Sending Unit Resistance Values

IS0085
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Trim Gauge	Measured in ohms		
	UP	MID	DOWN
Mercury / Force	160	38.7	10
Force (70 & 75 HP only)	10	20.6	41.8
Johnson/Evinrude Outboard	10	44	88
Suzuki 4 Stroke 1999 (and newer)	2.5	44	88
OMC Cobra Stern	70	29.5	11
OMC Sea Stem Drive	88	44	10
Yamaha 1996	450	240	100
Yamaha 1997-2000	550	330	100
Yamaha 2001 (and newer)**	280	150	10
Volvo SX Cobra	146	- -	11
Volvo SX (MD Mod)	70	- -	3
Volvo SX (HU Mod, NC Mod)	146	- -	11
Volvo DP (White)*	180	- -	10
Volvo DP-S (NC Mod)*	146	- -	11

* Uses a “Black Box for trim signal
** A Mercury Trim gauge may be used, ”Trim” will be the full range of the gauge.

All resistance values shown for Oil Pressure, Water Temperature and Fuel gauges are for single station. Dual station senders have 1/2 the resistance value of the single station senders.

Oil Pressure Gauge	psi	ohms	psi	ohms	psi	ohms	psi	ohms	psi	ohms
American Marine Sender	0-80 psi		0-100 psi		0-150 psi		0-350 psi		0-400 psi	
	0	240	0	240	0	240			0	1
	40	103	40	103	75	103			200	44
	80	33.5	100	33.5	150	33.5			400	88
European Marine Sender	5 Bar		7 Bar		10 Bar		25 Bar		0-400 psi	
	0	10			0*	10	0	10	0*	10
	40	95			90	112	12.5	95	200	112
	80	180			150	180	25	180	400	180

* For use with Competition series 150 psi, 400 psi and Dress White 400 psi.

Water Temperature Gauge	˚F	ohms	˚C	ohms
American Marine Sender	100˚F - 250˚F		40˚C - 120˚C	
	100	450	40	450
	175	99	65	99
	250	29.6	120	29.6
European Marine Sender			40˚C - 120˚C	
			40	281
			65	68
			120	22

Fuel Level Gauge	Measured in ohms		
	UP	MID	DOWN
American Marine Sender	240	103	33.5
European Marine Sender	10	95	180

Cylinder Head Temp. Gauge	˚F	ohms	˚C	ohms
Faria Beede Marine Sender only (Single Station Sender)	60˚F - 220˚F		20˚C - 100˚C	
	60	1195	20	1040
	140	192	60	192
	220	46.5	100	56

Rudder Angle Indicator	Measured in ohms		
	PORT	MID	STARBOARD
Sender	10	95	180

Made in the USA

Faria Beede Instruments, inc.
www.FariaBeede.com

Selecting the Proper Sender

Senders are designated by the following descriptions and must be selected in combinations of one each from A, B, & C.

(For example: Single station, American resistance, Standard ground)

A	Station[a]	Single
		Dual
B	Resistance[b]	American
		European
C	Ground[c]	Standard
		Floating

Notes:

a. Station: It is the sender that is unique in a dual station application. The gauge is the same in either single or dual applications.

b. Resistance: Choose your sender to electrically match your gauge not just the manufacturer. Some sender manufacturers make both resistance types; and, some instrument manufacturers may use either resistance type depending on the gauge. There is usually no visual way alone to determine the resistance type.

c. Ground: Standard ground is the most common having battery negative (-) connected directly to the engine block. Sending units may have one (1) terminal (signal). In a floating ground system, the battery negative is not connected to the engine block so merely threading in the sender does not supply ground.

Floating ground senders will have two (2) terminals (signal & ground). Both sender terminals may be wired to the appropriate gauge terminal or the sender's ground may be wired directly to the battery negative. A floating ground sender may be used in a standard ground system but not vice versa.

Oil Pressure Senders

Engines or transmissions equipped with a low oil pressure switch that activates a warning light require an appropriate “T” pipe fitting to accommodate both pressure sender and warning light.

Most oil pressure sending units have 1/8” NPT pipe threads and are usually mounted in the engine’s block. If the block or transmission case has a larger pipe size, an appropriate bushing may be used without affecting pressure- sensing accuracy.

Temperature Senders

Temperature senders are available from Faria® Marine Instruments in 1/8” NPT thread sizes. If your water jacket, oil pan or transmission housing requires a thread diameter larger than 1/8” NPT, a bushing will be required. “

T” fittings should NOT be used as these may affect the accuracy of the sender by reducing the temperature signal.