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LOWRANCE

NMEA 2000® Engine Interface

ESSENTIAL GUIDE



www.lowrance.com
www.simrad-yachting.com
www.bandg.com

Engine Connection for NMEA 2000® Messages

The outboard engines included in this brochure have the ability to output engine data with an interface connection to an onboard NMEA 2000® network. This data can be viewed on any multifunction display (MFD) and digital gauge shown below. Contact engine manufacturer for the most current NMEA 2000® compatibility information.

LOWRANCE

www.lowrance.com



Lowrance HDS® Gen2:
5-inch / 7-inch
8-inch / 10-inch



Lowrance HDS®:
5-inch / 7-inch
8-inch / 10-inch



Lowrance:
LMF-200



Lowrance:
LMF-400

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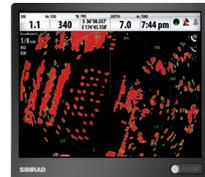
www.simrad-yachting.com



Simrad NSS Sport:
7-inch
8-inch
12-inch



Simrad NSE Expert:
8-inch
12-inch



Simrad NSO Offshore:
15-inch
17-inch
19-inch

B&G

www.bandg.com



B&G Zeus: 8-inch / 12-inch



Key Features

- Ease of installation: Connect to the Evinrude engine via a 4-pin engine connector (under the engine cowling) to standard NMEA 2000® Micro-C adapter. Available from Evinrude distributors and from Navico.
- Multiple display device options:
 - Evinrude LMF (I-Command™) gauges, Lowrance LMF gauges, Lowrance, Simrad Yachting or B&G MFD or any combination of these.
 - No gauge required, all information can be displayed directly on a Lowrance, Simrad Yachting or B&G MFD.
 - Ability to interface Evinrude gauges with the full line of Navico EP sensors to provide full instrumentation data: including fluid level, pressure, temperature, speed, fuel management, etc.
- Unique ability to configure and calibrate installed Evinrude sensors.
 - Sensors can be configured only using Evinrude or Lowrance, Simrad Yachting or B&G displays.
 - Fluid level calibration to account for tank shape or to calibrate the sensor for the European standard.
 - Can update software on most Evinrude Gauges and Sensors directly from the Lowrance, Simrad Yachting or B&G MFD, no need to remove and send in for service/upgrade.



Gauge Page on HDS displaying engine interface data.

EVINRUDE	40-90	115 -300
Alternator Voltage	•	•
Atmospheric Pressure	•	•
Battery Voltage	•	•
Engine Hours	•	•
Engine Load	•	•
Engine Temp	•	•
Engine Trim	•	•
Fuel Rate	•	•
Fuel Management (w/ EP-8SR and speed source)	•	•
Oil Pressure	•	•
Oil Temp	•	•
RPM	•	•
TRIM		•
Water Pressure (optional)		•

2005 & Newer: E-TEC 115 – 300 HP
2008 & Newer: E-TEC 40 – 300 HP



Key Features

- Ease of installation: Connect to the Honda engine via a 6-pin engine connector (under the engine cowling) to standard NMEA 2000® Micro-C adapter. Available from Honda distributors.
- Multiple Display Device Options
 - Lowrance LMF gauges, Lowrance, Simrad Yachting or B&G MFD or any combination of these.
 - Ability to interface with the full line of Navico EP sensors to provide full instrumentation data: including fluid level, pressure, temperature, speed, fuel management, etc.

Key Features

- Ease of installation: Connect to the Micro-C output from an installed MercMonitor to the NMEA 2000® Network.
 - Display the information from the SmartCraft® network on a large Lowrance, Simrad Yachting or B&G MFD.
 - Ability to interface with the full line of Navico EP sensors to provide full instrumentation data: including fluid level, pressure, temperature, speed, fuel management, etc.
 - SmartCraft MercMonitor gauge/gateway available from Mercury distributors.

HONDA MARINE	40+	MERCURY					
		Four stroke		OptiMax		Verado	
		40-60	75-115	75-125	135-250	150-200	225-300
Alternator Voltage	•						
Alarm - Check Engine	•						
Alarm - High Engine Temp	•						
Alarm - Low Oil Pressure	•						
Alarm - Low System Voltage	•						
Alarm - Water in Fuel (225 only)	*						
Fuel Rate	•						
Engine Hours	•						
Engine Temperature	•						
Engine Hours	•						
Fuel Management (w/EP-85R and speed source)	•						
RPM	•						
Transmission position (neutral only)	•						
		Battery Voltage	•	•	•	•	•
		Boat Speed (Pitot)			•	•	•
		Boost				•	•
		Engine Diagnostics	•	•	•	•	•
		Engine Hours	•	•	•	•	•
		Engine Temperature		•	•	•	•
		Engine Trim		•	•	•	•
		Fuel Flow	•	•	•	•	•
		Fuel Level / Range		•	•	•	•
		Oil Temperature				•	•
		Oil Pressure		•		•	•
		RPM	•	•	•	•	•
		Water Pressure (2 stroke)			•	•	•
		Water in Fuel			•	•	•



Key Features

- Ease of installation: Connect to Suzuki engine via Suzuki engine interface (location of connector depends on engine model and year) to standard NMEA 2000® Micro-C adapter. Available from Suzuki distributors.
- Multiple Display Device Options
 - Suzuki LMF Gauge (SMIS™), Lowrance LMF gauges, Lowrance, Simrad Yachting or B&G MFD or any combination of these.
 - No gauge required. All information can be displayed directly on a Lowrance, Simrad Yachting or B&G MFD.
 - Ability to interface Suzuki gauges with the full line of Navico EP sensors to provide full instrumentation data — including fluid level, pressure, temperature, speed, fuel management, etc.
- Will display Fuel Management features on Lowrance, Simrad Yachting or B&G MFDs:
 - Fuel Range (using fuel rate from engine interface and speed source from GPS or paddle wheel).
 - Fuel Economy



- Unique ability to configure and calibrate installed Suzuki sensors.
 - Proprietary sensors that can be configured only using Suzuki or Lowrance, Simrad Yachting or B&G displays.
- Can configure the Suzuki engine interface for engine year and model directly from Lowrance, Simrad Yachting or B&G MFD screen.
 - Fluid level calibration to account for custom tank shape or to calibrate the sensor for the European standard.
 - Can update software on some Suzuki Gauges and Sensors directly from the Lowrance, Simrad Yachting or B&G MFD, no need to remove and send in for service/upgrade



	DF40 - 60	DF70 - 90	DF115 - 250	DF300
Alternator Voltage	•	•	•	•
Engine Hours	•	•	•	•
Engine Temperature	•	•	•	•
Engine Trim	•	•	•	•
Fuel Rate	•	•	•	•
Fuel Used	•	•	•	•
RPM	•	•	•	•
Seasonal Fuel Used	•	•	•	•
Transmission Gear				•
Trip Fuel Used	•	•	•	•
Water Pressure		*		•
Water Speed		*		•

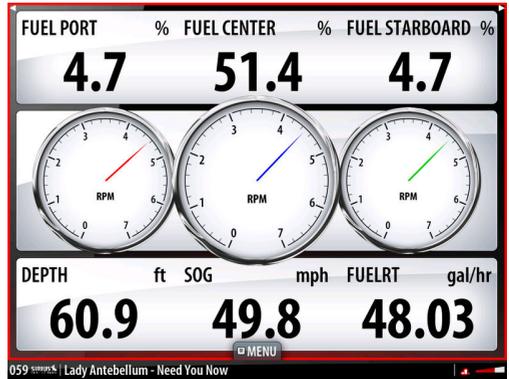
2004 & Newer: DF200 – DF250
2006 & Newer: DF40 – DF300

*2009 & Newer: DF70A – DF90A Only



Key Features

- Ease of installation: Yamaha to NMEA 2000® gateway.
 - Three connection options:
 - Installations with no Command Link® connect using Yamaha data connector (connects under engine cowling) to standard NMEA 2000® Micro-C adapter. Available from Navico.
 - Installations with Command Link connect using Yamaha Command Link gateway (connects on Command Link bus) to standard NMEA 2000® Micro-C adapter. Available from Yamaha dealer.
 - Installations with Command Link® Plus connect using Yamaha Command Link Plus gateway (connects to Command Link Plus bus) to standard NMEA 2000® Micro-C adapter. Available from Yamaha dealer.



NSS screen displaying triple outboard engine interface data.

- Multiple display device options:
 - Lowrance LMF gauges, Lowrance, Simrad Yachting or B&G MFD or any combination of these.
 - No gauge required all information can be displayed directly on a Lowrance, Simrad Yachting or B&G MFD.
 - Ability to interface with the full line of Lowrance, Simrad Yachting or B&G EP sensors to provide full instrumentation data: including fluid level, pressure, temperature, speed, fuel management, etc.



	4-stroke 50-250†	2-stroke HDPI 150-350††	Command Link® Plus Systems†††
RPM	•	•	•
Alternator Voltage	•	•	•
Engine Hours	•	•	•
Engine Temperature	•	•	•
Fuel Pressure*	•	•	•
Fuel Rate	•	•	•
Oil Pressure*	•	•	•
Trim **	•	•	•
Water Pressure***	•	•	•
Warnings			•
Boat Speed***			•
Water Depth			•
Surface Water Temperature***			•

* Contact Yamaha for list of optional features for specific engine models.

** Digital trim must be connected by a Yamaha dealer. ***Optional accessory required

† 2006 & newer: F50, T50, F60, T60, F75, F90, F115, LF115, F150, LF150, F200, LF200, F225, F225, F250, LF250.

†† 2006 & newer: Z150, LZ150, VZ150, Z175, Z200, LZ200, VZ225, Z250, LZ250, VZ250, Z300, LZ300, VZ300.

††† 2009 & newer: F225, F250, F300, F350 "Offshore" Series.

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Available Engine Interface Cables

- Evinrude: 000-0120-62
- Yamaha Outboards: 000-0120-37 (for Command Link® engines only).
- Honda interface available from Honda Marine distributors.
- Mercury interface options available from Mercury Marine distributors.
- Suzuki interface options available from Suzuki Marine distributors.
- Adapter from proprietary Blue connector network to NMEA 2000® standard connector: 000-0127-04

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Electronic Probes (EP) using NMEA 2000® Network Messages

- Navico offers the ability to connect and configure multiple EP sensors providing full instrumentation data: including fuel flow, fluid level, pressure, temperature, speed, fuel management, etc.
- **EP-65R Fluid Level: 000-0120-41**
 - Outputs: Tank Number, Fluid Type, Fluid Level, Tank Capacity
 - Fluid level types supported: Fuel, Fresh Water, Waste Water, Live Well, Oil, Black Water
 - Can be configured or calibrated only using LMF gauges or Lowrance, Simrad Yachting or B&G MFDs.
 - Can be calibrated to tank shape and European standard.
- **EP-70R Speed: 000-0120-49**
 - Outputs: Speed Over Water.
- **EP-80R & EP-80R TH Temperature: 000-0120-51 & 000-0120-53**
 - Outputs: Temperature type, Temperature
 - Temperature Types: Sea (Water), Outside, Inside, Engine Room, Main Cabin, Live Well, Bait Well.
 - Can be configured only using LMF gauges or Lowrance, Simrad Yachting or B&G MFDs.
- **EP-85R Storage Device: 000-0120-73**
 - Accumulates high precision fuel used data from the fuel flow data coming out of the engines.
 - Outputs: Tank Fuel Used, Trip Fuel Used, Seasonal Fuel Used.
 - Only one EP-85 needed for up to three engines.
 - Enables the display of Fuel Range on Lowrance and Simrad Yachting displays when used with engine fuel flow and speed data (SOG from GPS or paddle wheel).
 - Outputs proprietary Navico NMEA 2000 data.
- **EP-90R Pressure Sensor: 000-0120-29**
 - Outputs: Pressure
 - Supported Pressure Types: Engine Boost Pressure (-or-)
 - Engine Coolant Pressure
 - Water speed
 - Transmission Oil Pressure
 - Engine Fuel Pressure
 - Can be configured and calibrated (water speed) only using LMF gauges or Lowrance, Simrad Yachting or B&G MFDs.

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navico

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Products, features and specifications subject to change without notice.
Contact engine manufacturer for the most current NMEA 2000® compatibility information.
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