (VPI)
Material	Class H, Synthetic, Nonhygroscopic
Temperature rise	130°C, 150°C Standby
Bearing: quantity, type	2, Sealed
Coupling type	Coupling
Amortisseur windings	Full
Alternator winding type	Form Wound
Rotor balancing	125%
Voltage regulation, no-load to full-load	±0.25%
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V	KH07631TO4D 8996
480 V	KH09370TO4D 10941

Alternator Standard Features

- The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
- All models are brushless, rotating-field alternators.
- 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.

NOTE: See TIB- 102 Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.

Controller



APM603 Controller

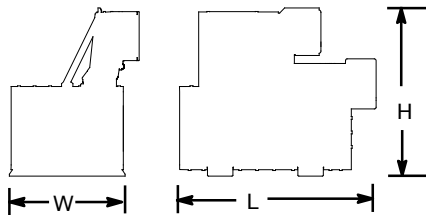
Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- 7-inch graphic display with touch screen and menu control provides easy local data access
- Measurements are selectable in metric or English units
- Paralleling capability to control up to 8 generators on an isolated bus with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
Note: Parallel with other APM603 controllers only
- Generator management to turn paralleled generators off and on as required by load demand
- Load management to connect and disconnect loads as required
- Controller supports Modbus® RTU, Modbus® TCP, SNMP and BACnet®
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- UL-listed overcurrent protective device
- NFPA 110 Level 1 capability

Refer to G6-162 for additional controller features and accessories.

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Diesel Exhaust Fluid (DEF) Tank



Approximate size, L x W x H, mm(in.): 1868 x 1042 x 1479
(73.5 x 41.0 x 58.2)

Tank weight (dry), kg (lb.): 420.6 (927 lb)

Fillable volume: 224 gallons

Consumable volume: 164 gallons

Material: Stainless steel

Codes and Standards

- Engine-generator set is designed and manufactured in facilities certified to ISO 9001.
- Generator set meets NEMA MG1, BS5000, ISO, DIN EN, and IEC standards, NFPA 110.
- Engine generator set is tested to ISO 8528-5 for transient response.
- The generator set and its components are prototype-tested, factory-built, and production-tested.

Third-Party Compliance

- Tier 4 EPA-Certified for Stationary, Prime, and Continuous Applications

Available Approvals and Listings

- CSA Certified
- UL 2200 Listing

Warranty Information

- A standard three-year or 1000-hour limited warranty for standby applications. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications. Five-year basic and five-year comprehensive warranties are also available.
- A standard one-year warranty with unlimited hours for continuous power applications.

Available Warranties for Standby Applications

- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty
- 10-Year Major Components Limited Warranty

Available Warranties for Prime Applications

- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

Standard Features

- Closed Crankcase Ventilation (CCV) Filters
- Customer Connection
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Operation and Installation Literature
- Fuel/Water Separator
- Generator Heater
- Spring Isolation Under the Skid
- Battery Rack and Cables

Available Options

Circuit Breakers

- | Type | Rating |
|---|--|
| <input type="checkbox"/> Magnetic Trip | <input type="checkbox"/> 80% |
| <input type="checkbox"/> Thermal Magnetic Trip | <input type="checkbox"/> 100% |
| <input type="checkbox"/> Electronic Trip (LI) | Operation |
| <input type="checkbox"/> Electronic Trip with Short Time (LSI) | <input type="checkbox"/> Manual |
| <input type="checkbox"/> Electronic Trip with Ground Fault (LSIG) | <input type="checkbox"/> Electrically Operated (for paralleling) |

Circuit Breaker Mounting

- Generator Mounted
- Remote Mounted
- Bus Bar (for remote mounted breakers)

Enclosed Remote Mounted Circuit Breakers

- NEMA 1 (15- 5000 A)
- NEMA 3R (15- 1200 A)

Engine Type

- KDxxxx Tier 4 EPA- Certified Engine

Approvals and Listings

- CSA Certified
- IBC Certification Request—Contact Factory
- UL 2200 Listing
- cULus Listing (fuel tanks only)

Controller

- Input/Output, Digital
- Input/Output, Thermocouple
- Manual Key Switch
- Remote Emergency Stop Switch
- Lockable Emergency Stop Switch
- Remote Serial Annunciator Panel

Cooling System

- Block Heater; 10500 W, 208 V, (Select 1 Ph or 3 Ph) *
 - Block Heater; 12000 W, 240 V, (Select 1 Ph or 3 Ph) *
 - Block Heater; 12000 W, 380 V, 3 Ph *
- * Required for Ambient Temperatures Below 5°C (41°F).

Electrical System

- Battery, 4/12 V, AGM (kit with qty. 4)
- Battery Charger
- Battery Rack and Cables
- Redundant Starters
- DEF Tank Heater
- Load Bank, 300 kW
[Recommended for Ambient Temperature > - 5°C (23°F)]
- Load Bank, 600 kW
[Recommended for Ambient Temperature < - 5°C (23°F)]

Fuel System

- Flexible Fuel Lines
- Dual Fuel/Water Separator
- Restriction Gauge (for fuel/water separator)

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Automatic Oil Replenishment System
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Weld- On Flange, DIN300
- Weld- On Flange, DEF Tank

Warranty (Standby Applications only)

- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty
- 10-Year Major Components Limited Warranty

Warranty (Prime Applications only)

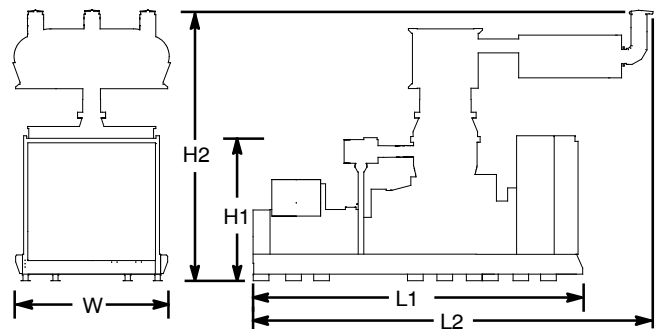
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

Other

-
-

Dimensions and Weights

Generator set size, max., L1 x W x H1, mm (in.):	7650 x 3522 x 3451 (301.1 x 138.7 x 135.8)
With rear- facing SCR, max., L2 x W x H2, mm (in.):	7969 x 3522 x 6262 (313.7 x 138.7 x 246.5)
With forward- facing SCR, max., L2 x W x H2, mm (in.):	9257 x 3522 x 6262 (364.4 x 138.7 x 246.5)
Weight, radiator model, max. wet, kg (lb.):	32513 (71707)
Weight, with radiator and SCR, max. wet, kg (lb.):	36472 (80407)



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



Industrial Diesel Generator Set - KD3250-4
Tier 4 EPA-Certified for Stationary, Prime, Continuous Applications

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Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the
US and Canada, phone 1-800-544-2444
KOHLERPower.com

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