

KDxxxx designates a generator set with a Tier 2 EPA-Certified engine.
 KDxxxx-F designates a 60 Hz generator set with a fuel optimized engine.

Ratings Range

		60 Hz
Standby:	kW	1180- 1250
	kVA	1475- 1562
Prime:	kW	1070- 1120
	kVA	1338- 1400



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- Approved for use with certified renewable Hydrotreated Vegetable Oil (HVO) / Renewable Diesel (RD) fuels compliant with EN15940 / ASTM D975.
- 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.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 4.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).

General Specifications

Orderable Generator Model Number	GMKD1250-A
Manufacturer	Kohler
Engine: model	KD36V16
Alternator Choices	KH03850TO4D KH04590TO4D KH04830TO4D KH05520TO4D KH05641TO4D KH06721TO4D KH06810TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	Wye, 600 V., or 4160 V
Controller	APM603, APM802
Fuel Tank Capacity, L (gal.)	5863- 21985 (1549- 5808)
Fuel Consumption, L/hr (gal./hr) 100% at Standby	330 (87.2)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	298 (78.7)
Emission Level Compliance (KDxxxx)	Tier 2
Open Unit Noise Level @ 7 m dB(A) at Rated Load	97
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

Generator Set Ratings

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH03850TO4D	230/400	3	60	1250/1562	2255	1250/1562	2255	1120/1400	2021	1120/1400	2021
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
KH04590TO4D	230/400	3	60	1250/1562	2255	1250/1562	2255	1120/1400	2021	1120/1400	2021
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
KH04830TO4D	240/416	3	60	1210/1512	2099	1180/1475	2048	1120/1400	1944	1070/1338	1857
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684

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.

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH05520TO4D	220/380	3	60	1250/1562	2374	1250/1562	2374	1120/1400	2128	1120/1400	2128
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
	347/600	3	60	1250/1562	1504	1250/1562	1504	1120/1400	1348	1120/1400	1348
KH06810TO4D	220/380	3	60	1250/1562	2374	1250/1562	2374	1120/1400	2128	1120/1400	2128
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
	347/600	3	60	1250/1562	1504	1250/1562	1504	1120/1400	1348	1120/1400	1348
KH05641TO4D	2400/4160	3	60	1250/1562	217	1250/1562	217	1120/1400	195	1120/1400	195
KH06721TO4D	2400/4160	3	60	1250/1562	217	1250/1562	217	1120/1400	195	1120/1400	195

Engine Specifications		60 Hz		Fuel System		60 Hz	
Manufacturer		Kohler		Fuel supply line, min. ID, mm (in.)			19 (0.75)
Engine model		KD36V16		Fuel return line, min. ID, mm (in.)			12 (0.5)
Engine: type		4-Cycle, Turbocharged, Intercooled		Max. fuel flow, Lph (gph)			330 (87)
Cylinder arrangement		16-V		Min./max. fuel pressure at engine supply connection, kPa (in. Hg)			- 30/30 (- 8.8/8.8)
Displacement, L (cu. in.)		36 (2197)		Maximum diesel fuel lift, m (ft.)			3.7 (12)
Bore and stroke, mm (in.)		135 x 157 (5.31 x 6.18)		Max. return line restriction, kPa (in. Hg)			30 (8.8)
Compression ratio		15.0:1		Fuel filter: quantity, type			1, Primary Engine Filter 1, Fuel/Water Separator
Piston speed, m/min. (ft./min.)		565 (1854)		Recommended fuel			#2 Diesel ULSD / HVO / RD
Main bearings: quantity, type		11, Precision Half Shells					
Rated rpm		1800		Fuel Consumption**		60 Hz	
Max. power at rated rpm, kWm (BHP)		1391 (1865)		Diesel, Lph (gph) at % load		Standby Rating	
Cylinder head material		Cast Iron		100%			322 (85.1)
Crankshaft material		Steel		75%			256 (67.6)
Valve (exhaust) material		Steel		50%			181 (47.8)
Governor: type, make/model		KODEC Electronic Control		25%			105 (27.7)
Frequency regulation, no-load to-full load		Isochronous		Diesel, Lph (gph) at % load		Prime Rating	
Frequency regulation, steady state		±0.25%		100%			293 (77.4)
Frequency		Fixed		75%			233 (61.6)
Air cleaner type, all models		Dry		50%			164 (43.3)
				25%			95 (25.1)
Lubricating System		60 Hz		** Fuel consumption is up to 4% higher when using HVO/RD than #2 ULSD.			
Type		Full Pressure					
Oil pan capacity with filter (dipstick max. mark), L (qt.) §		135 (143)					
Oil pan capacity with filter (initial fill), L (qt.) §		152 (161)					
Oil filter: quantity, type §		4, Cartridge					
Oil cooler		Water-Cooled					
§ Kohler recommends the use of Kohler Genuine oil and filters.							
Exhaust System		60 Hz					
Exhaust flow at rated kW, m ³ /min. (cfm)		241 (8511)					
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)		496 (925)					
Maximum allowable back pressure, kPa (in. Hg)		8.5 (2.5)					
Exh. outlet size at eng. hookup, mm (in.)		See ADV drawing					

Radiator System	60 Hz
Ambient temperature, °C (°F)*	50 (122)
Engine jacket water capacity, L (gal.)	124 (33)
Radiator system capacity, including engine, L (gal.)	265 (70)
Engine jacket water flow, Lpm (gpm)	2241 (592)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	511 (29086)
Heat rejected to charge air cooler at rated kW, dry exhaust, kW (Btu/min.)	320 (18214)
Charge cooling air inlet temperature at 25°C (77°F) ambient, °C (°F)	214 (417)
Turbocharger boost (abs), bar (psi)	3.31 (48)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	1750 (68.9)
Fan, kWm (HP)	33 (44.2)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

Remote Radiator System†	60 Hz
Exhaust manifold type	Dry
Connection sizes:	
Water inlet/outlet, mm (in.)	—
Charge air cooler inlet/outlet (pipe dia. of flange), mm (in.)	—
Static head allowable above engine, kPa (ft. H ₂ O)	70 (23.5)

† Contact your local distributor for cooling system options and specifications based on your specific requirements.

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 @ 8.4 kW, 24; Redundant (optional): 4 @ 8.4 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 optional redundant starters)	8, 1110, AGM
Battery voltage (DC)	12

Air Requirements	60 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)‡	1470 (51913)
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)‡	938 (33131)
Combustion air, m ³ /min. (cfm)	89.6 (3166)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	171 (9733)
Alternator, kW (Btu/min.)	93 (5325)

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

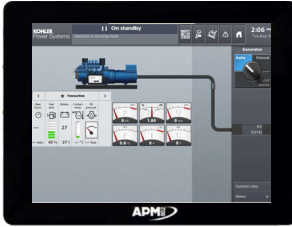
Alternator Specifications	60 Hz	
Type	4-Pole, Rotating-Field	
Exciter type	Brushless, Permanent-Magnet Pilot Exciter	
Voltage regulator	Solid-State, Volts/Hz	
Insulation:	NEMA MG1, UL 1446, Vacuum Pressure Impregnated (VPI)	
Material	Class H, Synthetic, Nonhygroscopic	
Temperature rise	130°C, 150°C Standby	
Bearing: quantity, type	1, Sealed	
Coupling	Flexible Disc	
Amortisseur windings	Full	
Alternator winding type (up to 600 V)	Random Wound	
Alternator winding type (above 600 V)	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	KH03850TO4D	5351
480 V	KH04590TO4D	6030
480 V	KH04830TO4D	4193
480 V	KH05520TO4D	4612
480 V	KH06810TO4D	8466
4160 V	KH05641TO4D	4386

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.

Controllers



APM802 Controller

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

- 12-inch graphic display with touch screen and menu control provide easy local data access
- Measurements are selectable in metric or English units
- User language is selectable
- Two USB ports allow connection of a flash drive, mouse, or keypad
- Electrical data, mechanical data, and system settings can be saved to a flash drive
- Ethernet port allows connection to a PC type computer or Ethernet switch
- The controller supports Modbus® RTU and TCP protocols
- NFPA 110 Level 1 capability

Refer to G6-152 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.



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.

BACNet® is a registered trademark of ASHRAE.

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 2 EPA-Certified for Stationary Emergency Applications

Available Approvals and Listings

- California HCAI Pre-Approval
- CSA Certified
- IBC Seismic Certification
- UL 2200 Listing
- cULus
- Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)

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.

Available Warranties for Standby Applications

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

Standard Features

- Closed Crankcase Ventilation (CCV) Filters
- Customer Connection
- Generator Heater (4160 Volt)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Operation and Installation Literature

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 2 EPA-Certified Engine
- KDxxxx-F Fuel Optimized Engine

Approvals and Listings

- California HCAI Pre- Approval
- CSA Certified
- IBC Seismic Certification
- UL 2200 Listing
- cULus
- Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)
- Hurricane Rated Enclosure

Enclosed Unit

- Sound Level 1 Enclosure/Fuel Tank Package
- Sound Level 2 Enclosure/Fuel Tank Package

Open Unit

- Exhaust Silencer, Critical (kits: PA-361625 qty. 2)
- Exhaust Silencer, Hospital (kits: PA-361626 qty. 2)
- Flexible Exhaust Connector, Stainless Steel

Controller

- Input/Output, Digital
- Input/Output, Thermocouple (standard on 4160 V)
- Load Shed (APM802 only)
- Manual Key Switch
- Remote Emergency Stop Switch
- Lockable Emergency Stop Switch
- Remote Serial Annunciator Panel

Cooling System

- Block Heater; 9000 W, 208 V, (Select 1 Ph or 3 Ph) *
- Block Heater; 9000 W, 240 V, (Select 1 Ph or 3 Ph) *
- Block Heater; 9000 W, 380 V, 3 Ph *
- Block Heater; 9000 W, 480 V, (Select 1 Ph or 3 Ph) *
- * Required for ambient temperatures below 10°C (50°F). Block heater kit includes air intake manifold grid heater.
- Radiator Guard and Duct Flange

Electrical System

- Battery, AGM (kit with qty. 4)

- Battery, AGM (kit with qty. 8)
- Battery Charger
- Battery Heater; 80 W, 120 V, 1Ph
- Battery Rack and Cables
- Generator Heater (up to 600 Volt)
- Redundant Starters

Fuel System

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

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Alternator Air Filter (will reduce generator set rating up to 7%)
- Automatic Oil Replenishment System
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing

Electrical Package

- Basic Electrical Package (select 1 Ph or 3 Ph)
- Wire Battery Charger (1 Ph)
- Wire Block Heater (select 1 Ph or 3 Ph)
- Wire Power Supply
- Wire Generator Heater (1 Ph)

Warranty (Standby Applications only)

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

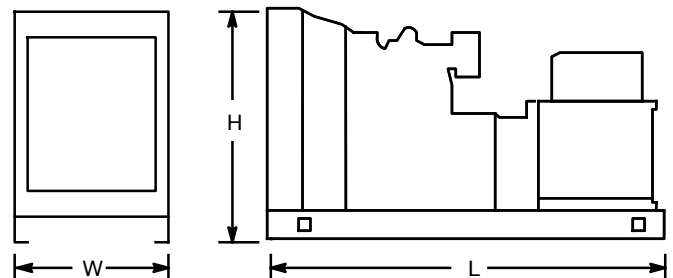
Other

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Dimensions and Weights

Overall Size, max., L x W x H, mm (in.): 5291 x 2184 x 2480 (208.3 x 86.0 x 97.6)

Weight, radiator model, max. wet, kg (lb.): 11914 (26276)



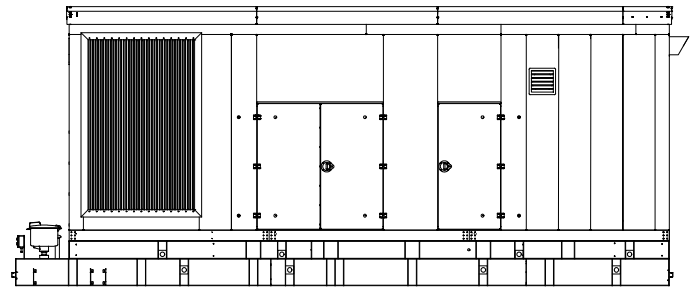
NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

KOHLER CO., Kohler, Wisconsin 53044 USA
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

Sound Enclosures and Subbase Fuel Tank

Sound Level 1 Enclosure Standard Features

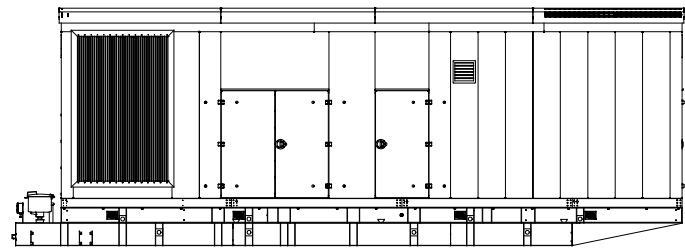
- Lift base or tank-mounted, aluminum construction enclosure with internal-mounted, exhaust silencers.
- Every enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Sound attenuated enclosure that offers noise reduction using acoustic insulation, acoustic-lined air inlets and an acoustic-lined air discharge.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
- Acoustic insulation that meets UL 94 HF1 flammability classification.
- Enclosure has large access doors that are hinged and removable which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Air inlet louvers reduce rain and snow entry.
- High wind bracing, 241 kph (150 mph).



Sound Level 1 Enclosure
(Shown with available spill containment)

Sound Level 2 Enclosure Standard Features

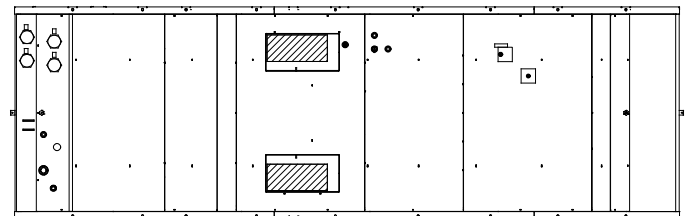
- Includes all of the sound level 1 enclosure features with the addition of up to 51 mm (2 in.) acoustic insulation material, intake sound baffles, vertical air discharge, and secondary silencers.
- Louvered air inlet and vertical outlet hood with 90 degree angles to redirect air and reduce noise.



Sound Level 2 Enclosure
(Shown with available spill containment)

Subbase Fuel Tank Features

- The fuel tank has a Power Armor Plus™ textured epoxy-based rubberized coating.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have UL-listed emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- The containment tank's construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- The above ground secondary containment subbase fuel tank meets UL 142 requirements.
- Features include:
 - Additional fittings for optional accessories (qty. 3)
 - Electrical stub-up area open to bottom
 - Emergency inner and outer tank relief vents
 - Fuel fill with lockable cap and 51 mm (2 in.) riser
 - Fuel leak detection switch
 - Fuel level mechanical gauge
 - Fuel level sender
 - Normal vent
 - Removable engine supply and return diptubes



Subbase Fuel Tank (Top View)

DISTRIBUTED BY:

