

LIVORSI

Livorsi Marine, Inc.® • livorsi.com



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Volume 18

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If you do not see what you are looking for or have a custom application, please give us a call.

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BRAZIL

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Dash Panels

Our panels are available in real carbon fiber.

Send us a dimensional drawing, or your old panel and we'll recreate it.

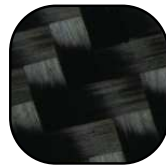
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blue



red



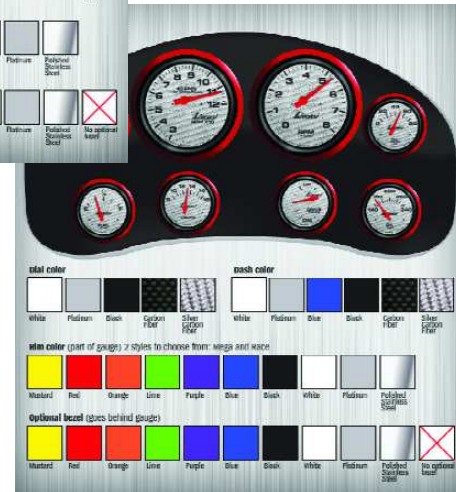
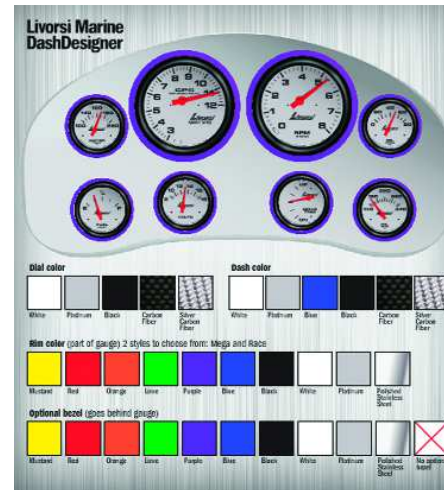
carbon
Fiber



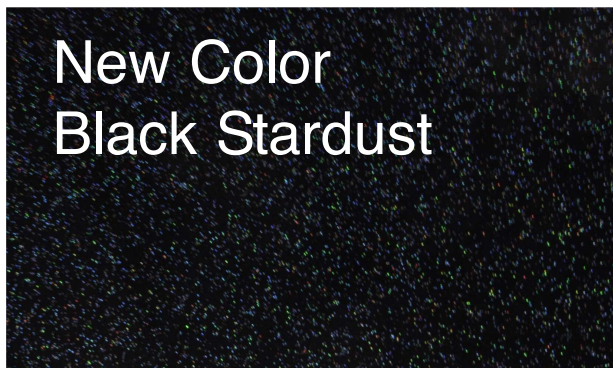
silver
carbon
fiber

DashDesigner

Visit www.livorsi.com where you'll find the Livorsi DashDesigner. This interactive tool lets you select some of our custom options. Or, check out our Custom Gauge Gallery to see some of our customer's creations.



Custom Gauges



Platinum Series Controls

Designed to be ergonomically comfortable to the operator while being lighter and more compact for fitting into tight spaces. The Platinum Series is finished with a two coat process which prevents corrosion and can be configured for single or multiple engine's for Drives, Transmissions, Jet Drives or Buckets.

Available in three throttle/shift configurations:

- **Fully Mechanical**
- **Fully Electric**
- **Mechanical/Electric (Hybrid)**

Configurations include one or any combination of the below:

- The use of mechanical 33C or 43C cables for mechanical levers
- Electric configurations use compact direct driven angular sensors, 0-5 Volt electronic sensors or a PWM signal
- The use of a micro switch - for electronic transmission shifting
- Single, twin and triple in-handle trim switch available
- Check with the engine manufacturer or Livorsi Marine for electric control compatibility

Arched



Billet



Standard



Platinum Series Controls

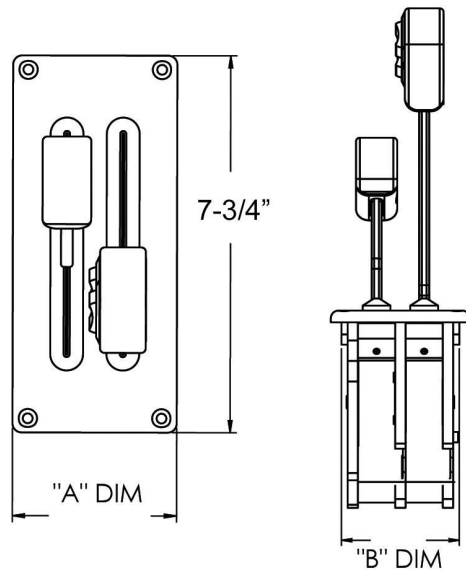
Fully Mechanical Billet Throttle Control with Contour base in Carbon Fiber



Check with the engine manufacturer or Livorsi Marine for electric control compatibility.

Platinum Series Controls

Dimensions



Handles	Overall Size	Cutout Size
	A DIM	B DIM
1	2-1/4" x 7-3/4"	1-7/8" x 6-1/2"
2	3-11/32" x 7-3/4"	2-7/8" x 6-1/2"
3	4-7/16" x 7-3/4"	3-7/8" x 6-1/2"
4	5-17/32" x 7-3/4"	4-7/8" x 6-1/2"
5	6-15/32" x 7-3/4"	5-7/8" x 6-1/2"
6	7-9/16" x 7-3/4"	6-7/8" x 6-1/2"
8	9-9/16" x 7-3/4"	8-7/8" x 6-1/2"
Depth	Mechanical / Hybrid	Electric
	8.125"	6.5"

For a list of part numbers please refer to our price list available online.

Platinum Series Controls

Build Your Part Number

Billet Style / electric throttle / mechanical shift / four handle / single switch / contour base / black knobs

B B		E	M	2	2		S	optional C B		B K	
Throttle style		Throttle Actuation	Shift Actuation	# of Throttle handles	# of Shift handles	Switches		for a contour base		Knob color	
Code:			Code:	Code:	Code:	Code:		Code:		Code:	
Arched	AR	full mechanical	MM	0	0	no switch		contour chrome	CB	black	BK
Billet	BB	full electric	EE	1	1	single	S			blue	BL
Standard	ST	mech throt/elec shift	ME	2	2	dual	D			black star	BS
		elec throt /mech shift	EM	3	3	triple	T			chrome	CH
				4	4	push button	PB			gun metal	GU
										lime	L
										mustard	MU
										orange	O
										platinum	PL
										purple	PU
										red	R
										white	W

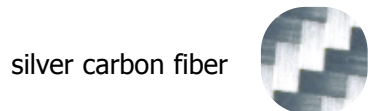
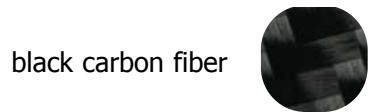
Specify the following:

1. Comments:
 Configuration ex: S-S-T-T
 Right or Left Thumb Actuation

push buttons only available on Arched style controls

NOTE: above in Carbon Fiber

Carbon Fiber Base Options



Powder Coat Options



BBEM22SCBBK

Livorsi SmartCraft® DTS

Digital Throttle & Shift



These DTS controls are smaller and lighter: constructed of stainless steel and billet aluminum for years of dependable service. The user has the ability to adjust tension for each handle. The ergonomically designed knobs feature your choice of single or twin drive trim switches or momentary up and down switches.

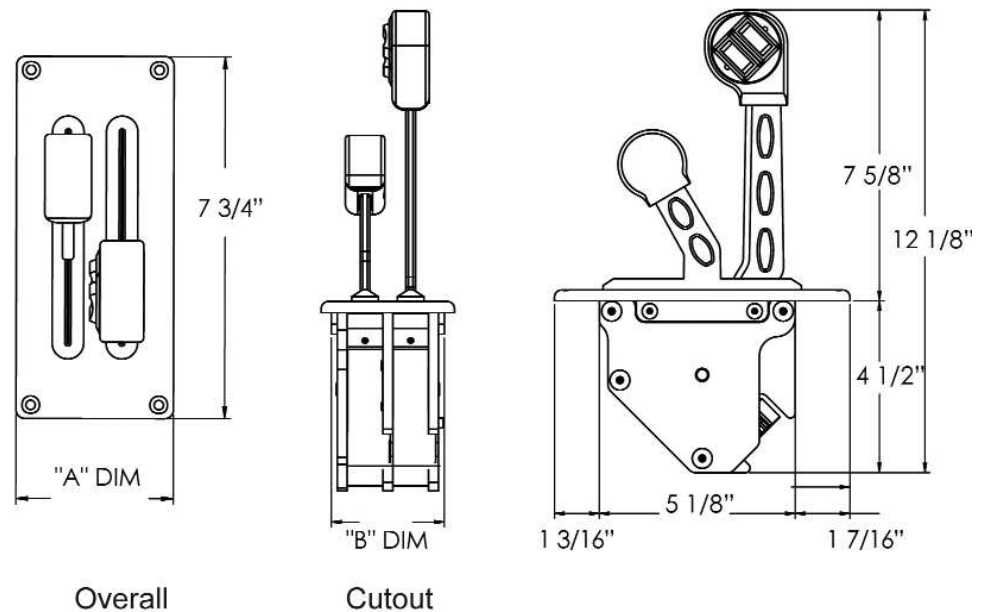
- A license from Mercury allows Livorsi to combine DTS technology with the options and quality of Livorsi controls
- Designed for direct drive of the triple redundancy position pots
- Eliminates the need for mechanical cables
- Engineered for smooth shifting and throttling
- Single, twin, triple, and quad control configurations are available in a variety of styles and colors.

Compatible with:

- Mercury DTS equipped engines
- Verado 150 - 400 SCI
- Mercruiser 5.0L - 8.2L
- Optimax 225
- Mercury Racing 520, 565, 1100, 1350, 1650
- and Cummins engines that are DTS capable

Shadow Mode Available

Dimensions				
Number of Handles	Overall		Cutout	
	A DIM		B DIM	
2 handle	3 3/8 in.	7 3/4 in.	2 7/8 in.	5 1/8 in.
3 handle	4 1/2 in.	7 3/4 in.	4 1/64 in.	5 1/8 in.
4 handle	5 11/16 in.	7 3/4 in.	5 3/16 in.	5 1/8 in.
6 handle	8 in.	7 3/4 in.	7 1/2 in.	5 1/8 in.
8 handle	10 5/16 in.	7 3/4 in.	9 13/16 in.	5 1/8 in.



Livorsi SmartCraft® DTS

Digital Throttle & Shift

Shadow Mode

Shadow mode available for automatic throttle synchronization for triple or quad engine applications; where two throttle levers operate three engines or four engines. Requires appropriate Mercury shadow mode rigging kit.

Chrome Base			
Number of Handles	No Switch	Single Switch	Dual Switch
2 handle	DTSBB11 + color	DTSBB11S + color	DTSBB11D + color
4 handle	DTSBB22 + color	DTSBB22S + color	DTSBB22D + color
6 handle	DTSBB33 + color	DTSBB33S + color	DTSBB33D + color
8 handle	DTSBB44 + color	DTSBB44S + color	DTSBB44D + color
Powder Coat Base			
Number of Handles	No Switch	Single Switch	Dual Switch
2 handle	DTSBB11PC + color	DTSBB11SPC + color	DTSBB11DPC + color
4 handle	DTSBB22PC + color	DTSBB22SPC + color	DTSBB22DPC + color
6 handle	DTSBB33PC + color	DTSBB33SPC + color	DTSBB33DPC + color
8 handle	DTSBB44PC + color	DTSBB44SPC + color	DTSBB44DPC + color
Mercury DTS Rigging Kits			
Single Engine	Twin Engine	Triple Engine	Quad Engine
84-892955K04	84-893378K04	892955K32	Order (4) Single Engine
Mercury Shadow Mode Rigging Kits			
Triple Engine	Quad Engine		
8M8025983	8M8025984		



split throttle/shift configurations available



Optional Contour Base

For a contour base add the following code after the control part number:

Description	Part Number
chrome contour base	CB
powder coat contour base	CBPC

Colors:



QR Series™ DTS Billet Controls

Introducing **Livorsi Marine's New QR Series™** throttles (Quick Response) designed specifically for all Mercury compatible DTS engines. These ergonomically designed knobs are very comfortable on the palm of your hand for long periods of throttling. The shorter levers and throw of the **Livorsi QR Series™** make this control great for tight dash spaces and aggressive throttling. With up to 3 trim switches integrated into the knob, your hand never has to leave the control. Electronic shifting and throttle make it easier to maneuver in tight docking spaces. Create your own color combination to make this control look and feel like a custom built control. Available in single and twin engines.

Features

- Available with 1, 2 or 3 switches in knobs for trimming tabs, drive, jack plates or a function of your choice.
- Standard color is Chrysler Chrome* with your choice of 10 other brilliant powder coated colors on knobs and base.
- Tube is integrated into the handle. No exposed tube for trim switch wires.
- Base plate has no screw holes exposed for a clean hi-tech look.
- Available in single and twin configurations
- DTS controls work on Mercury and Cummins DTS ready engines only.
- Easy adjustments for friction and detent. No need to remove control to adjust.

*Chrysler Chrome is a Livorsi bright chrome billet aluminum process with double the chrome thickness and nickel to make this billet QR Series control impervious to salt water corrosion.



DTSXBS22T



DTSXBS11D

Part Number

Use this chart below to build your part number. The example below shows a DTX Billet Straight with 1 throttle, 1 shift and one single switch.

DTSX

BS

1

1

S

DTSXBS11S

Throttle Style

of Throttle Handles # of Shift Handles

Switches

Final part number for this example.

Code:	
Billet Straight	BS

Code:	
1	1
2	2

Code:	
no switch	
single	S
dual	D
triple	T

*Please call Mercury for Rigging Kits
 **When ordering specify knob and base color and configuration of handles.

Color options



Dimensions

# of handles	"A" DIM.	"B" DIM.	"C" DIM.
2 handles	3-3/8" (8.5cm)	2-7/8" (7.3cm)	2" (5.1cm)
4 handles	5-11/16" (14.4cm)	5-3/16" (13.1cm)	4-5/16" (10.9cm)

Technical drawing details:
 - Top view: Overall width 7-3/4" (19.7cm), inner width 6-1/2" (16.5cm).
 - Side view: Overall height 10-1/4" (26cm), base height 4-1/2" (11.4cm), top panel height 1-15/16" (4.9cm).
 - Perspective view: R7.648 radius, handle width 5" (12.7cm), base width 3-7/8" (9.8cm), handle offset 1-3/16" (3.1cm), handle spacing 5-1/8" (13.1cm), handle width 1-7/16" (3.6cm).

Electronic Sidemount Controls - Livorsi Design Capabilities

The electronic controls shown below are designed for specific OEM builders and cannot be sold at the retail level. We show these products here to highlight our design capabilities.

If you are an OEM and you require a new control for your application, please call or email us. We welcome the opportunity of designing a product for you.

Livorsi EMC Controls (Electronic Throttle & Mechanical Shift)

- Uniquely designed for engine applications that utilize electronic throttle control yet require a cable to shift the transmission, drive, or outboard
- Throttle - Features a dual redundancy potentiometer that is fully programmable, allowing you to customize the amount of throttle output throughout the entire range
- Shift - Compatible with 33C or 43C cables



Livorsi EEC Controls (Electronic Throttle & Shift)

- Fully electronic controls that provide a smoother and safer ride with lightning fast shifting and throttling at your fingertips
- Throttle - Features a dual redundancy potentiometer that is fully programmable, allowing you to customize the amount of throttle output throughout the entire range
- Shift - Military grade switches provide reliable gear position feedback to the engine controller
- Push button for throttle only mode with LED indication



Both Versions Feature:

- Adjustable friction settings for throttle and shift detent
- Single or twin trim switches available to actuate wake tabs or drives
- Constructed to exceed ABYC standards
- Compatible with PCM, ILMOR and Indmar engines that support electronic throttle and shift control

Livorsi Marine provides customized controls to a number of builders:

Nautique



Centurion



MB Sports



Malibu



Tigé



Electronic Foot Pedals - Livorsi Design Capabilities

The electronic controls shown below are designed for specific OEM builders and cannot be sold at the retail level. We show these products here to highlight our design capabilities.

If you are an OEM and you require a new control for your application, please call or email us. We welcome the opportunity of designing a product for you.

- Currently designed to control marine engines that utilize electronic throttle control
- These pedals may be calibrated for MEFI5 and 6 engines
- This completely electronic design eliminates problematic cables from bow to stern
- A sensor is used to send throttle position information from the pedal to the ECU on the engine
- Fully sealed to IP68 specifications, this sensor is waterproof and highly durable
- Plug and play waterproof Deutsch connectors simplify installation
- Solid rugged design, made of billet aluminum with an anodized finish to prevent corrosion
- Aggressive anti-slip features are built right into the pedal for confident non-slip throttling
- Private Labeling available



Custom Wire Harness Solutions

Livorsi is ready to meet your short to medium run mechanical and electrical cable assembly requirements.

- Engineering design support to help maximize efficiencies
- Electro-mechanical assembly, process development, fabrication and testing
- Semi-automated wire and cable cutting and stripping for quick change-over
- Ultrasonic wire welding
- Semi-automated terminal crimping
- Custom wire labels to identify individual wires; decreases assembly time and errors
- Soldering



Komax BT 722 wire terminal crimper with crimp force technology

Livorsi utilizes state-of-the-art equipment from top manufacturers like Komax, Stapla, Cami and Shimpo.

Cutter/Stripper

Cuts and strips wire and cable to precise programmed length.

individual wires · multi-conductor cable · wire braid · phone wire · full strip · half strip · partial strip

Wire Terminal Crimper

A semi-automated machine that provides precise and consistent compression of wire terminals, ensuring accurate in-process crimp height, crimp force and strips. Terminal types include: Molex · AMP · Deutsch · Hirose · Others

Ultrasonic Wire Welder

Helps reduce design time and component costs by integrating 100% quality monitored ultrasonic splice welded wires into your wire and cable harnesses. High electrical integrity with strong metallurgical bonds ensures a reliable connection between various gauges of wire.

In addition to in-process quality assurance, we perform 100% quality control final testing on all wire harness assemblies.

- Cable Eye Testing
- Pull Force Gauge
- LCD Video Microscope
- Value Added Wire Assembly

We can supply all harnesses needed for your OEM boat applications.

Mechanical Sidemount Controls

Mechanical Sidemount Features

- Now with a shorter throw - 180 degrees
- Supports outboard and sterndrive configurations with 33C cables
- Built in single trim switch controls drives, tabs wake plate, etc.
- Adjustable friction settings for throttle and shift detent
- Pull up collar design prevents accidental reverse or forward engagement
- Center button disengages shift for throttle only mode
- Available in all the standard Livorsi colors
- Custom colors available upon request

Colors:



Tow Sport Control (Ski Boats)

- Customizable
 - Branding
 - Colors
- Backfittable
 - Replaces Teleflex MV3



Runabout Control

- Customizable
 - Branding
 - Colors
- Backfittable
 - Replaces Mercury MPC GEN II Panel Mount controls
 - Replaces Teleflex CH2200 + CH2300 controls

Control Hardware & Accessories

Trim Switches

- Replacements for Standard, Billet or ETS Controls
- These switches will not work on Mercury controls



dual with wires and plate

Trim Switches	
single no wires	TSSO
single w/ wires	TSSW
single w/ wires & plate	TSSWP + color
single w/ wire, plate & back plate	TSSWPB + color
dual w/ wires & plate	TSDWP + color
dual w/ wires, plate & back plate	TSDWPB + color

Colors:



Triple Trim Switch - bolt on

- Trim multiple drives or tabs without taking your hands off the throttle
- Ergonomic design keeps throttling arm relaxed
- Aircraft style bolt-on adds a total of 3 switches
- For left or right handed applications
- Made of billet aluminum
- Fits standard or billet controls

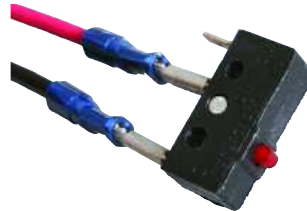
Colors:



Triple Trim Switch	TTS + color
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Neutral Safety Switch

- Allows you to start engine only when in neutral
- Included at no charge with your control order
- One needed for each shift



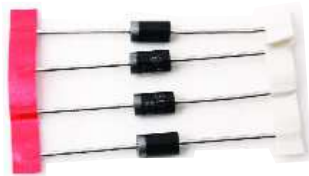
Neutral Safety Switches	
switch only	NSS
switch with wire assembly	NSSA
switch with wire assembly and screws	NSSAK

Diodes

Diodes	
diode kit- diodes only	
4 piece kit for twin engine	DK
diode plug in harness- twin	DKH2
diode plug in harness- triple	DKH3

Diode Kits

- 3 amp
- 1000V



33C Series Cables

- Sold in two foot increments
- Sizes range from 10 feet to 38 feet
- Use with Livorsi controls or mechanical indicators
- Stainless steel core
- Chrome plated brass
- 3 1/4" throw
- Thread size 10x32



Part Number
CA + LENGTH

Control Hardware & Accessories

Cable Adapter Kits

- 1 kit needed for 1 throttle/1 shift lever

Description	Part Number
Mercury OB 1 shift/1 throttle	CCKOBM
Mercury I/O 1 shift/1 throttle	CCKIO
OMC OB 1 shift/1 throttle	CCKOBO
Cable Connection Kit (included at n/c with control order)	CCK30
Cable Connection Kit for 43C series cables	CCK40



Throttle Bezels

- For standard, billet, ETS and arched controls
- Measures 8 1/4" long
- Width varies depending on the number of handles
- Sold separately from controls

Description	Part Number
2 handle bezel	TB2 + color
3 handle bezel (requires 2 week lead time)	TB3 + color
4 handle bezel	TB4 + color
6 handle bezel	TB6 + color

Colors:



Gauge Styles



Industrial

dials: black or white

rims: SAE rim

Page 22



Mega & Race

dials: black, platinum,
carbon fiber, silver
carbon fiber or white

rims: Mega or Race

Page 28



Vantage View

dials: platinum, white or black

rims: Mega or Race

Page 43



Color Options

Dash Panels



blue carbon fiber



red carbon fiber

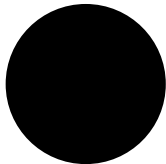


carbon Fiber
CF



silver carbon fiber
SF

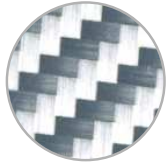
Dials



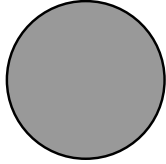
* black- BK



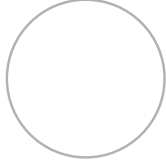
carbon fiber- CF



silver carbon fiber- SF



platinum- PL



white- W

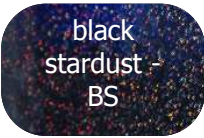
Powder Coat Colors



* black - BK



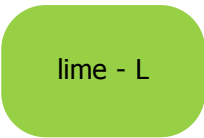
blue - BL



black
stardust -
BS



gun metal - GU



lime - L



mustard - MU



orange - O



platinum - PL



polished
stainless
steel -
PSS



purple - PU



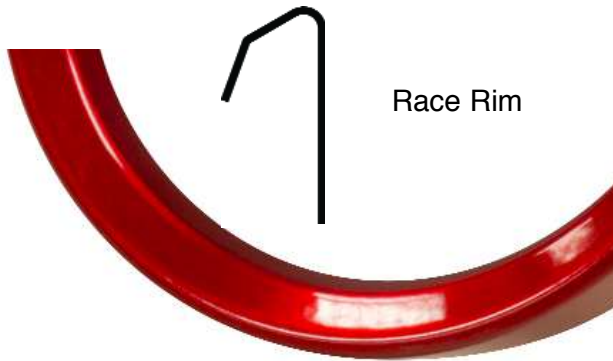
red - R



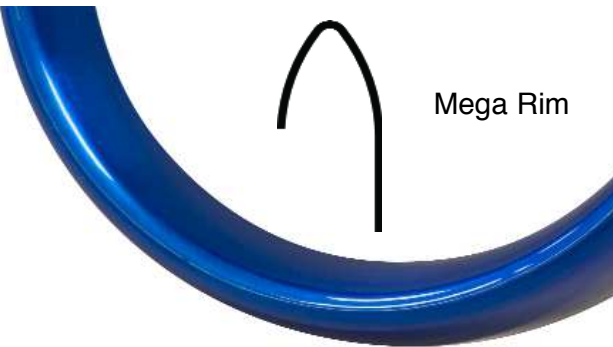
white - W

* Black gloss finish available upon request

Rim Styles



Race Rim



Mega Rim



SAE Rim

Industrial Series

Analog Gauges

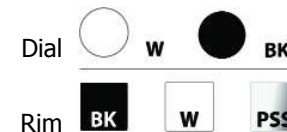
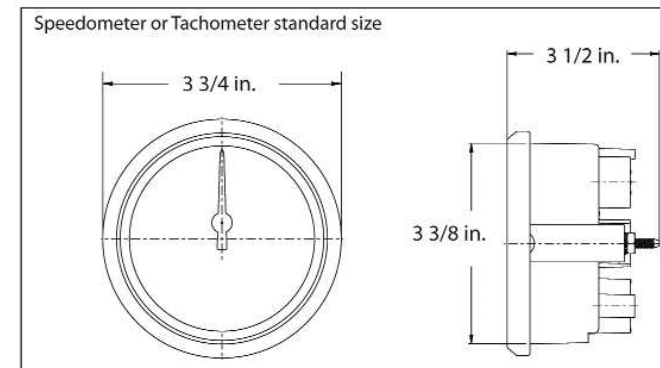
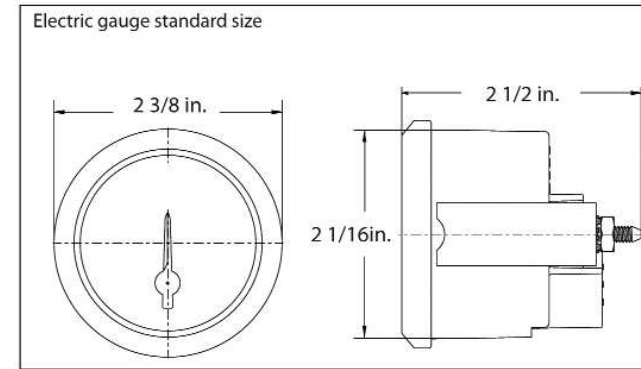
The Industrial series was designed with the industrial equipment, workboats, pleasure boats and vehicles in mind.

Industrial Series gauges are easy to install with the use of plug-in Deutsch connectors that significantly decrease rigging time. The plug-in connectors are waterproof and resist salt corrosion and dust intrusion.

These gauges feature fade resistant powder coated pointers; SAE rims in a powder coat finish or in polished stainless steel. These finishes protect the rims and make them extremely resilient in harsh weather environments.

Industrial Series Features

- Standard gauge sizes
- Plug-in connectors are waterproof and resist salt corrosion
- Gauges are encased in non-ferrous hardware
- Red LED lighting is standard
- Available in 12 or 24 volt system
- Powder coated pointers are fade resistant
- SAE rims in flat black, white or stainless steel



Industrial Series

Tachometers

Gas tachometers are compatible with:
4, 6, & 8 cylinder, V-10 & Merc O/B 6 pulse/12 pole



6,000 RPM



8,000 RPM



10,000 RPM



12,000 RPM

cutout size: 3 3/8" overall size: 3 3/4"

Tachometers - Gas

Description	Base Part Number	Requires
6,000 RPM	DCS6000	DCH harness
8,000 RPM	DCS8000	DCH harness
10,000 RPM	DCS10000	DCH harness
12,000 RPM	DCS12000	DCH harness



DCH



4,000 RPM

Tachometer Hardware

Description	Part Number
DCH harness 12V 24" lead	DCH
DCH harness 24V 24" lead	DCH24
DCH harness 12V w/ tach filter, reduces needle bounce, 24" lead	DCTFH

cutout size: 3 3/8" overall size: 3 3/4"

Tachometers- Diesel 4000 RPM

Description	Base Part Number	Requires
alt driven	DC4000DA	DCH harness
mag probe driven	DC4000MPD	DCH harness
mechanical signal generator driven	DC4000MSGD	DCH harness

Industrial Series

GPS Speedometers

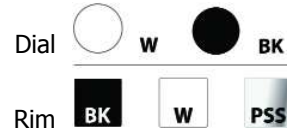
- Livorsi GPS Speedometers require a NMEA 0183 antenna/receiver.

Included with GPS Speedometer

- speedometer
- memory recall
- harness

Included with GPS Speedometer Kit

- speedometer
- memory recall
- harness
- GPS antenna
 - antenna mounts with a 1/4" screw
 - antenna dimensions: 2 3/4" L x 2 3/8" W x 7/8" H



cutout size: 3 3/8"		overall size: 3 3/4"
Description	Base Part Number	Notes
50 MPH	GPSS50	For a GPS Kit, add the letter "K" after the MPH.
60 MPH	GPSS60	
80 MPH	GPSS80	
100 MPH	GPSS100	
120 MPH	GPSS120	
140 MPH	GPSS140	
160 MPH	GPSS160	
180 MPH	GPSS180	
200 MPH	GPSS200	



GPS antenna



50 MPH



60 MPH



80 MPH



100 MPH



120 MPH



140 MPH



160 MPH



180 MPH



200 MPH

Industrial Series

Mechanical Gauges



boost 0-35 PSI



fuel pressure 0-15 PSI



fuel pressure 0-100 PSI



oil pressure 0-100 PSI



hose kit



vacuum boost

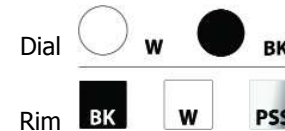


water pressure 0-35 PSI



water pressure 0-60 PSI

cutout size: 2 1/16"		overall size: 2 3/8"	
Description	Base Part Number	Requires	
Boost 0-35 PSI	DCSMB35	hose kit	
Fuel Pressure 0-15 PSI	DCSMFP	fuel hoses n/a	
Fuel Pressure 0-100 PSI	DCSMFP100		
Oil Pressure 0-100 PSI	DCSMOP	hose kit	
Vacuum/Boost 30 in hg/boost20	DCSMVB	hose kit	
Water Pressure 0-35 PSI	DCSMWP	hose kit	
Water Pressure 0-60 PSI	DCSMWP60	hose kit	
Hose Kits - not to be used with fuel			
10 feet of hose and fittings	HKA		
25 feet of hose and fittings	HK		

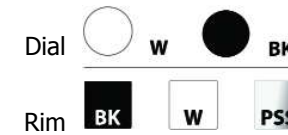


Industrial Series

Electric Gauges

- These electric gauges require the use of a four pin connector wire harness (unless otherwise noted) that we call a DCH harness.
- We offer these harnesses pre-assembled with labeled wire leads, 24 inches in length.

cutout size: 2 1/16"		overall size: 2 3/8"	
Description	Base Part Number	Requires	
Boost 60 PSI	DCSB60	-	
Fuel Level 0-90 OHMS	DCSFLGM	DCH/DCH24, fuel level sender	
Fuel Level 240-33 OHMS	DCSFL	DCH/DCH24, fuel level sender	
Fuel Pressure 0-15 PSI	DCSFP	DCH/DCH24, GSFP/WP	
Fuel Pressure 0-90 PSI	DCSFP90	DCH/DCH24, GSFP60/90	
Hourmeter	HM *	-	
Oil Pressure 0-80 PSI	DCSOP80	DCH/DCH24, GSOP80	
Oil Temperature 140-340° F	DCSOT	DCH/DCH24, GSOT1/8	
Transmission Temp 140-340° F	DCSTT	DCH/DCH24, GSOT1/8	
Trimmer Merc & Yamaha 10-90 OHMS	DCSTMM	DCH/DCH24	
Trimmer OMC 88-1 OHMS	DCSTMO	DCH/DCH24	
Voltmeter 8-18V	DCSVM	DCH/DCH24	
Voltmeter 18-32V	DCSVM24	DCH/DCH24	
Water Level	DCSWL	DCH/DCH24, water level sender	
Water Temperature 100-250° F	DCSWTA	DCH/DCH24, GSOT1/8	
Water Temperature 100-280° F	DCSWT	DCH/DCH24, GSWT1/8	
DCH Harnesses- pre-assembled			
12 volt system, 24 inch leads	DCH		
24 volt system, 24 inch leads	DCH24		



* Note: Available with Mega or Race Rim only.

Industrial Series

Electric Gauges



boost 60 PSI



fuel level



fuel pressure 0-15 PSI



fuel pressure 0-90 PSI



hourmeter *



oil pressure 0-80 PSI



oil temperature
140-340° F



transmission temp
140-340° F



trimmer



voltmeter 8-18 V



voltmeter 8-32 V



water level



water temperature
100-250° F



water temperature
100-280° F

Mega & Race Series

Analog Gauges

Features

- Standard size or oversize
- Plug-in connectors are waterproof and resist salt corrosion
- Gauges are encased in non-ferrous hardware
- Red LED lighting is standard; for easy viewing in low light conditions
- Available in 12 or 24 volt system
- Your choice of rim style: Mega or Race

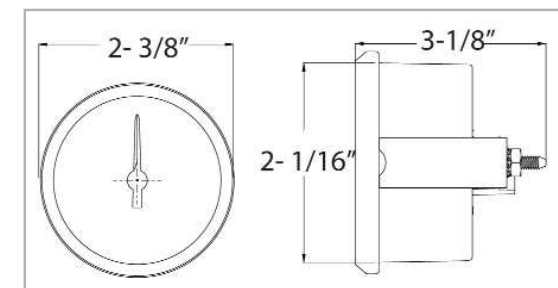
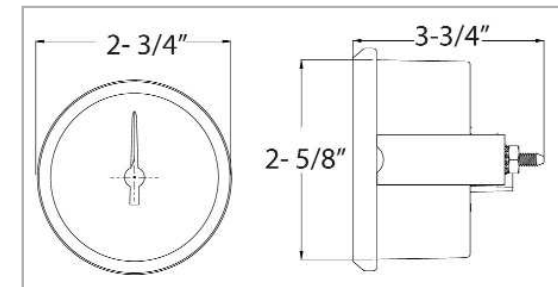
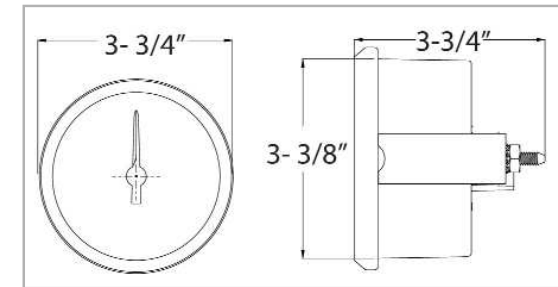
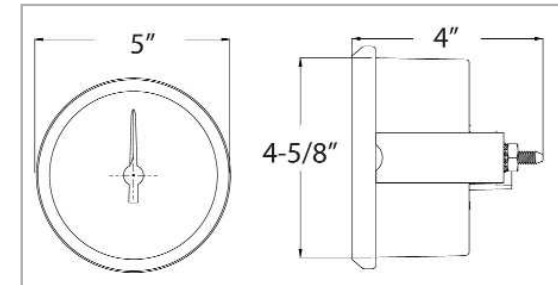
Custom Options

- Dial color
- Needle color
- Private label



Race Rim - RR

Mega Rim - MR



Mega & Race Series

Tachometers

Gas Tachometers are compatible with:
4, 6, & 8 cylinder, V-10, Merc O/B, 6 pulse/12 pole

Gas Tachometers				
Description	Part Number			Requires
	2 5/8"	3 3/8"	4 5/8"	
6,000 RPM	-	DCS6000	DCL6000	DCH harness
8,000 RPM	MT8000	DCS8000	DCL8000	DCH harness
10,000 RPM	-	DCS10000	DCL10000	DCH harness
12,000 RPM	-	DCS12000	-	DCH harness

Diesel Tachometers		
Description	Part Number	Requires
	3 3/8"	
4,000 RPM alt driven	DC4000 DA	DCH harness
4,000 RPM mag probe driven	DC4000 MPD	DCH harness
4,000 RPM mech signal generator driven	DC4000 MSGD	DCH harness

4 Pin Connector & Wire Harness

- 24 inches in length
- Pre-assembled and labeled

Tachometer Hardware	
Description	Part Number
DCH harness 12V 24" lead	DCH
DCH harness 24V 24" lead	DCH24
DCH harness 12V w/ tach filter, reduces needle bounce	DCTFH



6000 RPM



8000 RPM



10000 RPM



12000 RPM



4000 RPM



DCH

Mega & Race Series

GPS Speedometers

Purchase GPS Speedometer only, you get:

- speedometer
- memory recall
- harness for power, ground and back lighting

GPSSQ310X antenna

- Mounts with a 1/4" screw
- Dimensions: 2 3/4" L x 2 3/8" W x 7/8" H
- Fast 10 Hz 10x per second update
- 4 ft harness and ring terminals

GPS Speedometer Kit includes

- speedometer
- memory recall
- harness for power, ground and back lighting
- NMEA 0183 antenna - GPSSQ310X



Build your part number:



GPS | S | 50 | K | PL | PL | RR
 size | speed | kit | dial color | rim color | rim style

Description	Part Number		Requires
	3 3/8"	4 5/8"	
50 MPH	GPSS50	GPSL50	For a GPS Kit, add the letter "K" after the MPH.
60 MPH	GPSS60	GPSL60	
80 MPH	GPSS80	GPSL80	
100 MPH	GPSS100	GPSL100	
120 MPH	GPSS120	GPSL120	
140 MPH	GPSS140	GPSL140	
160 MPH	GPSS160	GPSL160	
180 MPH	GPSS180	GPSL180	
200 MPH	GPSS200	GPSL200	
GPS antenna	GPSSQ310X	NMEA 0183 antenna - square body	

Mega & Race Series

GPS Speedometers



50 MPH



60 MPH



80 MPH



100 MPH



120 MPH



140 MPH



160 MPH



180 MPH



200 MPH

Dial W PL BK CF SF

Rim BK BL BS GU L MU O PL PSS PU R W

Mega & Race Series

Speedometers



DCMS60



DCMS80



DCMS100

Speedometer Hoses

Description	Part Number
1/8" ID push on high pressure	GCH1/8
1/4" ID push on high pressure	GCH1/4

Dry Speedometers

Description	Part Number		Requires
	3 3/8"	4 5/8"	
60 MPH	DCMS60		pitot tube, hose & mounts
80 MPH	DCMS80	DCML80	
100 MPH	DCMS100	DCML100	Add "K1" for a kit

You may request dials in any of our powdercoat colors, extra fees apply.



Mechanical Speedometer Hardware

Mechanical
Speedometers



Recoil Blade Kickup

Description	Part Number
blade only 5"	GCRB
blade fitting 1/4" ID hose	GCF8
blade fitting 1/8" ID hose	GCPM1/8



Low Profile Blade Assembly

Description	Part Number
regular	GCRB1A
90° angle	GCRB1A90



Blade Assembly Standard

Description	Part Number
universal bolt pattern	GCM1A
Mercury bolt pattern	GCM2A



Mercury Reverse Mount Assembly

Description	Part Number
with fittings	GLRMA
with out fittings	GLRM



Kick Up Mount

Description	Part Number
1/4" ID hose	GLM1A
1/8" ID hose	GLM1A1/8

Blades

standard blade 7"	GCT1
blade 5" for GCRB1A / RBM2A	GCRB

Thru hull fittings

2" x 1/8" NPT	THF21/8
4" X 1/8" NPT	THF41/8
90° fitting 1/8" NPT male push lock x 1/4" ID push lock	GCF6

Blade mounts

tube or blade mount	GCM3
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Hoses

1/8" ID push on high pressure	GCH1/8
1/4" ID push on high pressure	GCH1/4

Mega & Race Series

Electric Gauges

- These electric gauges require the use of a four pin connector wire harness (unless otherwise noted) that we call a DCH harness.
- We offer these harnesses pre-assembled with labeled wire leads, 24 inches in length.

Description	Part Number		Requires
	2 1/16"	2 5/8"	
Clock	-	DCC	DCH harness
Fuel Level 0-90 ohms	DCSFLGM	DCFLGM	DCH, fuel level sender
Fuel Level 240-33 ohms	DCSFL	DCFL	DCH, fuel level sender
Fuel Pressure 0-15 PSI	DCSFP	DCFP	DCH, GSFP/WP
Fuel Pressure 0-90 PSI	DCSFP90	DCFP90	DCH, GSFP60/90
Hourmeter	HM	-	-
Oil Pressure 0-80 PSI	DCSOP80	DCOP80	DCH, GSOP80
Oil Pressure 0-100 PSI	DCSOP	DCOP	DCH, GSOP
Oil Temperature 140-340° F	DCSOT	DCOT	DCH, GSOT1/8
Transmission Temp 140-340° F	DCSTT	DCTT	DCH, GSOT1/8
Trimmer Merc & Yamaha 10-90 ohms	DCSTMM	DCTMM	DCH
Trimmer OMC 88-1 ohms	DCSTMO	DCTMO	DCH
Voltmeter 8-18V	DCSVM	DCVM	DCH
Water Level	DCSWL	DCWL	DCH
Water Temperature 100-250° F	DCSWTA	DCWTA	DCH, GSOT1/8
Water Temperature 100-280° F	DCSWT	DCWT	DCH, GSWT1/8
DCH Harnesses			
12 volt system, 24 inch leads	DCH		
24 volt system, 24 inch leads	DCH24		



Mega & Race Series

DISCONTINUED

Electric Gauges



clock



oil pressure 80 PSI



fuel level



fuel pressure 15 PSI



fuel pressure 90 PSI



hourmeter



oil pressure 100 PSI



oil temperature



transmission temperature



trimmer



voltmeter



water level



water temperature 250 F



water temperature 280 F

Mega & Race Series

Mechanical Gauges

Description	Part Number		Requires
	2 1/16"	2 5/8"	
Boost 0-35 PSI	DCSMB35	DCMB35	hose kit
Fuel Pressure 0-15 PSI	DCSMFP	DCMFP	fuel hoses n/a
Fuel Pressure 0-100 PSI	DCSMFP100	DCMFP100	
Oil Pressure 0-100 PSI	DCSMOP	DCMOP	hose kit
Vacuum/Boost 30 in hg/boost 20	DCSMVB	DCMVB	hose kit
Water Pressure 0-35 PSI	DCSMWP	DCMWP	hose kit
Water Pressure 0-60 PSI	DCSMWP60	DCMWP60	hose kit



Hose Kit

- not for fuel
- use with mechanical gauges
- 1/8" ID

Description	Part Number
25 feet with fittings	HK
10 feet with fittings	HKA



vacuum boost



boost



fuel pressure 15 PSI



fuel pressure 100 PSI



oil pressure 100 PSI



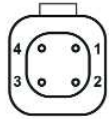
water pressure 35 PSI



water pressure 60 PSI

4 Pin Connector & Wire Harness

- 24 inches in length
- Pre-assembled and labeled



Pin # 1 = BLUE 12v+ illumination
 Pin # 2 = VIOLET 12v+ ignition power
 Pin # 3 = BLACK engine or battery ground
 Pin # 4 = GREEN signal from sender



DCH Harness	Part Number
12 volt system	DCH
24 volt system	DCH24
12 volts w/ tach filter	DCTFH

Connector Parts	
Description	Part Number
2 Pin - mechanical lights	
2 pin connector plug	DC2CPLUG
2 pin connector wedge lock	DC2CWL
4 Pin - electrical gauges	
4 pin connector plug	DC4CPLUG
4 pin connector wedge lock	DC4CWL
8 Pin - power distribution	
8 pin connector plug	DC8CPLUG
8 pin connector wedge lock	DC8CWL
12 Pin - power distribution	
12 pin connector plug	DC12CPLUG
12 pin connector wedge lock	DC12CWL
dummy plug	DCCDP
contacts for 16 gauge wire	DCC1416
Hand Crimper	DCHCS

Description	Part Number
Senders	
Fuel Pressure 0-60 PSI / 0-90 PSI	GSFP60/90
Fuel & Water Pressure 0-15 PSI	GSFP/WP
Isolated Ground for Water Temperature	GSWT1/8I
Oil Pressure 0-80 PSI	GSOP80
Oil Pressure 0-100 PSI	GSOP
Oil / Water Temperature 100-320°F	GSOT1/8
Water Temperature 100-250°F 1/8" thread	
Pressure 400 PSI	GSP400
Water Temperature- Merc OB Kit	GSWTM
Water Temperature 100-280°F 1/8" thread	GSWT1/8
Bushing Kit 1 /4", 3/8" and 1/2" fittings	GSBKK1
Hose Kit for Mechanical Gauges not to be used with fuel, 1/8 in ID	
10 feet of hose and fittings	HKA
25 feet of hose and fittings	HK

Description	Part Number
LED Wedge	
amber 12.8V	LEDWA
blue 12.8V	LEDWBL
green 12.8V	LEDWG
red 12.8V	LEDWRB
white 12.8V	LEDWW
Clamshells	
for 1/4" id hose black	GCCS1/4BK
for 1/4" id hose white	GCCS1/4W
for 1/2" id hose white	GCCS1/2W

GPS Antennas

GPS Antenna for Vantage View®

Part Number: GPSRAQ3VV

- Antenna is NMEA 0183 compliant
- 2 3/4" L x 2 3/8" W x 7/8" H
- Standard 1-second 1HZ update
- 4 ft harness and ring terminals
- Pre-terminated for quick connection to the Vantage View Master Harness
- It is recommended to use this model number for full compliance with Livorsi Vantage View® speedometers



GPS Antenna

Part Number: GPSSQ3

- Antenna is NMEA 0183 compliant
- 2 3/4" L x 2 3/8" W x 7/8" H
- Standard 1-second 1HZ update
- 4 ft harness and ring terminals
- It is recommended to use this model number for full compliance with Livorsi GPS speedometers
- Compatible with SmartCraft®



GPS Antenna for non-GPS speedometers

Part Number: GPSESQ3

- Antenna is NMEA 0183 compliant
- 2 3/4" L x 2 3/8" W x 7/8" H
- Fast 10 Hz 10x update -8/16 pulse output
- 4 ft harness and ring terminals
- For use with existing automotive or commercial electric speedos (non-GPS speedo heads)

GPS Antenna with 10X per second update

Part Number: GPSSQ310X

- Antenna is NMEA 0183 compliant
- 2 3/4" L x 2 3/8" W x 7/8" H
- Fast 10 Hz 10x per second update
- 4 ft harness and ring terminals

GPS Speedometer w/ Odometer

For automotive or marine applications, this stand alone GPS speedometer is a digital gauge with an analog readout and a built in LCD odometer. Designed to be hassle free, this gauge relies on GPS satellite signals to display accurate speed and miles traveled, so there is no need to calibrate this gauge with gear ratios or tire size.

Gauge Features

- Digital odometer helps you determine your GPM
- Eliminates the need for cables
- No calibration required
- LCD displays odometer and 3 resettable trip odometers
- 10x update for accurate readings
- 120 MPH or 160 MPH

Gauge Kit Includes:

- Gauge head
- GPS antenna with 10 Hz 10x update
- Switch
- Harness
- Mounting hardware

cutout size	overall size
3 3/8"	3 3/4"
4 5/8"	5"



Description	Gauge Kit Part Number
	3 3/8" cutout
120 MPH	GPSSO120K + dial color + rim color + style
160 MPH	GPSSO160K + dial color + rim color + style
	4 5/8" cutout
120 MPH	GPSLO120K + dial color + rim color + style
160 MPH	GPSLO160K + dial color + rim color + style



GPS Antenna 10X Update

- Antenna is NMEA 0183 compliant
- 2 3/4" L x 2 3/8" W x 7/8" H
- Fast 10 Hz 10x update
- 4 ft harness and ring terminals

Part Number: GPSSQ310X



Depth Finder Gauge

Gauge Features

- Larger LCD digits
- Algorithmic programming
- Instant depth updates
- Easy touch programming
- Keel offset
- English & Metric readings
- Dual depth alarms
- Advanced warning system
- Memory retention
- Polarized LCD
- Plug & Play connectors
- Red LED alarm light



Shoot Thru
(uses epoxy)

Transom

Gauges Specs

- 1 7/8" cutout, 2 1/2" overall
- Green backlighting
- 11-14Vdc
- Readout: min. -2.5 feet / max. 200 feet
- Red LED and blinking LCD icons for alarms
- Transducers have 30" lead

Gauge Kit Includes

- gauge
- transducer
- mounting brackets
- epoxy (for shoot thru only)



Description	Part Number
Depth Only Gauge	
head only	DFG + color rim
Kit - Gauge and shoot thru transducer	DFGKST + color rim
Kit - Gauge and transom mount transducer	DFGKTR + color rim
Transducers - Depth Only	
shoot thru transducer	TST
transom mount transducer	TTR
Depth - Air - Water Gauge	
head only	DISCONTINUED
Kit - Gauge and Transom mount transducer	DISCONTINUED
Transducers - Depth Air Water	
transom mount transducer	DISCONTINUED

Raw Water Flow System

Safe guard your cooling system from costly damage with Livorsi's Raw Water Flow System

The Raw Water Flow system indicates your engine's water flow volume. This system warns you of a potential problem or danger that would otherwise not be indicated by a water pressure gauge alone, thus preventing cosmetic and structural damage to expensive exhaust headers, intercoolers and other cooling systems.

What is Water Flow?

Water flow is a real indication of water surging through a cooling system such as: exhaust headers, sea strainers, impellers, Gen sets, intercoolers and any other marine or industrial applications that utilize water flow.

Why You Need It

Don't confuse water flow with water pressure; as many OEM engine manufacturers measure water pressure in different areas of the motor. This number may not be telling you the real story of water flow. Your water pressure can be constant from the first day you bought your new boat.

The danger may be lurking in the water flow which could be caused by

- a plugged heat exchanger
- extensive debris build-up in the intercooler or sea strainer
- a kinked hose
- worn impeller
- water pickups not collecting enough water for cooling system

These may be the culprits causing the good water pressure reading, when in actuality there is poor water flow. Low water flow results in; cosmetic and structural damage to expensive exhaust headers caused by burned impellers and/or the clogging and damage of intercoolers or strainers.



The Raw Water Flow System prevents this from happening



Raw Water Flow System

How It Works

Calibration is set at idle and at wide open throttle (WOT). This will generate the cooling system's normal operating range. When water flow rises or drops more than 20% from that range (regardless of RPM), it will trip the alarm illuminating the built-in LED light; an optional audible alarm may be added. The LED light shines with intensity, making it visible in direct sunlight.

Easy to Install

This kit is easy to install, Livorsi Marine offers three Tee sizes to fit your system. Mount the Tee in-line on the output side of a sea strainer or sea pump. The paddle wheel sensor installs in the Tee sending information to be processed on a circuit board that is mounted behind the dash panel. The wheel paddle can be easily removed for inspection and locks back into place once finished. This system trouble-free to install and with little maintenance to perform.

Raw Water Flow system consists of:

- 2 5/8" panel mounted gauge with internal warning light
- Bronze Tee
- PCB board
- Harness
- Paddle wheel transducer

cutout size	overall size
2 5/8"	2 3/4"

Water Flow Kits		
Tee Fitting Size	Base Part Number	
1 inch I.D. hose		1
1.25 inch I.D. hose	WFG + dial color + rim color + rim style	1.25
1.5 inch I.D. hose		1.50





For
SmartCraft®,
NMEA 2000®,
SAE J1939 and
GM MEFI engines



The Vantage View® system comprises of a Master Tachometer that reads information directly from the ECM/ECU. The Master Tachometer contains a LCD screen in which the user is able to view the performance data, Faults and Warnings of the boat or vehicle. All Vantage View® gauges utilize 270° digital stepper motors that accurately display data in real time. While these instruments are digital, they were designed with the traditional styling of analog gauges. Fluorescent fade resistant pointers and large bold graphics make these instruments easy to ready at a glance.

User programmable warning alarms, simplified rigging and rugged construction makes this line of instruments an exceptional tool for monitoring the performance of a vehicle, workboat or powerboat.

Each engine requires its own Master Tach and daisy chains to slave gauges

- Each LCD displays up to 10 engine functions such as water temp, oil press, GPH, etc.
- Designed to work with SmartCraft®, NMEA 2000®, SAE J1939 and GM MEFI protocols
- For automotive, industrial or marine applications
- Control module may be mounted in location of your choosing to navigate through the LCD screen
- Available in sizes 2, 3, 4 and 5"

Carbon Fiber and Silver Carbon Fiber dials

We've added the popular carbon fiber and silver carbon fiber dial option to our Vantage View gauge series.



Vantage View®



Four Function Gauge

The 4-in-1 gauge saves you dash space by combining 4 essential functions into one 5" gauge: oil pressure, water temperature, volts and fuel level.

Speed

Vantage View® reads both CAN (NMEA 2000® and SAE J1939) and serial (NMEA 0183) based speed inputs.

Programmable Alarms

In addition to factory set Fault and Warnings, users can tailor up to 15 alarms to their individual needs. When triggered, pop-up alerts appear on the LCD screen and the bright LED warning light illuminates on the corresponding slave gauge.

Pop Up Alerts

Enabling of popup alerts for faults, warnings or alarms provides a highly visible alert screen when a fault, warning or alarm occurs. Popups may be enabled for engine trim/tabs brings up a trim detail screen when a change in trim position occurs. Vantage View® even displays Engine Diagnostic Codes for J1939.

Faults and Warnings

Vantage View® alerts you of Faults and Warnings with blinking icons on the Master Tachometer LCD screen. Faults are a problem reported by the ECM/ECU that warrants stopping the engine. Warnings alert you of potential problems as reported by the ECM/ECU.

Fuel Tank and Engine Trim Calibration

The Vantage View® system is the ability to calibrate the fuel tank and engine trim, ensuring utmost accuracy. The Master Tachometer can monitor up to two fuel tanks with the option to use an analog signal or CAN Bus information. The Engine Trim feature also allows for one analog or one CAN Bus signal.

Rim Options

Low Profile Rim



Mega Rim



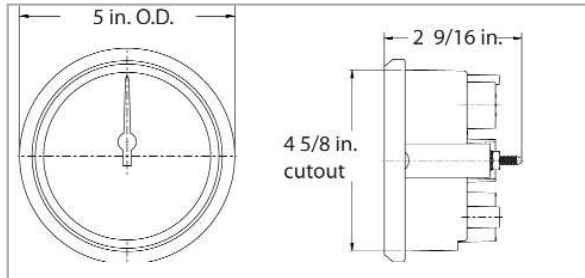
Race Rim



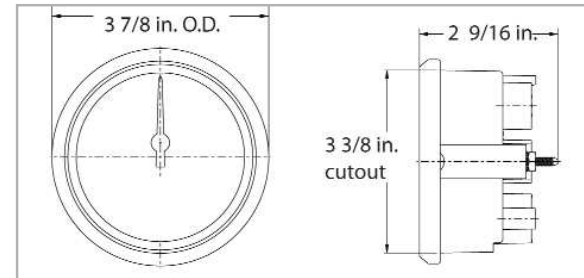
Vantage View[®]

Can Bus Gauges

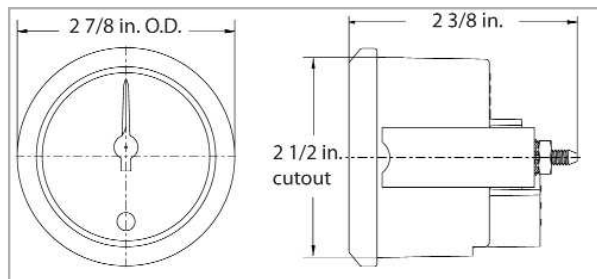
Master Tach, Slave Speedometer or Four in One



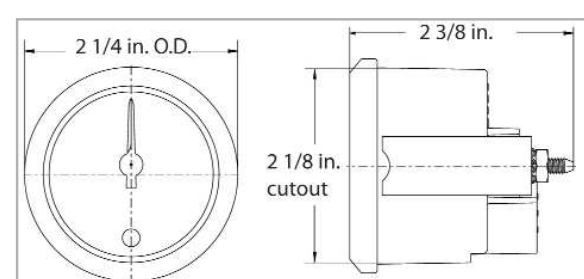
Master Tach or Slave Speedometer or Four in One



2-1/2" Slave Gauges



2-1/8" Slave Gauges and FWA gauge



Vantage View®

Can Bus Gauges

Each engine requires its own Master Tachometer

- LCD displays up to 10,000 RPM
- Up to 6 slave gauges may be daisy chained to the Master Tachometer
- Marine configured tachs display "Total Hours"
- Automotive/industrial configured tachs display "Total Miles"
- Have the ability to record and reset three trip logs
- The user can set up 10 parameters of their choice to display in the main screens. Choose between single or three parameter display.

Menu navigation requires the use of either a control pod (controls up to 4 engines) or the VV switch control module.



control pod



switch control module



VJS7KPLPLR



VJS4KBKPLR

Master Tachometer - SmartCraft® protocol		
Description	Part Number	
	3 3/8"	4 5/8"
4000 RPM	VSCS4K	VSCL4K
7000 RPM	VSCS7K	VSCL7K

Master Tachometer - NMEA 2000®, J1939 & MEF14 protocol		
Description	Part Number	
	3 3/8"	4 5/8"
4000 RPM	VJS4K	VJL4K
7000 RP	VJS7K	VJL7K

Vantage View®

Analog Input- Resistance Ranges	
Description	Resistance Ranges- ohms
Fuel Level 1	240-33, 10-180, 0-90
Fuel Level 2	240-33, 10-180, 0-90
Fresh Water Level	240-33, 10-180, 0-90
Waste Water Level	240-33, 10-180, 0-90
Engine Oil Level	240-33, 10-180, 0-90
Transmission Oil Level	240-33, 10-180, 0-90
Hydraulic Oil Level	240-33, 10-180, 0-90
Coolant Level	240-33, 10-180, 0-90
Washer Fluid Level	240-33, 10-180, 0-90
Generic Level	240-33, 10-180
Boost Pressure	240-33, 10-180
Block Pressure	240-33, 10-180
Fuel Delivery Pressure	240-33, 10-180
Engine Oil Pressure	240-33, 10-180
Transmission Oil Pressure	240-33, 10-180
Hydraulic Oil Pressure	240-33, 10-180
Brake Application Pressure	240-33, 10-180
Brake Primary Pressure	240-33, 10-180
Brake Secondary Pressure	240-33, 10-180
Generic Pressure	240-33, 10-180
Outside Air Temperature	10K Thermistor (Airmar T-80)
Inside Air Temperature	10K Thermistor (Airmar T-80)
Water Temperature	10K Thermistor (Airmar T-80)
Trim	240-33, 10-180, 0-90, 167-10
Steering Angle	240-33, 10-180, 0-90
Rudder Angle	240-33, 10-180, 0-90
Front Air Pressure	240-33, 10-180, 0-90
Rear Air Pressure	240-33, 10-180, 0-90

Faults or Warnings		
Description		Faults or Warnings
Warning Over Heat	Over-heat	W
Warning Low Oil Pressure	Low Oil Press	W
Warning Low Voltage	Low Voltage	W
Warning High Voltage	High Voltage	W
Warning Over Speed	Over Speed	W
Warning Water in Fuel	Fuel	W
Warning Guardian Active	Guard Active	W
Warning Check Engine	Check Engine	W
Oil Fault	Oil	F
Guardian/Check Engine Fault	Guard/Ck Eng	F
CAN Fault	CAN Bus	F
Water in Fuel Fault	Fuel	F
Voltage Fault	Voltage	F
Coolant Temperature Fault	Coolant Temp	F

Single Engine Switch Control Module

- Controls one Master Tachometer
- One assembly needed per engine
- Requires two 1/2 in. cutout for toggle switches

VVSAW assembly includes:

- Two switches & two boots
- DCC contacts for easy installation

Description	Part Number
switch control module	VVSAW
plate only (2 3/4 in diam.)	PSSP + color
mode switch only	TSMF
up/down switch only	TSMFM
black switch boot	TSRBBK



switch control module



switch control module with optional plate

Control Pod

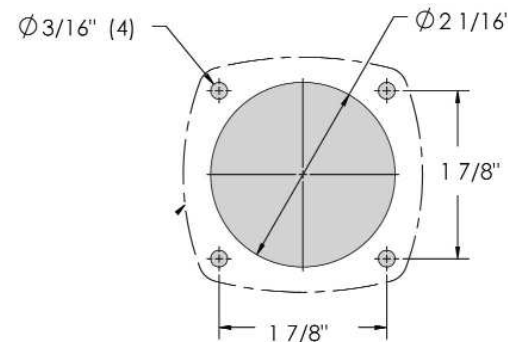
- Control up to 4 Master Tachometers with one pod
- Uses waterproof momentary buttons
- Twin, triple and quad control pods have a polished selector knob to toggle between Master Tachometers

Description	Part Number
single engine	VVCPSA + color
twin engine	VVCPTA + color
triple engine	VVCPTRA + color
quad engine	VVCPQA + color



Control Pod twin engine

Control Pod Dimensions



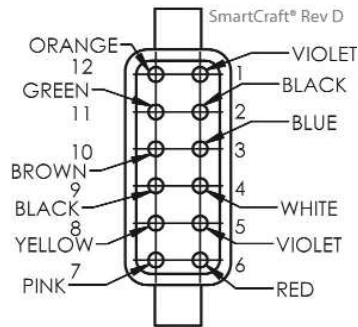
Colors:



Vantage View®

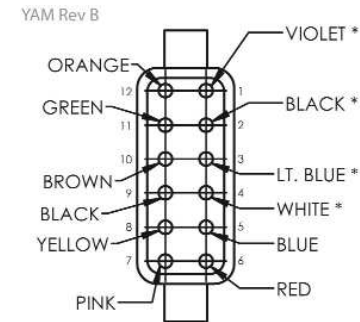
Harnessing

SmartCraft® Master Harness
length: 36 in. ± .5 in.



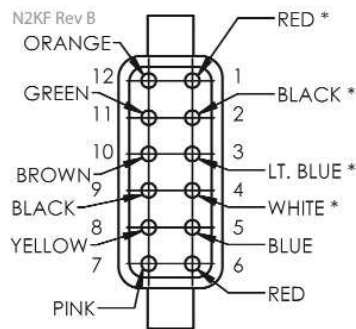
Part Number		VVMHSC
Wire Label		
Number	Color	Label
7	Pink	Analog
8	Yellow	NMEA 0183

SAE J1939/Indmar Master Harness
length: 36 in. ± .5 in.



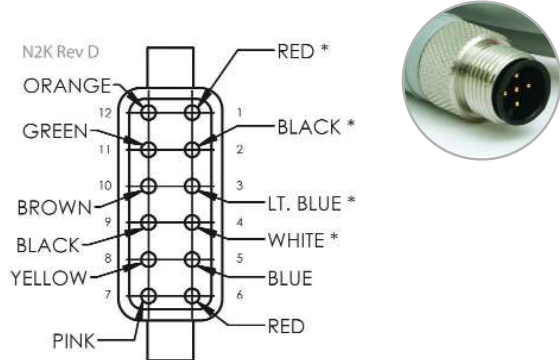
Part Number		VVMHJI
Wire Label		
Number	Color	Label
1	Violet	Switched Positive
2	Black	Ground
3	Lt. Blue	CAN L
4	White	CAN H
5	Blue	Lighting
6	Red	Battery
7	Pink	Analog
8	Yellow	NMEA 0183
9-12	-	to amp connector

NMEA 2000® Micro C Female Master Harness
length: 36 in. ± .5 in.

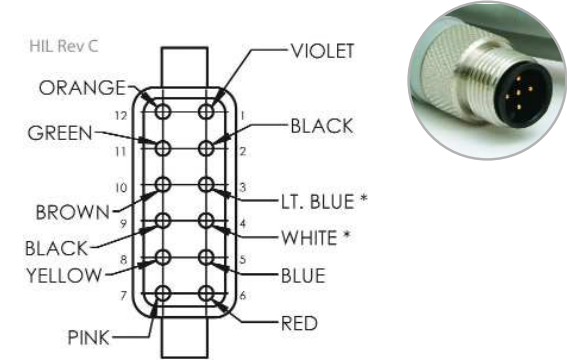


Part Number		VVMHN2KF
Wire Label		
Number	Color	Label
5	Blue	Lighting
6	Red	Battery
7	Pink	Analog
8	Yellow	NMEA 0183

NMEA 2000® Micro C Male Master Harness
length: 36 in. ± .5 in.



Ilmor Micro C Male Master Harness
length: 36 in. ± .5 in.



Part Number		VVMHN2K
Wire Label		
Number	Color	Label
5	Blue	Lighting
6	Red	Battery
7	Pink	Analog
8	Yellow	NMEA 0183

Part Number		VVMHIL
Wire Label		
Number	Color	Label
1	Violet	Switched Positive
2	Black	Ground
5	Blue	Lighting
6	Red	Battery
7	Pink	Analog
8	Yellow	NMEA 0183



Long Slave Harness		
Description	Length	Part Number
2 gauge	27 1/2 in.	VVSH2L
4 gauge	53 1/2 in.	VVSH4L
6 gauge	78 1/2 in.	VVSH6L

Short Slave Harness		
Description	Length	Part Number
2 gauge	17 in.	VVSH2S
4 gauge	37 1/2 in.	VVSH4S
6 gauge	54 1/2 in.	VVSH6S

Vantage View®

Slave Speedometers



60 MPH



80 MPH



100 MPH



120 MPH

The speedo receives data from the Master Tach which can be from the following:

- CAN message
- Paddle wheel
- GPS signal- uses the A/D digital input available on the Master Tach.
The GPS source must be wired to the proper pin of the 12 pin connector of the Master Tach.

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

Note: Vantage View requires the use of GPS antenna part number: GPSRAQ3VV. Other GPS antenna models may not work with Vantage View.



160 MPH



Description	Part Number		
	3 3/8"	4 5/8"	
60 MPH	VJS60	VJL60	For a kit add "K" after the MPH
80 MPH	VJS80	VJL80	
100 MPH	VJS100	VJL100	
120 MPH	VJS120	VJL120	
160 MPH	VJS160	VJL160	
180 MPH	VJS180	VJL180	
GPS antenna for Vantage View	GPSRAQ3VV		



FWA Gauge

This gauge provides five discrete illuminated visual indicators and multiple outputs. Outputs include a dedicated audible alarm and one set of relay output contacts for secondary alarms or additional engine protection devices.





This FWA gauge is needed in order for Vantage View® to receive built in Faults and Warnings from Cummins Diesel engines when a Diesel View display is not present.

FWA gauge will work on all engine protocols except for Mercury Gas SmartCraft® engines.

Available with a black dial only. 2 1/8" cutout

Description	Part Number
fwa gauge	VJSFWABK + rim color + style



Color Codes	
Dial	 BK
Rim	 BKR  PLR  PSR

Four Function Gauge

Save dash space with this four function gauge:

- Oil pressure
- Water temperature
- Volts
- Fuel level

Description	Part Number
3 3/8" cutout	VJS4K + dial color+ rim color + rim style
4 5/8" cutout	VVJN14F + dial color+ rim color + rim style



Dial	 W	 PL	 BK	 CF	 SF							
Rim	 BK	 BL	 BS	 GU	 L	 MU	 O	 PL	 PSS	 PU	 R	 W

Vantage View®

Slave Gauges

NMEA 2000® , SmartCraft® , GM MEFI and J1939		
Description	Part Number	
	Small 2 1/8"	Large 2 1/2"
boost 0-35 PSI	VJSB	VJLB
fuel level 1	VVJNISFL1	VVJNILFL1
fuel level 2*	VVJNISFL2	VVJNILFL2
fuel pressure 90 PSI	VJSFP90	VJLFP90
oil level 1	VVJNISOL1	VVJNIOLO1
oil level 2*	VVJNISOL2	VVJNIOLO2
oil pressure 0-80 PSI	VVJNISOP	VVJNIOLOP
oil temperature 0-280°F	VVJNISOT	VVJNIOLOT
trim drive port (left)	VVJNISTDP	VVJNILTDP
trim drive stbd (right)	VVJNISTDS	VVJNILTDS
voltmeter 10-16V	VVJNISVM	VVJNILVM
water pressure 30 PSI	VVJNISWP30	VVJNILWP30
water pressure 60 PSI	VVJNISWP60	VVJNILWP60
water temperature 100-240°F	VVJNISWT	VVJNILWT

Note: * Available for Smartcraft only

NMEA 2000® - IImor compliant		
Description	Part Number	
	Small 2 1/8"	Large 2 1/2"
voltmeter- alternator 10-16V	VVNISVMA	VVNILVMA
water pressure 30 PSI	VNSWP30C	VNLWP30C
water pressure 60 PSI	-	VNLWP60C



boost 0-35 PSI



fuel level 1



oil pressure 0-80 PSI



oil temperature 100-280° F



water pressure 0-60 PSI



water temperature 100-240° F



fuel level 2



fuel pressure 0-90 PSI



oil level 1



oil level 2



trim drive port (left)



trim drive starboard (right)



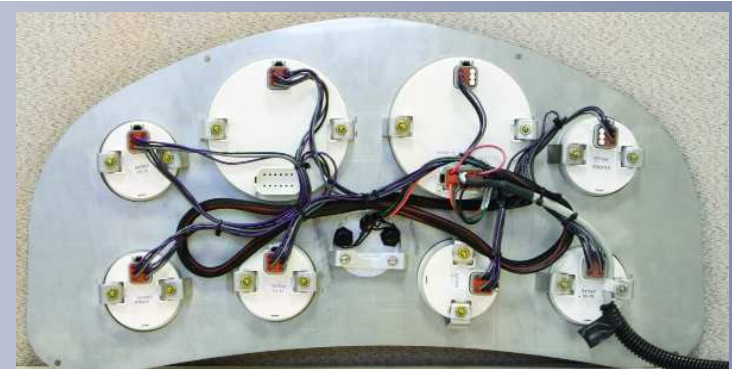
voltmeter 10-16



water pressure 0-30 PSI

Vantage View Slave Gauges

- Slave gauges must be connected to the Master Tachometer via the slave harness daisy chain
- 270 degree sweep with digital stepper motors
- LED warning lights illuminate when programmed alarms are triggered (setup through the Master Tachometer)
- Fluorescent orange pointers
- Back lit with red LED lighting



Visor Rims



Livorsi Visor Rims instantly adds character and dimension to your existing dash. Made of polycarbonate material with a beautiful chrome finish, tough enough to withstand salt water conditions. These rims are made to fit gauges with SAE or low profile rims.

NOTE: Will not work over Mega or Race rims without alterations made by Livorsi Marine, Inc.

- Fits gauges with SAE rim or low profile rims
- Rotate at any angle for the desired look
- Directly attaches to the gauge, screws included
- Corrosion proof PC/ABS construction
- Chrome finish only

Fits gauges with	Part Number
2 1/8" or 2 1/16" cutout	VR218CH
3 3/8" cutout	VR338CH



The visor Rim attaches by slipping the rim from the front of the gauge and slipping the bracket from behind, secure the bracket to the rim with screws and your done.

Bezels

Flat Bezels			
Fits a...	Cutout	Overall	Part Number
ignition switch	3 1/4"	15/16"	FL34 + color
cigarette lighter	7/8"	1 3/8"	FL78 + color
standard gauges	2 1/16"	2 3/4"	FL216 + color
round GPS antenna & recall switch plate	2 1/8"	2 3/4"	FLGPSRS + color
monster gauges	2 5/8"	3 1/4"	FL258 + color
speedo/tach	3 3/8"	4 1/4"	FL338 + color
adapts 3 5/8" or 4" to a 3 3/8" cutout	3 3/8"	4 1/2"	FLGPS + color
liquid speedo	4"	5"	FL400 + color
monster GPS/tach	4 5/8"	5 1/2"	FL458 + color



Flat Bezels

Colors:



Slim Line Bezels			
Fits a...	Cutout	Overall	Part Number
standard gauge	2 1/16"	2 1/2"	FL216S + color
speedo/tach	3 3/8"	3 15/16"	FL338S + color



polish finish

Stainless Steel Flat Bezels			
Fits a...	Cutout	Overall	Part Number
standard gauges	2 1/16"	2 13/16"	FL216SS
monster gauges	2 5/8"	3 3/8"	FL258SS
speedo/tach	3 3/8"	3 3/4"	FL338SS
monster GPS/tach	4 5/8"	5 11/16"	FL458SS



Angled bezels allow for a fish eye view of your gauges, left, right, up or down.



Angled Bezels			
Fits a...	Cutout	Overall	Part Number
standard gauge	2 1/16"	2 3/4"	AG216 + color
monster gauge	2 5/8"	3 1/4"	AG258 + color
speedo/tach	3 3/8"	4 1/4"	AG338 + color
liquid speedo	4"	5"	AG400 + color
monster GPS/tach	4 5/8"	5 1/2"	AG458 + color



Fuel and Water Level Senders

An electronic sender suitable for gas, diesel and water.

- Constructed to meet/exceed all applicable ISO, NMMA, ABYC and USCG standards
- Standard SAE 5 hole pattern
- Constructed of 316 stainless steel
- Fully insulated to protect against voltage inside the tank
- The float is the only moving part of the sensor minimizing mechanical failure

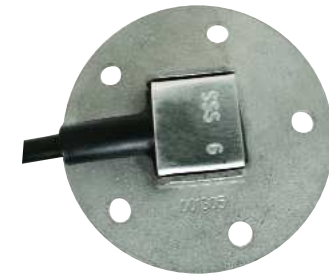
How It Works

Measurement is achieved by a series of reed switches positioned inside the level tube. The float with built in magnets then triggers the reed relays generating a potential - free resistance with an ohm value that increases or decreases.



240-33 ohms Sender Length	Part Number
4 inch	SFW4
5 inch	SFW5
5.5 inch	SFW5.5
6 inch	SFW6
7 inch	SFW7
8 inch	SFW8
9 inch	SFW9
10 inch	SFW10
11 inch	SFW11
12 inch	SFW12
13 inch	SFW13

240-33 ohms Sender Length	Part Number
14 inch	SFW14
16 inch	SFW16
18 inch	SFW18
20 inch	SFW20
22 inch	SFW22
24 inch	SFW24
26 inch	SFW26
28 inch	SFW28
30 inch	SFW30
32 inch	SFW32
34 inch	SFW34
36 inch	SFW36






standard 5 bolt pattern

Other resistance outputs, lengths or senders with a 1 ¼" NPT are available upon request.

NMEA 2000® Harness

Livorsi can supply you with the necessary cables and connectors to expand your NMEA 2000® network. Below is a chart of in-stock parts, for more options please call Livorsi Marine for pricing and availability.

		
single T connector Part Number: 010-11078-00	120 Ohm female terminator Part Number: 010-11081-00	120 Ohm male terminator Part Number:010-11080-00
		
backbone/drop cable 2 ft Part Number: 000-10068-001	single power cable Part Number: 010-11079-00	MercMonitor page 62
		
backbone/drop cable 6 ft Part Number: 010-11076-00	backbone/drop cable 18 ft Part Number: 010-11076-01	backbone/drop cable 30 ft Part Number: 010-11076-02

Mercury In Line Gateways

The new Mercury Gateway converts SmartCraft® engine and system data to NMEA 2000® protocol for use on non-Mercury gauges and displays such as our LED Position Indicators.

Note: Gateway will not provide operation power for devices on the NMEA 2000® network.

Included with Gateway

- Module
- 4 mounting screws
- N2K Tee
- installation instructions



Description	Part Number
single engine gateway	SEGCANP
multi-engine gateway	MEGCANP

Signal	J1939 PGN	Mode
RPM	61444 / 0xF004	TX
Voltage	65271 / 0xFE7	TX
Coolant Temperature	65262 / 0xFEEE	TX
Fuel Level	65276 / 0xFEFC	TX
Fuel Flow	65266 / 0xFE2	TX
Oil Pressure	65263 / 0xFEEF	TX
Boost Pressure	65270 / 0xFE6	TX
Engine Hours	65253 / 0xFEE5	TX
Manufacturer ID	61182 / 0xEEFE	TX
Alarm Data	65226 / 0xFECA	TX

Signal	NMEA2K PGN	Mode
RPM	127498 / 0x1F20A	RX / TX
Coolant Pressure	127489 / 0x1F201	RX / TX
Speed	128259 / 0x1F503	RX / TX
RPM	127488 / 0x1F200	RX / TX
Voltage	127489 / 0x1F201	RX / TX
Coolant Temperature	127489 / 0x1F201	RX / TX
Fuel Pressure	127489 / 0x1F201	RX / TX
Fuel Level	127505 / 0x1F211	RX / TX
Fuel Tank Size	127505 / 0x1F211	RX / TX
Fuel Flow	127489 / 0x1F201	RX / TX
Oil Pressure	127489 / 0x1F201	RX / TX
Oil Temperature	127489 / 0x1F201	RX / TX
Gear Temp	127493 / 0x1F205	RX / TX
Gear Pressure	127493 / 0x1F205	RX / TX
Boost Pressure	127488 / 0x1F200	RX / TX
Trim Position	127488 / 0x1F200	RX / TX
Rudder Angle	127245 / 0x1F10D	RX / TX
Depth	128267 / 0x1F50B	RX / TX
Depth Offset	128267 / 0x1F50B	RX / TX
Sea Water Temp	130310 / 0x1FD06	RX / TX
Engine hours	127489 / 0x1F201	RX / TX
Manufacturer ID	060928 / 0xEE00	RX / TX
Alarm Data	127489 / 0x1F201	RX / TX
Tabs	130576 / 0x1FE10	RX / TX
Battery	127508 / 0x1F214	RX / TX
ISO Acknowledge	059392 / 0x0E800	RX / TX
Course Over Ground	129026 / 0x9F802	RX / TX
Speed Over Ground	129026 / 0x9F802	RX / TX
GPS Position	129025 / 0x1F801	RX / TX
Address Claim	060928 / 0xEE00	RX / TX
Product Info	126996 / 0x1F014	RX / TX

SmartCraft MercMonitor

featuring Mercury® Gateway

MercMonitor featuring the Mercury® Gateway converts SmartCraft® engine and system data to NMEA 2000®/J1939 protocol for use on NMEA 2000®/J1939 multi-function displays and gauges. The ECO-Screen feature constantly monitors engine RPM, boat speed, fuel consumption and engine trim[‡] to automatically calculate and guide you to your best fuel economy settings. No calibration required.



Displays
NMEA 2000®
compatible



Gauges
NMEA 2000®
compatible



Engines
NMEA 2000®
Outboards &
Stern drives



Systems
Trim Tabs &
Depth Sounders



GPS
Chartplotters
Pucks/Receivers

Cutout: 3 3/8"

Overall: 3 3/4"

Merc Monitor Kits		Part Number	Notes:
Data Level 1	Single Engine- Troll Control- NMEA 2000	879337K51	Race Rim sold separately
Data Level 2	Single Engine- RPM SmartTow- NMEA 2000	879338K51	Race Rim included
Data Level 3	Multi Engine- RPM SmartTow- NMEA 2000	879337K52	Race Rim included
Data Level 3	Multi Engine- SmartTow Pro- NMEA 2000	879339K51	Race Rim included
Race Rim for MercMonitor - chrome		MMRRCH	

NMEA 2000® Only Out/In Supported	Data Level
Multiple Tank Levels	2 · 3
Tabs	2 · 3
Depth	2 · 3
Sea Water Temp	2 · 3
Paddle speed	2 · 3
Pitot Speed	2 · 3
Rudder Angle	3
Gear Pressure ⁶	3
Gear Temp ⁶	3
Fuel Pressure	3

⁶ Available on Cummins MerCruiser Diesel Engines
†† Digital Trim sender required for full functionality.

NMEA 2000®/J1939† Out/In Supported	Data Level
RPM	1 · 2 · 3
Voltage	1 · 2 · 3
Oil Pressure	1 · 2 · 3
Coolant Temperature	1 · 2 · 3
Tank Level Fuel	1 · 2 · 3
Trim Position	1 · 2 · 3
Water Pressure	1 · 2 · 3
GPS Speed/COG/ Lat-Lon (in only)	1 · 2 · 3
Check Engine Alarm	1 · 2 · 3
Fuel Flow	2 · 3
Engine Hours	2 · 3
Boost Pressure ⁵	2 · 3
Oil Temperature ⁵	2 · 3

⁵ Available on Mercury Verado
† J1939 limits signals and data levels

Hydraulic Billet Trim Tabs



Available with:

- **Custom Logo**
- **LED Underwater Lights** (4" or 6" lights in white, blue, red or green)
- **9 Powder Coat Colors**



Hydraulic Billet Trim Tabs

Features

- For use on boats 20 - 50 feet
- Mil-Spec hard coat anodized topped with a powder coat finish to prevent corrosion
- Choose between LED electronic position indication (plug and play) or mechanical position indication (uses 33C cables)
- Electronic models are compatible with NMEA 2000® compliant systems and Mercury VesselView®
- The electronic IP68 sensor plugs directly to Livorsi's LED Position Indicator
- Tabs are CNC machined from billet aluminum, no casting
- Bolt patterns include Mercury and a smaller Livorsi bolt pattern for center consoles
- All hinge pins and hardware are stainless steel
- Adjustable transom angles without the use of special tools
- Hydraulic cylinders are designed for 1500 PSI working pressure with dual seals, cylinders may be serviced
- Five anodes for complete saltwater protection
- Available in 11 powder coat colors and private labeling
- Models are available for performance boats, center consoles, cruisers, run-abouts, workboats and military boats



1050 Trim Tab model show here

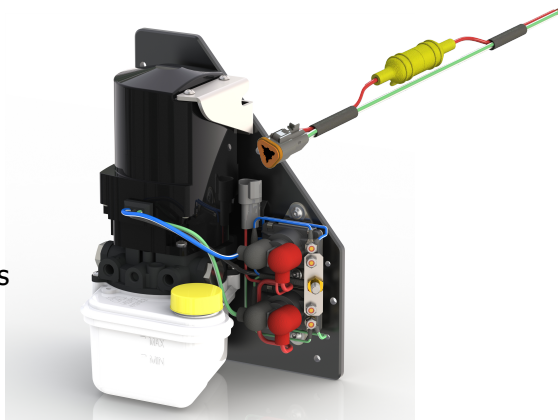
Hydraulic Billet Trim Tabs

Trim Tab Kits include:

- Two billet tabs
- Two pumps
- Mounting hardware
- Harnesses
- Thru hull fittings

Newly designed Parker Pumps
(Made in the U.S.S.)

Compact design to fit small
spaces (8.5"W x 1.5" H)

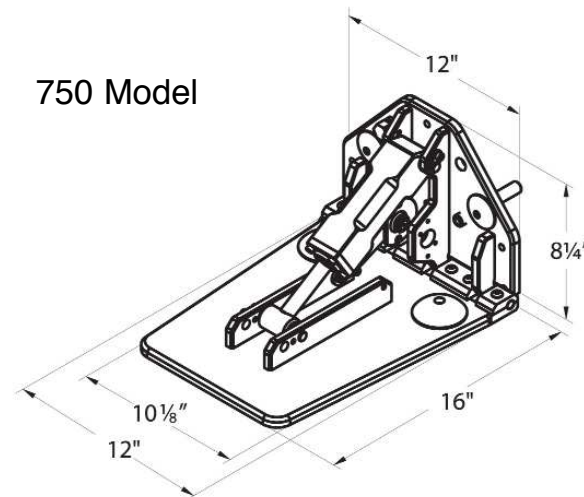


Stainless steel braided hoses are purchased separately. Four hoses are needed for one kit, two per cylinder.

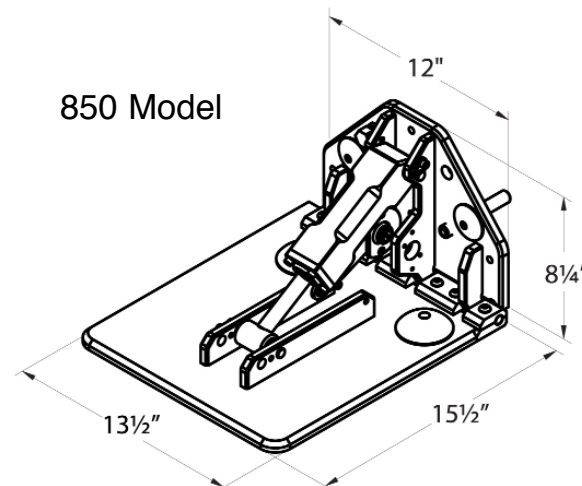
750 Performance Kits	
TTK750ML	Mechanical cable - Livorsi Transom Plate 16X10"
TTK750MM	Mechanical cable - Merc Transom Plate 16X10"
TTK750EL	Electric Trim - Livorsi Transom Plate 16X10"
TTK750EM	Electric Trim - Livorsi Transom Plate 16X10"

850 Military Kits	
TTK850ML	Mechanical cable - Livorsi Transom Plate 16X14"
TTK850EL	Electric Trim - Livorsi Transom Plate 16X14"

750 Model



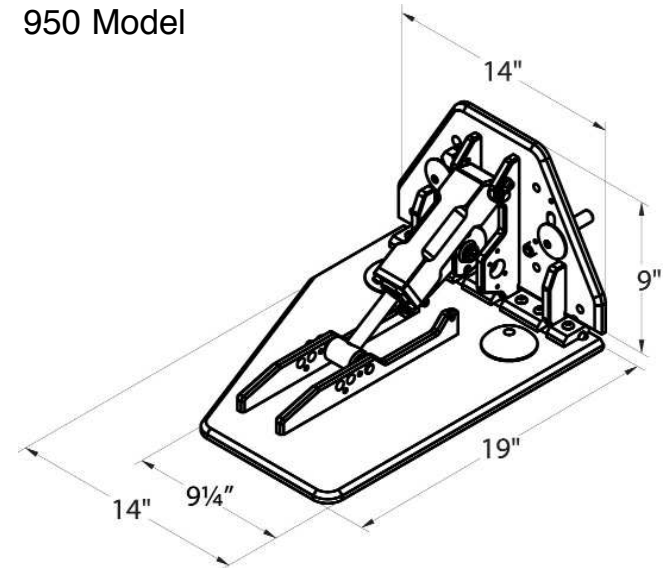
850 Model



Hydraulic Billet Trim Tabs

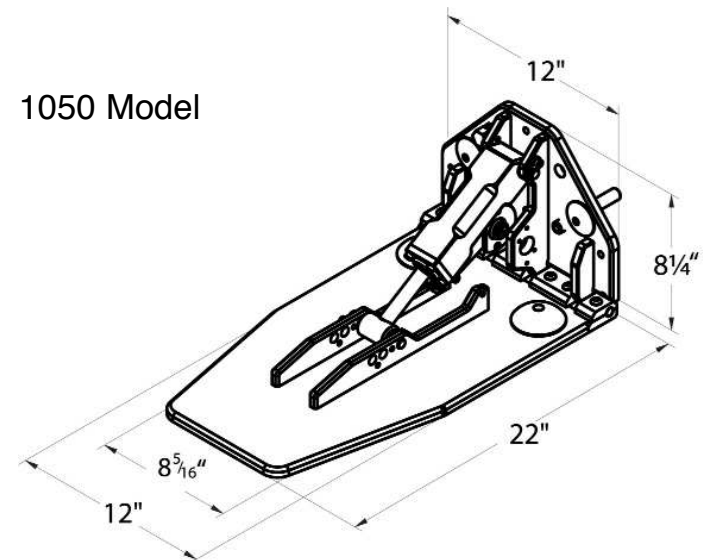
950 Mercury	(Replacement Kits for 280S)
TTK950ML	Mechanical cable - Livorsi Transom Plate 20X9"
TTK950MM	Mechanical cable - Merc Transom Plate 20X9"
TTK950EL	Electric Trim - Livorsi Transom Plate 20X9"
TTK950EM	Electric Trim - Merc Transom Plate 20X9"

950 Model



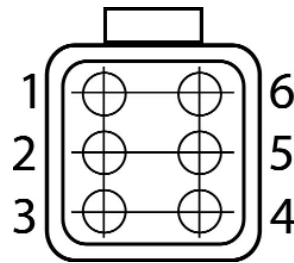
1050 Performance Kits	(Smaller Transom Plate)
TTK1050ML	Mechanical cable - Livorsi Transom Plate 22X10"
TTK1050MM	Mechanical cable - Merc Transom Plate 22X10"
TTK1050EL	Electric Trim - Livorsi Transom Plate 22X10"
TTK1050EM	Electric Trim - Merc Transom Plate 22X10"

1050 Model



Hydraulic Billet Trim Tabs

- Electronic models are compatible with NMEA2000® compliant systems and Mercury VesselView®
- The electronic IP68 sensor plugs directly to Livorsi's LED Position Indicator



Pin Number	Wire Color	Description
1	Red	PPS1 (5V)
2	White	PPS2 (5V)
3	Blue	PPS1 Signal
4	Black	PPS1 Ground
5	Green	PPS2 Ground
6	Tan	PPS2 Signal



Hydraulic Pumps

Pump Assembly Kit 12V Part Number: PAK12V-2

Pump Specifications	
Motor	12 VDC 3-wire reversing continuous ground with thermal breaker
Hydraulic Pump	2 gear drive .0321 CIPR (cubic inches per revolution)
Voltage Rating	12V
Max Pressure Up	1200 PSI
Max Pressure Down	1200 PSI
Solenoid Specifications	
Solenoid type	12V, 65A continuous duty
Special Applications	Marine
Insulated/Ground	Insulated
NO/NC	Normally Open
Circuitry	Single pole, single throw
UL Marine & CE ISO 8846 Marine	N/A
Operating Temperature range	-40° to + 85°C (-40° to + 185°F)
Battery studs	5/16 - 24
Battery stud torque	35 in-lbs max (4.0 Nm)
Contacts	Copper
Coil studs	10 - 32
Coil stud torque	15 in-lbs max (1.7 Nm)

Pump Assembly Kit 24V Part Number: PAK24V

Pump Specifications	
Motor	24 VDC 3-wire reversing continuous ground with thermal breaker
Hydraulic Pump	2 gear drive .0321 CIPR (cubic inches per revolution)
Voltage Rating	24V
Max Pressure Up	1200 PSI
Max Pressure Down	1200 PSI
Solenoid Specifications	
Solenoid type	24V, 65A continuous duty
Special Applications	Marine
Insulated/Ground	Insulated
NO/NC	Normally Open
Circuitry	Single pole, single throw
UL Marine & CE ISO 8846 Marine	Yes
Operating Temperature range	-40° to + 85°C (-40° to + 185°F)
Battery studs	5/16 - 24
Battery stud torque	35 in-lbs max (4.0 Nm)
Contacts	Copper
Coil studs	10 - 32
Coil stud torque	15 in-lbs max (1.7 Nm)

Stainless Steel Braided Hoses

Inverted Flare Hose Ends



Inverted Flare Hose Ends	
Length	Part Number
30 inches	SSBH30IN-1
36 inches	SSBH36IN-1
48 inches	SSBH48IN-1
60 inches	SSBH60IN-1
72 inches	SSBH72IN-1
90 inches	SSBH90IN-1
19 feet	SSBH19FT-1
21 feet	SSBH21FT-1
26 feet	SSBH26FT-1

SAE J514 37° Flare Ends



SAE J514 37° Flare Ends	
Length	Part Number
30 inches	SSBH30IN
34 inches	SSBH34IN
60 inches	SSBH60IN
90 inches	SSBH90IN
19 feet	SSBH19FT
21 feet	SSBH21FT
26 feet	SSBH26FT

Adjustable Position LED Indicators

Displays position for tabs, drives, jackplates, rudder indicator, fuel and water level



Compatible With:

- NMEA 2000® (Rx + Tx) Devices
- J1939 (Rx + Tx) Devices
- Resistive Sensors (ohms)
- SmartCraft® (with Gateway)
- 0-5 Volt Sensors

What sets these displays apart from anything else is the single middle green LED. During calibration, this LED display can be set to indicate 50% of actuator travel, fuel level or whatever you are monitoring.

What makes it so special is that it allows you to establish the optimum running angle - or sweet spot (not at 50%), to dial-in the vessel for optimal running efficiency so the novice boater always runs at the correct trim.

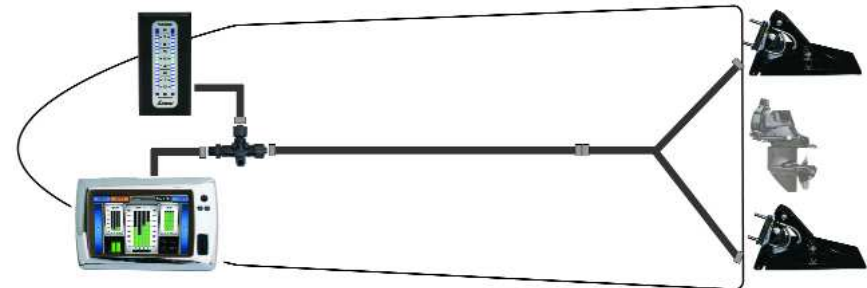
No matter what information you are looking to display (fuel level, drive trim, tab position, etc.), the data is brought into the communication network with plug and play harnessing and is received (Rx) via the network cable to the LED indicator for display.

The LED indicator can also transmit (Tx) this information via CAN bus to other compatible displays such as Garmin, Lowrance or Raymarine via NMEA 2000®, SmartCraft® (with Gateway) or J1939 protocols.

Adjustable Position LED Indicators

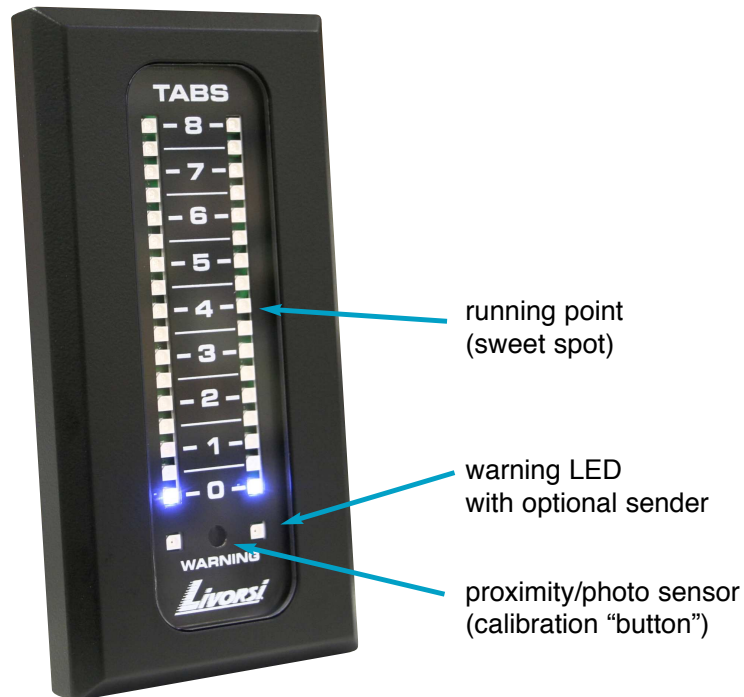


If your boat is already transmitting (Tx) NMEA 2000® data (tabs, drives, fuel level, water level, rudder angle, etc.), simply plug the indicator into the NMEA 2000® backbone to begin displaying the desired feature on the indicator.



Adjustable Position LED Indicators

- Simple plug and play installation, eliminates clumsy cables
- No cables means, no loss of motion
- All electronics are environmentally sealed
- Has the ability to compensate for non-linear tanks giving you accurate readings
- 0-5 volt or resistive type sensors (adjustable)
- 1 to 4 slot configurations, vertical or horizontal



Dimensions

1 or 2 slot indicator: 2 5/8" W x 5 3/16" H overall
requires (2) 1-1/4" cutouts for wiring

3 or 4 slot indicator: 4 1/16" W x 5 7/16" H overall
requires (4) 1-1/4" cutouts for wiring

Power Supply

Input supply voltage of 12 VDC with reverse polarity protection

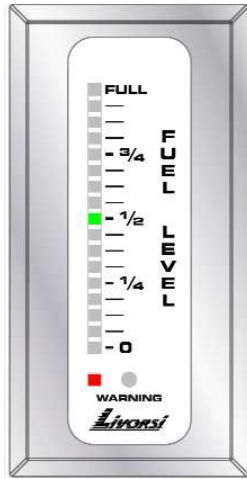
Calibration

Calibration is performed via the proximity/photo sensor on the front of the indicator

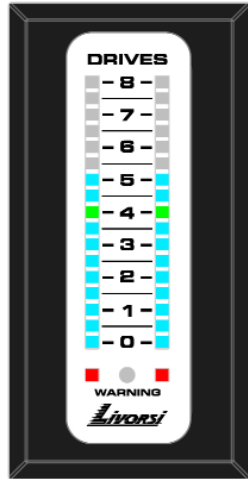
Inputs may be calibrated using either a 2 or 3 point method:
minimum / maximum – or minimum / maximum / center
running point (green LED)

This indicator has the ability to compensate for non-linear tanks (fuel or water), giving you accurate readings

Adjustable Position LED Indicators



pointer style



fill bar

LED Lighting Options Include:

Pointer Style-
one LED pointer displays your position/level

Fill Bar type-
multiple LEDs lit in a row, beginning from the top or bottom

The green LED in the center may be calibrated to show optimal level position for Drives, Tabs, etc.

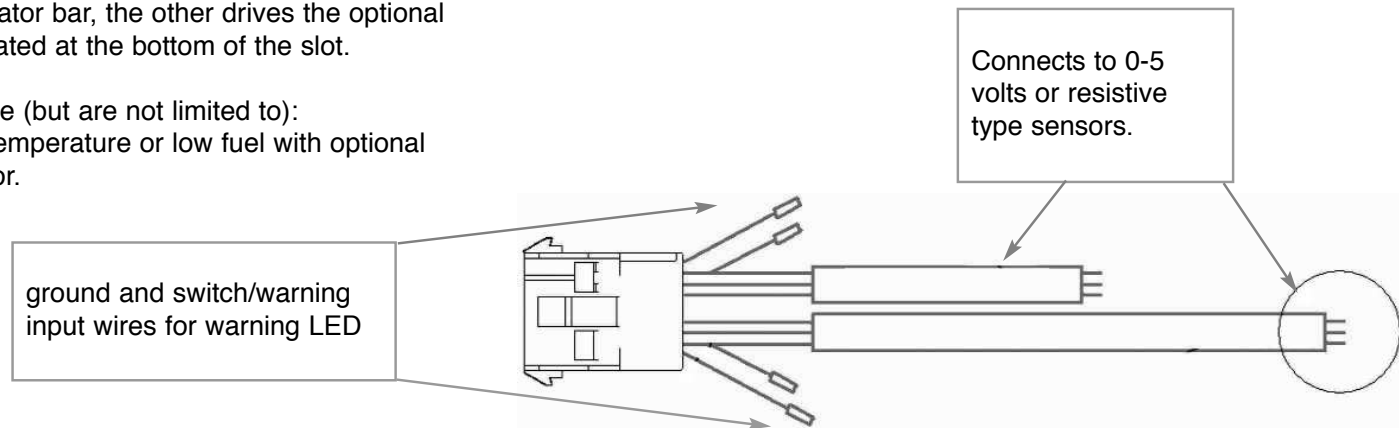
The red LED at the bottom of the indicator can be used as a warning light

Built-in light sensor automatically adjusts to ambient light with 250 brightness intensity levels

Analog Inputs

Each slot accommodates two analog inputs. One analog input drives the indicator bar, the other drives the optional red warning LED located at the bottom of the slot.

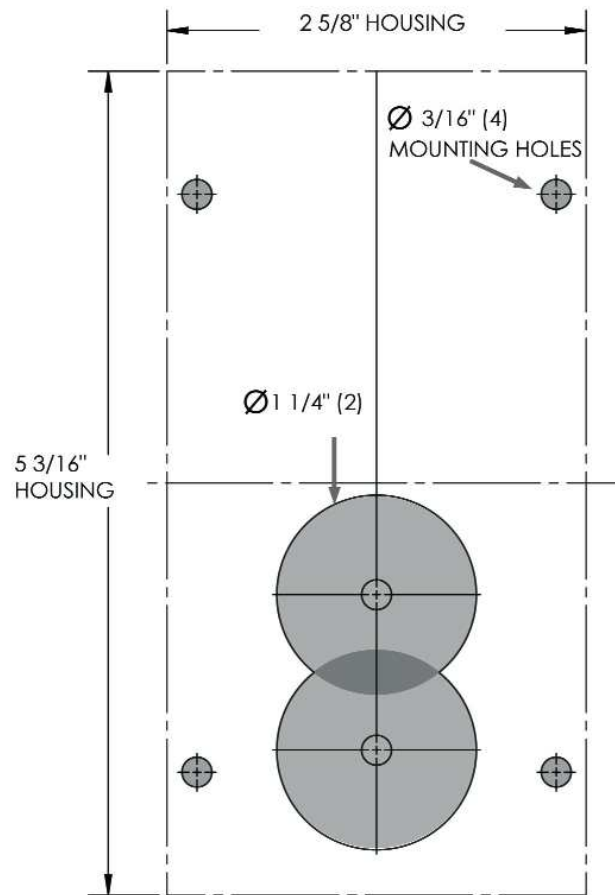
Warnings may include (but are not limited to):
Oil pressure, water temperature or low fuel with optional switch to close sensor.



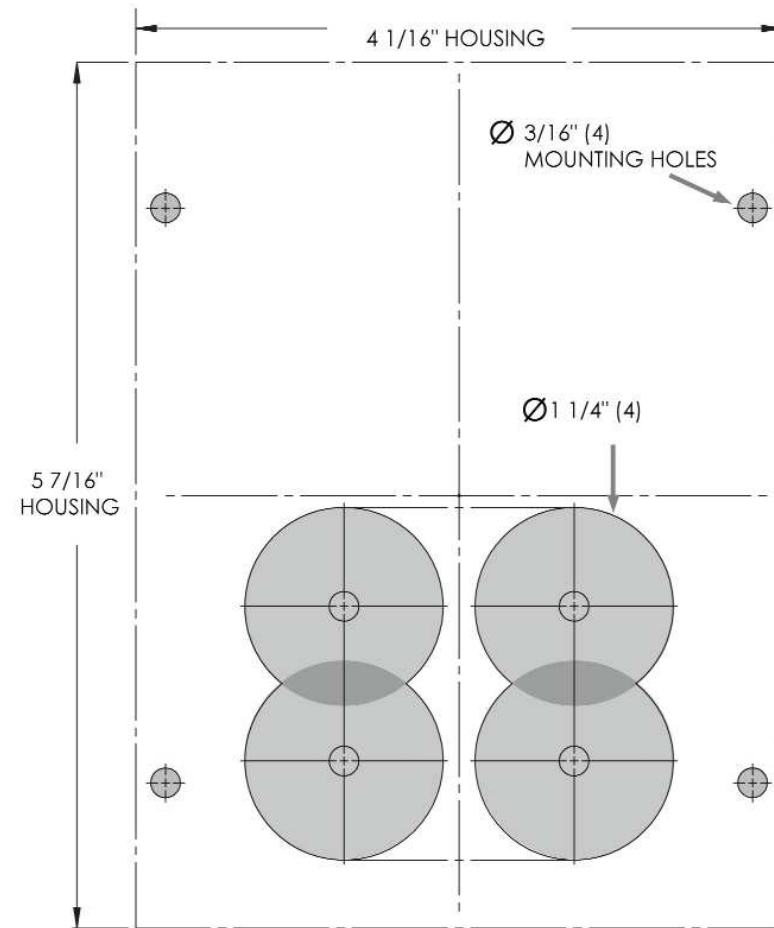
Adjustable Position LED Indicators

Dimensions

1 & 2 slot



3 & 4 slot



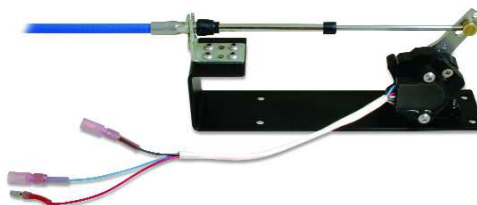
Adjustable Position LED Indicators

Voltage or Resistance Sensors

Tabs, drives, jack plates, fuel level, water level and rudder indicator applications must have a resistance or voltage type sensor present for this system to operate. Below are some of the options.

Mechanical to Electric Converter 0-5 Volts
(cable not included)

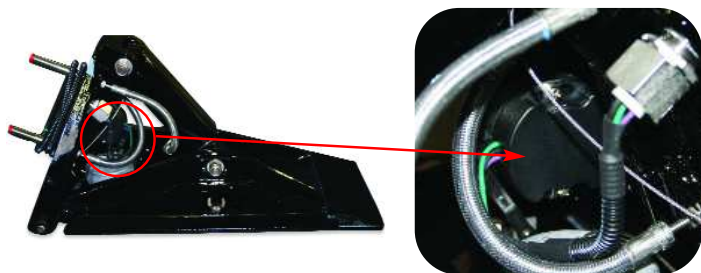
Converts the mechanical signal to an electric signal. Bolts on the inside of the transom with a short cable to the unit.



33 Series Cables

3 ft	CA3
4 ft	CA4
5 ft	CA5
6 ft	CA6

Mounted pot on Mercury trim tab 0-5 Volts



Tabs 2010 or newer should contain the 5 volt sensor
Tabs 2006-2010 model Number's 280S and 380S should have a bracket to add the sensor

Fuel or water level resistive type sensors 240/33 ohms



NOTE: Must know at time of placing your order, if sensor is a 2 or 3 wire sensor

Retrofitted tabs
Mercury pot 0-5 Volts

Please contact your nearest Mercury dealer.



Mercury drive pot 0-5 Volts
Part Number: 863187A1


Please contact your nearest Mercury dealer.



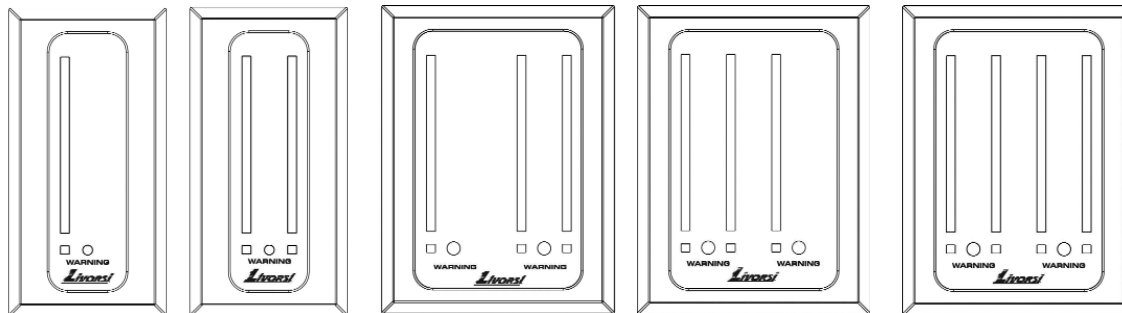
Adjustable Position LED Indicators

Building Your Indicator Part Number

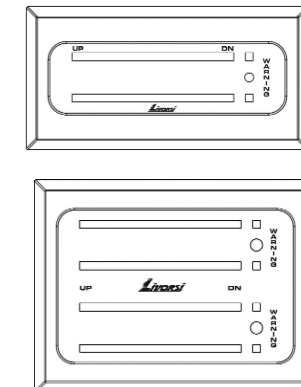
NOTE: A 50% restocking fee will be charged for all returned Adjustable Position LED Indicators.

	FIRST ITEM DATA	SECOND ITEM DATA	CARD COLOR	FRAME COLOR	ORIENTATION	
	1 or 2 slot	3 or 4 slot				
Part Number Example	ALEDI	2D	2T	PL	CH	V
	1 Drive = 1D 2 Drives = 2D 1 Tab = 1T 2 Tabs = 2T 1 Fuel = 1F 2 Fuel = 2F 1 Jack Plate = 1J 2 Jack Plate = 2J 1 Rudder = 1R 2 Rudder = 2R	1 Drive = 1D 2 Drives = 2D 3 Drives = 3D 4 Drives = 4D 1 Tab = 1T 2 Tabs = 2T 3 Tabs = 3T 4 Tabs = 4T 1 Fuel = 1F 2 Fuel = 2F 1 Jack Plate = 1J 2 Jack Plate = 2J	Black = BK Carbon Fiber = CF Platinum = PL Silver Carbon Fiber = SF White = W	Black = BK Blue = BL Chrome = CH Lime = L Mustard = MU Orange = O Platinum = PL Purple = PU Red = R White = W	Vertical = V Horizontal = H	

Vertical Orientation Examples



Horizontal Orientation Examples



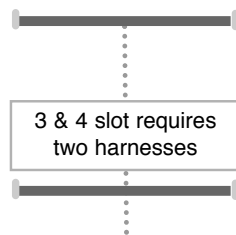
Adjustable Position LED Indicators

1
Indicator



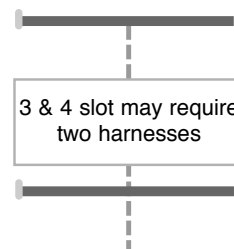
4 slot example:

2
Main Harness



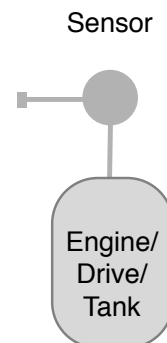
LEDHSA20

3
Jumper Harness



LEDEXT10

Parts To Order



Harness Options		Part Number
	Main Harness to Jumper Harness	
2	a Main Harness 20 feet	LEDHSA20
	b Main Harness 25 feet	LEDHSA25
	c Main Harness 30 feet	LEDHSA30
	d Main Harness 40 feet	LEDHSA40
	Jumper Harness to Sensor Input	
3	a Tab/Drive/Fuel Jumper Single 5 feet	LEDHEXTS
	b Tabs/Drives/Fuel Jumper Dual 10 feet	LEDHEXT10
	c Tabs/Drives/Fuel Jumper Dual 15 feet	LEDHEXT15
	d Mercury SmartCraft® Drive Jumper Single (Y Cable) 5 feet	LEDHYS
	e Mercury SmartCraft® Drive Jumper Dual (Y Cable) 5 feet	LEDHYD5
	f Mercury SmartCraft® Drive Jumper Dual (Y Cable) 10 feet	LEDHYD10
	g Mercury SmartCraft® Drive Jumper Dual (Y Cable) 15 feet	LEDHYD15
	Mechanical to Electric Converter 0-5 Volts	call for part number

Hatch Actuators

- Safe working load limit of 400lbs.
- Heavy duty sealed ball bearing motor allows for locking of hatches, so it won't open at high speeds
- Marine grade stainless steel housing
- Lifts 2X as fast and has 2X the power of other electric actuators
- Cleaner and more cost-effective alternative to hydraulic and pneumatic models
- Provides consistent performance throughout its lifetime
- 12 VDC



Description	Closed	Open	Part Number
4" throw	10.32"	14.32"	SSA4
8 " throw	14.32"	22.32"	SSA8
12" throw	18.32"	30.32"	SSA12
16" throw	22.32"	38.32"	SSA16
18" throw	24.32"	42.32"	SSA18
24" throw	30.32"	54.32"	SSA24



Quick Release Pin

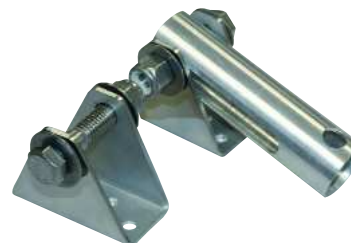
- stainless steel & aluminum

Part Number	HAQRP
-------------	-------

aluminum adjustable bracket

Brackets can be sold separately. Washers and bolts not included.

bracket	HAB
adjustable bracket	HABT



stainless steel bracket

Mounting Kit

Kit includes:

- bracket
- sleeve
- washers & bolts

Part Number	HAMK
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Mechanical Indicators

Ultra Thin

Livorsi indicators feature a no-slack spring load assist, eliminating slack in the cable giving you a faster indication of your drives and tabs.

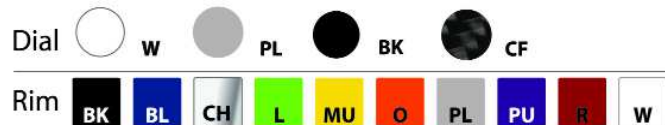
- Dash mounted indicator
- Fluorescent red pointers
- Aluminum and composite construction
- Adaptable to any actuator with 3 1/4" throw

Set Back Kit

- Allows switches to be mounted at cable entry area on your dash

Indicators w/ Fluorescent Pointers		
		Part Numbers
Number of drives	Number of tabs	
1 drive	2 tabs	UMI1D2T + card + frame color
2 drives	2 tabs	UMI2D2T + card + frame color
Specify: direction of cable entry, horizontal or vertical layout		

Ultra Thin face dimensions	
3 or 4 slot	3 3/4" W x 5" H



ultra thin
UMI2D2TBKBK
horizontal layout, right entry
standard pointers

Indicator Parts	
Description	Part Number
Indicator Cards	
3 slot	UIC3 + color
4 slot	UIC4 + color
Frames	
3 or 4	UIF34 + color
Windows	
3, 4 or 5 slot	IW34
Pointer Kit with Springs	
2 slot	IPK2
4 slot	IKP4
Set Back Kit	
2 inches set back	SBK

Mechanical Indicators

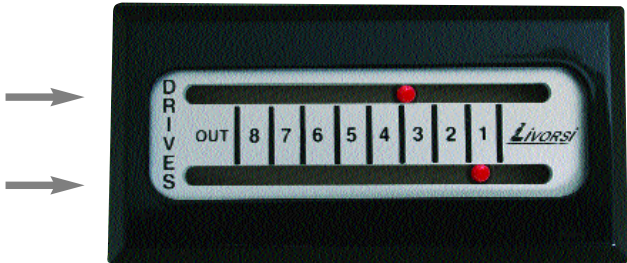
Standard Size

- Dash mount indicator
- Fluorescent red pointers
- Aluminum and composite construction
- Adaptable to any actuator with 3 1/4" throw

Set Back Kit

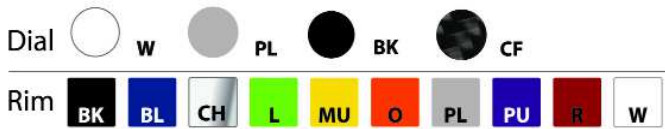
- Allows switches to be mounted at cable entry area on your dash

standard
MI2DPLBK
horizontal layout, left entry
standard pointers



Indicators w/ Fluorescent Pointers		
Number of drives	Number of tabs	Part Number
0 drives	2 tabs	MI2T + card + frame color
1 drives	0 tabs	MI1D + card + frame color
1 drives	2 tabs	MI1D2T + card + frame color
2 drives	0 tabs	MI2D + card + frame color
2 drives	2 tabs	MI2D2T + card + frame color
3 drives	0 tabs	MI3D + card + frame color
3 drives	2 tabs	MI3D2T + card + frame color
Specify: direction of cable entry, horizontal or vertical layout		

Standard size dimensions	
1 or 2 slot	2 1/2" W x 5" H
3, 4 or 5 slot	5" W x 5" H



Indicator Parts	
Description	Part Number
Indicator Cards	
1 slot	1SIC + color
2 slot	2SIC + color
3 slot	3SIC + color
4 slot	4SIC + color
5 slot	5SIC + color
Frames	
1 or 2 slot	IF12 + color
3, 4 or 5 slot	IF345 + color
Windows	
1 or 2 slot	IW12
3, 4 or 5 slot	IW345
Pointer Kit with Springs	
2 slot	IPK2
4 slot	IPK4
5 slot	IPK5
Set Back Kit	
2 inches set back	SBK

Cable Thru Hull Fittings

for 33 C Series Cables

Description	Part Number
stainless steel 90°	THF
stainless steel 45°	THA
solid billet stainless steel 90°	THFB
solid billet stainless steel 45°	THAB

THF



THFB



THA



THAB



Steering Wheels

Momo Budelli - MBSWP

- Leather like grips
- Polished spokes



- 13.5" diameter
- 6 bolt pattern
- 10-32 thread pitch

Kit Includes:

- 2 1/4" black hub
- Center cap
- Mounting screws

Momo Linosa - MLSW

- Brushed spokes
- Chrome accents



Gussi Steering Wheels

- polished aluminum spokes with tear drop design
- black urethane grips
- diameter: 13.5"
- available in blue, red, yellow and silver
- fits 3/4" rounded shaft with keys



blue wheel	GWASBL
silver wheel	GWASS
yellow wheel	GWASY
red wheel	GWASR



Part Number: GWSSFK

- stainless steel polish finish
- stainless steel spokes with tear drop design
- Stainless steel speed knob
- diameter: 13.5 "
- fits 3/4" rounded shaft with keys



Gussi Steering Wheels

Part Number: GWSSK

- stainless steel polish finish
- stainless steel spokes with tear drop design
- Stainless steel speed knob with leather like accent
- diameter: 13.5 "
- fits 3/4" rounded shaft with keys



Part Number: GWBAS

- anodized aluminum spokes
- black anodized hub
- black urethane grips
- diameter: 13.5"
- fits 3/4" rounded shaft with keys



Gussi Steering Wheels



GWSSSFL

- solid cast stainless steel spokes
- wrapped with black marine leather or marine carbon fiber urethane
- stainless steel center pad
- diameter: 13.5"
- fits 3/4" rounded shaft with keys



GWSSBKL



Isotta Steering Wheels



Isotta Carlotta

- 6 bolt pattern
- 10-32 thread pitch
- 13.5" diameter
- Black wheel is wrapped in genuine leather

Kit Includes:

- Hub
- Center cap
- Mounting screws



black	ISWKCBK
silver	ISWKCSF

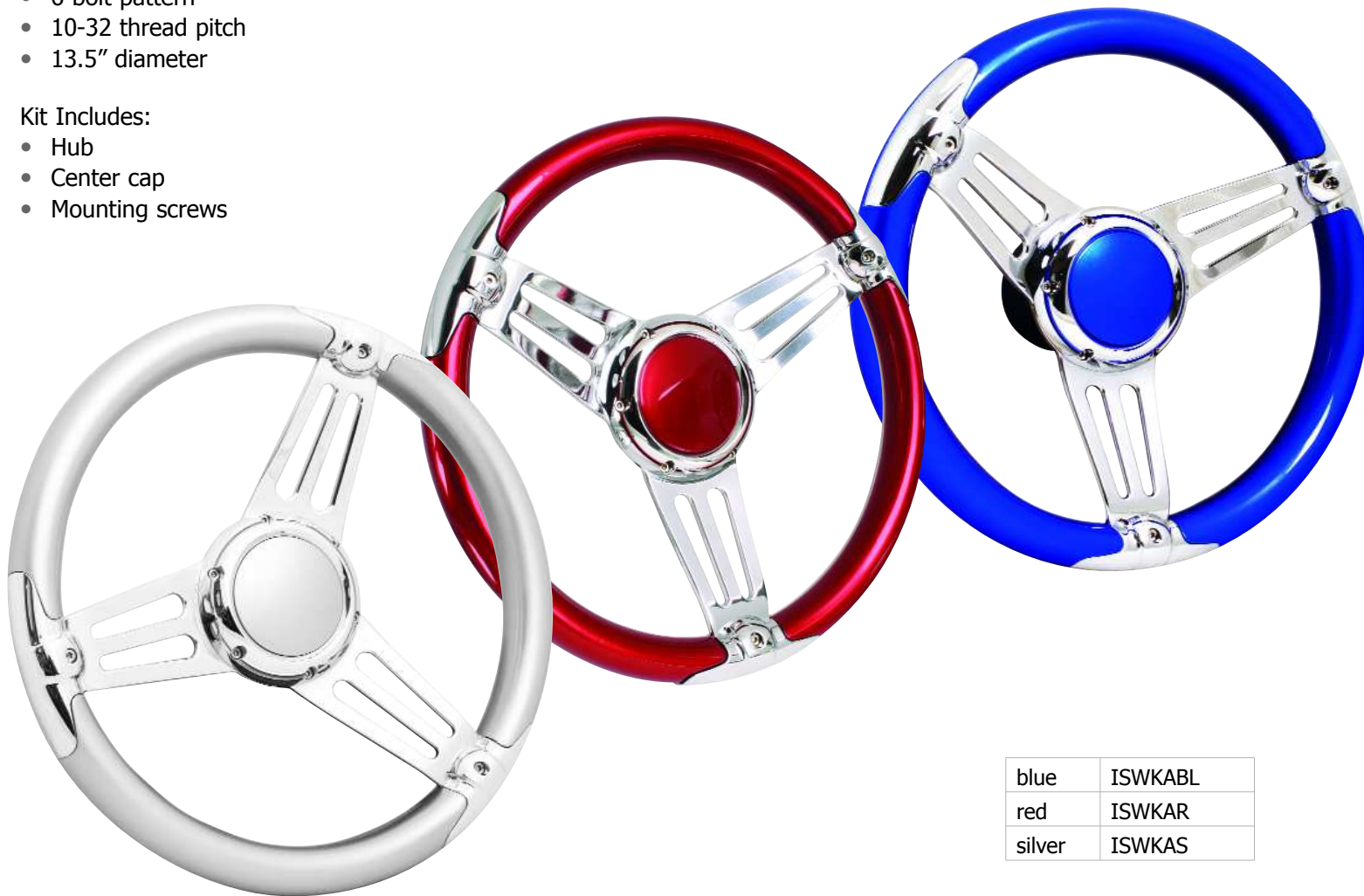
Isotta Steering Wheels

Isotta Aria (**DISCONTINUED**)

- 6 bolt pattern
- 10-32 thread pitch
- 13.5" diameter

Kit Includes:

- Hub
- Center cap
- Mounting screws



blue	ISWKABL
red	ISWKAR
silver	ISWKAS

Isotta Steering Wheels

Carbon Fiber **(DISCONTINUED)**

Part Number: ISWK13CFBK

- brushed spokes
- carbon fiber pattern
- leather-like grips and center cap
- diameter: 13.5"



Hub Adapter

- For use with Isotta or Momo steering wheels
- 3" deep
- powder coat finish

Part Number	HA + color
-------------	------------

Colors:



Cleats

Mushroom Cleat

- Secure your fender lines to these mushroom cleats
- For fresh water or salt water conditions
- Easy installation, requires 3/4" cutout, 2" overall
- Stainless steel with a polished finish

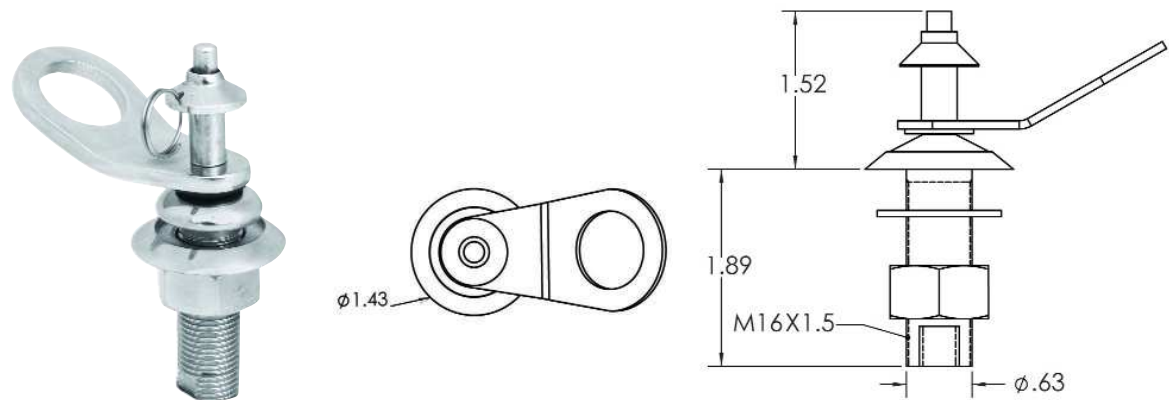
Description	Part Number
mushroom cleat	MC



Quick Release Fender Cleat

- Quick release pin for fenders
- Not intended for mooring
- Made of 316 stainless steel
- 1.43" base

Description	Part Number
fender cleat	QPC



Pull Up Cleats

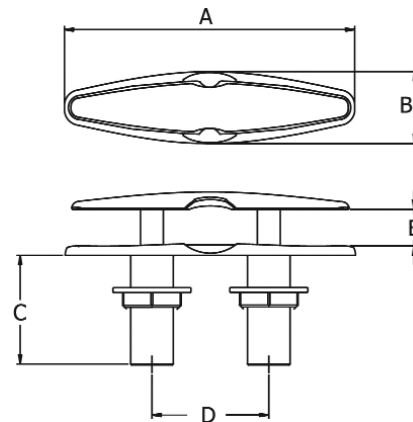
Fender Lines and Dock Lines

- Oversized loops
- Made of water resistant polypropylene
- Will not mildew
- Extremely flexible and resists knotting

Description		Part Number
Fender Lines 1/2" thick	7 feet long	FL127 + color
Dock Lines		
1/2" thick	15 feet long	DL1215 + color
1/2" thick	20 feet long	DL1220 + color
5/8" thick	25 feet long	DL5825 + color
5/8" thick	30 feet long	DL5830 + color



- Sleek design is easy to install and eliminates the need for drainage cups and hoses
- Mounded base design allows water to run off the cleat
- Made of marine grade 316 stainless steel for strength
- Polished finish for a long lasting shine



Part Number	PUC4	PUC6	PUC8
Weight	.8 lbs	1.2 lbs	2.56 lbs
A - Length	4.5"	6"	8"
B - Width	1.15"	1.5"	2"
C - Depth	2"	2.3"	3.1"
D - Clearance	.75"	1"	1.25"
E - Leg Distance	1.8"	2.4"	3.2"
Hole Size	3/4"	7/8"	1"
Max Line Size	1/2" diam.	3/4" diam.	1" diam.
Thread Size	3/4 - 16	7/8 - 14	1 1/2 - 14

Switches



Black & White Rocker Switches

- dust & moisture protected
- snap bracket mounting hole
- 20 amps at 12 VDC
- 1/4" push-on connectors
- 83" x 1.450" cutout
- available in black (BK) or white (W)

Single Pole- Lighted	
on/off	RSSNFL + color
on/off/on	RSSNFNL + color
Single Pole- Non Lighted	
mom on/off	RSSMF + color
mom on/off/mom on	RSSMFM + color

Double Pole	
on/on- non lighted white	RSDNNW + color
on/off- lighted	RSDNFL + color
on/off/on- lighted	RSDNFNL + color
mom on/off/mom on -non lighted	RSDMFM + color

Switch Covers Only	
no light	SCNL + color
1 light	SC1L + color
2 lights	SC2L + color
Cover Removal Tool	SCRTL



Mounting Modules

for Black & White Rocker Switches

- snap together
- available in black only

Mounting Modules	
end	EMM
center	CMM
plug	MMP



Military Rocker Switches

- military type specs
- environmentally sealed
- 20 amps at 28 VDC
- .94" X 1.51" cutout

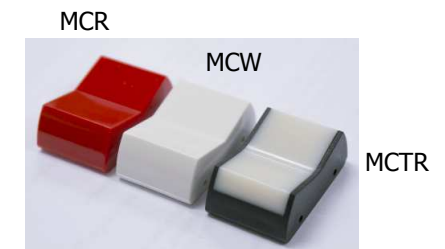
single pole	
mom on/off/mom on	MRSSMFM + color
double pole	
mom on/off/mom on	MRSDMFM + color
military cover only	MC + color
covers available: red, white or translucent	



Military Toggle Switches

- military type specs
- environmentally sealed
- 20 amps at 28 VDC
- 1/2" cutout
- screw terminals
- lift / lock lever

Single Pole	
on/off	MTSSNF
on/off/on	MTSSNFN
mom on/off	MTSSMF
Double Pole	
on/off	MTSDNF



Switches

Toggle Switches

- nickel plated brass
- 1/2" cutout
- 25 amps at 12 VDC
- optional colored rubber boots



Description	Part Number
on/off	TSNF
on/off/on	TSNFN
mom on/off	TSMF
mom on/off/mom on	TSMFM

rubber boot	TSRB + color
boots available in: yellow, white, blue, purple, red, orange or black	

Toggle Switch Cover

red only	TSC
----------	-----

Circuit Breaker Toggle Switches

- requires 1/2" cutout



Description	Part Number
5 amp	TBS5
10 amp	TBS10
15 amp	TBS15
20 amp	TBS20
30 amp	TBS30
Boots	
boot- white	TBSBBK
boot- black	TBSBW

Push Button Circuit Breaker

- 3/8" cutout
- clear boot sold separately



Description	Part Number
10 amp	PBCB10
15 amp	PBCB15
20 amp	PBCB20
boot only	PBBCL

Xtreme Nut & Boot System



for Push Button
Circuit Breakers

- 3/8" threaded neck
- sold by the pack

pack includes:
- 6 clear boots, 6 nuts,
seals & wrench

XCBNB + color



for Circuit Breaker
Toggle Switches

- 1/2-32" threaded neck
- sold by the pack

pack includes:
- 6 black boots, 6 white
boots, 6 nuts, seals &
wrench

XCBTSNB + color



for Toggle Switches

- 15/32" threaded neck
- sold by the pack

pack includes:
- 6 black boots, 6 white
boots, 6 nuts, seals &
wrench

XTNB + color

Underwater LED Lighting

These rugged lights beautifully light up the water around you creating a stunning aura; they have even been known to attract sea life. For use on boats and docks.

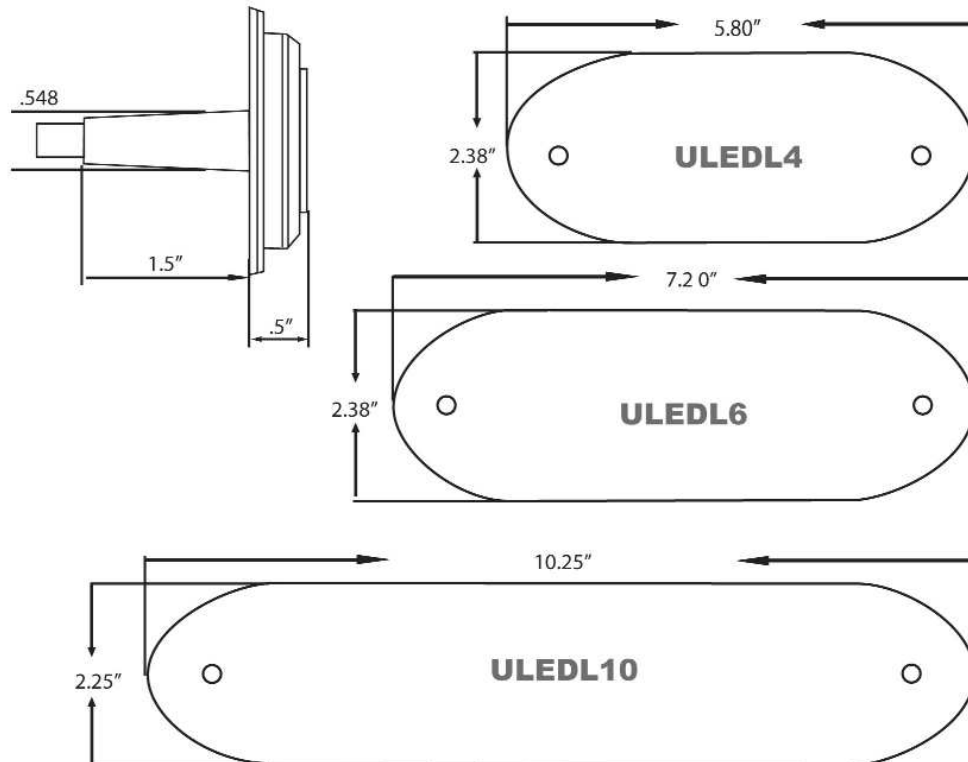
LED's are designed to have a long life span and these provide over 40,000 hours of light. Built with internal self protection circuitry, these lights will not burn you or your gel coat. This product uses water to cool, but are engineered to and tested to run continuously and safely out of the water. Lights will automatically turn off when it reaches its max temperature and then automatically turn back on after it cools.

LED Features:

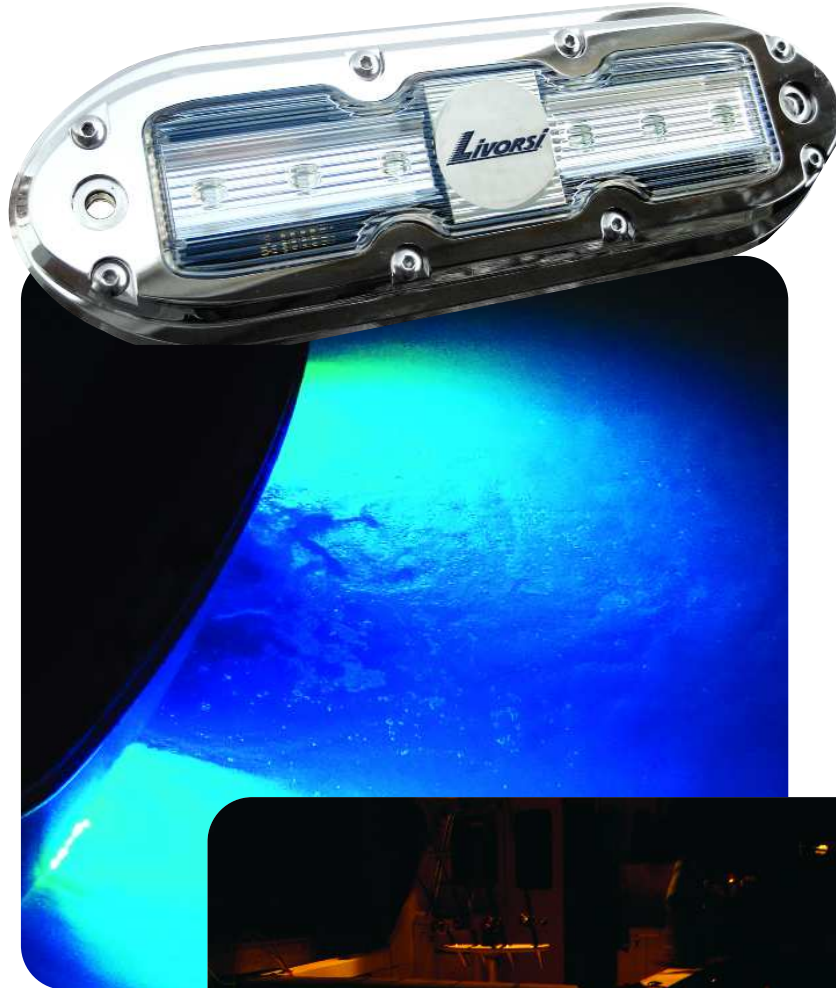
- High intensity LED lighting
- Surface mount - no major hull penetration
- Fully Submersible - water cooling required
- 316 stainless steel with polycarbonate lenses
- Long life- LED lamp life over 40000 hours

- Operating voltage 9 to 30 volts DC - brightness does not change
- Standard wire length - 20 feet
- Internal digital switching power supply
- Self contained, no external driver to install
- Rugged design

- Low power consumption
- Internal surge suppression
- Internal temperature protection



Underwater LED Lighting



- W**
- BL**
- R**
- UB**
- G**

Number of LED Lights	4	6	10
LED Color			
white	ULEDL4W	ULEDL6W	ULEDL10W
blue	ULEDL4BL	ULEDL6BL	ULEDL10BL
red	ULEDL4R	ULEDL6R	ULEDL10R
ultra blue	ULEDL4UB	ULEDL6UB	ULEDL10UB
green	ULEDL4G	ULEDL6G	ULEDL10G

Number of LED Lights	4	6	10
Specifications			
Watts	17	25	42
Amps	@12v:1.4	@12v:2.1	@ 12v:3.5
Height	2.375"	2.375"	2.25"
Width	5.8"	7.2"	10.25"
Deep	2"	2"	2"
Lumen Output White only	1000	1500	2500



LED Navigation Lights

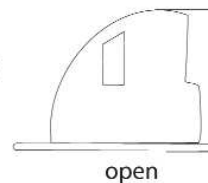
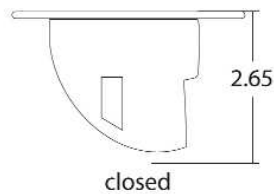
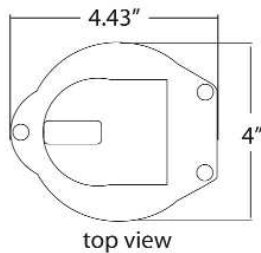


shown closed
with optional cup

Pop Up LED Bow Light

- Port and starboard light in one housing
- Marine grade 316 stainless steel
- Folds down flush when closed
- USCG approved for 2 nautical miles
- LED lights stay cool to the touch
- Optional cup for water run-off
- Light with cup measures 3 1/4" deep
- Light has 3 1/2" diameter cutout

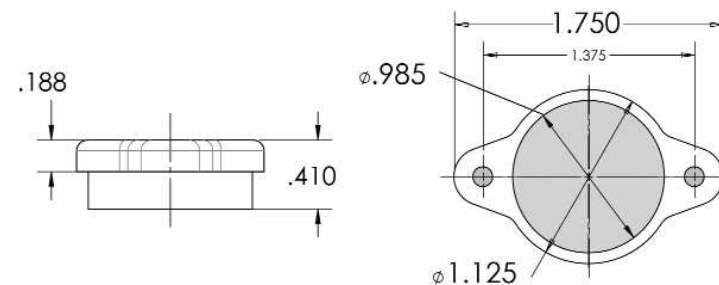
Description	Part Number
bow light	LEDPUBL
water run off cup	LEDPUBLWC



Flange Mount LED Lighting

- Not certified for use as navigation lights
- Housing is machined from billet aluminum
- Environmentally sealed
- Bright LED can illuminate engine compartments

Description	Part Number
red	LEDR
green	LEDG
white	LEDW

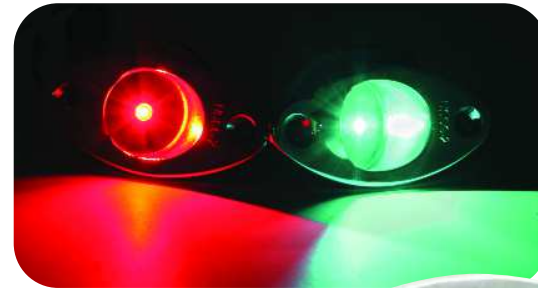


LED Navigation Lights

These Livorsi LED nav lights only consume 1/10th of an amp at 14 volts. This means a longer life and less rigging time replacing lights. These lights are to be used on any vessel up to 65 feet and have a visibility of 2 nautical miles.

Designed to be mounted on a vertical surface, to allow the light pattern to be unobstructed from view.

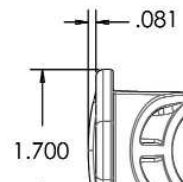
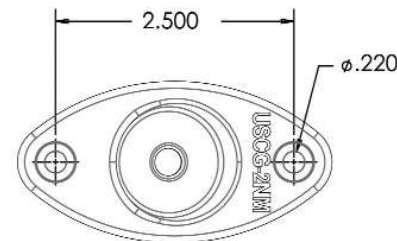
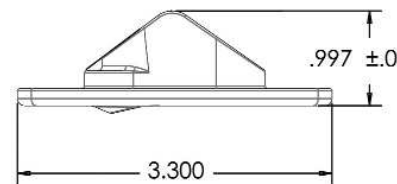
- Visible for 2 nautical miles
- For use on boats up to 65 feet
- Marine grade 316 stainless steel
- Available for 12 or 24 volt systems
- Completely waterproof, environmentally sealed
- NMMA accepted
- USCG approved for 2 nautical miles
- Meets ABYC standards



Description	Part Number
port - red	LEDNL2R
starboard - green	LEDNL2G
adapter plate	LEDNLAP

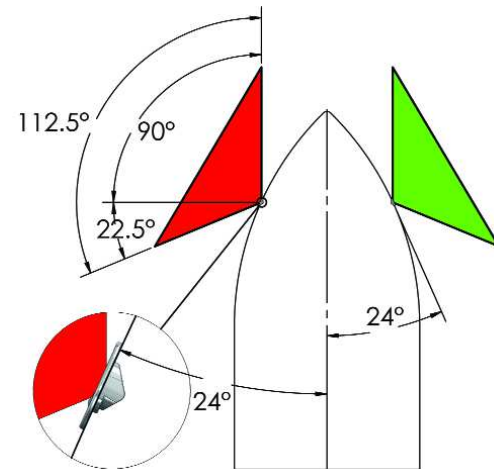


LEDNLAP
8" L x 2 1/4" W x 1/16" thick



ABYC Section A-16: The starboard sidelight showing green, and the port sidelight showing red, from dead ahead to 22.5° abaft the beam (90° + 22.5° + 112.5°) on their respective sides.

Mounting angle for navigation lights is 24° relative to centerline of boat.



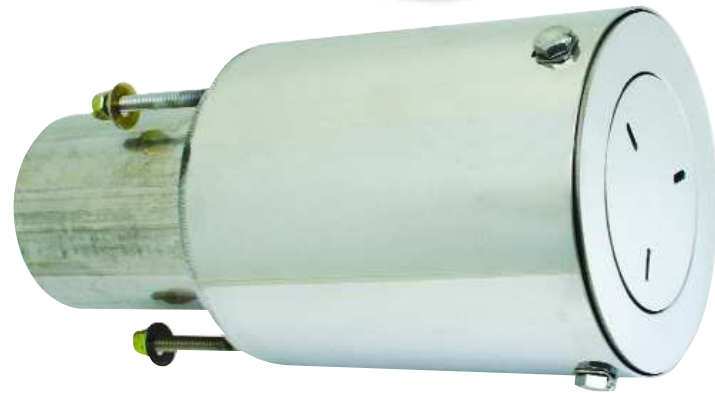
CMI's Sound Elimination Mufflers

High Performance

CMI Sound Elimination Systems mufflers offer proven sound reduction technology that enables boaters to operate their performance boats in areas where sound emissions are restricted. This system should reduce sound emissions to levels as low as 85 decibels (dB) in many applications, which is below most sound emission regulations. The mufflers are engineered to reduce sound without restricting the exhaust or creating unwanted backpressure, which can inhibit the engine from reaching peak performance power.

- Mufflers can be installed on any exhaust system with tailpipes ranging from four to six-inches in diameter, which covers the full range of inboard or stern drive-powered recreational and performance boat applications up to 1200 horse power.
- CMI Sound Elimination Systems mufflers are made from 304 series stainless steel, and have fewer moving parts than competitive models to ensure long-lasting durability and reliability for nearly any application.

Clamp-On



Transom Mount

Clamp On High Performance

Figure	Description	Part Number
A	4" x 5" under 600 HP	SEMSCHP4
B	4.5" x 5" under 600 HP	SEMSCHP4.5
C	4" X 6" over 600 HP	SEMSCHP4X6
D	4.5" X 6" over 600 HP	SEMSCHP4.5X6
E	5" X 6" all HP	SEMSCHP5X6

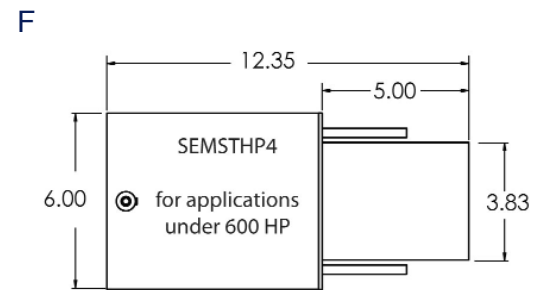
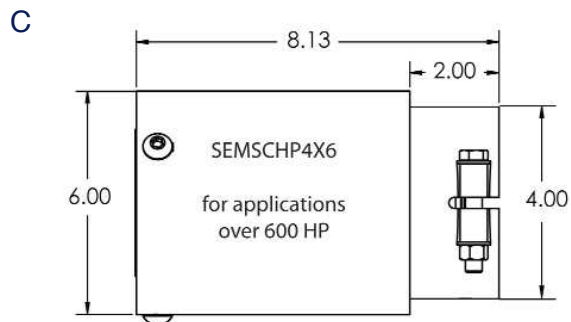
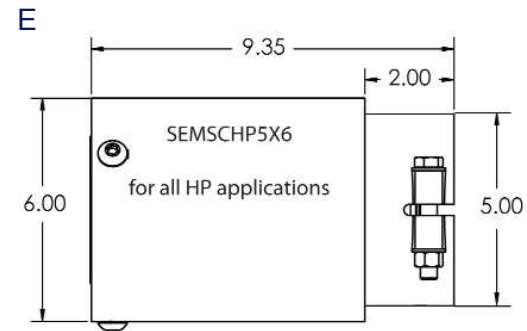
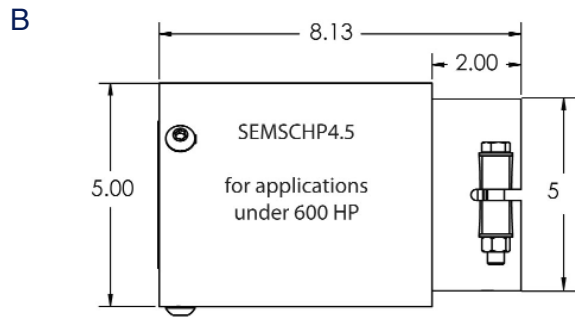
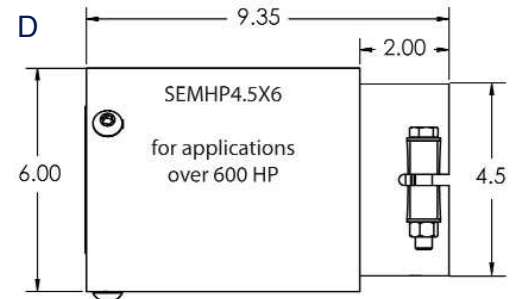
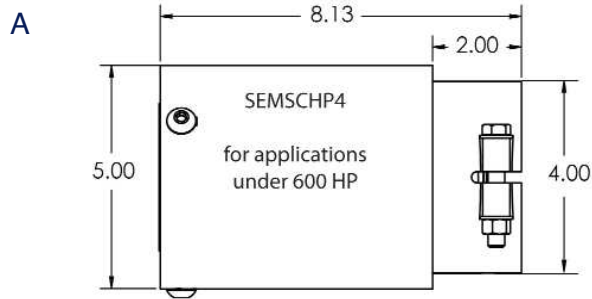
Transom Mount High Performance

Figure	Description	Part Number
F	4" under 600 HP	SEMSTHP4

See diagrams on the back of this page to find the right muffler for your application.

CMI's Sound Elimination Mufflers

High Performance



Drive Showers



Ultimate Bravo Drive Shower

- Mounts to the drive's tilt ram
- 15 dump ports target sides & back of the drive
- Multiport system distributes continuous cool water
- Flow to top of the stern drive
- Lowers oil & bearing temperatures by 60°
- Fits all Bravo drives including: Imco & Latham steering that mounts on back of the drive

Part Number	BDSU
-------------	------



Bravo Drive Cooling Shower

- Modern sleek fitted shower
- Coupled with a high volume pickup
- #10 stainless steel braided hose

Fits the following Drives	
X1, X2, X3	
XR/XZ	
XZ1	XZ1 w/ Intergrated top
XR	XR w/ Intergrated top
XR3	XR3 w/ Intergrated top
XR Sportmaster	XR Sportmaster w/ intergrated top

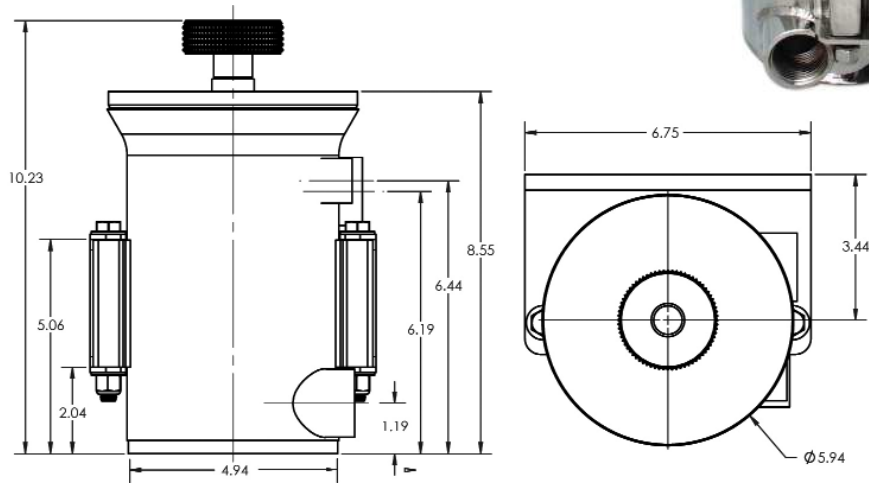
Description		Part Number
Cap / Hardware	Fits Drive Serial Number	
ribbed- bolts	OW250000 & up	BDSX
	OW240000 & up	
	OM906878 & up	
ribbed- studs	OW240000 & up	BDSXR
	OM05295-OM906877	
	OM906878 & up	

Sea Strainers

SS Sea Strainer

- Stainless steel construction
- Two bungs measure 1"
- One bung measures 1/2"
- Pressure tested at 150 PSI
- 1" NPT fittings
- 60 GPM flow at 22 PSI
- High impact 1" acrylic lid
- Removable stainless steel basket with easy lift handle
- Optional floor mount brackets & fittings available

Description	Part Number
same side bungs	SS5SS
straight through bungs	SS5ST



GSSFS



GSSF90



GSSF45



SSFMB

Description	Part Number
straight fitting	GSSFS
90° slip on fitting	GSSF90
45° fitting	GSSF45
floor mount brackets	SSFMB

Optima Battery Boxes



Colors:



Powder Coat Finish

- Machined from billet aluminum
- Corrosive resistant polish or powder coated finish
- Optional cover available
- Can be stringer mounted
- 11-15/16" L x 8" W x 6 5/8" H
- Private Label available on cover

Description	Part Number
box	BBBO + color
cover	BBBCO + color

Anodized Battery Box

- Machined from billet aluminum
- Black anodized finish is non-corrosive
- Box cover has a slip resistant surface
- Can be stringer mounted
- Measures: 11 15/16 in. L x 8 in. W x 6 5/8 in. H

Description	Part Number
box and cover - black only	BBBO34A



Fire Extinguisher and Mounting Hardware

Bar Mount

- Machined of billet aluminum
- Fits 1 1/2", 1 3/4" and 2" tubing
- Black powder coat finish only
- Quick release pin



Flat Mount

- Machined of billet aluminum
- Available in powder coat colors or a clear coat
- Quick release pin



Fire Extinguisher

- Encased in marine approved chrome
- Dry ABC extinguisher
- 2 1/2 lbs, refillable
- Extinguisher and mounts are sold separately



Description	Part Number
fire extinguisher	FE
bar mount	FEBMKBK
flat mount	FEMBK

Grab Handles

Colors:



Steel	
11 3/4" overall (10 1/2" center to center)	GHSS11 + color



Aluminum	
6 15/16" overall	GHAS7 + color
11 7/16" overall	GHAS12 + color

Beverage Holders

Stainless Steel Beverage Holders

- Fits cans, bottles and kuzis
- 304 stainless steel
- Optional fittings available
- Polish stainless steel or powder coat finish

Description	Cutout	Overall	Part Number
Stainless Steel Finish			
small stainless	3 5/8"	4 1/8"	SBHS
large stainless	3 3/4"	4 1/2"	SBHL
Powder Coat Finish			
small	3 5/8"	4 1/8"	SBHS + color
large	3 3/4"	4 1/2"	SBHL+ color
Drain Fittings for			
3/8" straight push on			SBHFS3/8
3 /8" 90° push on			SBHF903/8
drain cap			SBHC



LED Lighted Beverage Holders

- 3 7/8" cutout, 4 3/4" overal
- Fits cans, bottles and kuzis
- 12 volt, included 12 inch harness
- Black cup, stainless steel rim
- 3/8" drain fitting
- Removable rubber

Description	Part Number
blue	LBHBL
green	LBHG
red	LBHR

Terms and Conditions

Livorsi Marine, Inc.
TERMS & CONDITIONS 2016

WARRANTY

All Livorsi Marine® products carry a limited one year warranty for repair or replacement at Livorsi's discretion. All Livorsi Marine® products are warranted to be free of defects in material and workmanship. Users/Customers of Livorsi Marine®/Livorsi® products agree not to hold Livorsi Marine, Inc., its owner or employees responsible for any damages occurring by improper installation or use of Livorsi Marine® or Livorsi® products. The company, owner or its employees will not be liable for more than the cost of the original product and in no event will Livorsi Marine® or Livorsi® be liable for special, indirect or consequential damages of any kind whatsoever.

RETURNS

All returns purchased directly through Livorsi Marine must have an assigned RMA Number (Returns Merchandise Authorization). Please call customer service at 847-752-2700 or email returns@livorsi.com to receive an RMA Number. Please allow at least 24 business hours for a return call or email. Any packages without a RMA number will be refused. For warranty questions please call customer service at 847-752-2700 or email returns@livorsi.com. Livorsi Marine will not accept returns or warranty items unless purchased directly from Livorsi Marine. For items purchased through a distributor or dealer, call the distributor or dealer for return or warranty questions and issues. For further questions or technical help visit www.livorsi.com and click on Tech Tools or call customer service at 847-752-2700

A minimum 15% restocking charge may apply to any returned items. Merchandise must be returned with shipping charges prepaid. Returns sent freight collect will be refused. Please enclose a copy of the original purchase invoice with return. Livorsi Marine, Inc. will not accept returns past 60 days. Credit will not be issued on custom or private label gauges. If a product returned to Livorsi Marine is tested and found to have no defects, the customer will be responsible for 20% restocking fee and replacement shipping costs if applicable

PRODUCTS

Due to changes in technology, customer demand and company direction, products may change without notice. Check our website for updated products and availability. Regardless of our line of products, our goals remain the same: QUALITY, OPTIONS AND AVAILABILITY!!

PAYMENT TERMS

Individuals may pay by Visa, MasterCard, American Express, Discover or cashier's check. Companies may pay by Visa, MasterCard, American Express, check, C.O.D., wire transfer or on Net terms with prior credit approval.

PRICES

All prices are subject to change without verbal or written notice. Our price lists are intended as a guideline only. No responsibility is assumed for errors or omissions on product or pricing information. Possession of discount price list does not guarantee those prices to customer.

ORDER PLACEMENT

You may phone 847-752-2700, fax 847-752-2415, email sales@livorsi.com or mail your orders to Livorsi Marine®, 715 Center Street, Grayslake, IL 60030. You may also e-mail your order to sales@livorsi.com. Please be sure to include your name, address, phone number and specific ordering requests.

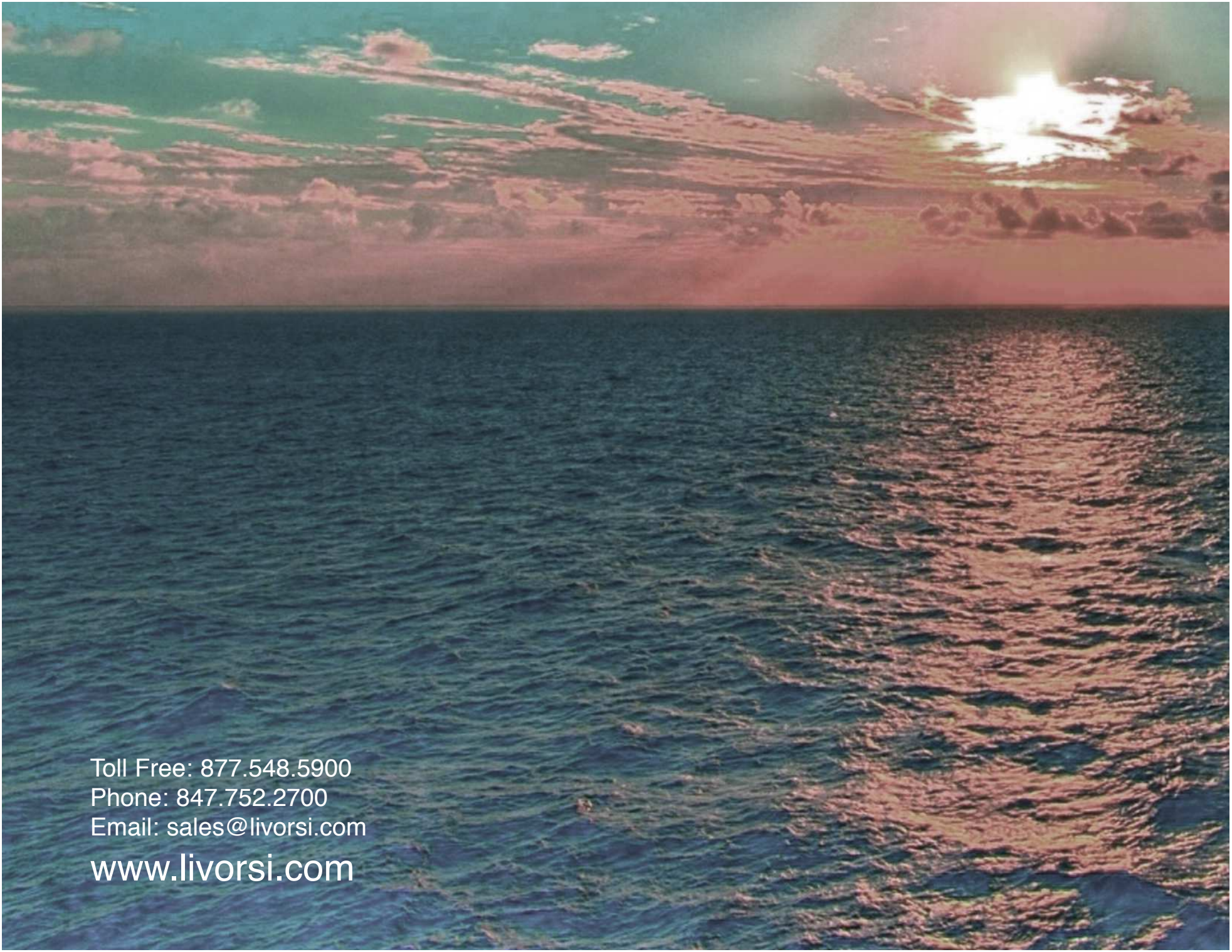
FREIGHT

All orders will be shipped UPS or FedEx, unless specified by customer. All orders are shipped F.O.B. Grayslake, Illinois. Any claims for shortage of product must be reported to Livorsi Marine® within 24 hours of receipt of order. If the shipment arrives damaged, contact the shipper directly, not Livorsi Marine®. Do not return damaged product to Livorsi Marine®.

Handling charges are based on the speed and type of shipment requested. i.e. \$5 -ground, \$6- 3day, \$8- 2day, \$10-next day, \$15 International. Drop ship fees may be charged if shipping to an address different from the billing address. An additional charge may be applied if customer requests special shipping company or instructions.

REFUSED SHIPMENTS

Shipments returned to Livorsi Marine® marked "refused" or "not in when driver called" will cause the customer's buying status to be frozen until related handling and shipping charges are paid. Refusal of shipment does not release the customer from paying the related handling and shipping charges. Repeated refusal or returned shipments may cause the customer's buying status to be revoked.



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