



www.vdo.com/usa

2011 Marine Catalog

For the Marine Enthusiast

- Instruments
- Senders
- Sensors
- Accessories

Part #VMC0910 (Supersedes Part #VMC0903)

VDO

The Elegance of Precision

At VDO, we are focused on providing our customers with the best possible instrumentation – a goal that we've pursued since 1920. We continue to work to deliver the functionality, durability and high quality finish that have earned our products a best-in-class reputation, worldwide. At the same time, we strive to make our instrumentation more efficient, affordable and useful to our customers.

While we are aware of the vital role of our instruments as a human-machine interface and the importance of factors such as ergonomics, cost and reliability, we haven't neglected aesthetics. Our latest styles include a whole new family of instruments and three exciting models.

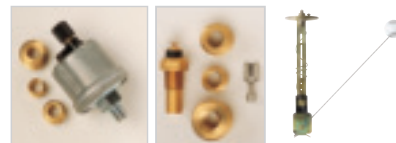
The Elegance of Precision continues on!





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VDO - A heritage of quality and innovation



VDO Marine Instruments have long been the industry's choice for rugged and dependable performance, elegant design and leading-edge technology. We continue to work to deliver the innovation, functionality and durability that have earned VDO the best-in-class reputation for instrumentation worldwide – not only in the marine industry, but also in the automotive, commercial, power sports and custom vehicle markets.

Today, the VDO Marine Instrument line is the single most complete offering in the business. We have an instrument solution for every type of watercraft from workboats, to pleasure craft, to luxury yachts. No other instrument supplier can cover all these categories. The catalog you are holding features over 300 new, exciting and innovative VDO products that have been added to the line.

We offer a wide range of traditional and new styles with crisp graphics, innovative designs, stunning dials and a variety of exciting bezel choices. Regardless of which gauge series you choose, you can count on the VDO tradition of excellence for rock-solid reliability, attention to detail and fit and finish.

To make your selection of instrumentation easier, we offer the options of a matched instrument and sender kit or complete kits to outfit your boat. These options are the best in the industry and will give you the biggest bang for your buck. Don't just take our word, check them out and compare.

Thank you for taking the time to get to know us better. We wish you well with your project and sincerely hope that when it comes to instruments and sensors, you will look to VDO to satisfy your needs.

For additional product information, please visit us at: www.vdo.com/usa or contact: salesupport-us@vdo.com



VDO – Over 100 years of innovation and excellence

From the first “Eddy Current” speedometer invented in 1902 by Otto Schulze, the forefather of today’s modern electric speedometer, VDO instruments have been at the leading edge of instrumentation technology and one of the industry’s most successful and trusted instrument brands.

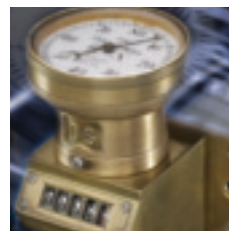
As one of the oldest and largest instrument manufacturers in the world, we have all the talent, resources and organization we need to provide our customers with the products and support for a successful and trouble-free instrumentation application.

We are also a part of Continental Automotive Systems, one of the top 10 automotive suppliers in the world. From automotive tires, brakes and sensors, to fully integrated electronic components, we have even more resources to draw on, so we can bring you exciting, new technologies and products.

Precision design and build

Today’s market offers a variety of choices for instrumentation and sensors. Unfortunately, many suppliers only assemble their instruments. Most do not even make ‘the movement,’ the heart of every instrument, nor the sensor, which is critical to the product’s accuracy. Some even claim to be “hand built” - a questionable feature in the world of electronics.

When it comes to instrumentation, VDO is in a league by itself. We produce over 100,000 instruments a day, and every VDO Marine Instrument starts with one of our patented movements, specifically designed for the performance requirements of that instrument. Every VDO Marine Instrument is CE certified and built to withstand the harshest marine environments. And every VDO marine instrument is built in state-of-the-art, ISO 9000 certified facilities, to assure that customers receive the quality and consistency they want and expect from their instrumentation.



1902 – Eddy Current speedometer

Staying on the edge with innovation

While others try to talk 'high tech,' we deliver with VDO. Using our experience and expertise in creating instruments for many of the world's leading boat builders, we have continually improved on every one of our innovations and followed up with the next generation of instrumentation – from our 100mm Quad instrument clusters in the 1990s, the use of micro-processor controlled stepper motors, built-in LCD displays and off-the-shelf CAN based instruments in the early 2000s, to our newest Viewline series, a "plug & play" solution that incorporates the latest VDO innovations and delivers the widest choice of sizes, styling and mounting options on the market.

VDO instruments have led the way with innovations such as dual lenses, stepper motor technology, Spin-lok™ gauge clusters and instrumentation for digitally controlled engines. To deliver unsurpassed nighttime visibility, we have mastered the art of 'through dial lighting' and the use of LEDs, an accomplishment matched by very few in the marine market.

A complete systems approach

To ensure absolute accuracy and reliability, we treat every VDO instrument as a system – from the top of the lens through to the end of the sending unit. This is why we are one of the few companies in the world that design and manufacture our own fuel, pressure and temperature senders. We make sure that our gauges and accessories fit together, work together, deliver the most accurate readings possible and provide many years of trouble free service.

Our most recent innovation is the VDO ALAS II fuel sender. In some cases, boats require 'custom' solutions, due to the size and configuration of the fuel tank. Our new ALAS II fuel sender is designed to 'fit' the bill. It incorporates 'thick film' resistor technology to help ensure accurate and reliable readings, as well as tank height adjustability and integrated draw and return tubes.



Continental facilities reach worldwide, bringing you our economies of scale.



ALAS II fuel sender



VDO – Over a century of industry milestones

- 1902 “Eddy Current” speedometer invented by Otto Schulze
- 1929 “VDO” becomes a registered trademark
- 1956 VDO invents first electronic speedometer
- 1971 VDO opens manufacturing facility in Winchester, VA
- 1984 VDO introduces through dial illumination and illuminated pointers
- 1986 VDO brings flat LCD displays to the market
- 1986 VDO introduces Blue Line, featuring the first fog free, dual lens
- 1990s VDO incorporates LED technology
- 1992 VDO brings the Vanguard series to market, featuring color changing LED illumination and Quad instruments
- 1993 VDO introduces microprocessor-controlled, stepper motor technology
- 2000s VDO delivers 120,000 instrument movements on a daily basis
- 2002 VDO Ocean Line introduces removable bezels, built in warning lights and IP67 rated water tight lenses
- 2004 VDO Ocean Link breaks ground with CAN based (digital) engine monitoring instruments
- 2007 VDO becomes a brand of Continental



VDO Blue Line Series



VDO Vanguard Series



VDO Ocean Line



VDO Instrument distribution facility,
Allentown, PA



VDO Instrument distribution facility,
Babenhausen, Germany



Introducing VDO Viewline

Our engineers started with a clean sheet of paper and a worldwide view to create an instrument line like no other in today's market. Their goal to create an instrument with flexibility, class and integrity is something you've come to expect from VDO.

Viewline begins with a fresh style and three choices of instrument sizes. For styling, you have a choice of dial face colors of Onyx, Ivory or Sterling. Next we added two choices of bezel styles along with three choices of bezel colors: white, black and chrome. To complete your selection we offer you three choices of instrument sizes: 110mm, 85mm and 52mm, giving you more flexibility than ever before to create the instrument design and appearance you are looking for.

VDO engineers did not stop with just a pretty face. Next, they added integrity. The use of fully sealed dual lenses, lifetime LED lighting and warning indicators assures that Viewline can easily withstand even the harshest marine environments.

Whether you are looking for standard or customized products, you are truly getting 'more bang for your buck' with Viewline.

The VDO Heritage: Reliability, durability and accuracy.

Reliability

- IP67 water resistance means that no matter how wet it gets, our gauges keep on working.
- Anti-corrosion materials mean no oxidation or rust will develop. Viewline will continue to work and look like new.

Accuracy

- VDO patented stepper motors and resistive movements.
- OEM derived technology in every instrument.

Durability

- CE certification.
- UL94 flame resistance.
- Tested to 25 G continuous vibration and 100 G shock.
- 100% LED warning lights and telltales for long service life.



Viewline Ivory with chrome triangle bezel

VDO Viewline: Standard or customized, you get ‘more bang for your buck!’

Standard features on all Viewline electronic marine speedometers:

- LCD shows odometer, voltage and clock
- Warning alarm output
- Speed warning indicator on all speedometers
- NMEA 0183 (GPS) compliant for use with Paddle Wheel, Hall Effect or Magnetic sensors
- LED, through dial illumination



Speedometers available in 85mm and 110mm diameters



Viewline Onyx with chrome triangle bezel

Standard and available features on all Viewline tachometers:

- LCD shows odometer, voltage and clock
- User defined engine speed warning indicator
- Warning alarm output on all 85mm and 110mm tachometers
- Up to four additional telltales

OEMs can have all features listed and more, customized for their specific needs



Tachometers available in 52mm, 85mm and 110mm diameters

Viewline 52mm resistive, frequency and specialty instruments

Available variants include:

- Single and dual scale
- With or without ISO symbols
- LED warning light standard on all 52mm Viewline gauges



Resistive, frequency and specialty instruments in 90° and 270° sweeps.

Maximum flexibility, minimum inventory



Builders can choose any Viewline gauge and select from nine different bezel options.



Builders can choose surface mount with bezel or back mount to flush with panel.



Viewline Onyx with round black bezel

VDO Viewline:
 OEM technology. OEM quality.
 In each and every instrument.





Viewline Ivory with round black bezel

1. Spin-Lok™ mounting – a VDO innovation developed to safeguard against mounting panel warping and make installation fast and easy.
2. Single PCB increases reliability and minimizes instrument depth.
3. Built-in LED warning indicators (up to 5) are programmable to OEM-specified function.
4. Single cavity connectors reduce wiring installation time.
5. Reverse polarity and over voltage protection virtually eliminate the possibility of installation failures.
6. VDO is one of the few companies in the world to design, patent and manufacture stepper motors and resistive movements.
7. Corrosion-free and flame retardant materials comply with manufacturer's latest specifications.
8. Laser welded lenses ensure the highest level of protection against water intrusion.
9. Dual domed lenses eliminate fogging – another VDO innovation.
10. LED lit pointers and "through dial lighting" minimize current consumption while optimizing nighttime viewing.
11. Detail finish ring enhances the overall appearance of finished instrument – a VDO exclusive.
12. Designed to withstand continuous 25 G vibrations and 100 G single shock, to ensure maximum reliability of each instrument.
13. Large, multifunction backlit LCD provides easy readout of programmed functions.
14. Customer installed bezels with nine style choices allow for greater styling differentiation between product lines.



VDO Spin-Lok™ mounting



Viewline Onyx



Viewline Onyx with chrome triangle bezel

Complete Instrument Kits

A2C59519563	4 Gauge Kit with Multi-function Tachometer for Outboards
A2C59519566	7 Gauge Kit for Inboards. Use with Common Marine Senders (not included)
A2C59519569	Premium 7 Gauge Kit for Inboards. Complete with VDO Senders

4 Gauge Kit for Outboards

- 50 MPH Pitot Speedometer
- 8,000 RPM Tachometer with Multi-function LCD
- 8-16V Voltmeter
- 30 PSI Water Pressure Gauge

7 Gauge Kits for Inboards

- 50 MPH Pitot Speedometer
- 6,000 RPM Tachometer
- 80 PSI Oil Pressure Gauge, Electrical
- 240°F Temperature Gauge, Electrical
- Fuel Gauge
- 8-16V Voltmeter
- Trim Gauge

Fuel, oil pressure and water temperature gauges are designed to work with common marine senders (not included)

7 Gauge Premium Kits:

- Same contents as 7 Gauge Kits for Inboards except:
- Substitute with 8,000 RPM Tachometer with Multi-function LCD
- Substitute with 250°F temperature gauge, electrical
- Supplied with:
 - 80 PSI oil pressure sender with low pressure warning contact
 - 250°F temperature sender
 - 221°F temperature switch
 - ALAS I fuel sender with low fuel warning contact
 - 1/2" Adapter for Temperature Sender
 - 1/8x27 NPTF x 1/4", 3/8" and 1/2" adapter kit for pressure sender

All Instrument Kits Feature Chrome Bezels

Pitot Speedometers



Catalog Number	Description	See Bezel Table
A2C59513642-S	50 MPH 3 3/8" (85mm) Pitot Speedometer 12V	Table 15
A2C59513645-S	80 MPH 3 3/8" (85mm) Pitot Speedometer 12V	Table 15

Sumlogs with Multifunction LCD



Catalog Number	Description	See Bezel Table
A2C53194774-S	60 MPH 3 3/8" (85mm) Sumlog with Odometer, Clock and Voltmeter 12/24V	Table 15



Viewline Onyx with chrome round bezel

Programmable Tachometers with Multifunction LCD



Programmable tachometers feature: User defined rev. limit warning, LCD display for total hours, resettable hours, voltage and clock. Accepts signal inputs from electronic controlled ignitions with tachometer output terminal, standard coil ignition, alternator signal and 12V square wave applications.

Catalog Number	Description	See Bezel Table
A2C53194789-S	3,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15
A2C53194596-S	4,000 RPM 4 3/8" (110mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 16
A2C53194863-S	4,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15
A2C53194593-S	6,000 RPM 4 3/8" (110mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 16
A2C53194872-S	6,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15
A2C53194590-S	8,000 RPM 4 3/8" (110mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 16
A2C53194885-S	8,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15

Programmable Tachometers



Programmable tachometers accept signal inputs from 2,4,6,8,10,12 & 16 cylinder standard coil ignition, alternator signal and 12V square wave applications. User defined rev. limit warning and programming can be done using Viewline programming software (available separately).

Catalog Number	Description	See Bezel Table
A2C53218716-S	3,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15
A2C53218711-S	3,000 RPM 4 3/8" (110mm) Tachometer 12/24V	Table 16
A2C53218722-S	4,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15
A2C53218712-S	4,000 RPM 4 3/8" (110mm) Tachometer 12/24V	Table 16
A2C53218726-S	6,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15
A2C53218713-S	7,000 RPM 4 3/8" (110mm) Tachometer 12/24V	Table 16
A2C53408405-S	8,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15

Viewline Onyx



Viewline Onyx with white round bezel

Engine Synchronizers



Catalog Number	Description	See Bezel Table
A2C53194780-S	Synchronizer 3 3/8" (85mm) 12/24V	Table 15

Fluid Temperature Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191359-S	240°F Water Temperature Gauge 12V, Use with US Sender	Table 14	
A2C53191360-K2	250°F Water Temperature Gauge 12V with VDO Sender and Metric Thread Adapters	Table 14	
A2C53191360-K1	250°F Water Temperature Gauge 12V with VDO Sender and US Thread Adapters	Table 14	
A2C53191360-S	250°F Water Temperature Gauge 12V, Use with VDO Sender	Table 14	A
A2C53191722-S	250°F/120°C Water Temperature Gauge 12V, Use with VDO Sender	Table 14	A
A2C53191722-K1	250°F/120°C Water Temperature Gauge 12V with VDO Sender and US Thread Adapters	Table 14	
A2C53191722-K2	250°F/120°C Water Temperature Gauge 12V with VDO Sender and Metric Thread Adapters	Table 14	
A2C53191723-S	300°F /150°C Oil Temperature Gauge 12V, Use with VDO Sender	Table 14	B

Outside Temperature Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53210847-S	-10/+120°F Outside Temperature Gauge 12V, Requires Sender 323 112	Table 14
A2C53210847-K	-10/+120°F Outside Temperature Gauge 12V with VDO Sender	Table 14



Viewline Onyx with white triangle bezel

Pyrometer, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53210907-S	1600°F Pyrometer 12V, Requires 326 001 Sender	Table 14
A2C53210907-K	1600°F Pyrometer 12V with VDO Sender	Table 14

Oil Pressure Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191734-S	100 PSI/7 bar Oil Pressure Gauge 12V, Use with US Sender	Table 14	4
A2C53191736-K2	150 PSI/10 bar Gauge 12V & Sender Kit with Metric Thread Adapters	Table 14	
A2C53191736-K1	150 PSI/10 bar Gauge 12V & Sender Kit with US Thread Adapters	Table 14	
A2C53191735-S	150 PSI/10 bar Oil Pressure Gauge 12V, Use with US Sender	Table 14	
A2C53191736-S	150 PSI/10 bar Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	5
A2C53191737-S	400 PSI/25 bar Gear Pressure Gauge 12V, Use with VDO Sender	Table 14	7
A2C53191383-K2	80 PSI Oil Pressure Gauge 12V with VDO Sender and Metric Thread Adapters	Table 14	
A2C53191383-K1	80 PSI Oil Pressure Gauge 12V with VDO Sender and US Thread Adapters	Table 14	
A2C53191384-S	80 PSI Oil Pressure Gauge 12V, Use with US Sender	Table 14	2
A2C53191383-S	80 PSI Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	1
A2C53191733-K2	80 PSI/5 bar Gauge 12V & Sender Kit with Metric Thread Adapters	Table 14	
A2C53191733-K1	80 PSI/5 bar Gauge 12V & Sender Kit with US Thread Adapters	Table 14	
A2C53191733-S	80 PSI/5 bar Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	1
A2C53191402-S	80 PSI/5 bar Oil Pressure Gauge 12V, Use with US Sender	Table 14	

Viewline Onyx



Viewline Onyx with black triangle bezel

Water Pressure Gauges, Mechanical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C59513648-S	30 PSI Water Pressure Gauge 12V	Table 14
A2C59513651-S	40 PSI Water Pressure Gauge 12V	Table 14

Turbo & Boost Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191728-S	2 bar/28 PSI Turbo Gauge 12V, Use with VDO Sender	Table 14	8

Fuel Level Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191757-K	Fuel Gauge 12V and ALAS I Fuel Sender Kit	Table 14	
A2C53191758-S	Fuel Gauge 12V, Use with 240-33 Ohm Sender	Table 14	ALAS I & II
A2C53191757-S	Fuel Gauge 12V, Use with 3-180 Ohm Sender	Table 14	ALAS I & II
A2C53191760-S	Fuel Gauge 12V, Use with VDO Tube Type Sender	Table 14	Tube Type Fuel

Water Level Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C59510034-S	Freshwater Gauge, 12/24V, Use with VDO Capacitive Sender	Table 14	Water Level Senders
A2C53192574-S	Freshwater Gauge, 12V, Use with VDO 10-180 Ohm Sender	Table 14	Water Level Senders
A2C53210834-S	Wastewater Gauge, 12/24V, Use with VDO Capacitive Sender	Table 14	Water Level Senders

See page 51-55 for fuel & water level senders, See page 58 for tubing kits
For technical specifications and dimensions, please visit our website at www.vdo.com/usa

Voltmeters, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C53191767-S	24V Voltmeter	Table 14
A2C53191766-S	12V Voltmeter	Table 14

Ammeters (external shunt required), 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C53210973-S	100A Ammeter 12/24V, Requires External Shunt 391 302	Table 14
A2C53210957-S	150A Ammeter 12/24V, Requires External Shunt 391 303	Table 14
A2C53211039-S	30A Ammeter 12/24V, Requires External Shunt 391 300	Table 14
A2C53210959-S	60A Ammeter 12/24V, Requires External Shunt 391 301	Table 14

Clocks, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C53321687-S	Analog Clock 12V	Table 14
A2C53321689-S	Analog Clock 24V	Table 14

Hourmeters, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C59510876-S	Hourmeter 12/24V	Table 14

Power Trim, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C53192579-S	Trim Gauge 12V, Mercury/Volvo Penta	Table 14

Rudder Angle Indicator

Catalog Number	Description	See Bezel Table
A2C53192577-S	Rudder Angle Indicator 2 1/16" (52mm) 12V, Use with VDO Sender	Table 14
A2C53194714-S	Rudder Angle Indicator 3 8/16" (85mm) 12/24V, Use with VDO Sender	Table 15



Viewline Ivory



Viewline Ivory with chrome triangle bezel

Complete Instrument Kits

A2C59519564	4 Gauge Kit with Multi-function Tachometer for Outboards
A2C59519567	7 Gauge Kit for Inboards. Use with Common Marine Senders (not included)
A2C59519570	Premium 7 Gauge Kit for Inboards. Complete with VDO Senders

4 Gauge Kit for Outboards

- 50 MPH Pitot Speedometer
- 8,000 RPM Tachometer with Multi-function LCD
- 8-16V Voltmeter
- 30 PSI Water Pressure Gauge

7 Gauge Kits for Inboards

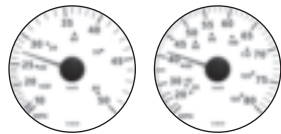
- 50 MPH Pitot Speedometer
 - 6,000 RPM Tachometer
 - 80 PSI Oil Pressure Gauge, Electrical.
 - 240°F Temperature Gauge, Electrical
 - Fuel Gauge
 - 8-16V Voltmeter
 - Trim Gauge
- Fuel, oil pressure and water temperature gauges are designed to work with common marine senders (not included)

7 Gauge Premium Kits:

- Same contents as 7 Gauge Kits for Inboards except:
- Substitute with 8,000 RPM Tachometer with Multi-function LCD
- Substitute with 250°F temperature gauge, electrical
- Supplied with:
 - 80 PSI oil pressure sender with low pressure warning contact
 - 250°F temperature sender
 - 221°F temperature switch
 - ALAS I fuel sender with low fuel warning contact
 - 1/2" Adapter for Temperature Sender
 - 1/8x27 NPTF x 1/4", 3/8" and 1/2" adapter kit for pressure sender

All Instrument Kits Feature Chrome Bezels

Pitot Speedometers



Catalog Number	Description	See Bezel Table
A2C59513643-S	50 MPH 3 3/8" (85mm) Pitot Speedometer 12V	Table 15
A2C59513646-S	80 MPH 3 3/8" (85mm) Pitot Speedometer 12V	Table 15

Sumlogs with Multifunction LCD



Catalog Number	Description	See Bezel Table
A2C53194776-S	60 MPH 3 3/8" (85mm) Sumlog with Odometer, Clock and Voltmeter 12/24V	Table 15



Viewline Ivory with white triangle bezel

Programmable Tachometers with Multifunction LCD



Programmable tachometers feature: User defined rev. limit warning, LCD display for total hours, resettable hours, voltage and clock. Accepts signal inputs from electronic controlled ignitions with tachometer output terminal, standard coil ignition, alternator signal and 12V square wave applications.

Catalog Number	Description	See Bezel Table
A2C53194791-S	3,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15
A2C53194865-S	4,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15
A2C53194875-S	6,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15
A2C53194887-S	8,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15

Programmable Tachometers



Programmable tachometers accept signal inputs from 2,4,6,8,10,12 & 16 cylinder standard coil ignition, alternator signal and 12V square wave applications. User defined rev. limit warning and programming can be done using Viewline programming software (available separately).

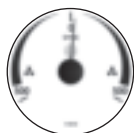
Catalog Number	Description	See Bezel Table
A2C53218718-S	3,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15
A2C53218724-S	4,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15
A2C53218727-S	6,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15
A2C53408441-S	8,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15

Viewline Ivory



Viewline Ivory with chrome round bezel

Engine Synchronizers



Catalog Number	Description	See Bezel Table
A2C53194781-S	Synchronizer 3 3/8" (85mm) 12/24V	Table 15

Fluid Temperature Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191369-S	240°F Water Temperature Gauge 12V, Use with US Sender	Table 14	
A2C53191370-K2	250°F Water Temperature Gauge 12V with VDO Sender and Metric Thread Adapters	Table 14	
A2C53191370-K1	250°F Water Temperature Gauge 12V with VDO Sender and US Thread Adapters	Table 14	
A2C53191370-S	250°F Water Temperature Gauge 12V, Use with VDO Sender	Table 14	A
A2C53191726-K2	250°F/120°C Water Temperature Gauge 12V & Sender Kit with Metric Thread Adapters	Table 14	
A2C53191726-K1	250°F/120°C Water Temperature Gauge 12V & Sender Kit with US Thread Adapters	Table 14	
A2C53191726-S	250°F/120°C Water Temperature Gauge 12V, Use with VDO Sender	Table 14	A
A2C53191727-S	300°F /150°C Oil Temperature Gauge 12V, Use with VDO Sender	Table 14	B

Outside Temperature Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53210844-S	-10/+120°F Outside Temperature Gauge 12V, Requires Sender 323 112	Table 14
A2C53210844-K	-10/+120°F Outside Temperature Gauge 12V with VDO Sender	Table 14



Viewline Ivory with black triangle bezel

Pyrometer, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53210905-S	1600°F Pyrometer 12V, Requires 326 001 Sender	Table 14
A2C53210905-K	1600°F Pyrometer 12V with VDO Sender	Table 14

Oil Pressure Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191746-S	100 PSI/7 bar Oil Pressure Gauge 12V, Use with US Sender	Table 14	4
A2C53191748-K2	150 PSI/10 bar Gauge 12V & Sender Kit with Metric Thread Adapters	Table 14	
A2C53191748-K1	150 PSI/10 bar Gauge 12V & Sender Kit with US Thread Adapters	Table 14	
A2C53191747-S	150 PSI/10 bar Oil Pressure Gauge 12V, Use with US Sender	Table 14	
A2C53191748-S	150 PSI/10 bar Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	5
A2C53191750-S	400 PSI/25 bar Gear Pressure Gauge 12V, Use with VDO Sender	Table 14	7
A2C53191419-K2	80 PSI Oil Pressure Gauge 12V with VDO Sender and Metric Thread Adapters	Table 14	
A2C53191419-K1	80 PSI Oil Pressure Gauge 12V with VDO Sender and US Thread Adapters	Table 14	
A2C53191419-S	80 PSI Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	1
A2C53191745-K2	80 PSI/5 bar Gauge 12V & Sender Kit with Metric Thread Adapters	Table 14	
A2C53191745-K1	80 PSI/5 bar Gauge 12V & Sender Kit with US Thread Adapters	Table 14	
A2C53191744-S	80 PSI/5 bar Oil Pressure Gauge 12V, Use with US Ohm Sender	Table 14	
A2C53191745-S	80 PSI/5 bar Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	1

Water Pressure Gauges, Mechanical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C59513649-S	30 PSI Water Pressure Gauge 12V	Table 14
A2C59513652-S	40 PSI Water Pressure Gauge 12V	Table 14

See page 43-44 for pressure senders, See page 58 for tubing kits
 For technical specifications and dimensions, please visit our website at www.vdo.com/usa

Viewline Ivory



Viewline Ivory with white round bezel

Turbo & Boost Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C60100570-S	2 bar Turbo Gauge 12V, Use with VDO Sender	Table 14	8

Fuel Level Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C53191762-S	Fuel Gauge 12V 0-1/1, Use with 90-0 Ohm Sender	Table 14	Tube Type Fuel
A2C53191761-K	Fuel Gauge 12V and ALAS I Fuel Sender Kit	Table 14	
A2C53191763-S	Fuel Gauge 12V, Use with 240-33 Ohm Sender	Table 14	ALAS I & II
A2C53191761-S	Fuel Gauge 12V, Use with 3-180 Ohm Sender	Table 14	ALAS I & II
A2C53191765-S	Fuel Gauge 12V, Use with VDO Tube Type Sender	Table 14	Tube Type Fuel

Water Level Gauges, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table	See Sender Table
A2C59510035-S	Freshwater Gauge, 12/24V, Use with VDO Capacitive Sender	Table 14	Water Level Senders
A2C53192576-S	Freshwater Gauge, 12V, Use with VDO 10-180 Ohm Sender	Table 14	Water Level Senders
A2C53210833-S	Wastewater Gauge, 12/24V, Use with VDO Capacitive Sender	Table 14	Water Level Senders

Voltmeters, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53191769-S	24V Voltmeter	Table 14
A2C53191768-S	12V Voltmeter	Table 14

Ammeters (external shunt required), 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53210974-S	100A Ammeter 12/24V, Requires External Shunt 391 302	Table 14
A2C53210956-S	150A Ammeter 12/24V, Requires External Shunt 391 303	Table 14
A2C53211037-S	30A Ammeter 12/24V, Requires External Shunt 391 300	Table 14
A2C53210958-S	60A Ammeter 12/24V, Requires External Shunt 391 301	Table 14

Clocks, Electrical, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53311885-S	Analog Clock 12V	Table 14
A2C53321688-S	Analog Clock 24V	Table 14

Hourmeters, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C59510877-S	Hourmeter 12/24V	Table 14

Power Trim, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C53380300-S	Trim Gauge 12V, Mercury/Volvo Penta	Table 14

Rudder Angle Indicator



Catalog Number	Description	See Bezel Table
A2C53192578-S	Rudder Angle Indicator 2 1/16" (52mm) 12V, Use with VDO Sender	Table 14
A2C53194715-S	Rudder Angle Indicator 3 3/8" (85mm) 12/24V, Use with VDO Sender	Table 15



Viewline Sterling



Viewline Sterling with chrome triangle bezel

Complete Instrument Kits

A2C59519565	4 Gauge Kit with Multi-function Tachometer for Outboards
A2C59519571	Premium 7 Gauge Kit for Inboards. Complete with VDO Senders

4 Gauge Kit for Outboards

- 50 MPH Pitot Speedometer
- 8,000 RPM Tachometer with Multi-function LCD
- 8-16V Voltmeter
- 30 PSI Water Pressure Gauge

7 Gauge Kits for Inboards

- 50 MPH Pitot Speedometer
- 6,000 RPM Tachometer
- 80 PSI Oil Pressure Gauge, Electrical.
- 240°F Temperature Gauge, Electrical
- Fuel Gauge
- 8-16V Voltmeter
- Trim Gauge

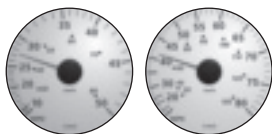
Fuel, oil pressure and water temperature gauges are designed to work with common marine senders (not included)

7 Gauge Premium Kits:

- Same contents as 7 Gauge Kits for Inboards except:
- Substitute with 8,000 RPM Tachometer with Multi-function LCD
- Substitute with 250°F temperature gauge, electrical
- Supplied with:
 - 80 PSI oil pressure sender with low pressure warning contact
 - 250°F temperature sender
 - 221°F temperature switch
 - ALAS I fuel sender with low fuel warning contact
 - 1/2" Adapter for Temperature Sender
 - 1/8x27 NPTF x 1/4", 3/8" and 1/2" adapter kit for pressure sender

All Instrument Kits Feature Chrome Bezels

Pitot Speedometers



Catalog Number	Description	See Bezel Table
A2C59513644-S	50 MPH 3 3/8" (85mm) Pitot Speedometer 12V	Table 15
A2C59513647-S	80 MPH 3 3/8" (85mm) Pitot Speedometer 12V	Table 15

Programmable Tachometers with Multifunction LCD



Programmable tachometers feature: User defined rev. limit warning, LCD display for total hours, resettable hours, voltage and clock. Accepts signal inputs from electronic controlled ignitions with tachometer output terminal, standard coil ignition, alternator signal and 12V square wave applications.

Catalog Number	Description	See Bezel Table
A2C53408402-S	8,000 RPM 3 3/8" (85mm) Tachometer with 2 Hourmeters, Clock and Voltmeter 12/24V	Table 15

Programmable Tachometers



Programmable tachometers accept signal inputs from 2,4,6,8,10,12 & 16 cylinder standard coil ignition, alternator signal and 12V square wave applications. User defined rev. limit warning and programming can be done using Viewline programming software (available separately).

Catalog Number	Description	See Bezel Table
A2C53408445-S	8,000 RPM 3 3/8" (85mm) Tachometer 12/24V	Table 15



Fluid Temperature Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table	See Sender Table
A2C53407554-S	240°F Water Temperature Gauge 12V, Use with US Sender	Table 14	
A2C53406050-K2	250°F Water Temperature Gauge 12V with Sender Kit Metric Thread Adapters	Table 14	
A2C53406050-K1	250°F Water Temperature Gauge 12V with Sender Kit US Thread Adapters	Table 14	
A2C53406050-S	250°F Water Temperature Gauge 12V, Use with VDO Sender	Table 14	A
A2C53406051-K2	250°F/120°C Water Temperature Gauge 12V with Sender Kit Metric Thread Adapters	Table 14	
A2C53406051-K1	250°F/120°C Water Temperature Gauge 12V with Sender Kit US Thread Adapters	Table 14	
A2C53406051-S	250°F/120°C Water Temperature Gauge 12V, Use with VDO Sender	Table 14	A



Oil Pressure Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table	See Sender Table
A2C53406052-K2	80 PSI Oil Pressure Gauge 12V and Sender Kit Metric Thread Adapters	Table 14	
A2C53406052-K1	80 PSI Oil Pressure Gauge 12V and VDO Sender with US Thread Adapters	Table 14	
A2C53406052-S	80 PSI Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	1
A2C53406053-K2	80 PSI/5 bar Oil Pressure Gauge 12V and Sender Kit Metric Thread Adapters	Table 14	
A2C53406053-K1	80 PSI/5 bar Oil Pressure Gauge 12V and Sender Kit US Thread Adapters	Table 14	
A2C53406053-S	80 PSI/5 bar Oil Pressure Gauge 12V, Use with VDO Sender	Table 14	1



Water Pressure Gauges, Mechanical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C59513650-S	30 PSI Water Pressure Gauge 12V	Table 14
A2C59513653-S	40 PSI Water Pressure Gauge 12V	Table 14



Fuel Level Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table	See Sender Table
A2C53406054-K	Fuel Gauge 12V and ALAS I Fuel Sender Kit	Table 14	
A2C53406054-S	Fuel Gauge 12V, Use with 3-180 Ohm Sender	Table 14	ALAS I & II



Voltmeters, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C53406019-S	12V Voltmeter	Table 14



Power Trim, 2 1/16" (52mm) Dia

Catalog Number	Description	See Bezel Table
A2C53406055-S	Trim Gauge 12V, Use with Mercury/Volvo Penta	Table 14

Viewline Bezel Tables

Table 14: Viewline Bezel

Size	Color	Shape	
		Triangle	Round
2 1/16" (52mm)	Chrome	A2C53186026-S	A2C53186029-S
2 1/16" (52mm)	Black	A2C53186024-S	A2C53186027-S
2 1/16" (52mm)	White	A2C53186025-S	A2C53186028-S

Table 15: Viewline Bezel

Size	Color	Shape	
		Triangle	Round
3 3/8" (85mm)	Chrome	A2C53192918-S	A2C53192914-S
3 3/8" (85mm)	Black	A2C53192917-S	A2C53192913-S
3 3/8" (85mm)	White	A2C53192920-S	A2C53192916-S

Table 16: Viewline Bezel

Size	Color	Shape	
		Triangle	Round
4" (110mm)	Chrome	A2C53210765-S	A2C53210761-S
4" (110mm)	Black	A2C53210763-S	A2C53210749-S
4" (110mm)	White	A2C53210764-S	A2C53210760-S



All bezels are available in 10 pack bulk by changing part number suffix to a "B"

Viewline Wire Harness Tables

Table 17 - Wire Harness for 52mm Instruments & Tachometers w/o LCD

Requires (1) 8 pin connector per instrument (included with all single packs)

	Harness (connector w/ 500mm (19 1/2 in.) wire leads)	Connector & pins (for custom made harness)	Connector (bulk, no pins)	Pins (bulk)
8 Pin-single pack	240 201	240 098	-	-
8 Pin-bulk pack	240 201B	-	A2C59510847B	240 048B

Table 18 - Wire Harness for Speedometers and Tachometers with LCD

Requires (1) 8 pin connector, (1) 14 Pin connector and (1) momentary push button per instrument, (included with all single packs)

	Harness connector w/ 500mm (19 1/2 in.) wire leads)	Connector & pins (for custom made harness)	Connector (bulk, no pins)	Pins (bulk)	Push button for programming and mode functions
8 Pin-single pack	240 201	240 098	-	-	240-046
8 Pin-bulk pack	240 201B	-	A2C59510847B	240 048B	
14 Pin-single pack	240 204	240 099	-	-	
14 Pin-bulk pack	240 204B	-	A2C59510848B	240 048B	



Vision Chrome



An economical choice for new installations or upgrades, Vision Chrome features crisp black dials, polished chrome bezels and VDO's Tri-optic through dial lighting. High contrast clear white graphics and red pointers make Vision instruments easy to read, while VDO patented movements provide smooth and accurate performance and long life dependability.

Standard 0.25" spade connectors for simple wiring and VDO Spin-lok™ mounting makes installation fast and easy while providing a full 360° degrees of mounting force. Included light diffusers allow the dial illumination color to be changed to red or green.

Complete Instrument Kits

600 9327 6 Gauge Kit for Inboards. Use with Common Marine Senders (not included)

Instrument Kit Contents

- 50 MPH Pitot Speedometer
- 6,000 RPM Tachometer
- 80 PSI Oil Pressure Gauge, Electrical.
- 220°F Temperature Gauge, Electrical
- Fuel Gauge

- 8-16V Voltmeter
- Installation instructions

Fuel, oil pressure and water temperature gauges are designed to work with common marine senders (not included)

See page 56 for complete wire harness assembly

Pitot Speedometers

Catalog Number	Description
260 193	35 MPH 3 3/8" (85mm) Speedometer, 12V
260 191	50 MPH 3 3/8" (85mm) Speedometer, 12V
260 194	80 MPH 3 3/8" (85mm) Speedometer, 12V

Use with existing pitot sender or VDO 270 900 pitot kit

Programmable Tachometers with LCD Hourmeter

Programmable for use with most electronic controlled ignitions with tachometer output terminal, standard coil ignition, alternator signal and 12V square wave applications. Non resettable engine hour meter is displayed in LCD window.

Catalog Number	Description
333 192	3,000 RPM 3 3/8" Tachometer with Hourmeter, 12/24 V
333 193	4,000 RPM 3 3/8" Tachometer with Hourmeter, 12/24V
333 194	6,000 RPM 3 3/8" Tachometer with Hourmeter, 12/24V

Programmable Tachometers

For use on 4,5,6 & 8 cylinder application engines with standard coil ignitions, most square wave electronic control ignitions with tachometer output terminal and alternators with "w" tachometer terminal.

Catalog Number	Description
333 195	8,000 RPM 4" Tachometer, 12V
333 197	6,000 RPM 3 3/8" Tachometer, 12V
333 199	3,000 RPM 3 3/8" Tachometer, 12V

Engine Synchronizers

For use on 4,5,6 & 8 cylinder application engines with standard coil ignitions, most square wave electronic control ignitions with tachometer output terminal and alternators with "w" tachometer terminal.

Catalog Number	Description
333 196	3 3/8" Synchronizer, 12/24V

Fluid Temperature Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
310 194	220°F Temperature Gauge, Use with US Ohm Sender, 12V	
310 1952	250°F Temperature Gauge with VDO Sender and Metric Thread Adapters, 12V	
310 1951	250°F Temperature Gauge with VDO Sender and US Thread Adapters, 12V	
310 195	250°F Temperature Gauge, Use with VDO Sender, 12V	A
310 1962	300°F Temperature Gauge with VDO Sender and Metric Thread Adapters, 12V	
310 1961	300°F Temperature Gauge with VDO Sender and US Thread Adapters, 12V	
310 196	300°F Temperature Gauge, Use with VDO Sender, 12V	B

Pyrometer, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description
310 191	1600°F Pyrometer, 12V
310 193	1600°F Pyrometer with Sender and Harness, 12V

Oil Pressure Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
350 1962	100 PSI Oil Pressure Gauge with VDO Sender and Metric Thread Adapters, 12V	
350 1961	100 PSI Oil Pressure Gauge with VDO Sender and US Thread Adapters, 12V	
350 197	100 PSI Oil Pressure Gauge, Use with US Sender, 12V	4
350 196	100 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	3
350 1982	150 PSI Oil Pressure Gauge with VDO Sender and Metric Thread Adapters, 12V	
350 1981	150 PSI Oil Pressure Gauge with VDO Sender and US Thread Adapters, 12V	
350 199	150 PSI Oil Pressure Gauge, Use with US Sender, 12V	
350 198	150 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	5
350 290	400 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	7
350 1942	80 PSI Oil Pressure Gauge with VDO Sender and Metric Thread Adapters, 12V	
350 1941	80 PSI Oil Pressure Gauge with VDO Sender and US Thread Adapters, 12V	
350 195	80 PSI Oil Pressure Gauge, Use with US Sender, 12V	2
350 194	80 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	1

Vision Chrome

Fuel Level Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
301 194K	Fuel Gauge and ALAS Fuel Sender Kit, 12V	
301 194	Fuel Gauge, Use with 10-184 Ohm Sender, 12V	ALAS
301 195	Fuel Gauge, Use with 240-33 Ohm Sender, 12V	ALAS
301 197	Fuel Gauge, Use with VDO Tube Type Sender, 12V	Tube Type Fuel

Voltmeters, 2 1/16" (52mm) Dia

Catalog Number	Description
332 191	24V Voltmeter
332 193	12V Voltmeter

Hourmeters, 2 1/16" (52mm) Dia

Catalog Number	Description
331 955	Hourmeter, 100K Hours, Non Illuminated, 12V

Power Trim, 2 1/16" (52mm) Dia

Catalog Number	Description
382 191	Trim Gauge for Evinrude/Johnson, 12V
382 192	Trim Gauge for Mercury/Volvo Penta/OMC, 12V





Crisp black dials and matching bezels, along with VDO's Tri-optic through dial illumination make Vision a solid choice for small fishing and pleasure boats. High contrast clear white graphics and red pointers make Vision instruments easy to read, while VDO patented movements provide smooth and

accurate performance and long life dependability. Standard 0.25" spade connectors for simple wiring and VDO Spin-lok™ mounting makes installation fast and easy while providing a full 360° degrees of mounting force. Included light diffusers allow the dial illumination color to be changed to red or green.

Complete Instrument Kits

600 9232

6 Gauge Kit for Inboards, Use with Common Marine Senders (not included)

6 Gauge Kits for Inboards

- 50 MPH Pitot Speedometer
- 7,000 RPM Tachometer
- 80 PSI Oil Pressure Gauge, Electrical.
- 220°F Temperature Gauge, Electrical
- Fuel Gauge

- 8-16V Voltmeter
- Installation instructions

Fuel, oil pressure and water temperature gauges are designed to work with common marine senders (not included)

See page 56 for complete wire harness assembly

Vision Black

Engine Synchronizers

Catalog Number	Description
333 190	3 3/8" Synchronizer, 12/24V

Pitot Speedometers

Catalog Number	Description
260 103	35 MPH 3 3/8" (85mm) Pitot Speedometer, 12V
260 111	50 MPH 3 3/8" (85mm) Pitot Speedometer, 12V
260 101	80 MPH 3 3/8" (85mm) Pitot Speedometer, 12V

Programmable Tachometers with LCD Hourmeter

Programmable for use with most electronic controlled ignitions with tachometer output terminal, standard coil ignition, alternator signal and 12V square wave applications. Non-resettable engine hourmeter is displayed in LCD window.

Catalog Number	Description
333 162	3,000 RPM 3 3/8" Tachometer with Hourmeter, 12/24V
333 163	4,000 RPM 3 3/8" Tachometer with Hourmeter, 12/24V
333 164	6,000 RPM 3 3/8" Tachometer with Hourmeter, 12/24V

Use with existing pitot sender or VDO 270 900 pitot kit

Programmable Tachometers

For use on 4,5,6 & 8 cylinder application engines with standard coil ignitions, most square wave electronic control ignitions with tachometer output terminal and alternators with "w" tachometer terminal.

Catalog Number	Description
333 152	3,000 RPM 3 3/8" Tachometer, 12V
333 156	4,000 RPM 2 1/16" Tachometer, 12V
333 158	6,000 RPM 2 1/16" Tachometer, 12V
333 151	7,000 RPM 3 1/8" Tachometer, 12V
333 155	7,000 RPM 3 3/8" Tachometer, 12V
333 159	8,000 RPM 2 1/16" Tachometer, 12V
333 160	8,000 RPM 4" Tachometer, 12V

Fluid Temperature Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
310 104	220°F Water Temperature Gauge, Use with US Sender, 12V	
310 1052	250°F Water Temperature Gauge with VDO Sender and Metric Thread Adapters, 12V	
310 1051	250°F Water Temperature Gauge with VDO Sender and US Thread Adapters, 12V	
310 105	250°F Water Temperature Gauge, Use with VDO Sender, 12V	A
310 1062	300°F Oil Temperature Gauge with VDO Sender and Metric Thread Adapters, 12V	
310 1061	300°F Oil Temperature Gauge with VDO Sender and US Thread Adapters, 12V	
310 106	300°F Oil Temperature Gauge, Use with VDO Sender, 12V	B
310 111	300°F Transmission Temperature Gauge, Use with VDO Sender, 12V	B
310 1072	400°F Transmission Temperature Gauge with VDO Sender and Metric Thread Adapters, 12V	
310 1071	400°F Transmission Temperature Gauge with VDO Sender and US Thread Adapters, 12V	
310 107	400°F Transmission Temperature Gauge, Use with VDO Sender, 12V	C

Outside Temperature Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description
397 154	120°F Outside Temperature Gauge Kit with Sender and Harness, 12V

Pyrometer, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description
310 151	1600°F Pyrometer, Requires 323 892 Sender, 12V
310 153	1600°F Pyrometer with Sender and Harness, 12V

Oil Pressure Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
350 1062	100 PSI Oil Pressure Gauge with VDO Sender and Metric Thread Adapters, 12V	
350 1061	100 PSI Oil Pressure Gauge with VDO Sender and US Thread Adapters, 12V	
350 107	100 PSI Oil Pressure Gauge, Use with US Sender, 12V	4
350 106	100 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	3
350 1082	150 PSI Oil Pressure Gauge with VDO Sender and Metric Thread Adapters, 12V	
350 1081	150 PSI Oil Pressure Gauge with VDO Sender and US Thread Adapters, 12V	
350 109	150 PSI Oil Pressure Gauge, Use with US Sender, 12V	
350 108	150 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	5
350 110	400 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	7
350 1042	80 PSI Oil Pressure Gauge with VDO Sender and Metric Thread Adapters, 12V	
350 1041	80 PSI Oil Pressure Gauge with VDO Sender and US Thread Adapters, 12V	
350 105	80 PSI Oil Pressure Gauge, Use with US Sender, 12V	2
350 104	80 PSI Oil Pressure Gauge, Use with VDO Sender, 12V	1

Turbo & Boost Gauges, Mechanical, 2 1/16" (52mm) Dia

Catalog Number	Description
150 1011	15 PSI Mechanical Boost Gauge with Tubing and US Thread Adapters, 12V

Fuel Level Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
301 104K	Fuel Gauge and ALAS Fuel Sender Kit, 12V	
301 104	Fuel Gauge, Use with 10-184 Ohm Sender, 12V	ALAS
301 105	Fuel Gauge, Use with 240-33 Ohm Sender, 12V	ALAS
301 107	Fuel Gauge, Use with VDO Tube Type Sender, 12V	Tube Type Fuel

Voltmeters, 2 1/16" (52mm) Dia

Catalog Number	Description
332 104	24V Voltmeter
332 103	12V Voltmeter

Ammeters (external shunt required), 2 1/16" (52mm) Dia

Catalog Number	Description
190 151	150A Ammeter, Requires External Shunt 391 007, 12V

Ammeters (no external shunt required), 2 1/16" (52mm) Dia

Catalog Number	Description
190 105	100A Ammeter, Does Not Require External Shunt, 12V
190 103	30A Ammeter, Does Not Require External Shunt, 12V
190 104	60A Ammeter, Does Not Require External Shunt, 12V

Clocks, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description
370 155	Analog Clock, 12/24V
370 100	Quartz Analog Clock, 12/24V

Power Trim, 2 1/16" (52mm) Dia

Catalog Number	Description
382 152	Trim Gauge for Mercury/Volvo Penta, 12V

Cockpit International



An ideal choice for hard working commercial vessels! Cockpit International features zinc plated housings and painted brass bezels that are corrosion resistant and rugged enough to withstand the demands of extreme daily use. With 12V and

24V versions, as well as choices of M4 stud or .250" spade connections, Cockpit International can be used in a wide range of applications. Available metric scale dials allow both domestic and export installations.

Electronic Speedometers

Speedometer features push button display for trip distance and total distance traveled. Unique auto-calibration feature allows for easy adjustment and can be used with paddle wheel and inductive senders.

Catalog Number	Description
437 950	45 MPH/70kmh 3 3/8" (85mm) Electronic Speedometer, 12/24V. Use with 402 001 Paddle Wheel Speed Sender

Programmable Tachometers with LCD Hourmeter

Programmable for use with most electronic controlled ignitions with tachometer output terminal, standard coil ignition, alternator signal and 12V square wave applications. Non-resettable engine hourmeter is displayed in LCD window.

Catalog Number	Description
333 962	3,000 RPM 3 3/8" (85mm) Tachometer with Hourmeter, 12/24V
333 963	4,000 RPM 3 3/8" (85mm) Tachometer with Hourmeter, 12/24V

Programmable Tachometers

For use on 4,5,6 & 8 cylinder application engines with standard coil ignitions, most square wave electronic control ignitions with tachometer output terminal and alternators with "w" tachometer terminal.

Catalog Number	Description
333 952	3,000 RPM 3 3/8" (85mm) Tachometer, 12V
333 966	3,000 RPM 4" (100mm) Tachometer, 12V
333 965	4,000 RPM 2 1/8" (52mm) Tachometer, 12V
333 953	4,000 RPM 3 3/8" (85mm) Tachometer, 12V
333 958	6,000 RPM 2 1/8" (52mm) Tachometer, 12V
333 959	8,000 RPM 2 1/8" (52mm) Tachometer, 12V

Fluid Temperature Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
310 934	250°F/120°C Water Temperature Gauge, Use with VDO Sender, 12V, .250" Spade Connection	A
310 910	250°F/120°C Water Temperature Gauge, Use with VDO Sender, 12V, 24V, M4 Stud Connection	A
310 909	250°F/120°C Water Temperature Gauge, Use with VDO Sender, 12V, M4 Stud Connection	A
310 915	300°F /150°C Gear Temperature Gauge, Use with VDO Sender, 12V, .250" Spade Connection	B
310 916	300°F /150°C Gear Temperature Gauge, Use with VDO Sender, 24V, M4 Stud Connection	B
310 936	300°F /150°C Gear Temperature Gauge, Use with VDO Sender, 12V, .250" Spade Connection	B

Fluid Temperature Gauges, Mechanical, 2 1/16" (52mm) Dia

Catalog Number	Description
180 903	265°F/130°C Mechanical Temperature Gauge with 144" Capillary, 12V
180 901	265°F/130°C Mechanical Temperature Gauge with 72" Capillary, 12V
180 902	265°F/130°C Mechanical Temperature Gauge with 96" Capillary, 12V

Pyrometer, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description
310 953	1650°F Pyrometer, 12V with Sender and Harness

Oil Pressure Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
350 905	100 PSI/7 bar Oil Pressure Gauge, Use with VDO Sender, 12V, M4 Stud Connection	3
350 911	150 PSI/10 bar Oil Pressure Gauge, Use with VDO Sender, 12V, .250" Spade Connection	5
350 910	150 PSI/10 bar Oil Pressure Gauge, Use with VDO Sender, 24V, M4 Stud Connection	5
350 909	150 PSI/10 bar Oil Pressure Gauge, Use with VDO Sender, 12V, M4 Stud Connection	5
350 913	400 PSI/25 bar Gear Pressure Gauge, Use with VDO Sender, 12V, M4 Stud Connection	7
350 934	80 PSI/5 bar Oil Pressure Gauge, for VDO Sender, 12V, .250" Spade Connection	1
350 902	80 PSI/5 bar Oil Pressure Gauge, for VDO Sender, 24V, M4 Stud Connection	1
350 901	80 PSI/5 bar Oil Pressure Gauge, for VDO Sender, 12V, M4 Stud Connection	1

Oil Pressure Gauges, Mechanical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
150 904	150 PSI/10 bar Mechanical Oil Pressure Gauge, 12V	
150 906	400 PSI/25 bar Mechanical Oil Pressure Gauge, 12V	

Air Pressure Gauges, Mechanical, 2 1/16" (52mm) Dia

Catalog Number	Description
150 905	150 PSI/10 bar Mechanical Air Pressure Gauge, 12V

Turbo & Boost Gauges, Mechanical, 2 1/16" (52mm) Dia

Catalog Number	Description
150 921	30" HG/1 bar-20 PSI/2 bar Mechanical Turbo Gauge, 12V

Fuel Level Gauges, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description	See Sender Table
301 907	Fuel Gauge, Use with 10-184 Ohm Sender, 12V, .250" Spade Connection	ALAS
301 901	Fuel Gauge, Use with 10-184 Ohm Sender, 12V, M4 Stud Connection	ALAS
301 902	Fuel Gauge, Use with 10-184 Ohm Sender, 24V, M4 Stud Connection	ALAS
301 903	Fuel Gauge, Use with 240-33 Ohm Sender, 12V, M4 Stud Connection	ALAS
301 904	Fuel Gauge, Use with 240-33 Ohm Sender, 24V, M4 Stud Connection	ALAS
301 910	Fuel Gauge, Use with Tube Type Sender, 12V, .250" Spade Connection	Tube Type Fuel
301 905	Fuel Gauge, Use with Tube Type Sender, 12V, M4 Stud Connection	Tube Type Fuel
301 906	Fuel Gauge, Use with Tube Type Sender, 24V, .250" Spade Connection	Tube Type Fuel
301 911	Fuel Gauge, Use with Tube Type Sender, 24V, .250" Spade Connection	Tube Type Fuel

Cockpit International

Voltmeters, 2 1/16" (52mm) Dia

Catalog Number	Description
332 933	24V Voltmeter, .250" Spade Connection
332 902	24V Voltmeter, M4 Stud Connection
332 932	12V Voltmeter, .250" Spade Connection
332 901	12V Voltmeter, M4 Stud Connection

Ammeters (external shunt required), 2 1/16" (52mm) Dia

Catalog Number	Description
190 966	300A Ammeter Kit with External Shunt, 12V
190 963	300A Ammeter, Requires External Shunt 391 009, 12V

Ammeters (no external shunt required), 2 1/16" (52mm) Dia

Catalog Number	Description
190 903	30A Ammeter, Does Not Require External Shunt, 12V
190 904	60A Ammeter, Does Not Require External Shunt, 12V

Clocks, Electrical, 2 1/16" (52mm) Dia

Catalog Number	Description
370 955	Analog Clock, 12V

Hourmeters, 2 1/16" (52mm) Dia

Catalog Number	Description
331 957	Hourmeter, 100K Hours, Illuminated, 12V
331 960	Hourmeter, 100K Hours, Illuminated, 24V
331 953	Hourmeter, 100K Hours, Non Illuminated, 12V

Hourmeters, 2 1/16" (52mm) Dia w/ minute hand

Catalog Number	Description
331 959	Hourmeter, 100K Hours, Non Illuminated, 12V, with minute hand





J1939 CAN Bus solution designed specifically for marine environments! IP67 water protection, dual lenses and corrosion proof housing ensure extreme service life, while Ocean Link's plug-n-play software make installation simple

and fast. Ocean Link's master tachometer with multifunction LCD's can support up to 20 separate satellite gauges, all of which feature built in pigtailed for simplified daisy-chaining.

Complete Wiring Harnesses

Catalog Number	Description
A2C53092432	CAN Input to Master with Two Analog Inputs

Master Tachometer

Catalog Number	Description
N02-012-920	3,000 RPM 3 3/8" (85mm), 12/24V Master Tachometer
N02-012-922	4,000 RPM 3 3/8" (85mm), 12/24V Master Tachometer
A2C59500012	5,000 RPM 3 3/8" (85mm), 12/24V Master Tachometer

Satellite Temperature Gauges

Catalog Number	Description
N02-311-546	1700°F Exhaust Temperature Gauge, 12/24V
N02-311-552	250°F Water Temperature Gauge, 12/24V
N02-311-544	300°F Gear Temperature Gauge, 12/24V
N02-311-542	300°F Water Temperature Gauge, 12/24V

Satellite Pressure Gauges

Catalog Number	Description
N02-140-512	150 PSI Oil Pressure Gauge, 12/24V
N02-140-516	300 PSI Gear Pressure Gauge, 12/24V

Satellite Fuel Level Gauges

Catalog Number	Description
N02-224-080	Fuel Level Gauge, 12/24V

Satellite Voltmeters

Catalog Number	Description
N02-413-058	24V Voltmeter
N02-413-066	12V Voltmeter

Hourmeters

The VDO hourmeter line has been expanded to offer hourmeters in many sizes, styles and configurations. They include models which are illuminated and non-illuminated

and have recording hour ranges from 10,000 to 100,000 hours. VDO hourmeters are not resettable.

Mini w/ 2 hole mounting flange, Electrical, 1.42"Wx.92"Hx2.91"D (36mmx23.4mmx71.1mm)



Catalog Number	Description
331 539	2 Hole Flange Hourmeter, 100K Hours, Non Illuminated, 12-60V
331 534	2 Hole Flange Hourmeter, 10K Hours, Non Illuminated, 12-60V

Mini w/ 3 hole round mounting flange, Electrical, 1.42"Wx.92"Hx2.91"D (36mmx23.4mmx71.1mm)



Catalog Number	Description
331 958	3 Hole Flange Hourmeter, 10K Hours, Non Illuminated, 12-60V

Mini w/ flush mount flange, Electrical, 1.42"Wx.92"Hx2.91"D (36mmx23.4mmx71.1mm)



Catalog Number	Description
331 537	Flush Mount Hourmeter, 100K Hours, Non Illuminated, 12-60V

Viewline Onyx

Hourmeters, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C59510876-S	Hourmeter 12/24V	Table 14

Viewline Ivory

Hourmeters, 2 1/16" (52mm) Dia



Catalog Number	Description	See Bezel Table
A2C59510877-S	Hourmeter 12/24V	Table 14



Hourmeters

Vision Chrome

Hourmeters, 2 1/16" (52mm) Dia



Catalog Number	Description
331 955	Hourmeter, 100K Hours, Non Illuminated, 12V

Cockpit International

Hourmeters, 2 1/16" (52mm) Dia



Catalog Number	Description
331 957	Hourmeter, 100K Hours, Illuminated, 12V
331 960	Hourmeter, 100K Hours, Illuminated, 24V
331 953	Hourmeter, 100K Hours, Non Illuminated, 12V

Hourmeters, 2 1/16" (52mm) Dia w/ minute hand



Catalog Number	Description
331 959	Hourmeter, 100K Hours, Non Illuminated, 12V, with minute hand





VDO Pressure & Temperature Senders

Using the expertise we've gained in developing specialized solutions for many of the world's leading marine manufacturers, we offer a large portfolio of pressure and temperature senders for the aftermarket. Unlike many companies today, we manufacture our senders in our own ISO and TSO registered facilities, using the same quality materials and engineering processes, to meet the same quality standards as our OE products.

With optional features such as floating ground, warning contact point to control warning lights and/or warning alarms and dual station (twin gauge) capability, VDO senders offer more choices to meet your specific needs.

With VDO senders, you can count on the performance that you would expect from one of the largest marine suppliers in the world. Designed to meet the challenges of some of the most demanding OE applications, VDO pressure and temperature senders are engineered to deliver maximum performance for years of trouble free service.



Pressure Senders & Switches

Note: All Pressure senders are designed to work with VDO gauges only, unless otherwise noted. Senders are matched to gauges according to maximum reading on dial face. All senders are standard ground (sender case to common ground)

Please note: VDO senders have tapered threads and DO NOT require the use of Teflon tape or pipe sealant. This will interfere with grounding causing incorrect instrument readings.

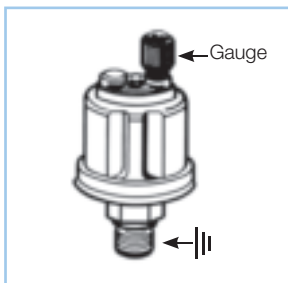


Pressure Sender Kits

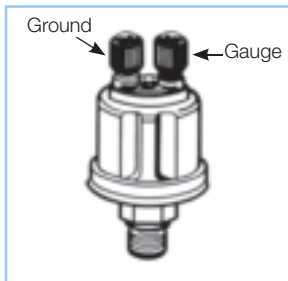
Pressure Sender & Adapter Kits

VDO universal sender kits include 1/8-27NPT common ground pressure sender, spade connector and US thread adapter kit for 1/4-18, 3/8-18 and 1/2-14 NPT threads.

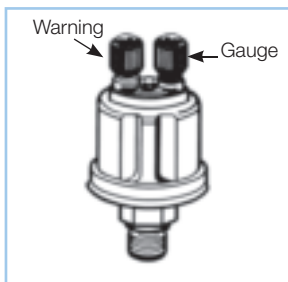
Catalog Number	Description
360 905	Kit 150 PSI with US Thread Adapters
360 900	Kit 80 PSI with US Thread Adapters



Standard Ground: sender case to common ground; and Dual Station Standard Ground



Floating Ground: isolated terminal to common ground; and Dual Station Floating Ground



Standard Ground with Warning Contact

Table 1: 80PSI / 5 bar (10-180Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/4-18 NPTF	8 PSI	Standard	30/20	Knurled Nut	360 019
1/4-18 NPTF		Standard	29/8	Knurled Nut	360 005
1/8-27 NPTF		Standard	29/4	Knurled Nut	360 003
1/8-27 NPTF		Standard	3/1	.250" Spade	362 033
1/8-27 NPTF		Floating	1/1	.250" Spade	362 001
1/8-27 NPTF		Standard	32/1	Knurled Nut	360 410
M10x1		Standard	29/1	Knurled Nut	360 001
M12x1.5		Standard	29/85	Knurled Nut	360 002
M14x1.5		Standard	29/26	Knurled Nut	360 027
M10x1	12 PSI	Standard	30/4	Knurled Nut	360 034
M14x1.5	7 PSI	Standard	30/28	Knurled Nut	360 028
1/8-27 NPTF		Standard	30/23	Knurled Nut	360 009
M10x1	7 PSI	Standard	30/2	Knurled Nut	360 006
M12x1.5	8.5 PSI	Standard	30/6	Knurled Nut	360 007

Table 2: 80PSI / 5 bar (240-330Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Standard	AT84200	10-32 Stud	360 801

Table 3: 100PSI / 7 bar (10-180Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Standard	655	10-32 Stud	360 086

Table 4: 100PSI / 7 bar (240-330Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Standard	734	10-32 Stud	360 811

Table 5: 150PSI / 10 bar (10-180Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/4-18 NPTF		Standard	29/20	Knurled Nut	360 021
1/8-27 NPTF		Standard	29/12	Knurled Nut	360 004
1/8-27 NPTF		Standard	3/2	Knurled Nut	362 034
1/8-27 NPTF		Floating	1/2	.250" Spade	362 002
1/8-28BSP		Standard	29/62	Knurled Nut	360 081
1/8-27 NPTF		Standard	32/14	Knurled Nut	360 430
M10x1		Standard	29/10	Knurled Nut	360 015
1/8-27 NPTF	11.4 PSI	Standard	30/15	Knurled Nut	360 025
M10x1	29.6 PSI	Standard	30/41	Knurled Nut	360 033
M10x1	7 PSI	Standard	30/9	Knurled Nut	360 023
M12x1.5	7 PSI	Standard	30/22	Knurled Nut	360 024

"362" series of pressure senders are for dual station (2 pressure gauge) installations

Pressure Senders & Switches

Table 6: 350 PSI / 25 bar (10-180Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Standard	4/1	.250" Spade	362 035
1/8-27 NPTF		Floating	2/1	.250" Spade	362 003
3/8-18 NPTF		Floating	2/2	.250" Spade	362 007
3/8-18 NPTF		Standard	38/2	.250" Spade	360 432
1/8-27 NPTF		Standard	38/3	M4 Stud	360 431
M14x1.5		Standard	38/1	M4 Stud	360 442



Pressure Sender

Table 7: 400PSI / 28 bar (10-180Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Floating	2/3	Knurled Nut	362 004
1/8-27 NPTF		Floating	38/8	Knurled Nut	360 406

Table 8: 30PSI / 2 bar (10-180Ohm) Pressure Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Floating	32/25	.250" Spade	360 043



Pressure Switch

Heavy-Duty Pressure Switch Technical Specifications:

Normally Open: Contacts open until pressure rises which then completes the circuit. **Normally Closed:** Contacts closed until pressure rises which then breaks the circuit. Direct action blade contact pressure switches with adjustable contact ranges: 4-7 PSI +/- 1; 14-24 PSI +/- 3; 51-90 PSI +/- 7

Contacts: Silver alloy

Operating Pressure (Set Point Range)
4-24 PSI = 150 PSI 25-90 PSI = 250 PSI

Proof Pressure: 500 PSI

Burst Pressure (Set Point Range)
4-24 PSI = 750 PSI 25-90 PSI = 1,250 PSI

Base: Steel plated

Diaphragm: Polyimide film

Cover: Glass reinforced polyester

Electrical Ratings

Resistive: 15 Amp-6 VDC
8 Amp-12 VDC
4 Amp-24 VDC
Inductive: 1 Amp-120 VAC
0.5 Amp-240 VAC

Temperature Range: -40° F to 250° F

Terminals: #8-32 screws

Thread Size: 1/8-27 NPT

Pressure Switches: Single Circuit, Normally Closed, Insulated Ground

Warning Contact Point	Thread	Connection	Circuit	Catalog #
15 PSI	1/8-27 NPTF	#8-32	Normally Closed	230 515
4 PSI	1/8-27 NPTF	#8-32	Normally Closed	230 504
60 PSI	1/8-27 NPTF	#8-32	Normally Closed	230 560

Pressure Switches: Single Circuit, Normally Open, Insulated Ground

Warning Contact Point	Thread	Connection	Circuit	Catalog #
60 PSI	1/8-27 NPTF	#8-32	Normally Open	230 460
4 PSI	1/8-27 NPTF	#8-32	Normally Open	230 404
15 PSI	1/8-27 NPTF	#8-32	Normally Open	230 415

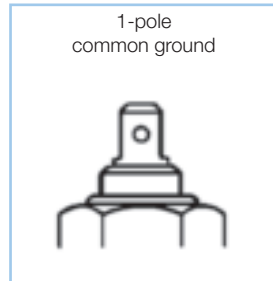
Pressure Switches: Dual Circuit, Normally Open/Normally Closed, Insulated Ground

Warning Contact Point	Thread	Connection	Circuit	Catalog #
60PSI	1/8-27 NPTF	#8-32	Normally Open/Normally Closed	230 660
4PSI	1/8-27 NPTF	#8-32	Normally Open/Normally Closed	230 604
15PSI	1/8-27 NPTF	#8-32	Normally Open/Normally Closed	230 615

Warning Notice: VDO pressure senders are not to be used with any type of fuel application. VDO pressure senders may not be used in automotive braking systems. VDO pressure senders are not suitable for use in aircraft.

Temperature Senders

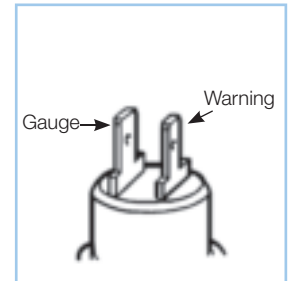
Types of senders



Standard Ground: sender case to common ground



Floating Ground: isolated terminal to common ground



Standard Ground with Warning Contact



Universal Sender Kits

Temperature Sender & Adapter Kits

VDO universal sender kits include 1/8-27NPT common ground temperature sender, spade connector and US thread adapter kit for 1/4-18, 3/8-18 and 1/2-14 NPT threads.

Catalog Number	Description
323 900	Kit 250°F/120°C with US Thread Adapters
323 905	Kit 300°F/150°C with US Thread Adapters

Table A: 250°F / 120°C Temperature Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/2-14 NPTF		Standard	801/1/16	Knurled Nut	323 419
1/2-14 NPTF		Standard	801/1/10	.250" Spade	323 093
1/4-18 NPTF		Standard	801/1/9	.250" Spade	323 420
1/8-27 NPTF		Standard	801/5/1	.250" Spade	323 095
3/8-18 NPTF		Standard	801/1/38	Knurled Nut	323 421
3/8-18 NPTF		Standard	801/1/7	.250" Spade	323 094
5/8-18 UNF		Standard	801/1/8	.250" Spade	323 422
1/4-18 NPTF		Standard	801/2/1	.250" Spade	325 001
1/4-18 NPTF		Floating	805/3/1	.250" Spade	325 002
3/8-18 NPTF		Floating	805/3/3	.250" Spade	325 007
5/8-18 UNF		Floating	805/3/2	.250" Spade	325 003
1/2-14 NPTF		Floating	805/1/4	.250" Spade	323 478
1/4-18 NPTF		Floating	805/1/7	.250" Spade	323 477
3/8-18 NPTF		Floating	805/1/5	.250" Spade	323 479
5/8-18 UNF		Floating	805/1/2	.250" Spade	323 483
M14x1.5		Floating	805/1/1	.250" Spade	323 425
M14x1.5		Standard	801/1/26	Knurled Nut	323 416
M16x1.5		Standard	801/1/29	Knurled Nut	323 417
M18x1.5		Standard	801/1/22	.250" Spade	323 418
1/2-14 NPTF	205°F	Standard	803/1/19	.250 & .187 Spade	323 098
M14x1.5	205°F	Standard	801/1/6	.250 & .187 Spade	323 102
5/8-18 UNF	209°F	Standard	803/1/2	.250 & .187 Spade	323 026
1/2-14 NPTF	217°F	Standard	803/1/25	.250 & .187 Spade	323 099
1/2-14 NPTF	230°F	Standard	803/1/32	.250 & .187 Spade	323 100
M16x1.5	230°F	Standard	803/1/7	.250 & .187 Spade	323 028
M10x1		Standard	801/17/1	.250" Spade	323 088

Note: All Temperature senders are designed to work with VDO gauges only. Senders are matched to gauges according to maximum reading on dial face. Please note: VDO senders have tapered threads and DO NOT require the use of Teflon tape or pipe sealant. This will interfere with grounding causing incorrect instrument readings.

Temperature Senders

Table B: 300°F / 150°C Temperature Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/2-14 NPTF		Standard	801/4/6	M4 Stud	323 060
1/4-18 NPTF		Standard	801/4/17	Knurled Nut	323 058
1/8-27 NPTF		Standard	801/9/1	.250" Spade	323 057
3/8-18 NPTF		Standard	801/4/15	.250" Spade	323 059
5/8-18 UNF		Standard	801/4/9	Knurled Nut	323 061
1/4-18 NPTF		Floating	805/3/2	.250" Spade	323 485
M10x1		Standard	801/9/3	.250" Spade	323 423
M12x1.5		Standard	801/10/3	.250" Spade	323 092
M14x1.5		Standard	801/12/2	.250" Spade at 90°	323 055
M16x1.5		Standard	801/12/1	.250" Spade at 90°	323 056
M18x1.5		Standard	801/12/3	.250" Spade at 90°	323 064
1/2-14 NPTF	250°F	Standard	803/2/15	.250 & .187 Spade	323 120
M14x1.5		Standard	803/2/7	.250 & .187 Spade	323 121
M10x1.5	265°F	Standard	801/10/1	.250" Spade	323 089



Table C: 400°F / 200°C Temperature Senders

Thread	Warning Contact Point	Ground	Component Reference #	Connection	Catalog #
1/8-27 NPTF		Standard	801/13/1	.250" Spade	323 050
1/8-27 NPTF		Standard	801/18/1	.250" Spade	323 086
M10x1.5		Standard	801/3/1	.250" Spade	323 091

Air, Cylinder and Exhaust Temperature Senders

Description	Range	Thread	Connection	Catalog #
Outside Air, for Viewline	185°F		Unterminated Wire Lead	323-112
Outside Air, for Vision Gauges	120°F	M10x1.0	M4 Stud	323 087
Pyrometer Sender, for Ocean Line, Severe Duty and Viewline	1650°F	1/4-18 NPTF	#6 Ring Terminal	326 001
Pyrometer Thermocouple	1650°F	1/4-18 NPTF	#6 Ring Terminal	323 892
Pyrometer Thermocouple and Weld-on Adapter	1650°F	1/4-18 NPTF	#6 Ring Terminal	323 903

Temperature Switches

Temperature Switch Technical Specifications:

Switching Capacity: 1.2W to 3W, non-inductive for monitoring various mediums

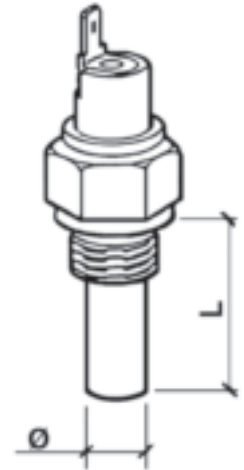
Normally Open, Single Circuit, Standard Ground Systems

Rated Voltage: 6V to 24V

Type of Contact: Contact closes as temperature rises

Break Point: 5° C max. below make point

Contacting Mode: Slow-acting



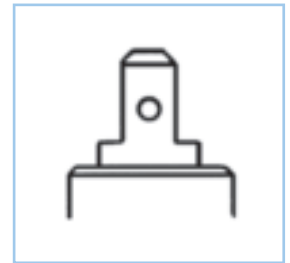
Types of switches



Connection: .250"



Connection: M4 Stud



Connection: .187"

Temperature Switches

Warning Contact Point	Thread	Connection	Circuit	Catalog #
217°F	1/2-14 NPTF	.250" Spade	Normally Open	232 015
217°F	3/8-18 NPTF	.250" Spade	Normally Open	232 017
221°F	1/8-27 NPTF	M4 Stud	Normally Open	232 008
221°F	3/8-18 NPTF	.187" Spade	Normally Open	232 019
158°F	M14x1.5	.250" Spade	Normally Open	232 013
205°F	1/8-27 NPTF	M4 Stud	Normally Open	232 007
194°F	M10x1.5	M4 Stud	Normally Open	232 001
203°F	1/2-14 NPTF	.250" Spade	Normally Open	232 012
221°F	1/2-14 NPTF	.250" Spade	Normally Open	232 005
248°F	1/2-14 NPTF	M4 Screw	Normally Open	232 010
221°F	M14X1.0	M4 Stud	Normally Open	232 016
230°F	M10X1	M4 Stud	Normally Open	232 009
248°F	3/4-16 UNF	.250" Spade	Normally Open	232 018
257°F	M10x1.5	M4 Stud	Normally Open	232 022
230°F	M14x1.5	.250" Spade	Normally Open	232 011
275°F	M10x1.5	M4 Stud	Normally Open	232 021
302°F	M10x1.5	M4 Stud	Normally Open	232 006
338°F	M10x1.5	M4 Stud	Normally Open	232 002
383°F	M10x1.5	M4 Stud	Normally Open	232 020

Speed, Position and Tachometer Senders

Generator Senders

Description	Catalog #
Generator Sender M22X1.5, 4 Pulse	340 002
Generator Sender 7/8-18, 4 Pulse	340 001



340 001

Generator Senders with odometer/revolution counter

Description	Catalog #
Generator Sender with Odometer/Revolution Counter M22X1.5, 4 Pulse	340 007
Generator Sender with Odometer/Revolution Counter 7/8-18, 4 Pulse	340 008

Inductive Sender

Description	Catalog #
Inductive Sender, Magnetic Pickup 2"	340 020



340 020

Position Indicator Senders

Description	Catalog #
Lever Assembly for Angle Indicator Senders	440 100
Position Indicator Sender 0-90 Ohm, Dual Station	440 004
Position Indicator Mounting Kit	440 050
Position Indicator Sender 10-180 Ohm, Single Station	440 003



440 003

Marine Speed Senders

Description	Catalog #
Pitot Speedometer Sender and Tubing Kit	270 900
Replacement Pitot Sender	270 105
Thru Hull Speed/Depth Water Temperature Sender Kit for Viewline Sumlog	402 003
Transom Mount Paddle Wheel Speed Sender	402 001
Transom Mount Speed/Depth/Water Temperature Sender Kit for Viewline Sumlog	402 002



270 900



VDO Fuel and Water Level Senders

Today more than ever, due to tank configurations, you need choices when it comes to designing new systems. VDO gives you those choices, from simple economical solutions to ones that give you integrated delivery and return tubes.

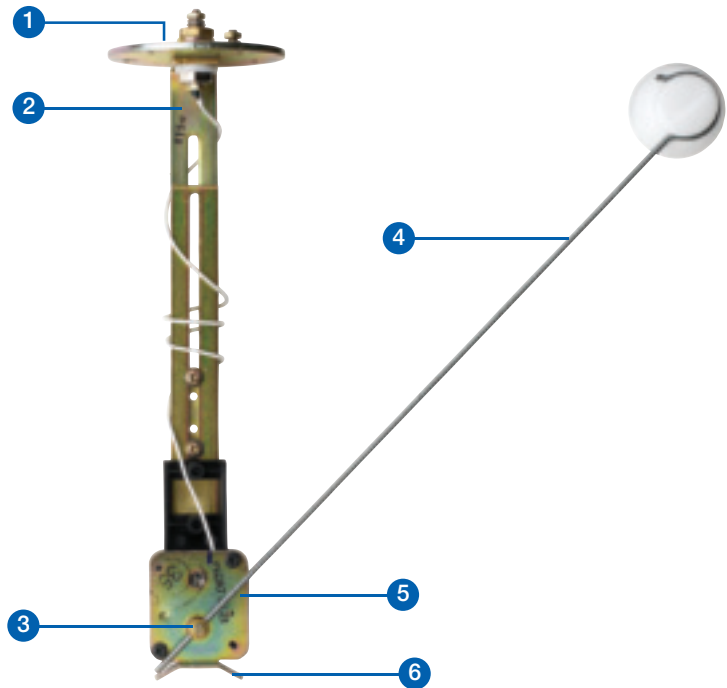
Our original ALAS design, which has been often copied in the industry but never duplicated in its quality or durability, is now joined by two new designs, ALAS I & ALAS II. On the following pages you can see the features of each design and decide for yourself which best meet your requirements.

- **ALAS** (adjustable length arm sender)
- **ALAS I** (adjustable length arm sender with low warning contact)
- **ALAS II** (adjustable length arm sender with low warning contact, draw & return tubes)
- **Tube Type** (compact tubular resistive design)
- **Water Level Senders**

VDO ALAS Plated Steel 12/24V Adjustable Swing Arm Sender

Designed for severe duty use, each of these senders contains an SAE standard five hole metal mounting flange and body components which can be adjusted from 6" to 23" tank depth. Adaptable to right hand or left hand swing arm. Each contains thick film resistor technology for greater resistance to wear associated with standard wire wound units. Each kit contains neoprene mounting gasket and mounting screws. For tanks without flange mounting holes our optional tank mounting kit may be used.

1. SAE 5-hole mounting flange can rotate to position sender for right or left hand swing.
2. Body constructed of plated steel to eliminate damage caused by fuel slosh.
3. Swing arm pivot uses oversized bearings for long life.
4. Adjustable for tank depths from 152mm to 584mm.
5. Wiper and thick film resistor are shielded from fuel slosh for maximum durability.
6. Float arm stops ensure wiper remains in contact with resistor board when tank is full or low.



ALAS Fuel Senders

Description	Component Reference	Mounting Diameter	Catalog #
ALAS Adjustable Fuel Sender 6 _-23", 240-33 Ohm	1-551-004-123D	54mm	226 007
ALAS Adjustable Fuel Sender 6 _-23", 10-184 Ohm, with Tank Flange	1-551-004-082B	54mm	226 002
ALAS Adjustable Fuel Sender 6 _-23", 10-184 Ohm	1-551-004-082B	54mm	226 001
ALAS Adjustable Fuel Sender 6 _-23", 0-90 Ohm	1-551-004-161D	54mm	226 008

0-90 Ohm for dual station applications

VDO ALAS I 12/24V Fuel Senders

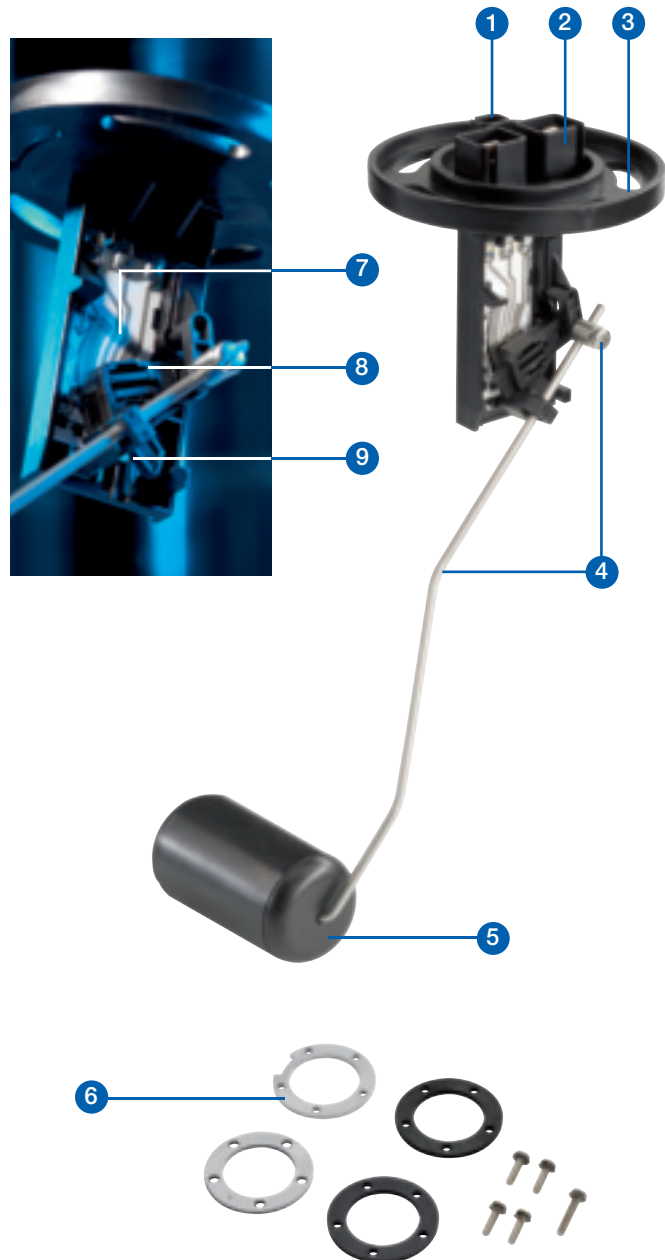
An economical and practical solution for fuel monitoring for tank depths from 140mm to 400mm

Engineered with a redundant dual wiper system, our unique VDO 'quiet arm' and thick film technology, VDO ALAS I leads the field in reliability and durability. In fact, this family of senders has the ability to withstand over one million swing arm cycles without failure. ALAS I senders feature our unique slotted SAE five-hole flange mount, an industry first that gives you the utmost in versatility for sender mounting positions.

Three resistance values are available, 10-180 Ohm, 240-33 Ohm & 0-90 Ohm. ALAS I senders are available with an optional low fuel warning contact circuit found in no other universal type sender.

Upon request, we can supply senders fully assembled to your specifications.

1. Available with low fuel warning contact.
2. Redundant ground connection.
3. Unique SAE 5-hole slotted mounting plate allows for positioning sender for left or right hand applications.
4. Stainless steel float arm and pivot adjusts from 140mm to 400mm.
5. "No sink" solid float.
6. Steel reinforced mounting hardware (included with single packed senders).
7. VDO thick film element with 39-step resolution.
8. Redundant dual wiper system.
9. 'Quiet arm' minimizes float movement.



ALAS I Fuel Senders

Description	Warning contact	Component Reference	Mounting Diameter	Catalog #
ALAS I Adjustable Fuel Sender, 6-15", 3-180 Ohm, with Low Fuel Warning Contact	Yes	A2C59510162	54mm	226 162
ALAS I Adjustable Fuel Sender, 6-15", 240-33 Ohm, with Low Fuel Warning Contact	Yes	A2C59510163	54mm	226 163
ALAS I Adjustable Fuel Sender, 6-15", 0-90 Ohm, with Low Fuel Warning Contact	Yes	A2C59510164	54mm	226 164



ALAS II 12/24V Fuel Senders with Draw / Return Tubes

Again, VDO is first to market with the only adjustable fuel sender featuring interchangeable draw / return tubes, plus standard low fuel warning contact. Just pick the length and diameter of the draw / return tubes based on your gas or diesel application, set the float length and you're ready for installation.

If you have several tank configurations, inventory is minimized with our 'one size fits all' design, without compromising the durability or integrity of the sender. These units are fully adjustable from 140mm to 400mm.

Engineered with a redundant dual wiper system, the unique VDO 'quiet arm' and thick film technology, ALAS II leads the field in reliability and durability. In fact, this family of senders has the ability to withstand over one million swing arm cycles without failure. VDO ALAS II senders feature our unique slotted SAE 5-hole flange mount, an industry first that gives you the utmost in versatility for sender mounting positions.

Three resistance values are available, 10-180 ohm, 240-33 ohm and 90-0 ohm. ALAS II senders come with a standard low fuel warning contact circuit that is not offered in other universal type senders.

Upon request, we can supply senders fully assembled to your specifications.

Each draw / return tube has 360° of positioning capability within the flange to meet your specific application.

Draw / return tubes available in four different diameters (6.5mm, 8mm, 10 and 12mm), accommodating tank depths up to 400mm.

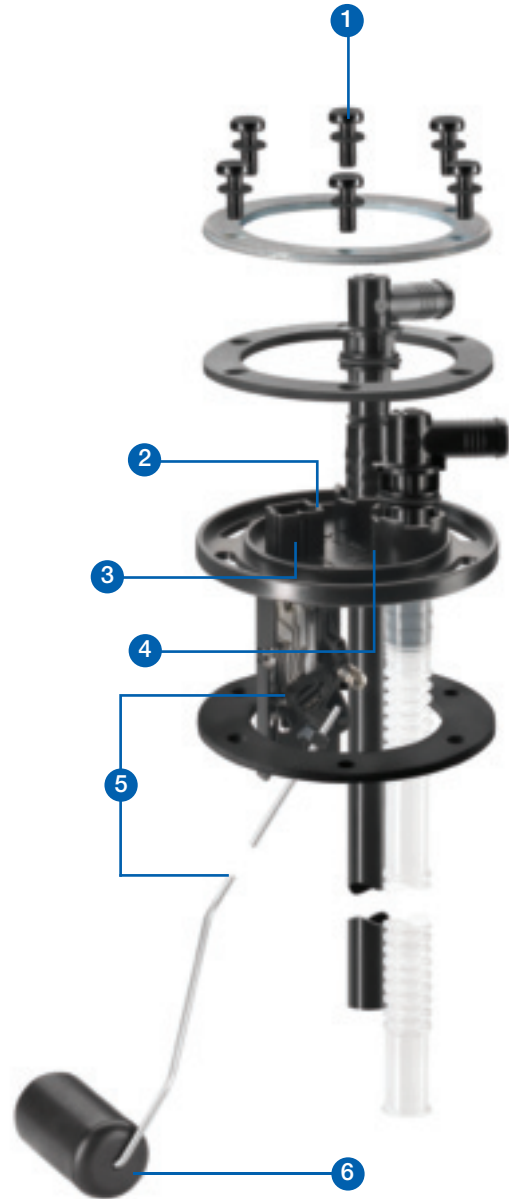
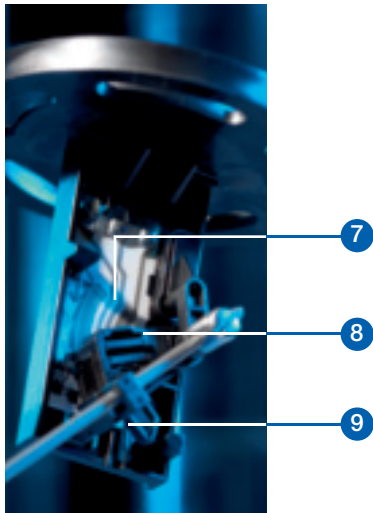
Where return tubes are not required, a port plug is available.



ALAS II Fuel Senders				
Description	Warning contact	Component Reference	Mounting Diameter	Catalog #
ALAS II Adjustable Fuel Sender, 5_-15_", 3-180 Ohm, with Low Fuel Warning Contact	Yes	A2C53278239	80mm	226 946
ALAS II Adjustable Fuel Sender, 5_-15_", 240-33 Ohm, with Low Fuel Warning Contact	Yes	A2C53278250	80mm	226 973
ALAS II Adjustable Fuel Sender, 5_-15_", 0-90 Ohm, with Low Fuel Warning Contact	Yes	A2C53278251	80mm	226 975

ALAS II Platform:

1. Steel reinforced mounting hardware.
2. Standard with low fuel warning contact.
3. Redundant ground connection.
4. Unique SAE 5-hole slotted mounting plate allows for positioning sender for left or right hand applications.
5. Stainless steel float arm and pivot adjusts from 140mm to 400mm.
6. 'No sink' solid float.
7. VDO thick film element with 39-step resolution.
8. Redundant dual wiper system.
9. 'Quiet arm' minimizes float movement.



ALAS II Fuel Sender Installation Kit and Draw & Return Tubes		
Step 1: Required installation kit	Installation Kit	226 985
Step 2: Select draw tube	Tube inside diameter	Single
	6.5mm	226 955
	8.0mm	226 953
	10.0mm	226 951
Step 3: Select return tube	Tube inside diameter	Single
	6.5mm	226 956
	8.0mm	226 954
	10.0mm	226 952
Step 4: (optional - if 1 or both tubes are not required)		Single
	port plug	226 965





VDO Tube Type 12/24V Fuel Senders

Our VDO tube type fuel senders are considered to be the most robust fuel sender in our product offering today.

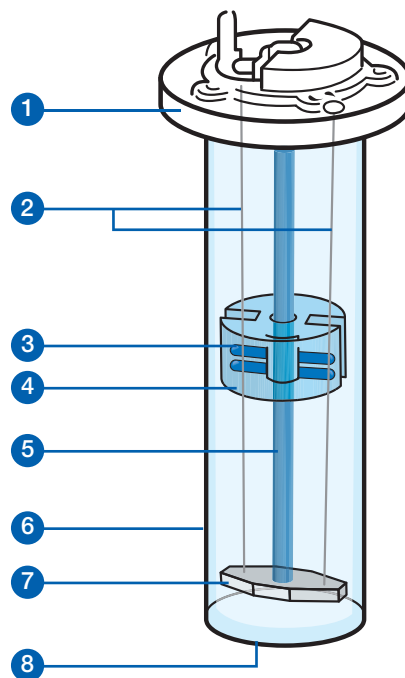
The advantage of a tube type sender is that it uses the least amount of space within a tank, with no worries about float arm direction. The float is contained within the aluminum cylindrical housing, and it rides on two resistive wires that protect it from the 'extreme fuel sloshing' that occurs in many shallow, large or odd sized tanks.

VDO tube type fuel senders feature a standard SAE 5-hole mounting flange and can fit tanks depths from 150mm to 800mm.

- Suitable for gasoline and diesel fuels.
- Ideal for situations where fuel slosh is problematic.
- Aluminum flange and housing can withstand extreme environments, where dust or salt water spray are present.
- Available in 34 standard lengths from 150mm (~6in) to 800mm (~31 1/2 in).
- M4 stud and .250" spade connections provided with each sender.
- Supplied with neoprene mounting gasket.

VDO tubular level sensor

- | | |
|----------------------|------------------------|
| 1. Mounting flange. | 5. Guide bar. |
| 2. Resistance wires. | 6. Protecting tube. |
| 3. Contact springs. | 7. Insulating piper. |
| 4. Float. | 8. Liquid access hole. |



Tube Type Fuel Level Senders				
Mounting Dia.	Mounting Depth	Component Ref. #	Connection	Catalog #
54mm	150.0 mm / 6.0 in.	224-011-000-150X	interchangeable: .250 Spade or M4 Stud	224 215
54mm	160.0 mm / 6.3 in.	224-011-000-160X	interchangeable: .250 Spade or M4 Stud	224 216
54mm	170.0 mm / 6.7 in.	224-011-000-170X	interchangeable: .250 Spade or M4 Stud	224 217
54mm	180.0 mm / 7.1 in.	224-011-000-180X	interchangeable: .250 Spade or M4 Stud	224 218
54mm	190.0 mm / 7.5 in.	224-011-000-190X	interchangeable: .250 Spade or M4 Stud	224 219
54mm	200.0 mm / 7.9 in.	224-011-000-200X	interchangeable: .250 Spade or M4 Stud	224 220
54mm	210.0 mm / 8.3 in.	224-011-000-210X	interchangeable: .250 Spade or M4 Stud	224 221
54mm	220.0 mm / 8.7 in.	224-011-000-220X	interchangeable: .250 Spade or M4 Stud	224 222
54mm	230.0 mm / 9.1 in.	224-011-000-230X	interchangeable: .250 Spade or M4 Stud	224 223
54mm	240.0 mm / 9.5 in.	224-011-000-240X	interchangeable: .250 Spade or M4 Stud	224 224
54mm	247.7 mm / 9.8 in.	82/6/97	M4 Stud	224 062
54mm	250.0 mm / 9.9 in.	224-011-000-250X	interchangeable: .250 Spade or M4 Stud	224 225
54mm	251.5 mm / 10.0 in.	82/7/22	.250" Spade	224 055
54mm	260.0 mm / 10.3 in.	224-011-000-260X	interchangeable: .250 Spade or M4 Stud	224 226
54mm	270.0 mm / 10.7 in.	224-011-000-270X	interchangeable: .250 Spade or M4 Stud	224 227
54mm	280.0 mm / 11.1 in.	224-011-000-280X	interchangeable: .250 Spade or M4 Stud	224 228

Fuel and Water Level Senders

Tube Type Fuel Level Senders

Mounting Dia.	Mounting Depth	Component Ref. #	Connection	Catalog #
54mm	290.0 mm / 11.5 in.	224-011-000-290X	interchangeable: .250 Spade or M4 Stud	224 229
54mm	300.0 mm / 11.9 in.	224-011-000-300X	interchangeable: .250 Spade or M4 Stud	224 230
54mm	310.0 mm / 12.3 in.	224-011-000-310X	interchangeable: .250 Spade or M4 Stud	224 231
54mm	310.5 mm / 12.3 in.	82/5/136	M4 Stud	224 063
54mm	320.0 mm / 12.6 in.	224-011-000-320X	interchangeable: .250 Spade or M4 Stud	224 232
54mm	330.0 mm / 13.2 in.	224-011-000-330X	interchangeable: .250 Spade or M4 Stud	224 233
54mm	340.0 mm / 13.4 in.	224-011-000-340X	interchangeable: .250 Spade or M4 Stud	224 234
54mm	350.0 mm / 13.8 in.	224-011-000-350X	interchangeable: .250 Spade or M4 Stud	224 235
54mm	360.0 mm / 14.2 in.	224-011-000-360X	interchangeable: .250 Spade or M4 Stud	224 236
54mm	370.0 mm / 14.6 in.	224-011-000-370X	interchangeable: .250 Spade or M4 Stud	224 237
54mm	372.0 mm / 14.7 in.	82/7/4	.250" Spade	224 065
54mm	380.0 mm / 15.0 in.	224-011-000-380X	interchangeable: .250 Spade or M4 Stud	224 238
54mm	390.0 mm / 15.4 in.	224-011-000-390X	interchangeable: .250 Spade or M4 Stud	224 239
54mm	400.0 mm / 15.8 in.	224-011-000-400X	interchangeable: .250 Spade or M4 Stud	224 240
54mm	404.5 mm / 16.0 in.	82/5/142	M4 Stud	224 054
54mm	433.5 mm / 17.1 in.	82/5/98	M4 Stud	224 066
54mm	450.0 mm / 17.8 in.	224-011-000-450X	interchangeable: .250 Spade or M4 Stud	224 245
54mm	498.5 mm / 19.7 in.	82/5/117	M4 Stud	224 067
54mm	500.0 mm / 19.7 in.	224-011-000-500X	interchangeable: .250 Spade or M4 Stud	224 250
54mm	541.5 mm / 21.3 in.	82/7/5	.250" Spade	224 003
54mm	550.0 mm / 21.7 in.	224-011-000-550X	interchangeable: .250 Spade or M4 Stud	224 255
54mm	596.5 mm / 23.5 in.	82/7/17	.250" Spade	224 069
54mm	600.0 mm / 23.7 in.	224-011-000-600X	interchangeable: .250 Spade or M4 Stud	224 260
54mm	650.0 mm / 25.6 in.	224-011-000-650X	interchangeable: .250 Spade or M4 Stud	224 265
54mm	691.5 mm / 27.3 in.	82/5/11	M4 Stud	224 004
54mm	700.0 mm / 27.6 in.	224-011-000-700X	interchangeable: .250 Spade or M4 Stud	224 270
54mm	750.0 mm / 29.6 in.	224-011-000-750X	interchangeable: .250 Spade or M4 Stud	224 275
54mm	787.5 mm / 31.1 in.	82/5/72	M4 Stud	224 049
54mm	800.0 mm / 31.5 in.	224-011-000-800X	interchangeable: .250 Spade or M4 Stud	224 280
54mm	835.0 mm / 32.9 in.	82/5/34	M4 Stud	224 051
80mm	882.7 mm / 34.8 in.		.250" Spade	224 074
80mm	916.0 mm / 36.1 in.		.250" Spade	224 052
80mm	1086.0 mm / 42.8 in.		M5 Stud	224 075

Water Level Senders

Constructed of durable stainless steel, these senders are designed for fresh and blackwater applications as indicated. Mounting hardware is supplied with each sender.

Water Type	Sender Type	Mounting Depth	Mounting Dia.	Catalog #
Waste Water	Capacitive	80600.0 mm / 3.1-23.5 in	54mm	226 456
Waste Water	Capacitive	6001200.0 mm / 23.5-47.2 in	54mm	226 457
Waste Water	Capacitive	12001500.0 mm / 47.2-59.0 in	54mm	226 458
Fresh Water	Lever Arm	203584.0 mm / 8.0-23.0 in	54mm	226 452
Fresh Water	Capacitive	80600.0 mm / 3.1-23.5 in	54mm	226 453
Fresh Water	Capacitive	6001200.0 mm / 23.5-47.2 in	54mm	226 454
Fresh Water	Capacitive	12001500.0 mm / 47.2-59.0 in	54mm	226 455



Instrument Accessories and Service Parts

Complete Wiring Harnesses

240 031	Instrument Wiring Harness for 5 or 6 Vision or Cockpit Gauges, Speed/Tach Off-Centered
240 030	Instrument Wiring Harness for 5 or 6 Vision or Cockpit Gauges, Speed/Tach Centered
240 022	Instrument Wiring Harness for 5 or 6 Vision and Cockpit Gauges
240 037	Instrument Wiring Harness for 5 or 6 Viewline Gauges, Speed/Tach Centered



240 022

Wiring Harness & Accessories for Vision, Cockpit and Series 1 Instruments

240 045	M4 Stud to .250" Blade Terminal Adapter
240 023	1 Gauge Universal Wiring Kit (Except Viewline)
240 021	1 Gauge Universal Ammeter Wiring Kit (Except Viewline)
240 024	8 pole Connector for Vision, Cockpit and Series 1 Speedometers and Tachometers with LCD
240 053	8 pole Connector for Vision, Cockpit and Series 1 Speedometers and Tachometers without LCD
240 026	3 prong Connector with Terminals
240 025	3 prong Connector for Vision & Cockpit Series



240 023

Wiring Harness & Accessories for Viewline

240 097	8 pole Retrofit Harness for Viewline
240 098	8 pole Connector and Pins for 1 Viewline Instrument
240 99	14 pole Connector and Pins for 1 Viewline Instrument
240 205	Programming & Mode Button for Viewline Speedometer or Tachometer - 1/8" Spade Connector
240-046	Programming & Mode Button for Viewline Speedometer or Tachometer - .250" Spade Connector
240 048	Connection Pins for Viewline Connector
240 201	8 pole Harness with 500mm Leads for 1 Viewline Instrument
240 204	14 pole Harness with 500mm Leads for 1 Viewline Speedometer or Tachometer



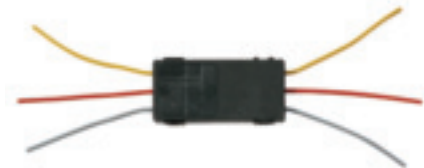
240 026

Air, Cylinder and Exhaust Temperature Sender Parts

240 092	Pyrometer Extension Cable, 30ft
326 002	Pyrometer Cable for Viewline & Ocean Line/Severe duty, 13ft
240 863	Weld on Threaded nut for Mounting Pyrometer Sender
240 702	Pyrometer Cable for Vision & Cockpit International, 12ft

Resistors & Shunts

391 302	100A Shunt for Viewline
391 011	140A Shunt for Ocean Line and Severe Duty
391 303	150A Shunt for Viewline
391 007	150A Shunt for Vision
391 300	30A Shunt for Viewline
391 702	32V Resistor Kit
391 301	60A Shunt for Viewline
391 010	80A Shunt for Ocean Line and Severe Duty Instruments
391 706	Resistor for Severe Duty 2 1/16" (52mm) dia, 12V to 24V
391 704	Resistor Kit 12V to 24V with Type A Bulb
A2C59510221-S	Resistor Kit for Viewline Instruments, 12V to 24V
391 101	Resistor Kit for Vision & Cockpit International with Peanut Bulb, 12V to 24V
391 102	Resistor Kit for Vision & Cockpit International with Wedge Bulb, 12V to 24V
391 103	Resistor Kit for Vision, Cockpit and Series 1 3 3/8" Tachometers without Hourmeters, 12V to 24V



A2C59510221-S

Makepoint Switch

A2C59510886-S	Makepoint Switch for Viewline Warning Light - 1 req. per Instrument
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Instrument Accessories and Service Parts



600 402



Spin-Lok™ Mounting Rings



Mounting Brackets



Instrument Panel Hole Cover

Replacement Instrument Lenses

600 513	Replacement Lens for 4" (100mm) Vanguard Instruments
600 514	Replacement Lens for 3 3/8" (85mm) Ocean line/Severe Duty and Vanguard Instruments
600 515	Replacement Lens for 2 1/16" (52mm) Ocean line/Severe Duty and Vanguard Instruments

Replacement Spin-Lok™ Mounting Rings

600 416	4 3/8" (110mm) for Viewline
600 415	3 3/8" (85mm) for Viewline
600 406	3 3/8" (85mm) for Vision, Cockpit and Series 1 Instruments
600 404	2 1/16" (52mm) for All VDO Instruments
600 408	4" (100MM) for Vision and Cockpit Series Instruments

Stud Mounting Kits

600 401	Stud Mount Conversion Kit for 3 1/8" and 3 3/8" Vision and Cockpit Series Gauges
600 402	Stud Mount Conversion Kit for 2 1/16" Vision and Cockpit Series Gauges

Flush Mount Kits

600 413	Back Mount Bracket and Gasket for 1 Viewline Instrument
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Rubber Mounting Brackets

240 804	3 Gauge Rubber Mounting Bracket for 2 1/16" Gauges
240 803	2 Gauge Rubber Mounting Bracket for 2 1/16" Gauges
240 802	1 Gauge Rubber Mounting Bracket for 2 1/16" Gauges

Steel Mounting Brackets

240 036	3 Gauge Mounting Bracket - for 2 1/16" Gauges - Chrome
240 029	3 Gauge Mounting Bracket - for 2 1/16" Gauges - Black
240 035	2 Gauge Mounting Bracket - for 2 1/16" Gauges - Chrome
240 028	2 Gauge Mounting Bracket - for 2 1/16" Gauges - Black
240 034	1 Gauge Mounting Bracket - for 2 1/16" Gauges - Chrome
240 027	1 Gauge Mounting Bracket - for 2 1/16" Gauges - Black

Instrument Panel Hole Covers

240 866	Instrument Panel Hole Cover, 3 3/8"
600 508	Instrument Panel Hole Cover, 2 1/16", Square Front
240 864	Instrument Panel Hole Cover, 2 1/16"

Reducer Rings

600 885	Reducing Ring 3 3/8" to 3 1/8"
600 851	Reducing Ring 2 3/8" to 2 1/16"

Steel Mounting Cups

240 018	Steel Mounting Cup Kit for 3 3/8" Gauges - Black
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Instrument Accessories and Service Parts

Steel Mounting Cups

240 017	Steel Mounting Cup Kit for 2 1/16 Gauges - Chrome
240 019	Steel Mounting Cup Kit for 3 3/8 Gauges - Chrome
240 016	Steel Mounting Cup Kit for 2 1/16 Gauges - Black



Mounting Cups

Adjustable Mounting Cup

240 102	Plastic Mounting Cup for 3 1/8" Gauges - Black
240 101	Plastic Mounting Cup for 2 1/16 Gauges - Black



Adjustable Mounting Cups

Anti-Glare Rings

240 005	Anti-Glare ring for 2 1/16 Gauges - Pair
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Fuel & Water Sender Service Parts

226 451	SAE 5 Hole Mounting Flange Kit
600 601	Replacement Float for ALAS Fuel Senders
600 408	Bolt on Flange Kit for Lever Arm Type Fuel Senders
226 053	Replacement Neoprene Fuel Sender Gasket - SAE 5 Hole
226 479	Replacement Float Arm with Float
226 965	Replacement Draw/Return Plug for ALAS II Fuel Senders
226 985	ALAS II Fuel Sender Installation Kit
226 404	Mounting Kit for Freshwater Level Sender



Anti-glare Rings

Adapters & Fittings

240 041	Right Angle Oil Pressure Adapter M10 X 1
240 850	Brass T Adapter M10 X 1
240 855	Brass T Adapter 1/8-27 NPTF
240 904	Brass Adapters, includes 1/8-27 NPTF to: M16x1.5, M14x1.5, M12x1.5, M10x1 and 1/8-28BSP
240 903	Brass Adapters, includes 1/8-27 NPTF to 1/4-18, 3/8-18 and 1/2-14
240 828	Angle Adapter 1/8-27 NPTF male X 1/8-27 NPTF female



Nylon Tubing Kits

Tubing Kits

150 752	Remote Hose Adapter Kit, M10 x 1
240 902	Remote Hose Adapter Kit, 1/8-27 NPTF
150 856	0-400 PSI Copper Tubing Kit, 16ft
150 851	0-150 PSI Nylon Tubing Kit, 6ft
150 855	0-150 PSI Nylon Tubing Kit, 16ft

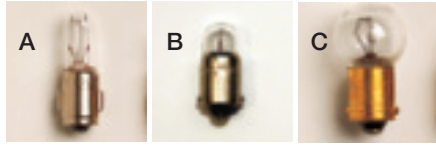


Copper Tubing Kits

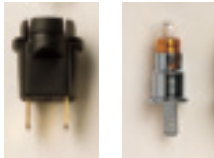
Warning Buzzer

407 1101	Panel Mounted Warning Buzzer with Black Bezel
407 4101	Panel Mounted Warning Buzzer with Chrome Bezel

Instrument Accessories and Service Parts



600 813 600 819 600 823



600 840 600 816



600 821 600 818



Warning Lights



Light Diffusers

Replacement Bulbs

Replacement Bulbs		Voltage
600 826	Type E Wedge Based Bulb, 24V 3W, 4 Pack	24V
600 815	Type E Wedge Based Bulb, 12V 3.4W, 4 Pack	12V
600 822	Type D Wedge Based Peanut Bulb, red, 24V. 1.2W, 4 Pack	24V
600 824	Type D Wedge Based Peanut Bulb, red, 12V. 1.2W, 4 Pack	12V
600 829	Type D Wedge Based Peanut Bulb, 24V. 1.2W, 4 Pack	24V
600 809	Type D Wedge Based Peanut Bulb, 12V. 1.2W, 4 Pack	12V
600 820	Type C 3/8" (10mm) Metal Base Bulb, 12V, 2W, 4 Pack	12V
600 806	Type B 1 1/32" (9mm) Metal Base Bulb, 24V, 4W, 4 Pack	24V
600 804	Type B 1 1/32" (9mm) Metal Base Bulb, 12V, 2W, 4 Pack	12V
600 807	Type A 9/32" (7mm) Metal Base Bulb, 24V, 3W, 4 Pack	24V
600 802	Type A 9/32" (7mm) Metal Base Bulb, 12V, 2W, 4 Pack	12V

Replacement Warning Light for Ocean Line & Severe Duty Instruments

05 800 762	Red Warning Light with Socket, 12V
05 800 764	Red Warning Light with Socket, 24V

Replacement Bulb Sockets

600 840	Type E Plastic Bulb Socket
600 821	Type C Steel Bulb Socket
600 818	Type B Steel Bulb Socket
600 819	Type B Plastic Bulb Socket
600 816	Type A Steel Bulb Socket
600 813	Type A Plastic Bulb Socket
600 817	Type A Brass Bulb Socket
600 839	Performance Tachometer Bulb Socket

Panel Mount Warning Lights

600 846	Yellow Snap in Panel Light, 12V
600 844	Red Snap in Panel Light, 12V
600 845	Green Snap in Panel Light, 12V
600 847	Blue Snap in Panel Light, 12V

Light Diffusers

600 861	Red Light Diffusers for Type C and E Wedge Bulbs, 4 Pack
600 859	Red Light Diffusers for Type D Peanut Bulb, 4 Pack
600 857	Red Light Diffusers for Type B Bulb, 4 Pack
600 853	Red Light Diffusers for Type A Bulb, 4 Pack
600 862	Green Light Diffusers for Type C and E Wedge Bulbs - 4pack
600 860	Green Light Diffusers for Type D Peanut Bulb - 4 pack
600 856	Green Light Diffusers for Type A Bulb - 4 pack
600 863	Blue Light Diffusers for Type C and E Wedge Bulbs - 4pack
600 864	Amber Light Diffusers for Type C and E Wedge Bulbs - 4pack

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