



# EntelNet™



Cloud based, diagnostic,  
engine monitoring and  
reporting system



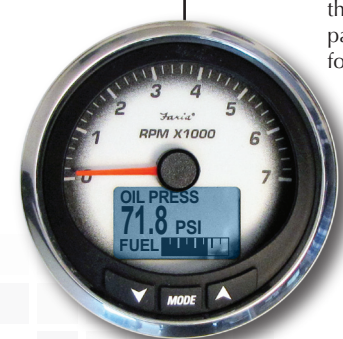


The Faria EntelNet™ service is a multi part system which combines the information received from the engine ECU (via CAN Bus), Analog (resistance, voltage, etc.) or Serial data (RS-232 for NMEA 0183, typical for GPS) and an over the air communications system, i.e. Wi-Fi, data to provide remote control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

# Cloud based engine monitoring and systems control.



Uses the information sent by the engine and other connected systems on your vehicle and transmits the system data into the cloud!



The MG3000 receives the system data and parses it to the module for sending.

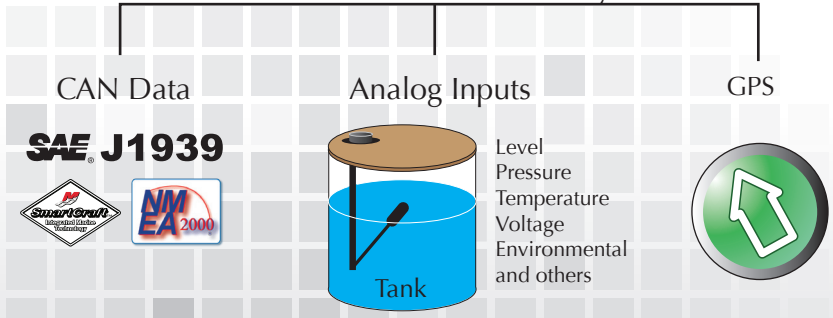
The CAN module receives system data directly from the CAN bus\* and sends the data to the browser via Wi-Fi®.

\*Module is not currently SmartCraft® compatible.

## What Does That Mean?

With the EntelNet™ system you can use your smart device to monitor and control your engine data and critical vessel information right from the palm of your hand and view the Real-World data being sent by the ECU and send it to your Service Technician for diagnostics.

### System Data



# HTML Report Website

Faria		ENGINE MONITORING REPORT			
	CLIENT ID: TEREX	DATE: 05/22/13			
	VEHICLE ID: 1N5276	TIME: 16:34:05			
	ENGINE ID: AC2137653	ANALYSIS: <b>MAINTENANCE REQ'D</b>			
CURRENT LOCATION LAT: 41.000000 LON: -73.000000	FUEL LEVEL (%) <b>64.1</b>	OIL LEVEL (%) <b>45.5</b>	MAX SPEED (MPH) <b>72.8</b>	MAX ENG. TEMP (F) <b>244.1</b>	MAX OIL PRESS (PSI) <b>71.8</b>
	ENGINE HOURS <b>145.4</b>	TRIP (MILES) <b>1573.1</b>			
<b>ENGINE FAULTS</b>					
DESCRIPTION	TIME	SPN	FMI	COUNT	
ENGINE TEMP HIGH	15:09:20	7890123	23	01	
LOW OIL PRESSURE	15:07:39	0123456	01	01	
<input type="button" value="Start Updating"/>					

Real-World data sent from the MG3000, via the Wireless module is displayed.

The data, GPS speed, Map position, Instrument data and CAN error code information is displayed in an easy to read website and can be view by any internet capable device.



Get the technicians involved. Send the engine and other critical data anywhere in the world to be diagnosed. Helps reduce warranty costs and can help lessen repair time.

## Send engine data into the Cloud!

GPS data and CAN information is sent in small byte sized packets to the smart devices. The end user can then send the data on to the cloud.

Servers can use this information to display GPS speed, Map position, Instrument data, Asset monitoring data and CAN error codes on an HTML website for remote viewing or to trigger alerts.



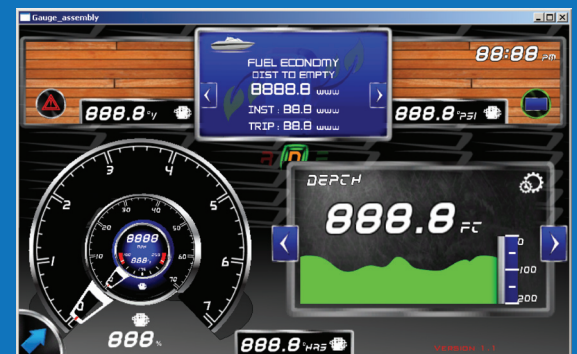
Faria is also developing a dedicated app made for the Android® market place.

Real-World data sent from the MG3000, via Wi-Fi, is displayed in a dedicated App for Android smart devices.

The data, GPS speed, Map position, Instrument data, Asset monitoring data and CAN error codes is displayed in a virtual instrument dash board right on the screen.

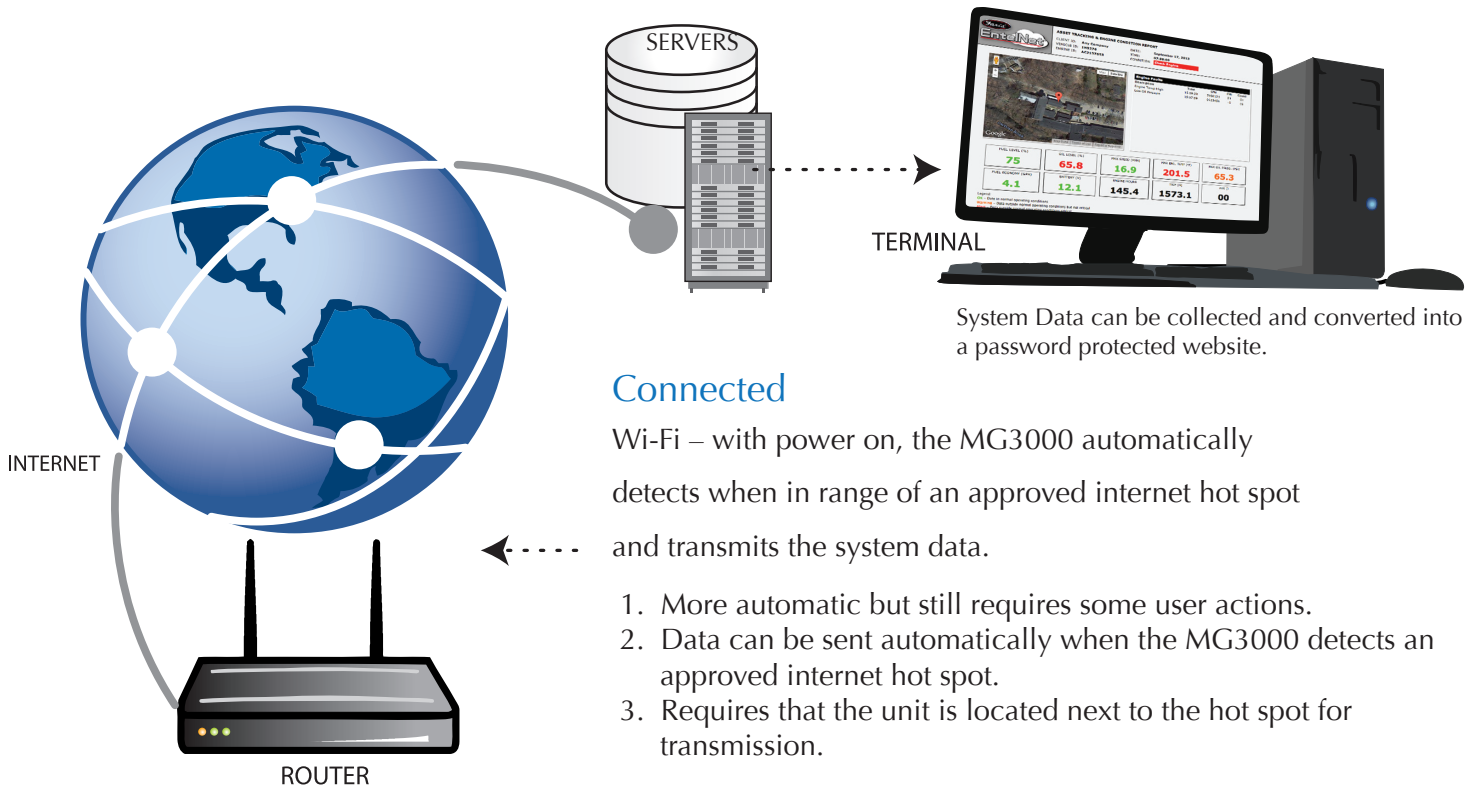
Multiple “pages” can be displayed including:

- Standard and Secondary instruments
- Ballast Tank monitoring and control
- Cruise Control
- Depth – Side scrolling contour
- Fuel Management
- Digital Switching and Lights
- Error Codes



# How does it do that?

The EntelNet™ offers 2 ways to send Real-Time system data up to the cloud.



## Connected

Wi-Fi – with power on, the MG3000 automatically detects when in range of an approved internet hot spot and transmits the system data.

1. More automatic but still requires some user actions.
2. Data can be sent automatically when the MG3000 detects an approved internet hot spot.
3. Requires that the unit is located next to the hot spot for transmission.

## Local

Wi-Fi – The system data is transmitted to a local Android® device or other connected internet browser. This information is available on or near your vessel only.

1. Requires user actions to transmit data.
2. Requires the user to manually send the data to the repair facility.
3. Requires the phone or tablet to have internet connectivity\*.

\*No additional monthly subscriptions required.



EntelNet™ module (Wi-Fi®)  
(requires an MG3000)



EntelNet™ CAN module (Wi-Fi®)

# An Expandable Architecture

The Faria EntelNet™ service is built on our Faria Bus system. This serial bus communications system allows us to transmit data back and forth along a simple twisted pair of wires. Each instrument is individually addressed and works independently from the other instruments.

Controlling the bus is the MG3000. Designed to convert raw engine data coming from the engine ECU, via J1939, NMEA2000 and the SmartCraft® protocols, and other analog and digital inputs into a signal that can be read by the other instruments on the Faria Bus.

## The Faria Bus

The Faria Bus is a serial communications protocol that connects Faria gauges to one another in a plug-N-play system.

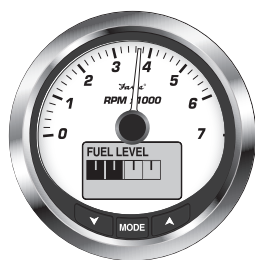
A simple connection from gauge to gauge sends signal and power information down the line. Each gauge receives all the information it needs to display the required information.

Connect multiple devices on one Faria Bus network.

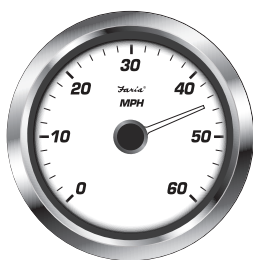
## Just plug it in!

With the Faria Bus network you don't have to worry about how it will connect. The Wireless module simply connects to the Faria Bus cable. Mount the module and you are done.

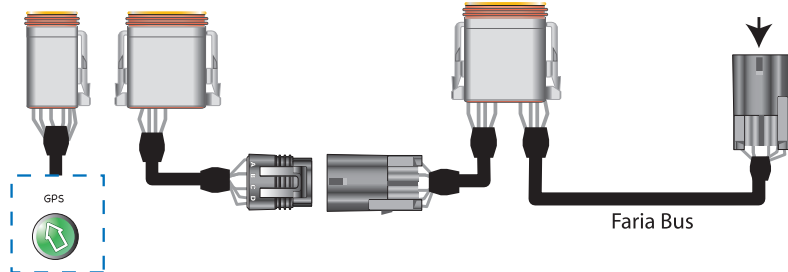
MG3000 Tachometer



MG Speedometer



Faria Wireless Interface Module



The MG3000 connects to the various analog and digital inputs on the vehicle/vessel and sends that system information in small byte sized packets via the Faria® Bus to the EntelNet™ wireless module. When sent to a server, this transmitted system data can be used to display GPS speed, Map position, Instrument data, Asset monitoring data and CAN error codes on an HTML website for remote viewing. Technicians can use this data to diagnose and respond more quickly, saving you downtime.

## The MG3000

### Product Description

The digital gateway systems, available in the Speedometer or Tachometer, is a feature-rich, intuitive engine monitoring solution for the instrument market.

The digital instrumentation communicates directly with the J1939, NMEA2000 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.

With a full featured J1939 interface the MG3000 series instruments provide a complete interface for virtually any SAE J1939 data.

Connect to analog and digital signals to reduce installed costs significantly.

The MG3000 and other digital instruments from Faria are fully scalable from a single gauge solution to a full feature multi-gauge applications.

### Features and Benefits

- Utilizes both analog and digital inputs to reduce system cost
- GPS enabled to display GPS Speed, COG, Heading, and Clock
- Lighted buttons for ease of use with tactile feedback.
- Stepper motor driven pointers (for accuracy and durability)
- User definable screens and alarms
- Custom cosmetic options upon request
- Deutsch and Packard connectors - Plug and Play
- This system offers easy installation and waterproof connectors from engine ECU to instruments.
- Fog Resistant Lens
- LED lighting and RGB LEDs for multi-color light options



White, Yellow, Green Yellow, Green, Dark Sea Green, Cyan, Blue, Purple, Pink, Goldenrod or Tan

- Easily converts from US standard measurements to Metric
- Up to 5 Languages available
- Engine Diagnostic Error codes stored in dedicated screen
- Analog inputs for DEF, Air Temperature, Water Pressure, Fuel Level and other liquid tank levels.
- LCD flashes Red for engine critical Alarms, Yellow for cautionary Alarms
- Multiple 5"4"/2" instrument and dash set options in Faria Standard series
- All standard J1939 engine data PGNs supported, proprietary PGN data supported on request.



### *A user friendly digital engine monitoring solution.*

- Speedometer or Tachometer instruments.
- LCD data are available in 5 languages.
- Trip A/B Data.
- Pop-Up screens for quick information display and warnings.
- Alarm codes with suggested actions.
- Data log for fault codes.
- A single MG3000 can monitor up to 5 fuel tanks.
- Calibrate Fuel Level and Speed in gauge.
- Initialization mode to assist in gauge set-up.
- Superior Sunlight readable display.

**Available in 4 and 5 inch  
With or with out buttons.**

**Multiple Discrete  
Gauges Available**



**SAE J1939**  
**SAE J1708**



## The Faria Digital Controller

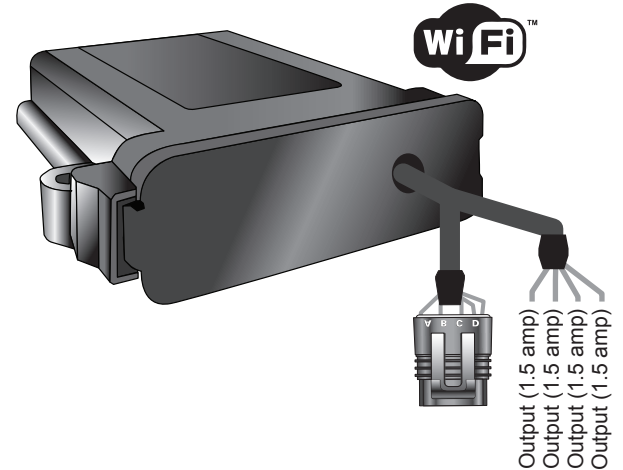
This unit, with optional Wi-Fi, connects directly to the Faria Bus and communicates with the MG3000.

When within Wi-Fi range of your vehicle/vessel, you can control a digital switching unit. Turn an appliance on or off as long as it is connected to the Digital Switching unit. (Factory programming may be required for some applications.)

The MG3000 sends an activate signal through the Faria Controller to tell a Digital Relay unit to turn ON or OFF a switch. Allowing you to control appliances remotely.

1. Requires a continuous Wi-Fi connection from a known local internet hot spot.
2. The unit can control multiple devices.

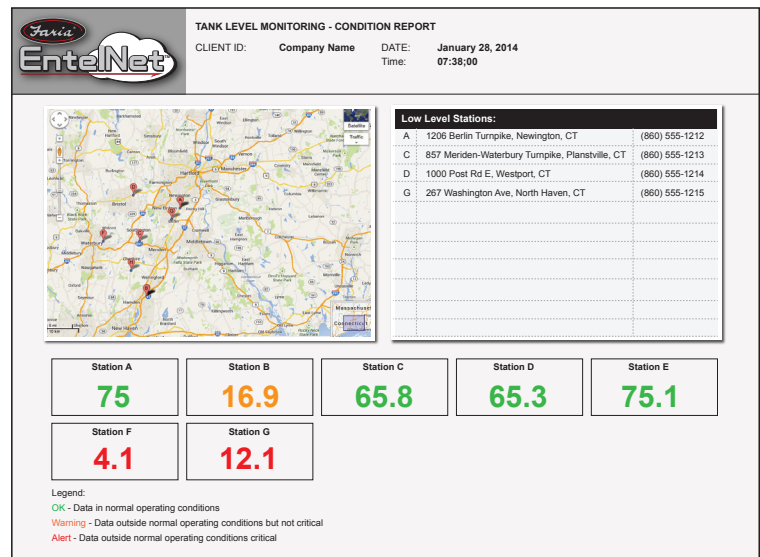
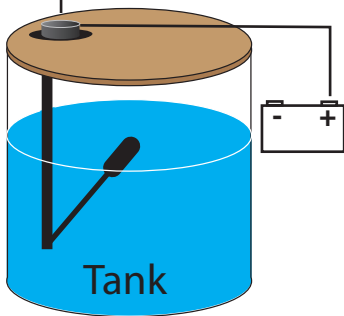
## Faria Controller



## The Faria Smart Sender



Sends tank information directly to the web.



Asset monitoring information is sent in small byte sized packets to the cloud. Servers can use this information to display GPS Map position and Asset monitoring data on an HTML website for remote viewing or to trigger alerts.



***A complete solution for remote instrument monitoring!***

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Made in the USA