



CHAPARRAL

2020 Gauge Guide



Dual J-1939 / NMEA 2000 Inputs

SAE J1939



Large, Sunlight Visible, Split Screen LCD Display

LED Back-lit Automotive Style Contour Dial

Fog Resistant Lens

Stainless Steel Bezel

Micro Processor Control

Military Style Stepper Motor Controlled Pointer

Default Fuel Management

Sealed Input Switch - Simplified

Initial System Set-Up

Visual and Audible Engine Alarms

Back-lit Pointer

Additional Features

MPH and Km/h Scales on Dial

Analog Depth Sounder

Easy to read Dials with Multi functions in a wide variety of configurations.

SSI



Model: 24SSI

Gauge Layout - Standard



4" - Tachometer/MG3000
Faria / Chaparral
Mercury: MGT009 / 13.02031
Volvo: MGT010 / 13.02032



4" - Multifunction
(Oil PSI, Temperature, Voltmeter)
Faria / Chaparral
SG7002 / 13.02115



4" - Multifunction
(Fuel, Trim, Potable Water)
Faria / Chaparral
SG7001 / 13.02116



4" - Speedometer/MG3000
Faria / Chaparral
MGS019 / 13.02030

Gauge Layout - Garmin® Option



4" - Tachometer/MG3000
Faria / Chaparral
Mercury: MGT009 / 13.02031
Volvo: MGT010 / 13.02032



4" - Multifunction
(Fuel, Voltmeter, Trim)
Faria / Chaparral
SG7000 / 13.02117



SSX



Model: 237

Gauge Layout - Standard



4" - Tachometer/MG3000
Faria / Chaparral
Mercury: MGT009 / 13.02031
Volvo: MGT010 / 13.02032



4" - Multifunction
(Oil PSI, Temperature, Voltmeter)
Faria / Chaparral
SG7002 / 13.02115



4" - Multifunction
(Fuel, Trim, Potable Water)
Faria / Chaparral
SG7001 / 13.02116



4" - Speedometer/MG3000
Faria / Chaparral
MGS019 / 13.02030

Gauge Layout - Garmin® Option



4" - Tachometer/MG3000
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Mercury: MGT009 / 13.02031
Volvo: MGT010 / 13.02032



4" - Multifunction
(Fuel, Voltmeter, Trim)
Faria / Chaparral
SG7000 / 13.02117

Model: 257

Gauge Layout - Standard



4" - Tachometer/MG3000
 Faria / Chaparral
 Mercury: MGT009 / 13.02031
 Volvo: MGT010 / 13.02032



4" - Multifunction
 (Oil PSI, Temperature, Voltmeter)
 Faria / Chaparral
 SG7002 / 13.02115



4" - Multifunction
 (Fuel, Trim, Potable Water)
 Faria / Chaparral
 SG7001 / 13.02116



4" - Speedometer/MG3000
 Faria / Chaparral
 MGS019 / 13.02030



VOLVO



Custom Analog Gauges

Custom Back-Lit Dial, Stainless Steel Bezel, Back-Lit Red Pointer, Red and White Graphics on a Black Dial, with Chaparral Logo, Deutsch Connectors and Fog Resistant Lens.

Part #	Size	Description
THC702	4"	Tachometer with Hourmeter (Digital) (7000 RPM)
SEK709	4"	Speedometer (65 MPH) (Paddle Wheel)
GFC705	4"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil PSI (100 PSI) Water Temp (100°-250° F) Trim gauge]
GBC704	2"	Fuel Level gauge
DS0155	2"	Depth Finder gauge



Domed lens



Deutsch Connectors



MG3000 Digital Instrumentation

Custom Contour Back-Lit Dial, Stainless Steel Bezel, Back-Lit Red Pointer, Red and White Graphics on a Black Dial, with Chaparral Logo. Fog Resistant Lens and a large Sunlight visible, Split Screen LCD Display.

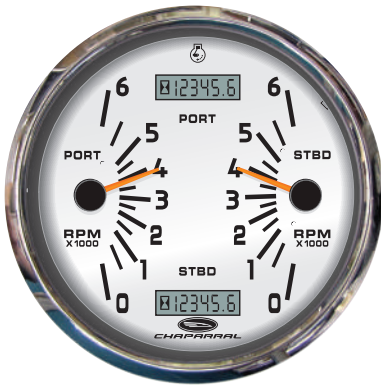
Part #	Size	Description
MGS019	4"	Speedometer (60 MPH) with Pressure Port and Analog Depth (MG3000)
MGT009	4"	Tachometer (7000 RPM) (Merc) (MG3000)
MGT010	4"	Tachometer (7000 RPM) (Volvo) (MG3000)
SG7000	4"	3-1 Multifunction [Fuel Level Voltmeter (10-16 vDC) Trim Gauge] (Serial Bus)
SG7001	4"	3-1 Multifunction [Fuel Level Potable Water Level Trim Gauge] (Serial Bus)
SG7002	4"	3-1 Multifunction [Oil Pressure (80 PSI) Voltmeter (10-16 vDC) Water Temp (100°-250° F)] (Serial Bus)
MGT011	5"	Dual Tachometer (7000 RPM) (Merc) (MG3000)
MGT012	5"	Dual Tachometer (7000 RPM) (Volvo) (MG3000)
MGS020	5"	Speedometer (60 MPH) (with Depth) (MG3000)
SG8029	5"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil PSI (80 PSI) Water Temp (100°-250° F) Trim gauge] (Serial Bus) - Port
SG8028	5"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (100°-250° F) Trim gauge] (Serial Bus) - Starboard
SG8027	5"	4-1 Multifunction [Fuel Level Oil Pressure (80 PSI) Water Temp (100°-250° F) Trim gauge] (Serial Bus)
GE0152	2"	Fuel Level gauge
GE0153	2"	Trim gauge (For Retrofit)
GE0175	2"	Fuel Level gauge (for Tank #2)



Domed lens



Deutsch Connectors



Custom Analog - Deutsch Connectorized Instrumentation

Premium Hand Polished Stainless Steel Bezel, Domed Fog-resistant Glass Lens, Custom Backlighted Gray Dial With Customer Supplied Graphics, Backlighted Orange Pointer With Black Pointer Hub.

Part #	Size	Description
TCC700	5"	Dual Tachometer with hourmeter (6000 RPM)
THC700	5"	Tachometer with hourmeter (6000 RPM)
THC701	4"	Tachometer with hourmeter (6000 RPM)
SEK700	5"	Speedometer (70 MPH) (Pitot)
SEK701	4"	Speedometer (65 MPH) (Pitot)
SEK702	5"	Speedometer (50 MPH) (Pitot)
SEK704	4"	Speedometer (50 MPH) (Pitot)
SEK703	5"	Speedometer (65 MPH) (Pitot)
SYC700	4"	Synchronizer
SYC701	4"	Synchronizer with Rudder Angle Indicator
DS0141	2"	Depth Sounder
GBC701	2"	Fuel Level gauge
GBC700	2"	Water Temperature gauge (125° - 250°F)
GBC703	2"	Oil Pressure gauge (80 PSI)
VBC700	2"	Voltmeter (10-16 vDC)
GBC702	2"	Trim gauge (Mercury)
BL9134	2"	Blank gauge
GFC700	5"	4-1 Multifunction [Fuel Level Oil Pressure (80 PSI) Water Temp (125°-250° F) Voltmeter (10-16 vDC)]
GFC701	5"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (125°-250° F) Trim gauge (Mercury)]
GFC702	4"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (125°-250° F) Trim gauge (Mercury)]
SD0041		Rudder Angle Sender

All instruments except speedometer include deutsch connector.



Domed lens



Deutsch Connectors



Custom Analog - Packard Connectorized Instrumentation

Premium Hand Polished Stainless Steel Bezel, Domed Fog-resistant Glass Lens, Custom Backlighted Gray Dial With Customer Supplied Graphics, Backlighted Orange Pointer With Black Pointer Hub.

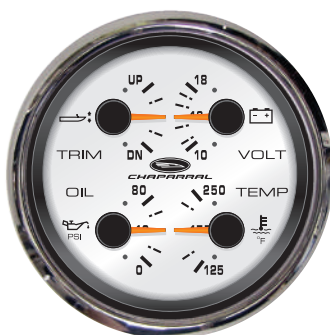
Part #	Size	Description
TCC010	5"	Dual Tachometer (6000 RPM)
THC016	5"	Tachometer with Hourmeter (6000 RPM)
THC015	4"	Tachometer with Hourmeter (6000 RPM)
SEK026	5"	Speedometer (70 MPH) (Pitot)
SEK023	5"	Speedometer (65 MPH) (Pitot)
SEK025	5"	Speedometer (50 MPH) (Pitot)
SEK032	4"	Speedometer (50 MPH) (Pitot)
SEK024	4"	Speedometer (65 MPH) (Pitot)
SYC005	4"	Synchronizer
SYC006	4"	Synchronizer with Rudder Angle Indicator
DS0141	2"	Depth Sounder
GBC028	2"	Fuel Level gauge
GBC031	2"	Water Temperature gauge (125° - 250°F)
GBC029	2"	Oil Pressure gauge (80 PSI)
VBC005	2"	Voltmeter (10-16 vDC)
GBC030	2"	Trim gauge (Mercury)
BL9134	2"	Blank gauge
GFC008	5"	4-1 Multifunction [Fuel Level Oil Pressure (80 PSI) Water Temp (125°-250° F) Voltmeter (10-16 vDC)]
GFC009	5"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (125k-250° F) Trim gauge (Mercury)]
GFC010	4"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (125°-250° F) Trim gauge (Mercury)]
SD0041		Rudder Angle Sender

All instruments except speedometer include packard connector.



Domed lens





Custom Analog - SS Deutsch Connectorized Instrumentation

Premium Hand Polished Stainless Steel Bezel, Domed Fog-resistant Glass Lens, Custom Backlighted Gray Dial With Customer Supplied Graphics, Backlighted Orange Pointer With Black Pointer Hub.

Part #	Size	Description
TCC603	5"	Dual Tachometer (6000 RPM)
THC602	5"	Tachometer with Hourmeter (6000 RPM)
THC601	4"	Tachometer with Hourmeter (6000 RPM)
SEK026	5"	Speedometer (70 MPH) (Pitot)
SEK023	5"	Speedometer (65 MPH) (Pitot)
SEK025	5"	Speedometer (50 MPH) (Pitot)
SEK032	4"	Speedometer (50 MPH) (Pitot)
SEK024	4"	Speedometer (65 MPH) (Pitot)
SYC601	4"	Synchronizer
SYC600	4"	Synchronizer with Rudder Angle Indicator
DS0147	2"	Depth Sounder
GBC605	2"	Fuel Level gauge
GBC606	2"	Water Temperature gauge (125° - 250°F)
GBC607	2"	Oil Pressure gauge (80 PSI)
VBC602	2"	Voltmeter (10-16 vDC)
GBC608	2"	Trim gauge (Mercury)
BL9134	2"	Blank gauge
GFC602	5"	4-1 Multifunction [Fuel Level Oil {Pressure (80 PSI) Water Temp (125°-250° F) Voltmeter (10-16 vDC)]
GFC603	5"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (125°-250° F) Trim gauge (Mercury)]
GFC604	4"	4-1 Multifunction [Voltmeter (10-16 vDC) Oil Pressure (80 PSI) Water Temp (125°-250° F) Trim gauge (Mercury)]
SD0041		Rudder Angle Sender

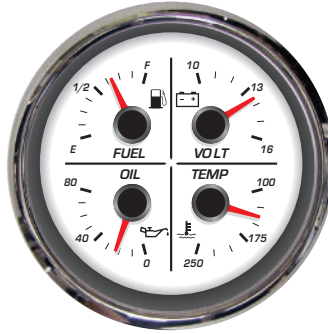
All instruments except speedometer include deutsch connector.



Domed lens



Deutsch Connectors



No Longer Available

MG2000 - Volvo J-1708 Instrumentation

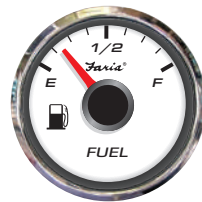
MG2000 Series Instruments - White faced instruments with red backlighting, red backlighted pointer, Polycarbonate domed fog resistant lens, hand polished stainless steel bezel.

Part #	Size	Description
IG1510	5"	Tachometer (4000 RPM) (MG2000) (Volvo J-1708)
IG1703	5"	Speedometer (60 MPH) (MG2000) with Pressure Port (Pitot)
SG8012	5"	4-1 Multifunction [Fuel Level Oil Pressure (80 PSI) Water Temp (100°-250° F) Voltmeter (10-16 vDC)]
GE0059	2"	Trim gauge (MG2000)
HN0503	12"	Harness - Gauge to Gauge Jumper
HN0564		Harness - Tach/Speedo SAE-J1708 , Mini Gateway



Domed lens

Deutsch Connectors



No Longer Available

MG2000 (with Red LED) - Volvo J-1708 Instrumentation

MG2000 with Red LED's-Volvo 1708 Protocol, Digital instrumentation with analog displays.

Part #	Size	Description
IG1110	5"	Tachometer (4000 RPM) (MG2000) (Volvo J-1708)
IG1301	5"	Speedometer (60 MPH) (MG2000) with Pressure Port (Pitot)
GE0058	2"	Fuel Level gauge (MG2000)
GE0059	2"	Trim gauge (MG2000)
HN0503	12"	Harness - Gauge to gauge Jumper
HN0564		Harness - Tach/Speedo SAE-J-1708 , Mini Gateway



Domed lens

Deutsch Connectors



Instrument Facts

Your boat has been outfitted with instruments manufactured by Faria Beede Instruments, Inc. Each instrument has been manufactured in an ISO:9001 2015 registered facility, built to stringent standards and has passed a comprehensive quality control procedure prior to shipment. Each instrument is backed by a limited lifetime warranty.

The Instrument System:

Your Instrument System consists of individual gauges, wiring harnesses, senders, sensors and transducers. Each of these items has their own tolerances. If these tolerances “stack up” in opposite directions it can lead to what may be perceived as a larger difference in operating readings than actually exists. As long as the readings are within the engine’s specified operating band, the engines are operating properly.

Tachometers:

Most Tachometers have a tolerance $\pm 2\%$ of full scale (± 120 rpm on a 6000-rpm tach). Tachometers will zero when the key is turned on; it doesn’t matter what the tach reads with the key off.

Speedometers:

Paddlewheel driven tournament speedometers are manufactured with a fluid filled pointer bobbin. This fluid aids in the control of bounce and reduces rapid movements of the pointer. Due to the viscosity of this fluid, it is important that the instrument not be placed glass side down on a surface for longer than a few seconds. This face down position may cause leakage of the speedometer bobbin fluid, which can then render the instrument unusable and/or irreparable.

Tach-Hourmeter and Digital Hourmeters:

To ensure accuracy, Tach-Hourmeter Combination Instruments utilize Engine Running Only hourmeters. This instrument does not read engine hours until a certain voltage has been achieved during engine use.

Engine Running Only hourmeters by Faria Beede have an icon in the left hand corner of the display. The icon lets the operator know that hours are being displayed.

During normal operations the icon displays solid when the key is on and the engine has not yet been started. Turning the engine on activates the counting function. The icon will begin to blink indicating that the hourmeter is currently counting hours for the connected engine. This is normal.



Fuel gauges:

Fuel gauges may at some times seem to “bounce”. In most circumstances this is actually caused by the fuel sloshing in the tank and does not necessarily indicate a problem with the gauge or sender.

Instrument Fogging with Standard Glass Lens:

Most marine instruments have small vents in their cases to allow a way out for moisture that finds its way in. It is possible for moist air to be drawn into the vents when the air inside the gauge cools down after the instrument is turned off. The morning sun can draw this moisture up against the lens, causing fogging. Turning on the instrument with the instrument light “on” will speed up moisture removal. Fogging is not abnormal, nor will it harm your instrument, which is built to withstand the harsh marine environment.

Instruments with Fog Resistant Lenses:

These instruments are manufactured with a polycarbonate or glass lens which utilize an anti-fog coating. This coating eliminates fogging in the instrument.

Radio Transmissions:

Some interference (erratic operation) may be noticed on tachometers or synchronizers during radio transmissions. This will neither damage the instrument nor affect its accuracy when not transmitting.

Pointer Jumping (mostly for older instruments):

Occasionally when an engine has been revved up high and then abruptly shut off, the pointer will fall to the incorrect starting pin on the instrument. (For example, on a 6000 Rpm Tachometer – The pointer sits on the numeral six instead of beginning at zero.) There is a quick on-site fix to this problem. Place a magnet against the glass directly on the end of the pointer resting on the increments. You can slowly move the magnet and drag the pointer back to the zero position.



Specifications

Our instruments are manufactured by Faria Beede Instruments., Inc. in Uncasville Connecticut, USA. Each instrument has been manufactured in an ISO:9001 2008 registered facility, built to stringent standards and has passed a comprehensive quality control procedure prior to shipment. Each instrument is backed by the Faria Beede Limited Warranty.

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 Poly carbonate - 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 Poly carbonate - 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 Poly carbonate - 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 Poly carbonate - 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

Network Troubleshooting Chart

Observation	Possible Cause	Procedure
"0" displayed for data fields	Data sources are not configured	Use DATA SOURCES menu to configure data source.
Tachometer does not power on.	Power supply harness fuse blown.	Check the Power Supply harness, fuses and switched B+ from the ignition harness. See Note below.
Power Supply harness blown fuse	Network current draw is exceeding 3A.	Check all connections and wiring. Disconnect accessory connections to network. Isolate possible overloads or shorted accessory.
No Speed display.	Pitot Pitot tube is not connected to Speedometer Pitot tube connection.	Check that the device is installed and connected to the network.
Speed Over Water (SOW) does not display.	Pitot tube is clogged. Paddle Wheel Requires input from speed transducer or paddle wheel.	
Speed Over Ground (SOG) does not display.	Requires input from GPS.	
Water depth does not display.	Power may have been disconnected on the Speedometer at pin 5. Transducer harness is disconnected. Transducer not functioning properly.	
Sea water temperature does not display.	NMEA: Requires NMEA 2000 temperature transducer or analog sender. SmartCraft: Requires NMEA 2000 temperature transducer or analog sender.	
Fuel tank level does not display.	Requires fuel level sensor or analog sender.	
No "Fuel Econ". (Mercury only)	Requires input from SmartCraft GPS.	

Note: The tachometer harness of the MG3000 network must be connected to the network using the device port of a t-connector. Misaligned t-connectors can cause the network power supply fuse to blow and disrupt or eliminate communications in the system.

Observation	Possible Cause	Procedure
Instrument display is erratic.	Power supply battery voltage is less than 11.5V. One or more terminators are missing from the network.	Check for a minimum 11.5 V across the terminals of the power supply battery. Check for installation of two terminators on the network. Check network bus cable and device connections.
Gauge repeatedly reset to factory defaults.	If this occurs during heavy power use possible poor battery condition exists.	Check system supply battery voltage with engine running. Check ignition and ground connections on pins 4 and 5 of the tachometer.

Need help!

Call our exclusive Chaparral Dealer Help Line.

860.453.6333



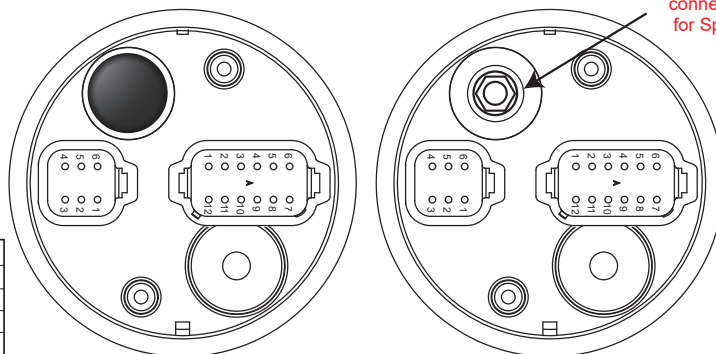
MG3000 Wiring Diagram - WD0095

Reference drawing - fm-001-0083 rev D 01/2013

MG3000
Tachometer

MG3000
Speedometer

Pitot
connection
for Speed.



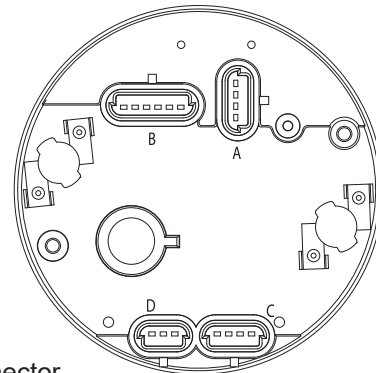
12- pin connector

Pin 1	7.7 vDC (Faria Bus +)
Pin 2	Faria Bus A
Pin 3	Faria Bus B
Pin 4	Ground
Pin 5	12vDC Ignition
Pin 6	12vDC PWM Lighting Control
Pin 7	Fuel Tank Level (Analog)
Pin 8	Fresh Water Level (Analog)
Pin 9	• NMEA B+ • J1939 12 vDC Ignition (jumper to pin 5)
Pin 10	• NMEA Ground • J1939 Shield • SmartCraft Ground
Pin 11	• NMEA CAN Hi (+) • J1939 CAN Hi (+) • SmartCraft 1+
Pin 12	• NMEA CAN Low (-) • J1939 CAN Low (-) • SmartCraft 1-

12- pin connector

Pin 1	7.7 vDC (Faria Bus +)
Pin 2	Faria Bus A
Pin 3	Faria Bus B
Pin 4	Ground
Pin 5	12 vDC Ignition
Pin 6	N/C
Pin 7	N/C
Pin 8	N/C
Pin 9	7.7 vDC (Faria Bus +)
Pin 10	Faria Bus A
Pin 11	Faria Bus B
Pin 12	Ground

Multifunction Gauge



Jumper required for the J1939 harness and is **Not required** for the NMEA2000 and SmartCraft harnesses.



6- pin connector

Pin 1	RS232 Rx
Pin 2	Ground (bootload)
Pin 3	NMEA 0183 (+)
Pin 4	NMEA 0183 (-)
Pin 5	RS232 Prog. Sw (bootload)
Pin 6	RS232 Tx

6- pin connector

Pin 1	RS232 Rx
Pin 2	Ground (bootload)
Pin 3	Depth Signal (+)
Pin 4	Depth Signal (-)
Pin 5	RS232 Prog. Sw (bootload)
Pin 6	RS232 Tx



4- pin connector

Pin A	8.4 vDC Faria Bus (+)
Pin B	Faria Bus A
Pin C	Faria Bus B
Pin D	Ground

Faria Bus

4- pin connector

Pin A	8.4 vDC Faria Bus (+)
Pin B	Faria Bus A
Pin C	Faria Bus B
Pin D	Ground

Faria Bus
(To other gauges)



SAE J1939



Information from the ECU

