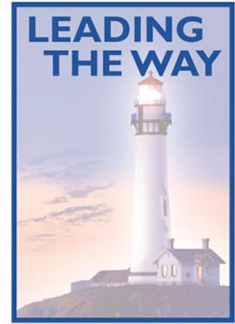




**e-QD MARINE GENERATORS**



**5.0 kW 60 Hz  
4.0 kW 50 Hz  
e-Series™ Networked  
MDKBH  
Diesel**

## Leading the Way

- Rugged dependability, high quality, and innovation make Onan the leader in marine generator set design and development.
- The digital e-QD (electronic Quiet Diesel) Series models are the first marine gensets with self-monitoring capability and network communication.
- The optional e-Series Digital Display provides user-friendly diagnostics including extensive engine and alternator information, self-diagnostic features, and text display.
- Onan's advanced design and development process uses technology to lower sound and vibration. Our sound shields minimize noise and deliver better sound quality. The optimized mounting system greatly reduces vibration.
- Onan marine gensets are emissions certified to U.S. Environmental Protection Agency (EPA) emission standards.
- Onan has the largest worldwide certified Distributor/Dealer support network in the industry with more than 60 years of marine experience.

## Genset Ratings

Model	kW/kVA	Voltage	Amps	Phase	Hz	Engine RPM
5.0MDKBH	5.0/5.0	120	41.7	1	60 Hz	2900
		120/240	41.7/20.8	1	60 Hz	2900
4.0MDKBH	4.0/4.0	110/220	36.4/18.2	1	50 Hz	2400
		115/230	34.8/17.4	1	50 Hz	2400
		120/240	33.3/16.6	1	50 Hz	2400

Single phase output at 1.0 power factor. Other single phase configurations are available, contact your Distributor/Dealer for more information. Rating conditions are 100 kPa (29.6 in Hg) barometric pressure, 30% relative humidity and 25° C (77° F) (ref. ISO 3046).

## Genset Dimensions and Weights

Length	26 in (662 mm)
Width	20.1 in (511 mm)
Height	20.6 in (524 mm)
Weight (dry)	350 lb (159 kg)

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## Features

- Advanced digital electronic control providing extensive diagnostic capability
- Shutdown with diagnostic indicator light for
  - High engine coolant temperature
  - High exhaust temperature
  - Low oil pressure
  - Over speed
  - Over voltage
  - Starter overcrank
  - No raw water flow
  - Additional customer input and many more
- Electronic governor allows the genset to maintain isochronous frequency control and close voltage regulation to provide quality power for digital appliances and computers
- Switchable between 50/60 Hz
- Oil level check and fill accessed from control panel outside integral enclosure
- Single phase AC alternator with single or dual voltages
- Digital voltage regulator integral with control
- 300% short circuit current capability
- 12 V DC electric system with battery charging, negative ground, DC protective circuit breaker
- Start-run-stop switch with glow plug pre-heat and fuel pump priming modes for easy starting; run light and diagnostic indicator light
- Start function has automatic pre-heat to glow plugs providing better, cleaner starting
- Electric fuel transfer pump for priming and lift capability
- Engine starter with automatic start disconnect
- Freshwater cooling system with heat exchanger, expansion tank and coolant recovery system
- Water cooled exhaust mixing elbow
- AC mainline circuit breaker
- Running time meter
- Air intake silencer
- Full flow lube oil filter
- Oil drain valve and hose connection
- Electric fuel shut-off via electronic governing actuator
- Fuel filter/water separator
- Drip pan base capable of containing all genset fluids
- Captive focalized mounting system with vibration isolator mounts
- External mount tabs allow flexible mounting arrangement
- Bulk head type connections for ease of installation include fuel in, fuel out, battery, raw water inlet, exhaust, genset ground (vessel bond)
- Integral enclosure for environmental protection from noise, salt water, and moving parts
- Plug-in watertight connector for optional remote control
- Closed crankcase breather re-circulation to eliminate engine room contamination
- Coolant overflow bottle to easily maintain coolant level
- Fire extinguisher access port
- Factory load tested
- Five year Limited Warranty
- Ignition protected and is therefore permitted under USCG regulation 33CRF183 to be located in a gasoline fuel environment.

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## Available Options

- SAE J-1939 CAN data link for monitoring generator set status and diagnostics for engine and alternator
- SmartCraft Networked™ data link for monitoring generator set status and diagnostics for engine and alternator (display available through Cummins MerCruiser Diesel)

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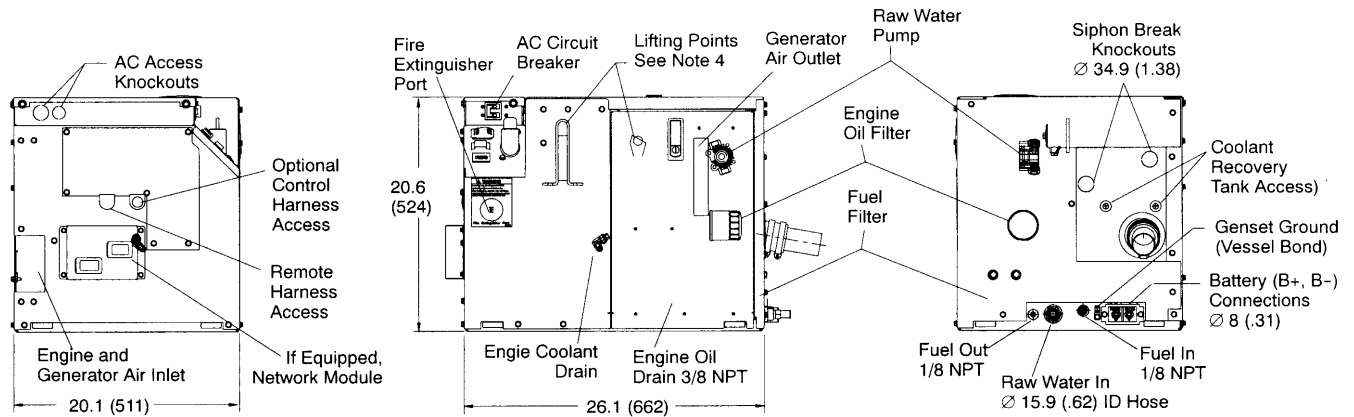
## Accessories

- e-Series Digital Display - graphical LCD remote display for genset operating parameters, diagnostics, and pre-alarm indication in text format
- Basic remote panel with start/stop switch with run (green) and control status (amber) lamps
- Dual remote station Y-adapter harness
- Remote switch harness (connection) only for customer panel
- Remote station harness pigtail
- Remote display or panel wire harness - 15 ft, 25 ft, 45 ft, 75 ft, 100 ft or 150 ft
- Line circuit breakers for field conversion of frequency or AC voltage output
- Remote fuel filter/water separator assembly
- Fuel supply and return hose barb connectors
- Siphon break kit
- Wet exhaust hose and stainless steel elbow
- Battery
- Kits for converting to SAE J-1939 CAN or SmartCraft Networked™
- Marine mufflers, water separator, and resonator dual silencers
- 12 V isolated DC control conversion kit
- Ship-to-shore selector switch, single phase, 2 or 3 wire output
- Cruise kit - maintenance parts - fuel filters, oil filters, raw water pump impellers, and raw water pump belt, plastic container



e-Series Digital Display

# Outline Drawing



This outline drawing is provided for general reference only and is not intended for design or installation. See installation manual and obtain outline drawing number 500-4138 for more information (available from your Distributor/Dealer).

## Engine Detail

**Design** 4-cycle, water-cooled diesel  
**Cylinders** 2  
**Bore** 2.52 in (64 mm)  
**Stroke** 2.45 in (62.2 mm)  
**Displacement** 24.41 in<sup>3</sup> (400 cm<sup>3</sup>)  
**Compression Ratio** 23:1  
**Max Fuel Lift** 4 ft (1.22 m)  
**Lube Oil Capacity** 2.2 qt (2.1 L)  
**Coolant Capacity** 2.2 qt (2.1 L)  
**Coolant Flow Rate**  
 60 Hz: 3.5 Gal/min (13 L/min)  
 50 Hz: 3 Gal/min (11 L/min)

### Raw Water Flow Rate

60 Hz: 5 Gal/min (19 L/min)  
 50 Hz: 4 Gal/min (15 L/min)

### Starting System

12 V  
**Power (Max)** SAEJ1349  
 at 2900 RPM 9.6 hp (7.1 kW)  
 at 2400 RPM 7.9 hp (6.0 kW)

**Fuel Injection Pump** Bosch MD type  
**Combustion Chamber** Spherical

### Max Raw Water Lift

4 ft (1.22 m)

### Fuel Consumption

No. 2 diesel fuel, Gal/hr (L/hr)

	4.0	5.0
	MDKBH	MDKBH
No Load	0.16 (0.6)	0.20 (0.7)
1/4 Load	0.21 (0.8)	0.25 (1.0)
1/2 Load	0.29 (1.1)	0.35 (1.3)
3/4 Load	0.37 (1.4)	0.44 (1.7)
Full Load	0.50 (1.9)	0.60 (2.3)

## Alternator Detail

**Design** Onan revolving field, 2-pole, drip-proof construction, with encapsulated rectifiers  
**Voltage Regulator** Integral with the digital control

**Stator** Skewed stator and 2/3 pitch windings minimize field heating and voltage harmonics; resin-coated for corrosion protection

**Rotor** Dynamically balanced assembly; supported by pre-lubricated, maintenance-free ball bearings

**Cooling** Rotor mounted centrifugal blower  
**Insulation System** Class H per NEMA MG1-1 -1.65 and BS5000

## Genset Detail

**Operating Environment** Gensets are durability tested at maximum ambient; air temperature: 122° F (50° C); raw water temperature 100° F (37.8° C)

**Frequency Regulation** Isochronous  
**Random Frequency Variation** Will not exceed +/-0.5% of its mean value for constant loads from no load to full load  
**Voltage Regulation** No load to rated load +/-1.5%

**Sound Level**  
 71 dB(A) at 60 Hz\*  
 68 dB(A) at 50 Hz\*  
 \* Full load at 1 m

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## Warranty Policy

The Onan express, written Limited Warranty covers virtually everything except routine maintenance for the first two years you own your marine generator set and covers parts and labor on major power train and generator set parts during the third through fifth years.

For complete Onan Limited Warranty details see your Onan Distributor/Dealer.

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## After Sale Support

**GENUINE ONAN MAINTENANCE PARTS AND PRODUCTS** - For your ongoing satisfaction and the dependability of your Onan marine gensets, Onan offers a complete line of replacement and tune-up parts, accessories and oil and maintenance chemicals. Onan marine parts are packaged for correct selection and convenient on-board storage.

**EASY TO LOCATE CERTIFIED ONAN SERVICE AND PARTS DEALERS** - Onan has the largest and best-trained worldwide certified Distributor/Dealer network in the industry, offering on-time parts and service and installation assistance. Onan Distributor/Dealers stock and sell commonly used Onan marine genset maintenance parts, accessories and products, plus operator manuals and literature on current Onan gensets. They can help you select and install the right genset for a new vessel or accessories on older models, or provide answers to questions on proper operation and maintenance procedures.

**MANUALS** - Installation, operators and parts manuals are shipped with the genset. To obtain additional copies or other manuals for this model, see your Onan Distributor/Dealer.

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## Standards and Testing



National Marine Manufacturers Association (NMMA) members produce every conceivable product used by recreational boaters. NMMA provides a wide variety of programs and services including technical expertise, standards monitoring, government relations advocacy and industry statistics.

The American Boat and Yacht Council (ABYC) develops standards and recommended practices for designing, constructing, equipping and maintaining small pleasure and commercial craft.

This generator set was designed and manufactured in facilities certified to ISO 9001.

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## Contact your Distributor/Dealer for more information



Cummins Power Generation  
1400 73rd Avenue N.E.  
Minneapolis, MN 55432 U.S.A  
1-800-888-ONAN or 763-574-5000  
fax: 763-528-7242  
email: [feedback@onan.com](mailto:feedback@onan.com)  
[www.onan.com](http://www.onan.com)

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**WARNING:** Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to building electrical except through approved device or after building main breaker is open.