

# VANTAGE VIEW™

**LIVORSI**  
Livorsi Marine, Inc.® • livorsi.com



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## Operation Manual

This system is compatible with any Smartcraft®,  
NMEA2000®, J1939 or Indmar engine.

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MARINE



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## Overview

For those of you who want “up to date” technology, but still love the classic look of analog gauges, Livorsi has merged their own performance instruments with digital technology to form a new line of gauges called Vantage View. Each gauge consists of a digital stepper motor that accurately displays data in real time, while maintaining the easy to read analog performance look.

We know that by using Vantage View gauges you have an unparalleled view of the performance of your boat or vehicle. Vantage View gauges work on any Smartcraft®, NMEA2000®, J1939 and Indmar compatible engine. The system comprises of a Master Tach with a LCD display that allows you to monitor the performance of your boat or vehicle. Monitor up to four engines with the Vantage View system. Check trip miles, fuel level, battery voltage, oil pressure, oil temperature or engine temperature just to name a few. Input up to 15 alarms to your own specifications. These user settable alarms trigger the built-in LED warning lights on the 2 and 3 inch gauges to warn you if your boat or vehicle is operating below the appointed limits.

Navigation of the LCD interface is done via the Control Pod. As opposed to other digital gauges that require reaching to the gauge itself, Livorsi’s Vantage View system uses a Control Pod to navigate through the LCD interface. This pod can be mounted in a convenient location for the driver and comes in a variety of powdercoated colors to match any console.

The rigging of these gauges has been simplified. The Master Tach daisy chains to the slave gauges with plug-in connectors, then hooks up directly to the boat or vehicles ECM. This system has eliminated the use of a translation box and oversized harnesses between the ECM and the gauges themselves, making the installation process a breeze.

Get Livorsi performance with modern technology all in one set of gauges.

## Icon Descriptions



Menu



Menu / Item Position Cursor



Warning Indicator Smartcraft® Only (blinks)



Fault Warning Indicator (blinks)



Analog to Digital Signal Source Identifier



Higher Than Threshold Value



Lower Than Threshold Value



No CAN Data Present



No CAN Data Present

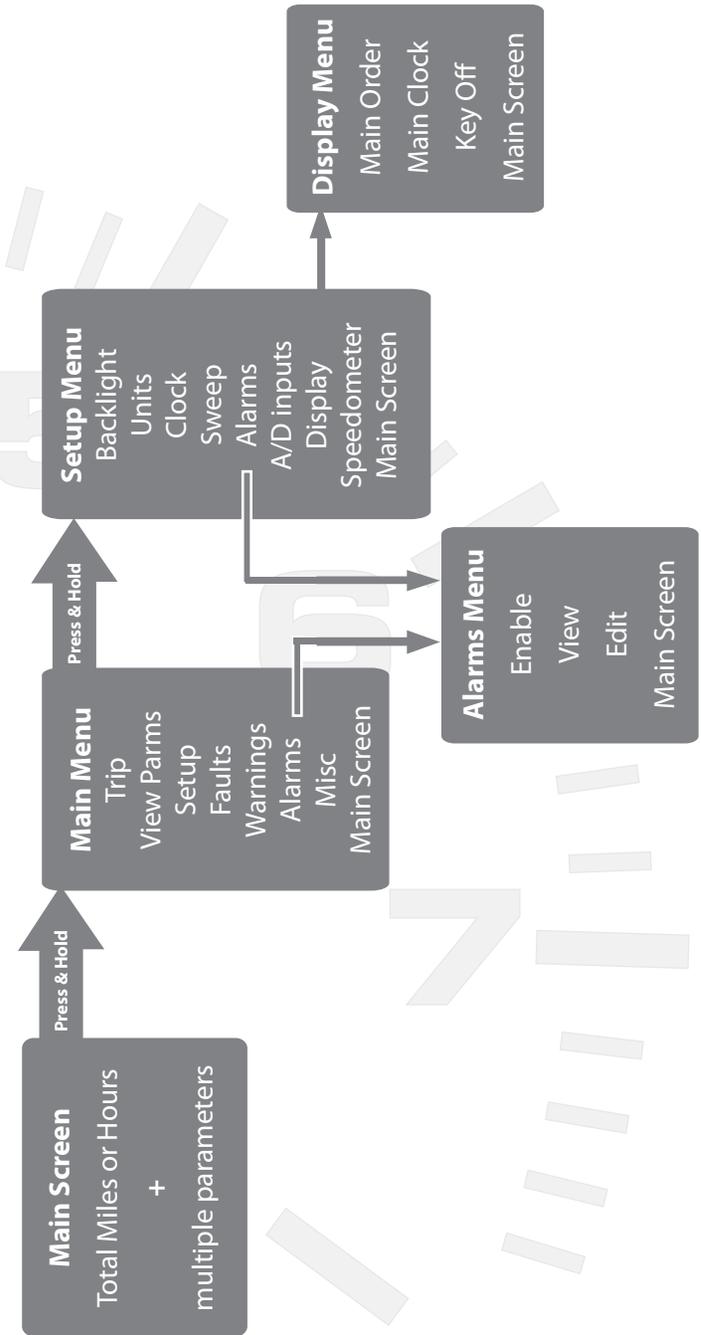


Alarm Indicator (blinks)



Active Item / Location Underline Cursor (blinks)

## LCD Screen Chart



## STARTUP SCREEN

At the time of start up the- Livorsi or other possible CAN protocol logos will appear momentarily.

## SWITCHES

### HOW TO USE SWITCHES

Vantage View is different than other digital or analog gauges you may have seen or used before. The Livorsi system uses remotely mounted Control Pod to navigate through the different screens. This Control Pod can be mounted in a convenient location for easy access to information. Removing these toggle buttons from the gauge themselves makes viewing the information virtually effortless.

### MODE

#### Press

A press of the MODE switch toggles the display among the different display screens or acts as enter input to accept menu selections or user settings.

#### Pressing & Holding

Pressing & holding of the MODE switch while in any of the main screens will bring up the MAIN MENU.

#### Pressing & Holding

Pressing & Holding of the MODE switch while in the TRIP MILES or MAINTENANCE HOURS display will reset the value to zero.

### UP SWITCH

#### Press

A press of the UP switch scrolls up the Parameter displays  
Menu choices  
Or increases adjustable values one at a time.

#### Pressing & Holding

Pressing & Holding of the UP switch continuously scrolls up the parameter displays  
Menu choices  
or increases adjustable values until the maximum value is reached

### DOWN SWITCH

The same as the UP switch with the exception that it scrolls down the displays, menu choices and decreases adjustable values.

## Navigation & Item Selection

To navigate the menus, change screen display or change a function value, use the UP or DOWN switches to scroll up or down.

In the MAIN MENU an arrow appears next to the menu option to indicate the position with in the menu. To accept/enter that option press the MODE switch.

To change a parameter value, use the UP or DOWN switches to either increase or decrease the value. Once the appropriate value is reached press the MODE switch to accept the value.

NOTE: Pressing the MODE switch accepts the value input and then reverts back to the previous menu screen.

## Main Screen

The default and first parameter appears after the start up screen. Marine configured instruments will display TOTAL HOURS  
Automotive/industrial configured instruments will display TOTAL MILES



Total Hours  
Screen



Total Miles  
Screen

The main screen allows the user to view important functions quickly & easily. Up to 10 parameters (plus time and date) can be viewed in the main screen by scrolling up or down. The user can set their preference of parameters and their display order for the main screen.

The first and default parameter of TOTAL HOURS or TOTAL MILES cannot be changed. Press the DOWN button to scroll through the main screen parameters.

### ALTERNATE MAIN SCREEN DISPLAY

(This section excludes TOTAL HOURS & TOTAL MILES)

The user can choose between two main screen display formats:  
Single parameter display or three parameter display

Single parameter display is the default. To access the three parameter display, simply press the MODE button.



Single  
Display



Three Function  
Display

## Main Menu

The MAIN MENU contains all the options for configuring the LCD display, setting alarms, faults and warnings.

To access the MAIN MENU from any screen, press & hold the MODE switch. Only two options appear in the first screen. To access the other options simply scroll down.

The main menu options will display for approximately 30 seconds then revert back to the main screen if no activity is detected. When the current display is reverted back the main screen this called 'timeout'.

### MAIN MENU OPTIONS

TRIPS	WARNINGS
VIEW PARMS	ALARMS
SET UP	MISC
FAULTS	MAIN SCREEN

## Trips

Vantage View displays three different trip mile or maintenance hour logs: T1, T2, & T3. To access the trip miles/hours press the MODE switch while in the TOTAL HOURS or TOTAL MILES parameter. This display can also be accessed by selecting TRIPS in the MAIN MENU.

### RESETTING TRIP MILES/HOURS

To reset any of the three trip miles/hours to zero, select either T1, T2 or T3 by pressing the UP or DOWN switch. The selection is identified by an arrow to the left of the log name. Once the correct log is selected, press & hold the MODE button until the value resets to zero.

## View Parm

VIEW PARMS = View Parameters

This option displays all vessel parameters that are transmitted by the particular CAN protocol to which the Vantage View gauges are connected to. Some protocols will only display active parameters, while others will display active and inactive parameters. While viewing a single or three parameters display, the display will not 'timeout' after 30 seconds.

A complete listing of parameters can be found starting on page 14.

## Setup

The setup option allows the user to configure the Vantage View gauges to suit individual preferences.

### SETUP OPTIONS

BACKLIGHT	ALARMS
UNITS	A/D INPUTS
CLOCK	DISPLAY
SWEEP	SPEEDOMETER

## Backlight

The backlight option allows the user to control the LED illumination intensity. 0% being off and 100% being the brightest.

Two intensity levels can be set, one for Lamp on, the other Lamp off.

### LAMP ON

The backlight intensity can be set for when the vehicle lamp switch is on.

### LAMP OFF

This option allows for independent illumination of the instrument from the vehicles running lights.

## Units

The unit option is used to set the unit of measure between

- Statute or Nautical and
- English or SI-metric

## Clock

### VIEW

The clock option allows you to view, edit the current time/date. This display will 'not timeout'.

To return to the clock menu press MODE  
To return to the main menu press & hold MODE

### EDIT

The CLOCK EDIT option is used to setup or change the time and date.

A blinking cursor appears under the time. Press the UP or DOWN switch to set the correct hour.  
To edit the minutes, press MODE and the blinking cursor will move under minutes.

Pressing the MODE switch will move your cursor to the next portion of the time/date. Once on the correct year is chosen pressing the MODE switch saves the input information and reverts back to the clock menu.

### FORMAT

Users can choose between two clock displays: date & time or time only



### MAIN CLOCK

Users can add the time/date display to the list of main screens.  
If enabled this screen will always appear last in the list of main screens.

To enable the clock on the main screen select ON  
To disable the clock on the main screen select OFF

## Sweep

At start up the sweep function provides visual confirmation that the master gauge is communicating with the slave gauges. This is the default setting.

To disable pointer sweep at vehicle startup select off, then press MODE to accept.

## Alarms

The Vantage View system is unique in that it allows the user to enable, view or edit alarms to the user's desired threshold. Users can set up to 15 alarms. Alarms stay set when power is removed and reapplied to the instruments. Alarms are settable on any slave function that has a light.

### ENABLE

This screen allows the user to turn on or turn off all alarms that are currently set.

### VIEW

View displays all currently set parameter alarms. Use the UP or DOWN switch to scroll through the set alarms. Press MODE to return to the alarm menu.



### EDIT

The Edit screen allows the user to set parameter alarms and their values (threshold).

- Choose from active parameters or all parameters.  
Active parameters are those that are currently being transmitted over the vehicle CAN bus.



-Select the number of alarms to set.  
15 alarms are available. Use the UP or DOWN switches to select the quantity, then press MODE to accept.



This takes you to the next screen with a blinking cursor under the parameter name.  
Use the UP or DOWN switch to scroll through all possible parameters to add to the alarm list.

Press the MODE switch once the correct parameter is chosen.

Once the parameter is chosen the blinking cursor moves to the lower than or higher than threshold arrow. Use the UP or DOWN switches to change the position of the arrow.  
Press MODE to accept.

## Alarms continued

The blinking cursor now moves to the threshold value. The value depends on the type of parameter chosen. Use the UP or DOWN switch to choose the desired threshold value. Press the MODE switch to accept.

If more than one alarm quantity was chosen, the next alarm setup screen will appear. If only one alarm quantity was chosen, the Alarm Menu will appear.



## A/D Inputs

Vantage View gauges can be set to accept a maximum of two inputs, one analog, such as fuel, temperature or depth, and one NMEA 0183 compatible unit. The NMEA 0183 unit must always be assigned to input 2. Analog and NMEA 0183 inputs are optional features and may not be present in all master gauges.

NOTE: see page 11 for a GPS speedometer input setup

### CHOOSING AN INPUT CHANNEL

To set an analog input, select which input channel 1 or 2, the sender is connected to. Once the channel is selected, scroll and find the type of sender that is connected to the corresponding input channel: depth, temperature or NMEA0183. Channel 1 is the analog input and Channel 2 is strictly for NMEA0183 compatible units.

After the type of sender is selected, a sender range option appears below the parameter name. Scroll to select the appropriate range (resistance) for the sender.

After choosing and accepting the sender range, the A/D Input Menu appears to set or edit another input. If all analog inputs are acceptable, use the main screen option to return to the Main Screen.

## Display

The display screen allows the user to choose what parameters and in what order to display them on the main screen. This allows for quick and easy access to the users preferred parameters while operating the vehicle.

Up to 10 parameters may be chosen. TOTAL HOURS or TOTAL MILES will always remain as the first display on the main screen.

## Display continued

The display may be set to show TOTAL HOURS, TOTAL MILES or TIME when the ignition is in the off position. This requires that a 24/7 battery connection is provided to the instruments. \*

To use the Key Off display feature, select Key Off from the Display Menu and select either Clock or scroll down to select Odo/Hours to display total miles or total hours

Select No Display to disable key off features.

\* NOTE: If a 24/7 battery connection is provided, the battery may discharge after an extended time in storage or when the boat/vehicle is not running.

## Speedometer

Use this option to setup Vantage View to read the speed signal from the Master Tach which can then be either a CAN message, paddle wheel or GPS signal.

### GPS SPEEDOMETER INPUT SETUP

The GPS speedometer source must be NMEA 0183 compliant and wired to the proper pin of the 12 pin connector on the Master Tach. The Master Tach must be factory set to read A/D digital input and NMEA 0183 inputs.

### ENABLE

To enable the GPS speedometer input, first set A/D Input 2 parameter to NMEA 0183. (Refer to Main Menu – Setup - A/D Inputs)

After A/D Input 2 is set, select the GPS option from the Speedometer menu.

NOTE: Both the paddle wheel and GPS antenna must be NMEA 0183 compliant.

## Faults / Warnings

The Faults screen can be viewed by scrolling down the Main Menu.

When a fault occurs a blinking Fault icon appears in the main screens. A fault maybe an indication of a serious vehicle problem. Consult the vehicle owner's manual or consult a service technician to correct the fault conditions(s).

The Warning screen can be viewed by scrolling down the Main Menu.

Warnings alert the operator of potential problems with the engine. This maybe an indication of a serious vehicle problem. Consult the vehicle owner's manual or consult a service technician to correct the fault conditions(s).

## Alarms

This option is identical to the Main Menu - Setup - Alarms option.  
See page 10 on how to view, enable and edit alarms.

## Misc

### SET DEFAULTS

To reset the Vantage View master gauge to the factory defaults choose the SET DEFAULTS option under the Misc Menu.

### FIRMWARE REVISION

The master gauge firmware revision is displayed when the REVISION option is chosen from the Misc Menu.

### TIMEOUT

This option increases the timeout for vehicle speed, this allows longer receive time between speedometer signals. For SAE applications only.

## SAE J1939 Protocol Parameters

PARAMETER NAME	SOURCE	PARAMETER NAME	SOURCE
THROTTLE POSITION	SPN 51	INSIDE AIR TEMPERATURE	SPN 170
INTERCOOLER TEMPERATURE	SPN 52	OUTSIDE AIR TEMPERATURE	SPN 171
PARKING BREAK SET	SPN 70	EXHAUST GAS TEMPERATURE	SPN 173
STEERING AXLE TEMPERATURE	SPN 75	FUEL TEMPERATURE	SPN 174
ROAD SURFACE TEMPERATURE	SPN 79	ENGINE OIL TEMPERATURE	SPN 175
WASHER FLUID LEVEL	SPN 80	TURBO OIL TEMPERATURE	SPN 176
WHEEL BASED VEHICLE SPEED	SPN 84	TRANSMISSION OIL TEMPERATURE	SPN 177
POWER TAKEOFF OIL TEMPERATURE	SPN 90	FUEL RATE	SPN 183
ACCELERATOR PEDAL POSITION	SPN 91	FUEL ECONOMY INSTANTANEOUS	SPN 184
PERCENT LOAD AT CURRENT SPEED	SPN 92	FUEL ECONOMY AVERAGE	SPN 185
FUEL DELIVERY PRESSURE	SPN 94	POWER TAKEOFF SPEED	SPN 186
FUEL LEVEL	SPN 96	ENGINE RPM	SPN 190
WATER IN FUEL INDICATOR	SPN 97	TIRE PRESSURE	SPN 241
ENGINE OIL LEVEL	SPN 98	TIRE TEMPERATURE	SPN 242
ENGINE OIL PRESSURE	SPN 100	TOTAL VEHICLE DISTANCE	SPN 245
CRANKCASE PRESSURE	SPN 101	TOTAL VEHICLE HOURS	SPN 246
BOOST PRESSURE	SPN 102	TOTAL ENGINE HOURS	SPN 247
TURBOCHARGER 1 SPEED	SPN 103	CURRENT GEAR	SPN 523
TURBOCHARGER LUBE OIL PRESSURE	SPN 104	DRIVE AXLE TEMPERATURE	SPN 578
INTAKE MANIFOLD TEMPERATURE	SPN 105	ALTITUDE	SPN 580
AIR INLET PRESSURE	SPN 106	LATITUDE	SPN 584
BAROMETRIC PRESSURE	SPN 108	LONGITUDE	SPN 585
ENGINE COOLANT PRESSURE	SPN 109	CRUISE CONTROL STATE	SPN 595
ENGINE COOLANT TEMPERATURE	SPN 110	PARKING BRAKE ACTUATOR	SPN 619
ENGINE COOLANT LEVEL	SPN 111	RED STOP LAMP	SPN 623
CURRENT BATTERY NET	SPN 114	AMBER WARNING LAMP	SPN 624
CURRENT ALTERNATOR	SPN 115	HIGH RESOLUTION TOTAL VEHICLE DISTANCE	SPN 917
BRAKE APPLICATION PRESSURE	SPN 116	HIGH RESOLUTION TOTAL TRIP DISTANCE	SPN 918
BRAKE PRIMARY PRESSURE	SPN 117	TIRE LOCATION	SPN 929
BRAKE SECONDARY PRESSURE	SPN 118	TRIP DRIVE FUEL USED	SPN 1001
HYDRAULIC RETARDER PRESSURE	SPN 119	TRIP DRIVE FUEL ECONOMY	SPN 1006
HYDRAULIC RETARDER OIL TEMP	SPN 120	TRIP AVERAGE FUEL RATE	SPN 1029
TRANSMISSION OIL LEVEL	SPN 124	WAIT TO START LAMP	SPN 1081
TRANSMISSION OIL PRESSURE	SPN 127	HYDRAULIC TEMPERATURE	SPN 1638
COMPASS BEARING	SPN 165	HYDRAULIC OIL LEVEL	SPN 2602
BATTERY VOLTAGE	SPN 168		

## Smartcraft® Protocol Parameters

	PARAMETER NAME	
	LS GEAR TEMPERATURE	
	LS INTAKE MANIFOLD TEMPERATURE	
	LS FUEL LEVEL 1	
	LS FUEL LEVEL 2	
	LS OIL LEVEL	
	LS OIL PRESSURE	
	LS OIL TEMPERATURE	
	LS COOLANT TEMPERATURE	
	LS BATTERY VOLTAGE	
	LS BOAT SPEED (AIRMAR DATA)	
	LS BLOCK / WATER PRESSURE	
	LS RUN TIME	
	LS BREAK IN TIME REQUIRED	
	LS ACCUMULATED BREAK IN TIME	
	LS SEA WATER TEMPERATURE	
	LS ENGINE TYPE	
	LS AIRMAR DEPTH	
	LS AIR SEA WATER TEMPERATURE	
	LS AIRMAR DATA STATUS	
	LS AIRMAR OPTIONAL TEMPERATURE	
GAS / DIESEL	MS ENGINE RPM	
	MS FUEL PRESSURE	
	MS BOAT SPEED (PADDLE WHEEL)	
	MS STEERING ANGLE	
	MS THROTTLE POSITION	
	MS WARN: OVER SPEED	
	MS WARN: HIGH VOLTAGE	
	MS WARN: LOW VOLTAGE	
	MS WARN: LOW OIL PRESSURE	
	MS WARN: OVER-HEAT	
	MS WARN: CHECK ENGINE	
	MS WARN: WATER IN FUEL	
	MS FAULT: COOLANT TEMPERATURE	
	MS FAULT: VOLTAGE	
	MS FAULT: WATER IN FUEL	
	MS FAULT: CAN	
	MS FAULT: CHECK ENGINE/ GUARDIAN	
	MS FAULT: OIL	
	MS FAULT: FUEL FLOW TOTAL	
		MS TRIM POSITION
		MS LOW BLOCK PRESSURE
		MS GUARDIAN ACTIVE
		MS ACTUAL GEAR
	GAS MS	MS MANIFOLD PRESSURE
		MS BOOST PRESSURE
		MS LOAD PERCENT
		DIESEL MS BOOST PRESSURE
		DIESEL MS LOAD PERCENT

## NMEA 2000® Protocol Parameters

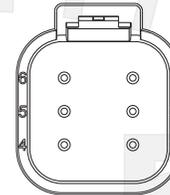
PARAMETER NAME	SOURCE
ENGINE RPM	PGN 127488.F2(+1)
ENGINE BOOST PRESSURE	PGN 127488.F3(+3)
ENGINE TILT/TRIM	PGN 127488.F4(+5)
ENGINE OIL PRESSURE	PGN 127489.F2(+1)
ENGINE OIL TEMPERATURE	PGN 127489.F3(+3)
ENGINE TEMPERATURE	PGN 127489.F4(+5)
ENGINE ALTERNATOR VOLTAGE	PGN 127489.F5(+7)
ENGINE FUEL RATE	PGN 127489.F6(+9)
ENGINE COOLANT PRESSURE	PGN 127489.F8(+15)
ENGINE FUEL PRESSURE	PGN 127489.F9(+17)
ENGINE STATUS- CHECK ENGINE	PGN 127489.F11.0
ENGINE STATUS- OVER TEMPERATURE	PGN 127489.F11.1
ENGINE STATUS- LOW OIL PRESSURE	PGN 127489.F11.2
ENGINE STATUS- LOW OIL LEVEL	PGN 127489.F11.3
ENGINE STATUS- LOW FUEL PRESSURE	PGN 127489.F11.4
ENGINE STATUS- LOW SYSTEM VOLTAGE	PGN 127489.F11.5
ENGINE STATUS- COOLANT LEVEL	PGN 127489.F11.6
ENGINE STATUS- WATER FLOW	PGN 127489.F11.7
ENGINE STATUS- WATER IN FUEL	PGN 127489.F11.8
ENGINE STATUS- CHARGE INDICATOR	PGN 127489.F11.9
ENGINE STATUS- PREHEAT INDICATOR	PGN 127489.F11.10
ENGINE STATUS- HIGH BOOST PRESSURE	PGN 127489.F11.11
ENGINE STATUS- REV LIMIT EXCEEDED	PGN 127489.F11.12
ENGINE STATUS- EGR SYSTEM	PGN 127489.F11.13
ENGINE STATUS-THROTTLE POSITION SENSOR	PGN 127489.F11.13
ENGINE STATUS- ENGINE EMERGENCY STOP MODE	PGN 127489.F11.15
ENGINE STATUS- WARNING LEVEL 1	PGN 127489.F12.0
ENGINE STATUS- WARNING LEVEL 2	PGN 127489.F12.1
ENGINE STATUS- POWER REDUCTION	PGN 127489.F12.2
ENGINE STATUS- MAINTENANCE NEEDED	PGN 127489.F12.3
ENGINE STATUS- ENGINE COMM ERROR	PGN 127489.F12.4
ENGINE STATUS- SUB OR SECONDARY THROTTLE	PGN 127489.F12.5
ENGINE STATUS- NEUTRAL START PROTECT	PGN 127489.F12.6
ENGINE STATUS- ENGINE SHUTTING DOWN	PGN 127489.F12.7
ENGINE PERCENT LOAD	PGN 127489.F13(+24)
ENGINE TOTAL HOURS	PGN 127489.F7(+11)
ENGINE PERCENT TORQUE	PGN 127489.F14(+25)
TRANSMISSION OIL PRESSURE	PGN 127493.F42)
TRANSMISSION OIL TEMPERATURE	PGN 127493.F5(+4)
TRANSMISSION STATUS- CHECK TRANSMISSION	PGN 127493.F6.0
TRANSMISSION STATUS- OVER TEMPERATURE	PGN 127493.F6.1

## Indmar Protocol Parameters

PARAMETER NAME	SOURCE
ENGINE ROTATIONAL SPEED	PGN-65500.4A/B.F0+3
ENGINE COOLANT TEMPERATURE	PGN-65500.4A/B.F0+5
IGNITION VOLTAGE	PGN-65500.4A/B.F0+6
ENGINE OIL PRESSURE	PGN-65500.4A/B.F0+7
VESSEL SPEED	PGN-65500.4A/B.F1+1
ENGINE FUEL CONSUMPTION	PGN-65500.4A.F1+2/4B.F1+3
HOUR METER	PGN-65500.4A.F1+4/4B.F2+3
ENGINE OVER TEMP WARNING	PGN-65500.4A.F1+6.0
LOW OIL PRESSURE	PGN-65500.4A.F1+6.1
LOW SYSTEM VOLTAGE	PGN-65500.4A.F1+6.2
LOW OIL LEVEL	PGN-65500.4A.F1+6.3
GENERAL WARNING 1	PGN-65500.4A.F1+6.4
GENERAL WARNING 2	PGN-65500.4A.F1+6.5
LOW FUEL PRESSURE	PGN-65500.4A.F1+6.6
CHECK ENGINE LAMP ACTIVE	PGN-65500.4A.F1+7.2/4B.F1+5.2
CAN BUS SYSTEM MALFUNCTION	PGN-65500.4A.F2+7.4
OIL PRESSURE MALFUNCTION	PGN-65500.4A.F2+7.5

## Deutsch Connector Guide

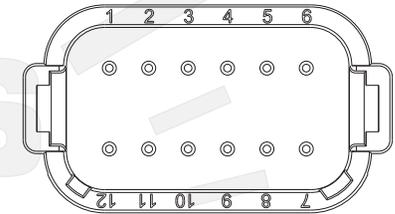
PIN NUMBER	CONNECTION NAME
1 & 6	Battery +
2 & 4	Ground
3 & 5	Serial Data



6 Pin Connector Detail

Mates with Deutsch I.P.D  
DT Series Connector  
DT-06-6S  
Locking Wedge W6S

PIN NUMBER	CONNECTION NAME
1	Switched Battery (Ignition Key C
2	Ground
3	CAN-L
4	CAN-H
5	Lamp input
6	Battery (24/7)
7	Analog 1 Input
8	NMEA 0183 Input
9	Switch Common
10	Up Switch (Button)
11	Down Switch (Button)
12	Mode Switch (Button)



12 Pin Connector Detail

Mates with Deutsch I.P.D  
DT Series Connector  
DT-06-12SA  
Wedge W12SA



5" Master Tach



### HARNES CONNECTION DIAGRAM

