

ENGINEERED *Excellence*<sup>™</sup>



## Digital Engine Connection Guide



Designed and  
Manufactured  
in the USA

[www.FariaBeede.com](http://www.FariaBeede.com)



## NMEA2000 Connection

**EVINRUDE**



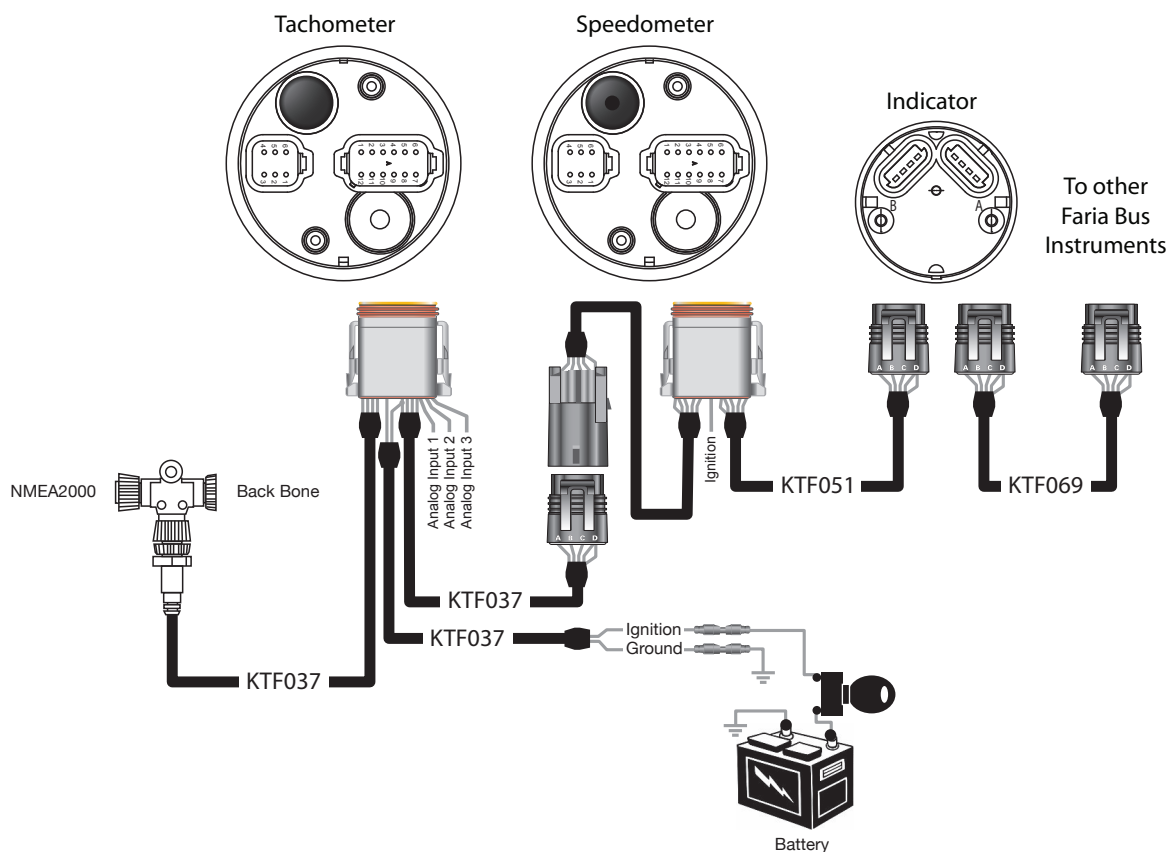
**HONDA  
MARINE**

**TOHATSU**  
Outboards

**VOLVO  
PENTA**

**SUZUKI**

**YAMAHA**



### Box sets (Harness Included)

- KTF032 2 Gauge Set  
(41001, 41003, KTF037, KTF051)
- KTF034 4 Gauge Set  
(41001, 41003, 21003, 21002, KTF037, KTF051, KTF069[2])

### Tachometer (Harness Not Included)

- 41007 5" MGT019 - MG3000 - 7K RPM
- 41001 4" MGT017 - MG3000 - 7K RPM

### Speedometer (Harness Not Included)

- 41006 5" MGS028 - MG3000 - 70 MPH with Depth (No Pitot)
- 41005 4" MGS010 - MG3000 - 70 MPH/115 KPH with Depth & Pitot
- 41003 4" SG0007 - MG1000 - 60 MPH/115 KPH (No Pitot)

### Indicators (Harness Not Included)

- 21001 2" GE0166 - Fuel Level
- 21002 2" GE0167 - Trim Gauge
- 21003 2" GE0168 - Water Pressure (60 PSI)
- 21004 2" VE0026 - Voltmeter
- 21005 2" GE0169 - Water Temperature (100-250°F)
- 21006 2" GE0170 - Oil Pressure (100 PSI)
- 21007 2" GE0176 - Tank Level (Water)
- 21008 2" GE0177 - Rudder Angle Indicator

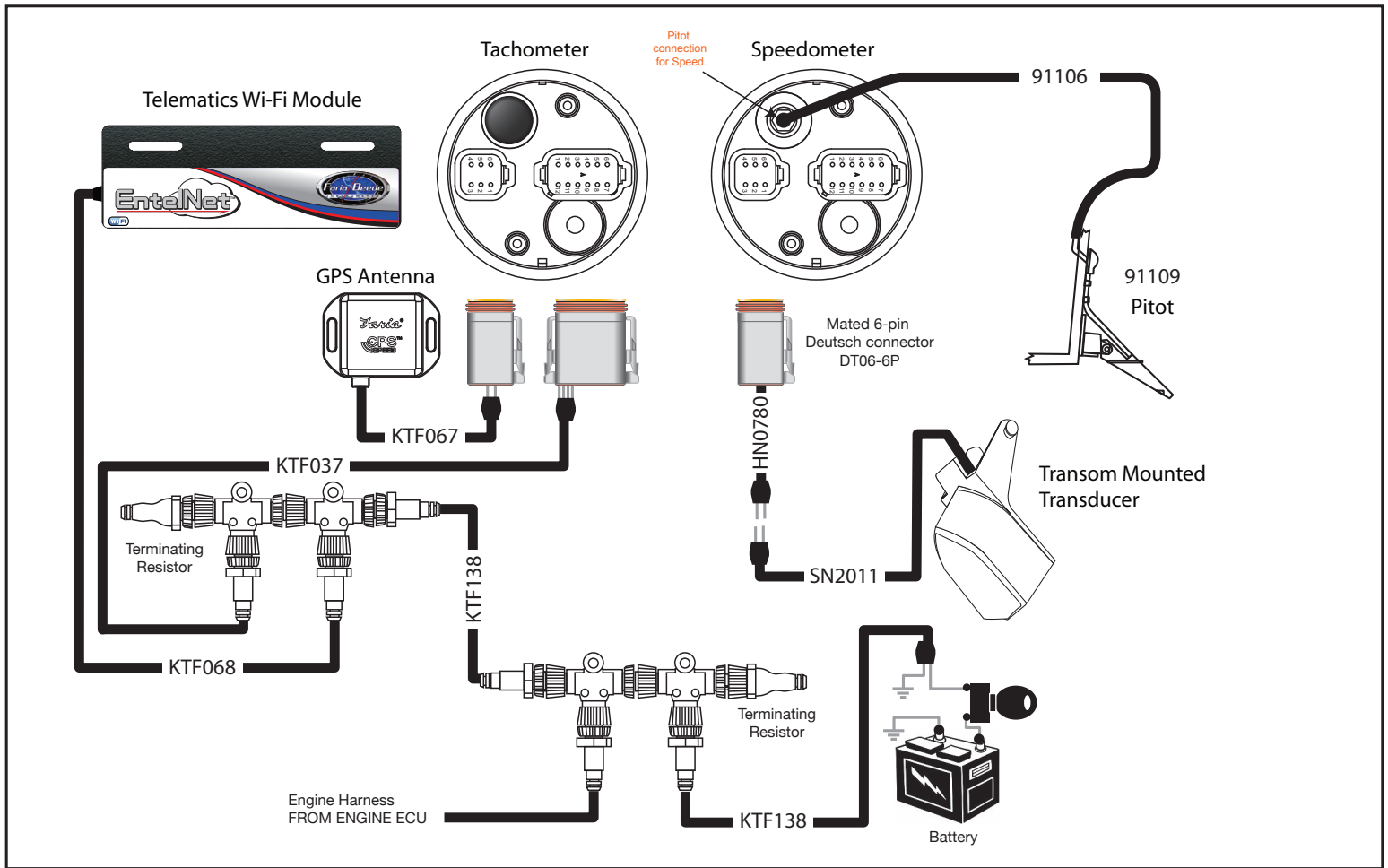
### Other

- KTF037 Harness - HN0898 - Tach [1]
- KTF051 Harness - HN0862 - Speedo [1]
- KTF069 Harness - HN0503 - Discrete Gauge Connector [1]





## Options



### Options

**Telematics** (Not Available Outside of North America)

KTF068 SD0065 - EnteNet™ Wi-Fi module

### GPS

KTF067 GPS106 - GPS NMEA0183 Antenna

### Depth Sounder

SN2011 Transom Mount Transducer  
Requires HN0780 or similar for connection

### Pitot Speed

91109 Pitot Tube Kit  
91106 Pitot Tube (20 Foot Tubing)

### Harnesses

KTF138 Harness - Mini Back Bone [2]  
with "T" connectors and Terminating Resistors.

### Engine Harness

Honda, Tohatsu

KFT035 Harness - HN0855 - Engine to Back Bone [1]



Evinrude

G1 – uses Evinrude p/n 766026 to go from engine to NMEA backbone.

G2 – has NMEA backbone connector coming straight out of engine.

Suzuki

Requires Suzuki p/n 990C0-88149 (or similar) 'type' of engine interface cable.  
Exact part number may vary, depending on model/year.

Yamaha

KTF036 Harness - HN0856 - Engine to Back Bone [1] - See Yamaha page for connections through the Yamaha Mini Hub.

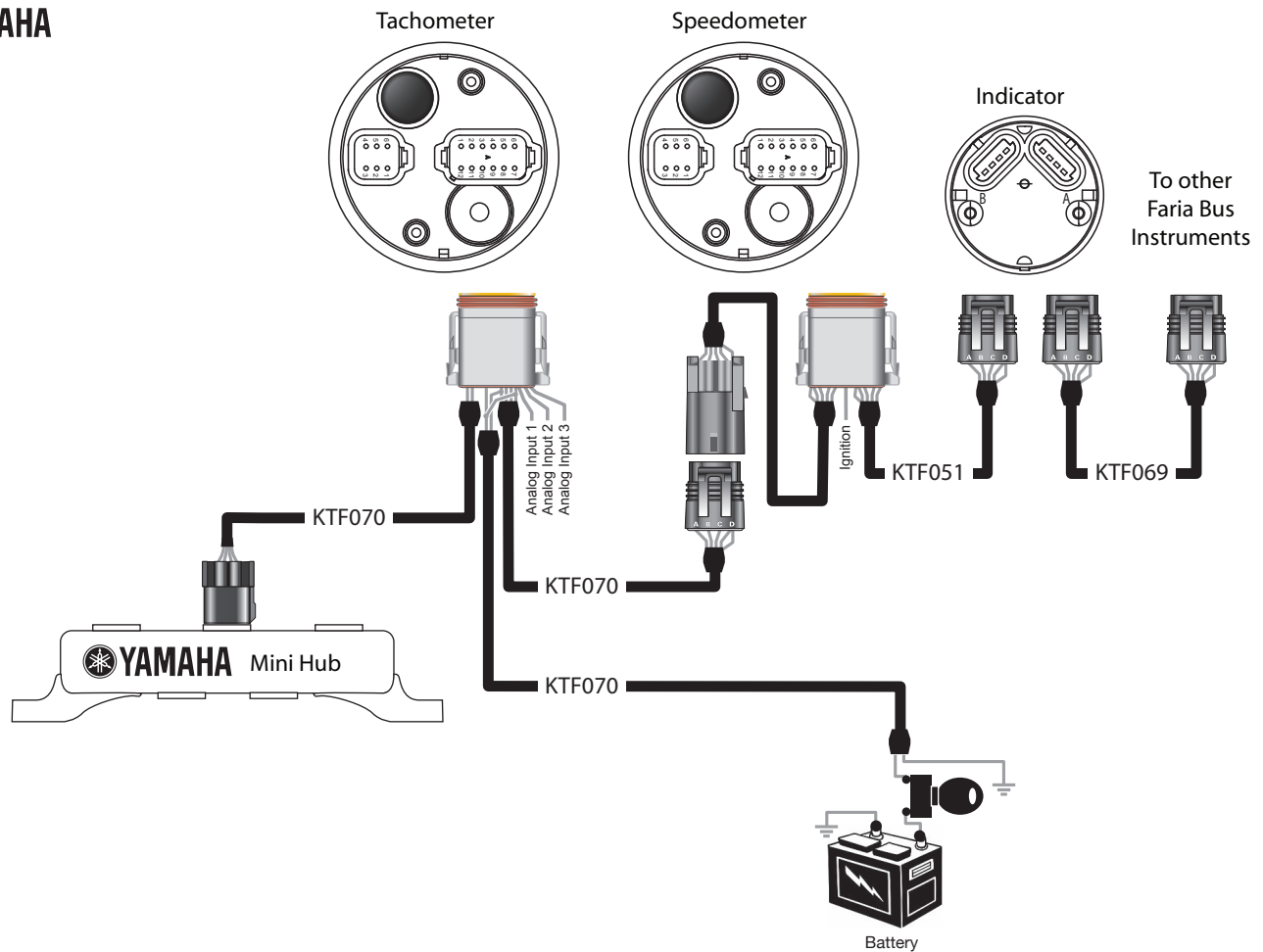


Honda

Requires Honda p/n 06328-223-730HE engine interface cable.  
Exact part number may vary, depending on model/year.



Yamaha



#### Box sets (Harness Included)

- KTF059 2 Gauge Set  
(41021, 41029, KTF070, KTF051)
- KTF060 4 Gauge Set  
(41021, 41029, 21003, 21002, KTF070, KTF051, KTF069[2])

#### Tachometer (Harness Not Included)

- 41021 4" MGT053 - MG3000 - 7K RPM

#### Speedometer (Harness Not Included)

- 41029 4" MGS032 - MG3000 - 70 MPH/115 KPH - Yamaha (No Pitot)

#### Indicators (Harness Not Included)

- 21001 2" GE0166 - Fuel Level
- 21002 2" GE0167 - Trim Gauge
- 21003 2" GE0168 - Water Pressure (60 PSI)
- 21004 2" VE0026 - Voltmeter
- 21005 2" GE0169 - Water Temperature (100-250°F)
- 21006 2" GE0170 - Oil Pressure (100 PSI)
- 21007 2" GE0176 - Tank Level (Water)
- 21008 2" GE0177 - Rudder Angle Indicator

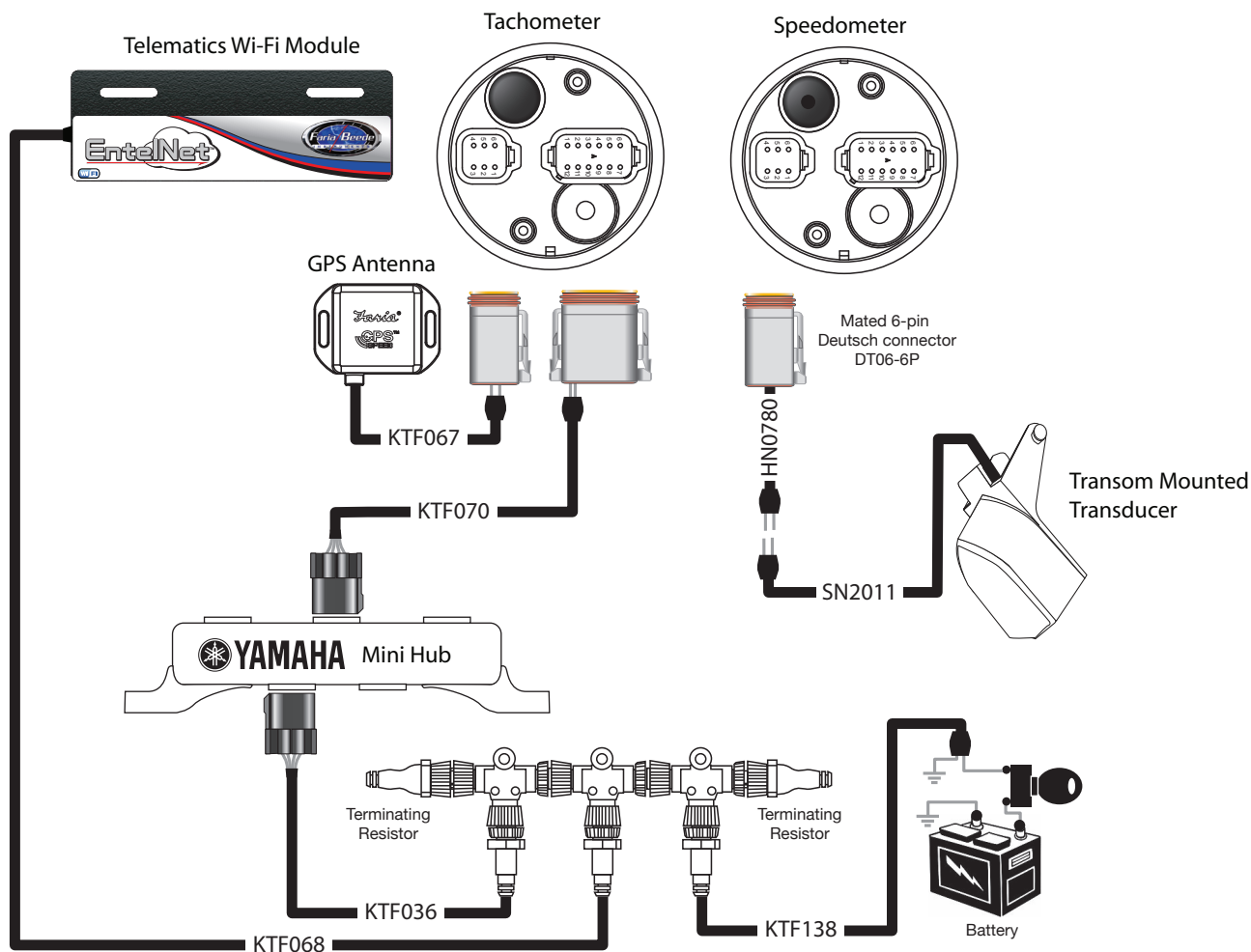
#### Other

- KTF070 Harness - HN0428 - Tach [1]
- KTF051 Harness - HN0862 - Speedo [1]
- KTF069 Harness - HN0503 - Discrete Gauge Connector [1]





## Yamaha - Options



### Options

#### Telematics (Not Available Outside of North America)

KTF068 SD0065 - EntelNet™ Wi-Fi module

#### GPS

KTF067 GPS106 - GPS NMEA0183 Antenna

#### Depth Sounder

SN2011 Transom Mount Transducer  
Requires HN0780 or similar for connection

#### Harnesses

KTF138 Harness - Mini Back Bone [2]  
with "T" connectors and Terminating Resistors.

#### Engine Harness

KTF036 Harness - HN0856 - Engine to Back Bone [1]

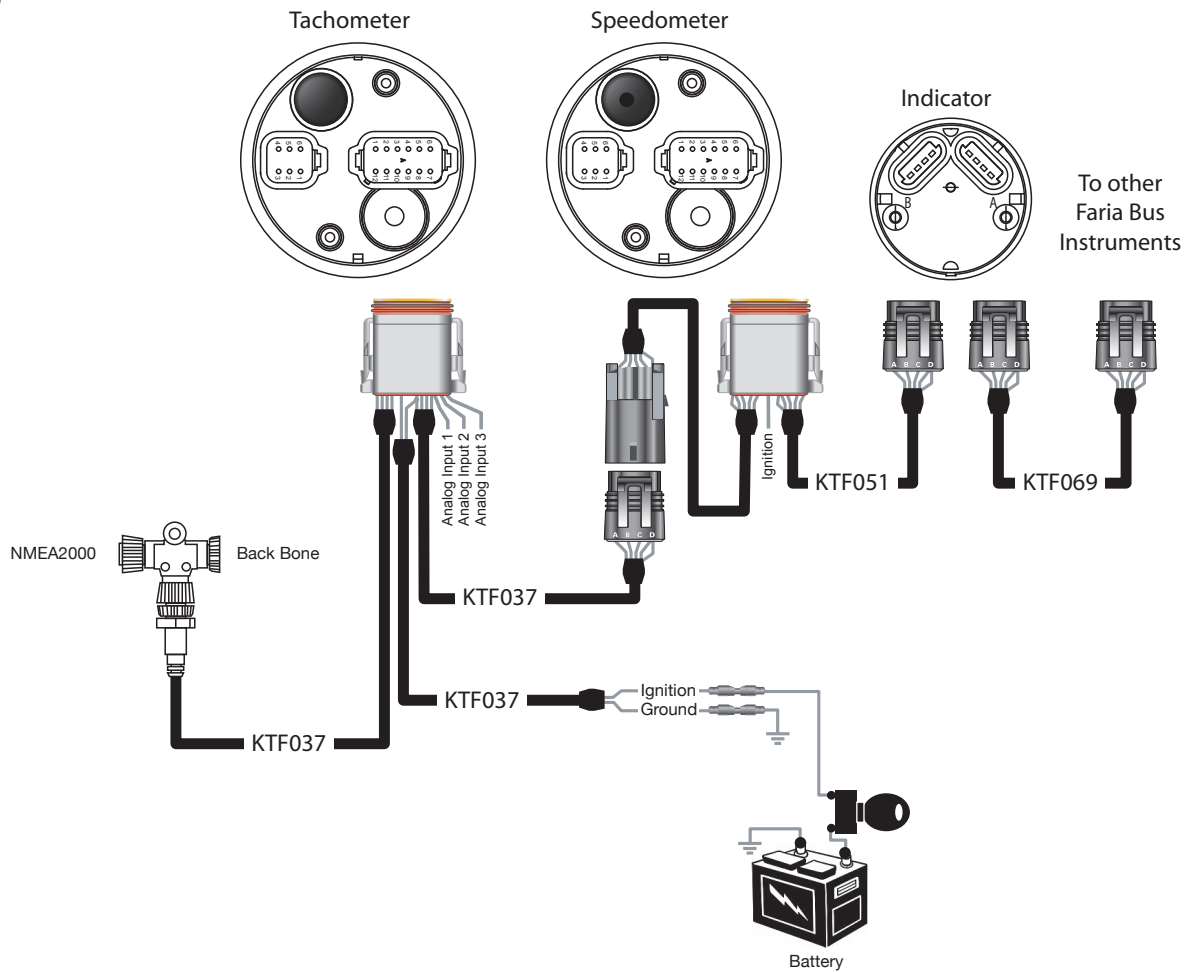


Data coming from engine is NMEA 2000, but connector is a 4-pin Sumitomo. Jbox is not required if HN0856 is used to convert 4-pin into NMEA.

HN0856 can be used with a Jbox installation as well.



**YANMAR**



**Tachometer** (Harness Not Included)

41020 5" MGT040 - MG3000 - 5K RPM

**Speedometer** (Harness Not Included)

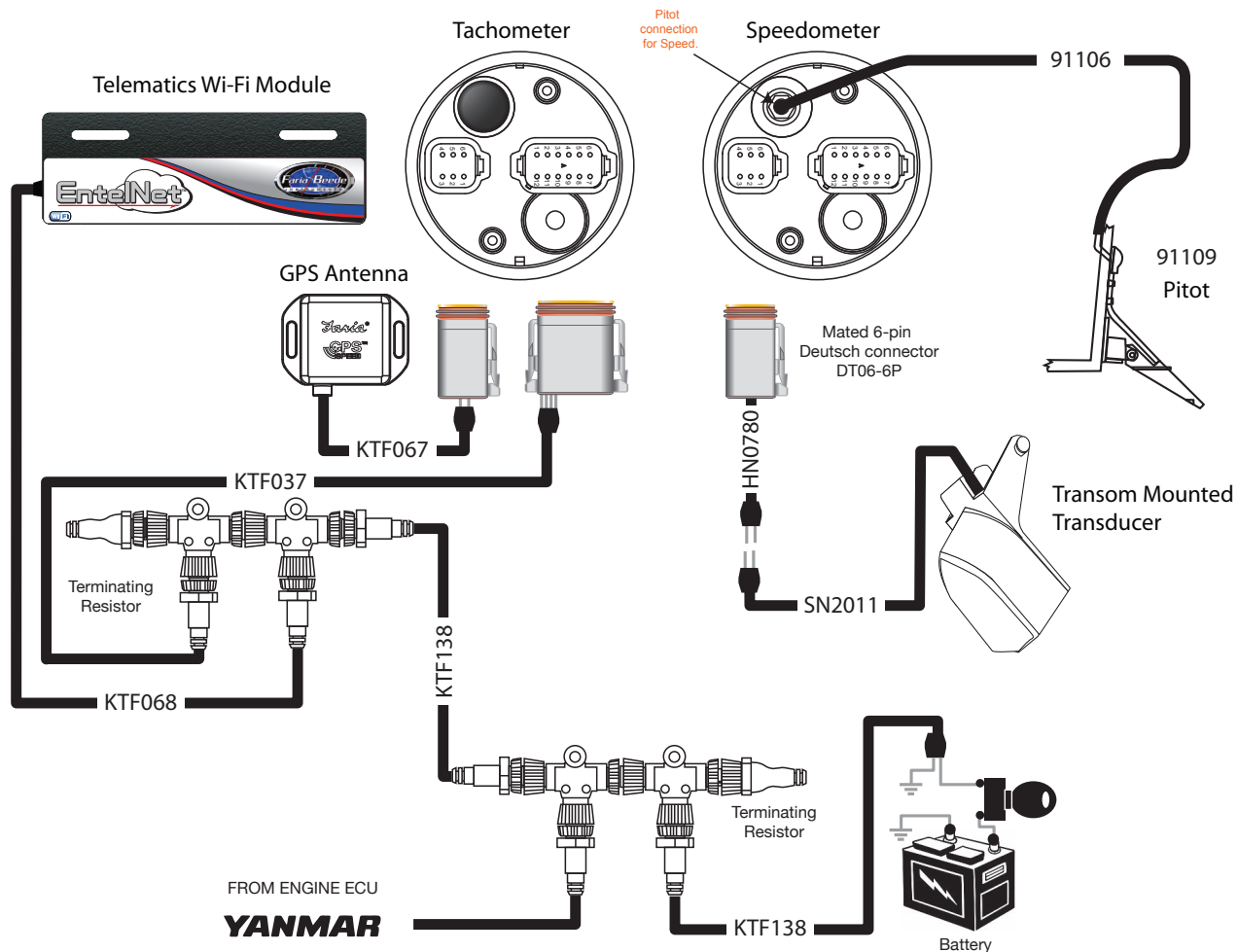
41006 5" MGS028 - MG3000 - 70 MPH with Depth (No Pitot)  
 41005 4" MGS010 - MG3000 - 70 MPH/115 KPH with Depth & Pitot  
 41003 4" SG0007 - MG1000 - 60 MPH/115 KPH (No Pitot)

**Indicators** (Harness Not Included)

21001 2" GE0166 - Fuel Level  
 21002 2" GE0167 - Trim Gauge  
 21003 2" GE0168 - Water Pressure (60 PSI)  
 21004 2" VE0026 - Voltmeter  
 21005 2" GE0169 - Water Temperature (100-250°F)  
 21006 2" GE0170 - Oil Pressure (100 PSI)  
 21007 2" GE0176 - Tank Level (Water)  
 21008 2" GE0177 - Rudder Angle Indicator

**Other**

KTF037 Harness - HN0898 - Tach [1]  
 KTF051 Harness - HN0862 - Speedo [1]  
 KTF069 Harness - HN0503 - Discrete Gauge Connector [1]



## Options

**Telematics** (Not Available Outside of North America)

KTF068 SD0065 - EntelNet™ Wi-Fi module

## GPS

KTF067 GPS106 - GPS NMEA0183 Antenna

## Depth Sounder

SN2011 Transom Mount Transducer  
Requires HN0780 or similar for connection

## Pitot Speed

91109	Pitot Tube Kit
91006	Pitot Tube (20 Foot Tubing)

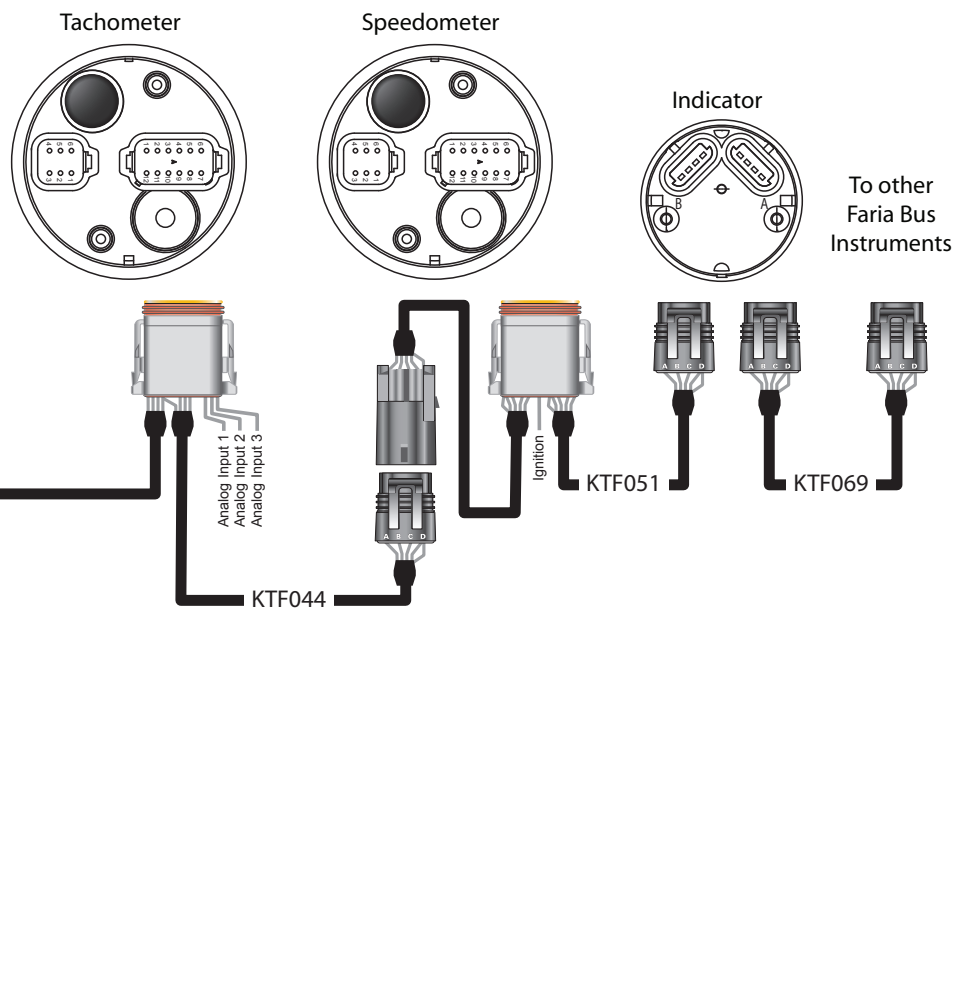
## Harnesses

KTF138 Harness - Mini Back Bone [2]  
with "T" connectors and Terminating Resistors.





SmartCraft



#### Box sets (Harness Included)

- KTF043 2 Gauge Set  
(41002, 41003, KTF044, KTF051)
- KTF042 4 Gauge Set  
(41002, 41003, 21003, 21002, KTF044, KTF051, KTF069[2])

#### Tachometer

- 41008 5" MGT045 - MG3000 - 7K RPM
- 41002 4" MGT018 - MG3000 - 7K RPM

#### Speedometer

- 41006 5" MGS028 - MG3000 - 70 MPH with Depth (No Pitot)
- 41005 4" MGS010 - MG3000 - 70 MPH/115 KPH with Depth & Pitot
- 41003 4" SG0007 - MG1000 - 60 MPH/115 KPH (No Pitot)

#### Indicators (Harness Not Included)

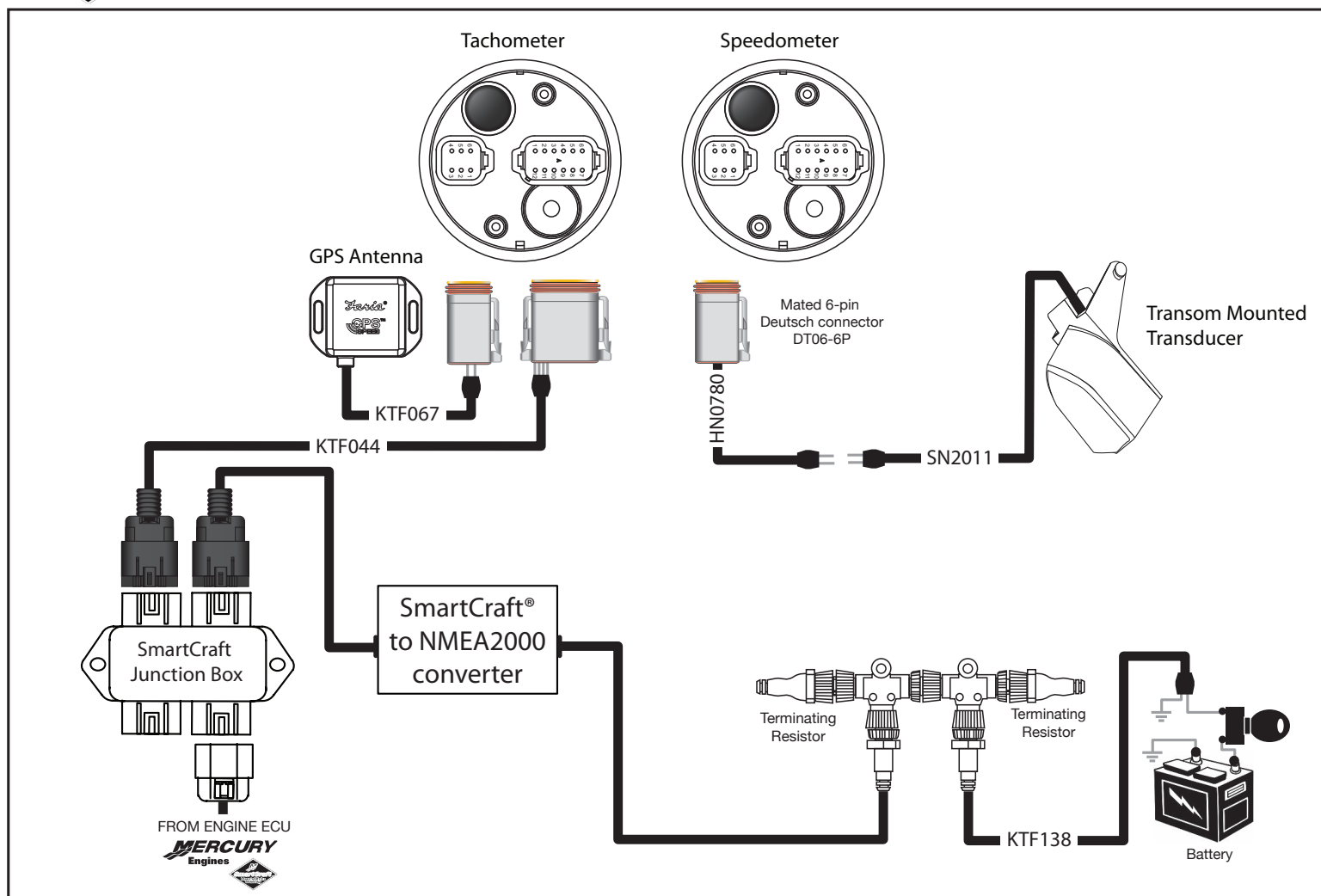
- 21001 2" GE0166 - Fuel Level
- 21002 2" GE0167 - Trim Gauge
- 21003 2" GE0168 - Water Pressure (60 PSI)
- 21004 2" VE0026 - Voltmeter
- 21005 2" GE0169 - Water Temperature (100-250°F)
- 21006 2" GE0170 - Oil Pressure (100 PSI)
- 21007 2" GE0176 - Tank Level (Water)
- 21008 2" GE0177 - Rudder Angle Indicator

#### Other

- KTF044 Harness - HN0847 - Tach [1]
- KTF051 Harness - HN0862 - Speedo [1]
- KTF069 Harness - HN0503 - Discrete Gauge Connector [1]



## SmartCraft - Options



### Options

#### GPS

KTF067 GPS106 - GPS NMEA0183 Antenna

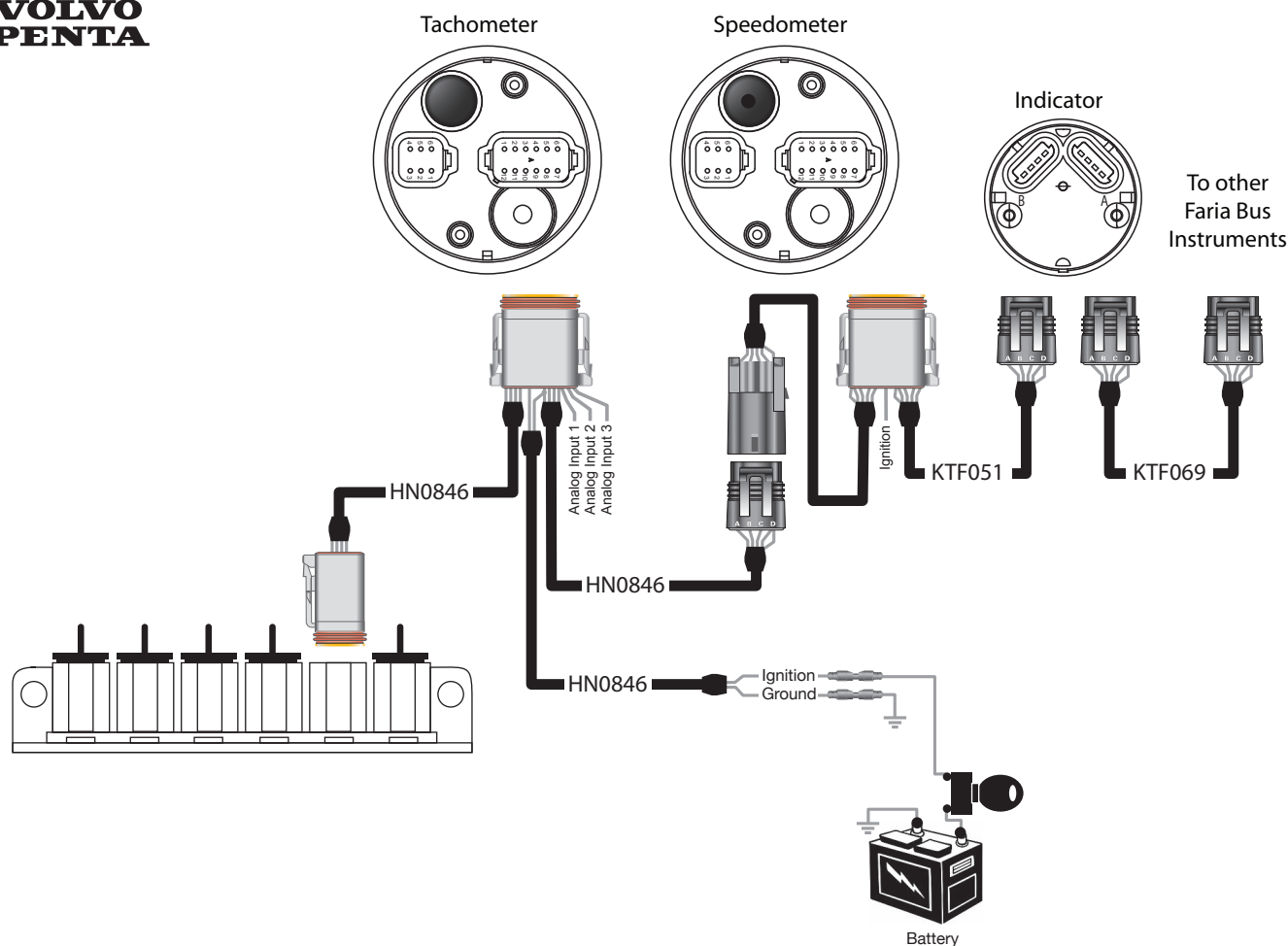
#### Depth Sounder

SN2011 Transom Mount Transducer  
Requires HN0780 or similar for connection

#### Harnesses

KTF138 Harness - Mini Back Bone [2]  
with "T" connectors and Terminating Resistors.

**VOLVO  
PENTA**



**Box sets (Harness Included)**

- KTF032 2 Gauge Set  
(41001, 41003, KTF037, KTF051)
- KTF034 4 Gauge Set  
(41001, 41003, 21003, 21002, KTF037, KTF051, KTF069[2])

**Tachometer (Harness Not Included)**

- 41007 5" MGT019 - MG3000 - 7K RPM
- 41001 4" MGT017 - MG3000 - 7K RPM

**Speedometer (Harness Not Included)**

- 41006 5" MGS028 - MG3000 - 70 MPH with Depth (No Pitot)
- 41005 4" MGS010 - MG3000 - 70 MPH/115 KPH with Depth & Pitot
- 41003 4" SG007 - MG1000 - 60 MPH/115 KPH (No Pitot)

**Indicators (Harness Not Included)**

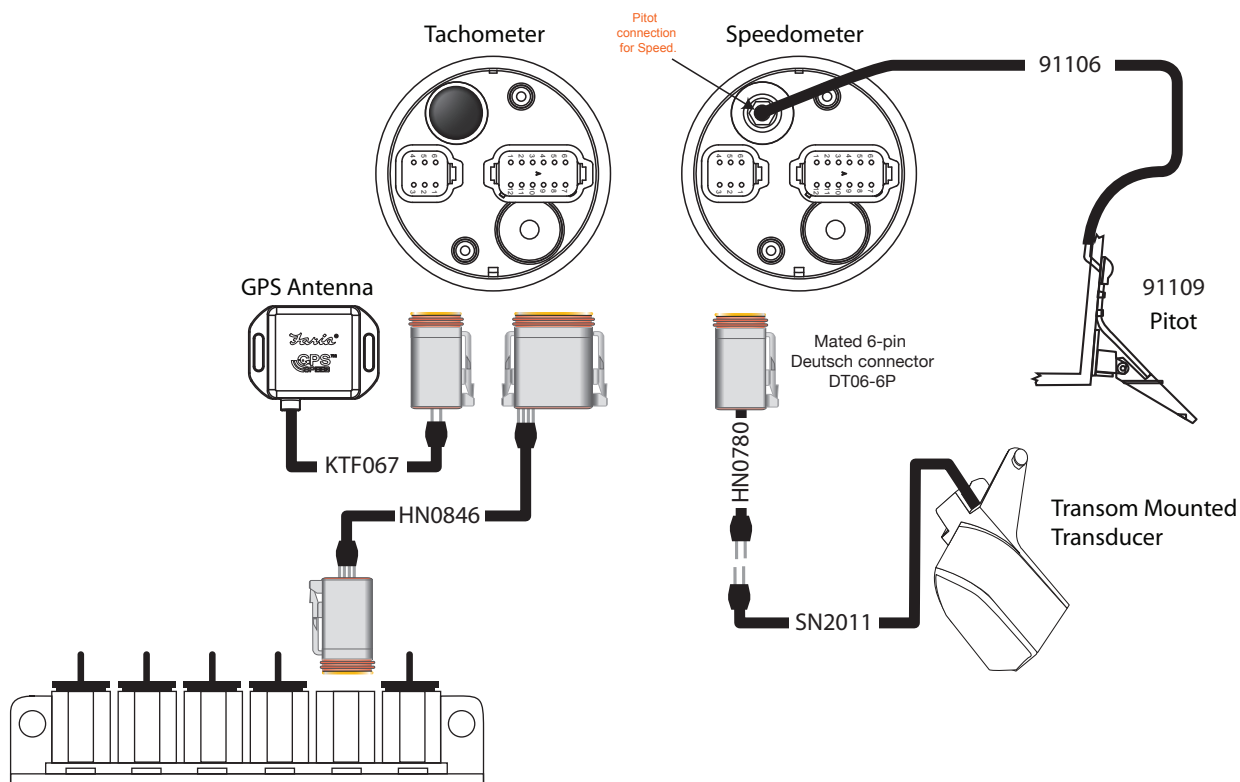
- 21001 2" GE0166 - Fuel Level
- 21002 2" GE0167 - Trim Gauge
- 21003 2" GE0168 - Water Pressure (60 PSI)
- 21004 2" VE0026 - Voltmeter
- 21005 2" GE0169 - Water Temperature (100-250°F)
- 21006 2" GE0170 - Oil Pressure (100 PSI)
- 21007 2" GE0176 - Tank Level (Water)
- 21008 2" GE0177 - Rudder Angle Indicator

**Other**

- Harness - HN0846 - Tach [1]
- KTF051 Harness - HN0862 - Speedo [1]
- KTF069 Harness - HN0503 - Discrete Gauge Connector [1]



## SAE J1939 Volvo - J1939 - Options



### Options

#### GPS

KTF067 GPS106 - GPS NMEA0183 Antenna

#### Depth Sounder

SN2011 Transom Mount Transducer  
Requires HN0780 or similar for connection

#### Pitot Speed

91109 Pitot Tube Kit  
91106 Pitot Tube (20 Foot Tubing)

# EntelNet

## Wi-Fi Remote Engine Monitoring

### Engine Monitoring and Alert Communications System.

The EntelNet™ service is a multi part system which combines the information received from the engine ECU (via CAN Bus), Analog (resistance, voltage, etc.) or Serial data (RS-232 for NMEA 0183, typical for GPS) and an over the air communications system, i.e. Wi-Fi, GSM or Iridium satellite to provide remote control and monitoring of on-board systems.

When an engine is malfunctioning the ECU transmits the area of the malfunction as a fault code.

The fault code is often used to turn on a lamp or an alert indicator. The EntelNet™ system records these fault codes and can send the data to the technician giving them a heads up of possible problems or a means to diagnose the engine's health remotely.

### NMEA2000 Wi-Fi module

(Not available for sale outside of North America.)

Catalog# Factory # Description

KTF068 KTF068 NMEA2000 EntelNet™ module with NMEA2000 connector



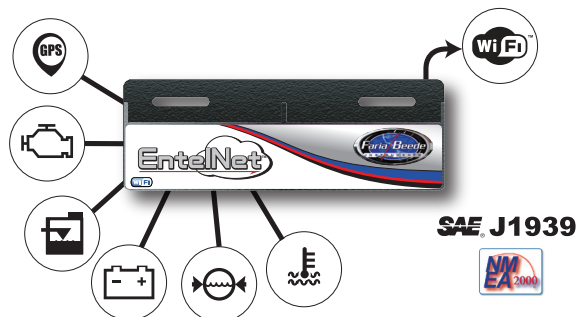
The data (GPS speed, Map position, Instrument data and CAN error codes) is displayed in an easy to read website and can be viewed by an internet capable Android® device i.e. Smart Phone, Tablet.

The engine information can then be sent to a repair facility, via e-mail, giving your repair technician a heads up that you're having problems.

**Step 1** (Connect to EntelNet™) **Step 2** (Send e-mail) **Step 3** (Response)



Connected directly to the CAN Bus, Real-Time data is sent by the EntelNet™ wireless module (Wi-Fi™).



SAE J1939



# You Need To Hear What Your Engine Has To Say



## Telematics Solution

Built for Android® and connected directly to the NMEA2000\* CAN Bus, Real-Time data is sent by the EntelNet™ wireless module (Wi-Fi™).

The data (GPS speed, Map position, Instrument data and CAN error codes) is displayed in an easy to read Android® App and can be viewed by any Android® - Smart Phone or Tablet.



## Get the technicians involved.

- No additional costs
- Send the engine and other critical data anywhere in the world to be diagnosed\*\*
- Helps reduce warranty costs and can help lessen repair time

\* Built for an NMEA2000 engine

\*\* Requires an Android® device connected to the internet.



The Digital Instruments set is an easy to use Analog style instrument, with advanced ECU monitoring capabilities demanded by today's leading engine manufacturers.

The digital instrumentation communicates directly with the NMEA 2000 J-1939, Yamaha® and SmartCraft® protocols used by the engine ECU providing an important link between the operator and the engine ECU. With just a push of a button the operator can tell the status of the health of the engine including diagnostic messages, fault alerts, and parameter information. The Digital Dash kit from Faria is a great value for those boat owners looking to upgrade the instruments on their boat with American Made, OEM drop in replacements.



### MG3000 Tachometer

The MG3000 Tachometer features large lighted buttons with tactile feedback, LED back lighted dial, fog-resistant poly carbonate lens and plug and play connectorized cases. The daylight readable LCD is visible even in direct sunlight. A user-friendly, intuitive design makes navigating the menu interface easy to use. Customize the MG3000 with user definable screens and alarms.

The MG3000 Tachometer connects to the CAN bus and communicates directly with the engine ECU. Engine data, fault codes and alarms are displayed on the Tachometer's LCD display\*.

The MG3000 Tachometer is so much more than just a digital repeater. There are 3 Analog inputs which can be used for Air Temperature, Trim, Fuel Level and Water Pressure and a NMEA 0183 input for a GPS Antenna for Lat/Long, Heading, COG and clock.

\*Note: Some proprietary engine manufacturer alarms may not display or may be displayed incorrectly.

### Discrete Instruments

The discrete instruments connect directly to the MG3000 Tachometer. Digital signals are processed by the engine and sent through the Tachometer providing an easy to use display of the information. The stepper motor driven pointer provides accurate feedback of the engine data reported by the engine ECU.



5-inch (4.375" dia. hole)  
4-inch (3.375" dia. hole)  
2-inch (2.063" dia. hole)



### MG3000 Speedometer with Depth

The MG3000 Speedometer connects directly to the MG3000 Tachometer. This plug-and-play connection connects the Speedometer directly to the CAN bus. Like the Tachometer the Speedometer has the look and function of an analog gauge, but the pointer is driven with a digital stepper motor for increased accuracy.

Connected to a Depth Sounder the MG3000 Speedometer can show Depth warnings.



### MG1000 Speedometer

The MG1000 Speedometer connects directly to the MG3000 Tachometer. This plug-and-play connection connects the Speedometer directly to the CAN bus. Like the Tachometer the Speedometer has the look and function of an analog gauge, but the pointer is driven with a digital stepper motor for increased accuracy.

### Harnesses



## Specifications

### 4" & 5" Electronic Instruments

Operating Temperature	-4 °F to +158 ° F (-20 °C to +70 °C)
Storage Temperature	-22 °F to +185 ° F (-30 °C to +85 °C)
Lighting	See product line for specific information
Operating Voltage	11.5 to 16 volts
Nominal Voltage	14.2 volts
Current Consumption	< 100 mA, without illumination
Bezel	Stainless Steel or Aluminum - see product line for specific information
Lens	Glass or Polycarbonate - see product line for specific information
Connection	Studs, blade terminals, connectors - see product line for specific information
Mounting Bracket	Plastic mounting clamp. Clamping range 0 -.8" (0-20 mm)
Torque	5 to 7 inch pounds (.57 - .80 Nm)
Mounting Hole	3 3/8" (85 mm) for 4" Instrument – 4 3/8" (112 mm) for 5" Instrument

### 4" & 5" Mechanical Instruments

Operating Temperature	-22 °F to +185 ° F (-30 °C to +85 °C)
Storage Temperature	-40 °F to +221 ° F (-40 °C to +105 °C)
Lighting	See product line for specific information
Bezel	Stainless Steel or Aluminum - see product line for specific information
Lens	Glass or Polycarbonate - see product line for specific information
Connection	Studs, blade terminals - see product line for specific information
Mounting Bracket	Plastic mounting clamp. Clamping range 0 -.8" (0-20 mm)
Torque	5 to 7 inch pounds (.57 - .80 Nm)
Mounting Hole	3 3/8" (85 mm) for 4" Instrument – 4 3/8" (112 mm) for 5" Instrument

### 2" Electronic Instruments

Operating Temperature	-4 °F to +158 ° F (-20 °C to +70 °C)
Storage Temperature	-22 °F to +185 ° F (-30 °C to +85 °C)
Lighting	See product line for specific information
Operating Voltage	11.5 to 16 volts
Nominal Voltage	14.2 volts
Current Consumption	< 100 mA, without illumination
Bezel	Stainless Steel or Aluminum - see product line for specific information
Lens	Glass or Polycarbonate - see product line for specific information
Connection	Studs, blade terminals, connectors - see product line for specific information
Mounting Bracket	Plastic mounting clamp. Clamping range 0 -.8" (0-20 mm)
Torque	5 to 7 inch pounds (.57 - .80 Nm)
Mounting Hole	2 1/16" (53 mm) for 2" Instrument

### 2" Mechanical Instruments

Operating Temperature	-22 °F to +185 ° F (-30 °C to +85 °C)
Storage Temperature	-40 °F to +221 ° F (-40 °C to +105 °C)
Lighting	See product line for specific information
Bezel	Stainless Steel or Aluminum - see product line for specific information
Lens	Glass or Polycarbonate - see product line for specific information
Connection	Studs, blade terminals - see product line for specific information
Mounting Bracket	Plastic clamp, metal on water pressure. Clamping range 0 -.8" (0-20 mm)
Torque	5 to 7 inch pounds (.57 - .80 Nm)
Mounting Hole	2 1/16" (53 mm) for 2" Instrument



## Digital Engine Connection Guide



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Our products are continually being improved. Specifications may change without notice.

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