

## Marine Generator Set

### Engine Features

- Diesel fueled
- Certified by the Environmental Protection Agency (EPA) to conform to Tier III marine auxiliary standards
- Three cylinder
- Four cycle
- Closed cooling system
- Heat exchanger
- Electric fuel lift pump
- Lifting eye

### Generator Features

- Remote start 12-pin connector
- Class H insulation
- Multivoltage adjustability
- Voltage regulation of  $\pm 1.0\%$
- Radio suppression

### ADC IId Advanced Digital Control Features

- Designed for today's most sophisticated electronics
- Easy to read 12 x 2 LCD alpha-numeric display
- Compact, integrally mounted control
- Sealed connectors for maximum corrosion protection
- SAE J1939, SmartCraft™, NMEA 2000 selectable CANbus outputs
- Remote monitoring of fault conditions
- Pushbutton dial for configuration and adjustment
- Programmed crank cycle

### Optional Accessories

- Aluminum sound shield
- Remote digital gauge (2 or 3 inch)
- Siphon break
- Ignition protected starter
- Circuit breakers

## Generator Weights and Dimensions

|                  | Without Sound Shield | With Sound Shield |
|------------------|----------------------|-------------------|
| Weight, kg (lb.) |                      |                   |
| Wet              | 211 (465)            | 249 (548)         |
| Dry              | 207 (456)            | 245 (539)         |
| Length, mm (in.) | 827 (32.58)          | 865 (34.06)       |
| Width, mm (in.)  | 449 (17.68)          | 528 (20.79)       |
| Height, mm (in.) | 536 (21.12)          | 559 (22.01)       |

## Generator Ratings

| Model Generator (Alternator) | Voltage | Hz | 25°C (77°F) Amps | 25°C (77°F) kW/kVA | Ph |
|------------------------------|---------|----|------------------|--------------------|----|
| 9EKOZD (4H4)                 | 120     | 60 | 70.8             | 8.5/8.5            | 1  |
|                              | 120/240 | 60 | 70.8/35.4        | 8.5/8.5            | 1  |
| 7EFKOZD (4H4)                | 115/230 | 50 | 60.8/30.4        | 7/7                | 1  |
|                              | 230     | 50 | 30.4             | 7/7                | 1  |
|                              | 240     | 50 | 29.2             | 7/7                | 1  |

RATINGS: Marine continuous ratings per ISO 3046, ISO 8528-1, and Kohler ISO rating guideline 2.14. Obtain technical information bulletin (TIB-101) on ratings guidelines for complete ratings definitions.

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler generator distributor for availability.

SmartCraft™ is a trademark of Mercury Marine, a division of Brunswick Corporation.

# Application Data

## Engine

| Engine Specifications                     | 60 Hz                        | 50 Hz |
|---|------------------------------|-------|
| Type                                      | 4 cycle, naturally aspirated |       |
| Cylinder, quantity                        | 3                            |       |
| Displacement, L (cu. in.)                 | 1.028 (62.7)                 |       |
| Bore and stroke, mm (in.)                 | 75 x 77.6 (2.95 x 3.05)      |       |
| Compression ratio                         | 24.5:1                       |       |
| Combustion system                         | Indirect injection           |       |
| Rated rpm                                 | 1800                         | 1500  |
| Max. power at rated rpm, HP               | 14.5                         | 11.9  |
| Governor, type                            | Mechanical                   |       |
| Frequency regulation, mechanical governor |                              |       |
| No load to full load (droop) . . . . .    | 5%                           |       |
| Steady state . . . . .                    | ±0.7%                        |       |
| Angular operation                         |                              |       |
| Instant (1 min.) . . . . .                | 35°                          |       |
| Intermittent (30 min.) . . . . .          | 25°                          |       |

## Engine Electrical

| Engine Electrical System        | 60 Hz         | 50 Hz |
|---------------------------------|---------------|-------|
| Battery, voltage                | 12 volt       |       |
| Battery charging module         | 10-amp        |       |
| Battery, minimum recommendation | 650 CCA @ 0°F |       |
| Starter motor                   | 2.5 kW, 12 V  |       |

## Cooling

| Cooling System   | 60 Hz                             | 50 Hz      |
|--|-----------------------------------|------------|
| Capacity, L (qt.), approx.   | 3 (3.2)                           |            |
| Heat exchanger type  | 2.5 in. dia. x 2 pass             |            |
| Seawater pump type   | Belt-driven,<br>10-blade impeller |            |
| Heat rejected to cooling water at rated kW, wet exhaust, kW (Btu/min.) | 12 (683)                          | 11.1 (635) |
| Engine water pump flow, Lpm (gpm)                                      | 21.6 (5.7)                        | 21.2 (5.6) |
| Seawater pump flow, Lpm (gpm)  | 28.4 (7.5)                        | 24.6 (6.5) |

## Fuel

| Fuel System                            | 60 Hz     | 50 Hz |
|--|-----------|-------|
| Fuel shutoff solenoid                  | Electric  |       |
| Fuel pump                              | Electric  |       |
| Maximum recommended fuel lift, m (ft.) | 1.2 (4.0) |       |

## Lubrication

| Lubricating System                    | 60 Hz                   | 50 Hz |
|---------------------------------------|-------------------------|-------|
| Oil pan capacity with filter, L (qt.) | 2.5 (2.6)               |       |
| Oil pump type                         | Pressure, trochoid pump |       |

## Operation Requirements

| Air Requirements   | 60 Hz      | 50 Hz      |
|--|------------|------------|
| Engine combustion air requirements, L/min. (cfm)               | 750 (26.5) | 620 (21.9) |
| Generator cooling requirements, L/min. (cfm)                   | 4814 (170) | 3964 (140) |
| Max. air intake restriction, kPa (in. H <sub>2</sub> O)        | 2.5 (10.0) | 1.5 (6.0)  |
| Exhaust flow, m <sup>3</sup> /min. (cfm)                       | 1.8 (63.5) | 1.4 (49.4) |
| Exhaust temp., °C (°F) at full load                            | 398 (748)  | 386 (726)  |
| Max. allowed exhaust back pressure, kPa (in. H <sub>2</sub> O) | 5.3 (21.3) | 4.3 (17.3) |

| Fuel Consumption                   | 60 Hz     | 50 Hz     |
|------------------------------------|-----------|-----------|
| <b>Diesel, Lph (gph) at % load</b> |           |           |
| 100%                               | 3.4 (0.9) | 2.6 (0.7) |
| 75%                                | 2.6 (0.7) | 1.9 (0.5) |
| 50%                                | 1.9 (0.5) | 1.5 (0.4) |
| 25%                                | 1.1 (0.3) | 1.1 (0.3) |

**Note:** The fuel consumption of the 60 Hz model is based on 9EKOZD and the fuel consumption of the 50 Hz model is based on 7EFKOZD.

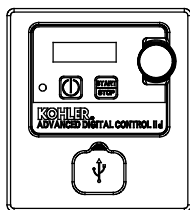
## Engine Features

- Low oil pressure shutdown
- High engine temperature shutdown
- Low seawater pressure shutdown
- Vibromount
- Belt guard
- Disposable oil filter
- Oil drain valve
- Programmed glow plug circuit for cold starting
- Disposable fuel filter

## Alternator Features

- Brushless, rotating field design permits power to be obtained from stationary leads.
- Windings are vacuum impregnated with epoxy varnish for dependability and long life.
- Rotors are dynamically balanced to minimize vibration.
- Copper windings ensure minimal heat buildup. Insulation meets NEMA standards for class H insulation.
- Direct connected to the engine, the generator has sealed precision ball bearings with a precision-machined steel sleeve in the end bracket to prevent shaft misalignment and extend bearing life.
- Mounted on a drip-proof tray.
- Equipped with a four-lead reconnectable stator.

# Application Data



## Advanced Digital Control IId Features

### Controller Features:

- Integrated genset control & voltage regulation
- Selectable Smartcraft™ V1.0, NMEA 2000, & SAE J1939 outputs
- Hybrid voltage regulation
- USB interface
  - Ease of uploading and downloading software
  - Historical and diagnostic information
  - Real time diagnostics
  - Front-face accessible
  - SiteTech™ compatible for setting changes
- Metering capabilities
- NXP microprocessor with 512 KB Flash and 60 KB RAM
- 179 x 126 x 47 mm (7.1 x 5.0 x 1.9 in.) dimension
- Programmed preheat for cold starts

### Display Type/Features:

- 12 character x 2 line LCD display
- Temperature range (-20 to 70° C)
- Displays:
  - Runtime hours
  - Crank cycle status
  - Generator status
  - Warnings
  - Faults
  - Diagnostics
  - Setup parameters
  - Software version
- Maintenance minder (customer programmable)
- 2-button keypad: Single power momentary and Start/Stop
- Standard non-membrane switch overlay
- Rotary encoder knob with pushbutton features:
  - Voltage
  - Gain
  - V/Hz adjustment
- Controller configuration
- Tri-color LED indicator displays system ready, warning, and fault status

SmartCraft™ is a trademark of Mercury Marine, a division of Brunswick Corporation.

## Accessories

### Sound Shield

Provides for highly effective silencing, ease of access for engine/generator servicing, low maintenance, excellent durability, and safety. The sound shield's customer connection panel includes connections for the following:

- Battery (positive and negative)
- Equipment ground
- Fuel inlet and return
- Seawater inlet
- Water-cooled exhaust outlet
- Oil drain
- Customer load lead access
- Customer interface

### Siphon Break

Mandatory kit on generators installed below the waterline. Prevents the siphoning of flotation water into the engine.

### Line Circuit Breakers

Protect the generator from extreme overload.

### Ship-to-Shore Switch

Allows immediate switching to Kohler® generator set power or shore power protecting the electrical system from the possibility of simultaneous connection of both power sources.

### Remote Digital Gauge

Allows starting and stopping from a location remote from the generator set.

- 3 in. gauge for J1939  
Requires a 76.2 mm (3 in.) dia. hole for mounting.
- 2 in. gauge for Smartcraft™  
Requires a 50.8 mm (2 in.) dia. hole for mounting.
- 2 in. gauge for NMEA 2000  
Requires a 50.8 mm (2 in.) dia. hole for mounting.

### Remote Connection/Extension Harness

Provides wiring for the remote digital gauge.

### 12-Inch Remote Wiring Harness

Equipped with a 12-pin connector on one end that connects to the standard customer interface connector. Equipped on the other end with leads for connection to customer-supplied wiring.

