

# VDO®

## Marine



*VDO Marine  
Instruments*

**m**annesmann VDO

*VDO North America is a worldwide supplier of electronic information and control systems. Since 1921, we have been a leader in instrument and sensor technology, providing leading-edge systems and components for the marine, automotive, heavy duty, and industrial markets.*

*Over the years, VDO has earned a world-renowned reputation for its innovation, strict quality standards, technological expertise and commitment to excellence. Today, we proudly supply quality instrumentation and sensors to some of the most demanding customers in the world.*



*In addition to being standard equipment for some of the world's most prestigious boat builders, our products can be found on vehicles manufactured by BMW, Porsche, Mercedes, Saturn, Freightliner, John Deere, Harley Davidson and Yamaha.*

*The products in this catalog are built to this same level of quality and reliability, so you will have years of enjoyment and trouble-free performance. We take pride in our ability to make the world's best instruments.*



*Photo courtesy of Thunderbird Products*

# VDO Marine Instruments and Accessories

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### VDO Limited Warranty

VDO North America warrants all merchandise against defects in factory workmanship and materials for a period of 24 months after purchase. This warranty applies to the first retail purchaser and covers only those products exposed to normal use or service. Provisions of this warranty shall not apply to a VDO product used for a purpose for which it is not designed, or which has been altered in any way that would be detrimental to the performance or life of the product, or misapplication, misuse, negligence or accident. On any part or product found to be defective after examination by VDO North America, VDO North America will only repair or

replace the merchandise through the original selling dealer or on a direct basis. VDO North America assumes no responsibility for diagnosis, removal and/or installation labor, loss of vehicle use, loss of time, inconvenience or any other consequential expenses. The warranties herein are in lieu of any other expressed or implied warranties, including any implied warranty of merchantability or fitness, and any other obligation on the part of VDO North America, or selling dealer.

(Note: This is a "Limited Warranty" as defined by the Magnuson-Moss Warranty Act of 1975.

VDO North America LLC • 188 Brooke Road • P.O. Box 2897 • Winchester, VA 22603 • Phone: (540) 665-0100

# VISION SERIES

## NEW! VDO introduces the Vision Series of instrumentation.

The Vision Series features easy-to-read white graphics on a black dial with red pointers. Black-painted brass bezels provide long-life corrosion resistance.

For unsurpassed night time visibility, Vision combines an illuminated pointer and VDO's exclusive Trioptic™ Illumination, with through-dial lighting. Innovations, such as the use of stepper-motor technology and the utilization of VDO designed air core movements, create highly accurate, dependable, and long-lasting

instruments. VDO's 360° Spin-Lok™ mounting system secures the instrument with 360° of force, allowing for easy installation and prevents gauge rotation or panel warping. Illumination color can be changed by using optional light diffusers.



## SPEEDOMETERS, Pitot type 12V illumination, 3 3/8" (85mm) dia.

Description	Part #
35 MPH gauge only	260 103
50 MPH gauge only	260 111
80 MPH gauge only	260 101
Pitot tube pickup and sending kit	270 900

## TACHOMETERS with hourmeter\* Programmable, 12V, 3 3/8" (85mm) dia.

Description	Part #
For alternator, DDEC, inductive, generator, and gas applications.	
3,000 RPM	333 162
4,000 RPM	333 163
6,000 RPM	333 164

\*Hour meter functions only when engine is running.  
For sender listings, see page 16.

## TACHOMETERS, without Hourmeter Programmable, 12V, 3 3/8" (85mm) dia.

Description	Part #
For alternator and DDEC applications	
3,000 RPM	333 152
4,000 RPM	333 153
For ignition gas 4, 6, 8 cylinder and O/B applications	
6,000 RPM	333 154

See page 16 for sender listings.

## SYNCHRONIZER Programmable, 3 3/8" (85mm) dia.

Description	Part #
Alternator, inductive, gas	333 190

## TEMPERATURE GAUGES Electrical, 12V, 2 1/16" (52mm) dia.

Description	On Gauge	Part #
220°F U.S. ohm range	"Water"	310 104
250°F VDO ohm range	"Water"	310 105
300°F VDO ohm range	"Oil"	310 106

See page 15 for sender listings.

## Mechanical, 12V illumination, 2 1/16" (52mm) dia., 1/2" adapter included

Description	On Gauge	Part #
265°F 72" cap. tubing	Water	180 101
265°F 96" cap. tubing	Water	180 102



260 111



333 163



310 106

**PRESSURE GAUGES**

**Electrical, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	On Gauge	Part #
80 psi 10-180 ohms (VDO)	"Oil"	350 104
80 psi 240-33 ohms (US)	"Oil"	350 105
100 psi 10-180 ohms (VDO)	"Oil"	350 106
100 psi 240-33 ohms (US)	"Oil"	350 107
150 psi 10-180 ohms (VDO)	"Oil"	350 108
150 psi 240-33 ohms (US)	"Oil"	350 109
400 psi 10-180 ohms (VDO)	"Trans"	350 110

See page 14 for sender listings.



350 104

**Mechanical, 12V illumination, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia., 1/8-27 NPT connection**

Description	On Gauge	Part #
15 psi	"Boost"	150 101
30 psi	"Boost"	150 104
30 psi	"PSI"	150 103
100 psi	"Oil"	150 107
150 psi	"Oil"	150 111



150 111

**PYROMETER, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia., 12V**

Description	Part #
1,600°F, Complete kit	310 153
Gauge only	310 151
Pyro sender only	323 892



332 103

**VOLTMETER, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia., 12V**

Description	On Gauge	Part #
8-16V	"Volts"	332 103

**TRIM GAUGES, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia., 12V**

Description	Part #
OMC	382 151
Mercury	382 152
Johnson O/B OMC O/B	382 155



301 104

**FLUID LEVEL GAUGES, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia., 12V**

Description	On Gauge	Part #
10-180 ohms (VDO)	"Fuel"	301 104
240-33 ohms (US)	"Fuel"	301 105
Adjustable, for VDO tube senders	"Fuel"	301 107
10-180 ohms (US)	"Water"	301 109
240-33 ohms (US)	"Water"	301 110

See page 13 for sender listings.

**CLOCK, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Part #
Quartz, 12V	370 152

**HOURMETER, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

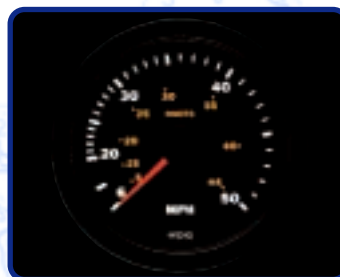
Description	Part #
Non-Illuminated, 12V	331 151



370 152

See page 19 for Vision Series instrument specifications and dimensions.

*Trioptic™ Illumination  
for superior visibility.*



# VANGUARD SERIES

Now you can benefit from a new dimension in instrument illumination with our innovative Vanguard series. Exclusive illuminated heat-resistant pointers stand out sharply, rather than disappearing into the dial face.

Through-dial lettering is highly legible, day or night. Bi-color LEDs allow the choice of red or green illumination for compatibility with today's modern navigational equipment.



Other features include dual lenses to prevent fogging, and individual or four gauge combination clusters for design flexibility. The unique Spin-Lok™ mounting system reduces installation depth. Only VDO could build the Vanguard series to give you the assurance of a lifetime of use.

The Vanguard Series is offered with square bezels as standard styling. Round bezels may be purchased as an accessory kit.

**SPEEDOMETER, Pitot Type, 4" (100mm) dia.**  
Indicator Head Only, Pitot Pick-Up Kit available separately.

Description	12V	24V
50mph	260 201	-
75mph	260 203	-
Pitot Tube Pick-Up & Tubing Kit	270 900	-

**TACHOMETER, Electronic, 4" (100mm) dia., with hourmeter**

Description	12V	24V
3,000 RPM, w/EHM, Diesel		
Inductive/DDEC/Alternator	333 201	333 203
Generator 1:1 & 1:2 Ratios	333 229	333 231
4,000 RPM, w/EHM, Diesel		
Inductive/DDEC/Alternator	333 205	333 207
Generator 1:1 & 1:2 Ratios	333 237	333 239
6,000 RPM, w/EHM, Ign., Gas & O/B	333 209	-
8,000 RPM, w/EHM, Ign., Gas & O/B	333 211	-

*For sender listing see page 16.*

**TACHOMETER, Electronic, 4" (100mm) dia., without hourmeter**

Description	12V	24V
3,000 RPM, w/o EHM, Diesel		
Inductive/DDEC Alternator	333 215	333 217
Generator 1:1 & 1:2 Ratios	333 245	333 227
4,000 RPM, w/o EHM, Diesel		
Inductive/DDEC/Alternator	333 219	333 221
Generator 1:1 & 1:2 Ratios	333 233	333 235
6,000 RPM, w/o EHM, Ign., Gas & O/B	333 223	-
8,000 RPM, w/o EHM, Ign., Gas & O/B	333 225	-

*For sender listing see page 16.*

**ENGINE SYNCHRONIZER, 4" (100mm) dia.**

Description	12V	24V
Ignition, Gas Outboard & Diesel		
Programmable Signal	333 241	333 243

*For sender listing see page 16.*

**FOUR-GAUGE CLUSTER, Electrical, 4" (100mm) dia.**

Description	12V	24V
Fuel / Volt / 80PSI / 250°F, VDO Sender	110 201	110 203
Fuel / Volt / 80PSI / 220°F, US Sender	110 205	110 207
Fuel / Volt / 150PSI / 250°F, VDO Sender	110 209	-
Fuel / Volt / 80PSI / 250°F, US Sender	110 217B	-

*Consult the sender section for complete list of senders.*



260 203



333 209



110 205

**THREE-GAUGE CLUSTER, Electrical, 4" (100mm) dia.**

Description	12V	24V
Volt / 80PSI / 220°F US Sender	110 213	-

*Consult the sender section for complete list of senders.*



310 203

**TEMPERATURE GAUGES, Electrical, 2 1/16" (52mm) dia.**

Description	12V	24V
220°F US Ohm range	310 205	310 209
250°F VDO Ohm range	310 207	310 211
300°F VDO Ohm range	310 201	310 203

*See page 15 for sender listings.*



350 203

**PRESSURE GAUGES, Electrical, 2 1/16" (52mm) dia.**

Description	12V	24V
80PSI 10-180 Ohms (VDO)	350 201	350 209
80PSI 240-33 Ohms (US)	350 203	350 211
150PSI 10-180 Ohms (VDO)	350 205	350 213
150PSI 240-33 Ohms (US)	350 207	350 215
400PSI 10-180 Ohms (VDO)	350 217	350 219

*See page 14 for sender listings.*

**VOLTMETERS, 2 1/16" (52mm) dia.**

Description	12V	24V
8-16 Volts Range, 12V Systems	332 201	-
16-32 Volts Range, 24V Systems	-	332 203



332 203

**ANGLE INDICATOR GAUGES, Electrical, 2 1/16" (52mm) dia.**

Description	12V	24V
Rudder angle indicator 40/0/40 2 1/16" (52mm dia.)	382 231	382 233
Power trim, Mercury	382 205	-

*See page 17 for sender listings.*

**FLUID LEVEL GAUGES, Electrical, 2 1/16" (52mm) dia.**

Description	12V	24V
Fuel Adjustable, Tube Sender (VDO)	301 201	301 207
Fuel 10-180 Ohms (VDO)	301 203	301 209
Fuel 240-33 Ohms (US)	301 205	301 211
Water 10-180 Ohms (VDO)	301 213	301 217
Water 240-33 Ohms (US)	301 215	301 219

*See page 13 for sender listings.*



382 207

**LOGIC ENGINE MONITORING INSTRUMENTS**

*May be used in conjunction with the VDO Vanguard Line.*

*Red, edge-lit illumination only with Logic grey bezel.*

**AMMETER SYSTEM, -80/0/80+, 2 1/16" (52mm) dia.**

Description	Part #
Includes gauge and shunt. 12/24V	192 220

**Replacement Parts**

Ammeter, 2 1/16" (52mm) dia.	192 221
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**ENGINE HOURMETER, 2 1/16" (52mm) dia.**

Description	Part #
12/24V	339 201



301 201

## VANGUARD SERIES Continued

### VANGUARD ACCESSORIES

Description		Part #
Square Bezel(w/Gasket)	2 <sup>1</sup> / <sub>2</sub> " (63mm)	600 001
Square Bezel (w/Gasket)	4 <sup>7</sup> / <sub>8</sub> " (125mm)	600 003
Round Bezel(w/Gasket)	2 <sup>7</sup> / <sub>16</sub> " (63mm)	600 004
Round Bezel(w/Gasket)	4 <sup>3</sup> / <sub>4</sub> " (119mm)	600 005
Lens Kit, Inner & Outer	4" (100mm)	600 513
Lens Kit, Inner & Outer	2 <sup>1</sup> / <sub>16</sub> " (52mm)	600 515
Panel Clamp, Back Mount Type	2 <sup>1</sup> / <sub>16</sub> " (52mm)	240 105
Panel Clamp, Back Mount Type	4" (100mm)	240 106
Spin-Lok™ Clamp	2 <sup>1</sup> / <sub>16</sub> " (52mm)	240 107
Spin-Lok™ Clamp	4" (100mm)	240 108
Gauge Blank	2 <sup>1</sup> / <sub>16</sub> " (52mm)	100 201
Gauge Blank	4 <sup>7</sup> / <sub>8</sub> " (125mm)	100 202



Vanguard instruments feature dual lenses to prevent fogging.

### DEPTH SOUNDER, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Includes waterproof LCD indicator, 30' harness, inside-hull transducer and built-in alarm.

Selectable Ranges: 2.5-200 Feet  
0.8-61 Meters  
0.5-33 Fathoms

Description	12V	24V
Complete Set	402 281	-
Indicator Only	266 201	-
Transducer (Inside Hull)	347 201	-
Thru-Hull Transducer	347 005	-

### VANGUARD DOPPLER SPEEDOMETER

The Vanguard Doppler Speedometer utilizes microwave, radar-based speed sensing technology to provide precise speed readings from 2 to 50 mph.

Using a single transducer, transom-mounted above the waterline, the Vanguard Doppler Speedometer offers unmatched accuracy at all speeds and conditions.

Vanguard Doppler eliminates clogged, bent, or failed pitot tubes and troublesome paddlewheels. Each kit contains an electronic analog display head and a transducer with 30' of cable.



Description	12V	24V
50 MPH Doppler Kit	439 201	439 203
Round bezel 4 <sup>3</sup> / <sub>4</sub> " (119mm)	600 005	-

See page 21 for Vanguard Series instrument specifications and dimensions.

Photo courtesy of Four Winns



Photo courtesy of Silverton



# STANDARD LINE



All VDO Standard Line gauges come with long-lasting brass bezels with black or chrome plating. Available for both gasoline and diesel engines, these high performing instruments have edge-lit

illumination for night use. All instruments are 12V unless otherwise noted.

See page 22 for Standard Line instrument specifications and dimensions.

## SPEEDOMETER, Pitot-Type, 12V 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Order Pitot Pick-Up Kit separately.

Description	Chrome	Black
50 MPH Indicator Only	260 507	260 508
75 MPH Indicator Only	260 509	260 510
100 MPH Indicator Only	260 513	260 514
Pitot Tube Pick-Up & Tubing Kit	270 900	-

For 24V application, use bulb #600 807 (1 per instrument).

## TACHOMETER, 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Electronic Programmable Signal Input

Description	Chrome	Black
<b>With engine hourmeter</b>		
3,000 RPM Diesel, 12/24V, Ind., DDEC, Alt.	333 561	333 562
4,000 RPM Diesel, 12/24V, Ind., DDEC, Alt.	333 563	333 564

For 24V applications, use bulb #600 826 (2 per instrument).

### Without engine hourmeter

3,000 RPM Diesel, 12V, Ind., DDEC	333 531	333 532
4,000 RPM Diesel, 12V, Ind., DDEC	333 533	333 534
6,000 RPM Ign., Gas, I/O, 12V, 4-6-8 Cyl.	333 535	333 536

For 24V applications, use bulb # 600 807 (1 per instrument).

See page 16 for sender listings.

## TACHOMETER, Electronic, 12V, 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Description	Chrome	Black
<b>Generator Type</b>		
3,000 RPM* 1:1 Ratio	330 501	330 502
3,000 RPM* 1:2 Ratio	330 503	330 504
4,000 RPM* 1:2 Ratio	330 505	330 506
<b>Alternator Type</b>		
4,000 RPM*	333 507	333 508
6,000 RPM*	333 509	333 510
<b>Ignition Type</b>		
6,000 RPM 12V only 4-6-8 Cyl.	333 503	333 504
<b>Outboard Type</b>		
7,000 RPM 12V only 12 Pole Alt.	333 521	333 522

\*For 24V applications, use bulb #600 807.

See page 16 for sender listings.

## TACHOMETER, Mechanical, 3500 RPM, 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Description	Chrome	Black
w/Rev. Counter 1:2 Ratio 5/8-18 Thread	128 501	128 502

## ENGINE SYNCHRONIZER, 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Description	Chrome	Black
Alternator, Inductive, Gas	333 551	333 552

See page 16 for sender listings.

## TEMPERATURE, Electrical, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Description	Chrome	Black
220°F/100°C US Ohm range	310 521	310 522
250°F/120°C VDO Ohm range	310 501	310 502
300°F/150°C VDO Ohm range	310 511	310 512

See page 15 for sender listings.



260 507



333 533



310 502

**TEMPERATURE, Mechanical, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
265°F/130°C 72" tubing*	180 501	180 502
265°F/130°C 144" tubing*	180 503	180 504

\*Includes 1/2 -14 NPT Engine Block Adapter.

**PRESSURE, Electrical, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
30 PSI/2Kp/cm <sup>2</sup> 10-180 Ohms (VDO)	350 501	350 502
80 PSI/5Kp/cm <sup>2</sup> 240-33 Ohms (US)	350 505	350 506
80 PSI/5Kp/cm <sup>2</sup> 10-180 Ohms (VDO)	350 515	350 516
100 PSI/6Kp/cm <sup>2</sup> 10-180 Ohms (VDO)	350 519	350 520
150 PSI/10Kp/cm <sup>2</sup> 10-180 Ohms (VDO)	350 507	350 508
350 PSI/25Kp/cm <sup>2</sup> 10-180 Ohms (VDO)	350 511	350 512
400 PSI/27Kp/cm <sup>2</sup> 10-180 Ohms (VDO)	350 513	350 514

See page 14 for sender listings.

**PRESSURE, Mechanical, 12V illumination, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
30 PSI/2Kp/cm <sup>2</sup> *	150 505	150 506
100 PSI/7Kp/cm <sup>2</sup> *	150 507	150 508
150 PSI/10Kp/cm <sup>2</sup> *	150 509	150 510
400 PSI/28Kp/cm <sup>2</sup> *	150 511	150 512

\*1/8-27 NPT Connection.

**FLUID LEVEL, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
Fuel 240-33 Ohms (US)	301 505	301 506
Fuel 10-180 Ohms (VDO)	301 501	301 502
Fuel VDO Tube-Type Sender, w/Adjustable 90-0 Ohm Range	301 509	301 510
Water 10-180 Ohms (VDO)	301 515	301 516
Water 240-33 Ohms (US)	301 511	301 512

See page 13 for sender listings.

**VOLTMETER, 12V & 24V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
8-16 Volts 12V System	332 501	332 502
18-32 Volts 24V System	332 503	332 504

**CLOCK, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
Quartz, 12/24V	370 501	370 502

For 24V application, use bulb #600807.

**HOURMETER, Quartz, 12/24V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
Illuminated	331 501	331 502
Non-Illuminated	331 503	331 504
Illuminated Generator Hours	331 519	333 520
Non-Illuminated 3-Hole Flange	-	331 514

For 24V application, use bulb #600 807.

**AMMETER, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
60 Amps Non-Shunted	190 501	190 502
80 Amps Non-Shunted	190 503	190 504
150 Amps Shunted, Kit includes Shunt	190 953	190 954
Replacement Shunt 150 Amps	391 003	-

**ANGLE INDICATOR GAUGES, 12V, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.**

Description	Chrome	Black
Power trim, all Mercury	382 516	382 517
Rudder Angle, VDO Sender	382 503	382 504

See page 17 for sender listings.



350 506



301 505



370 501



331 501



382 504

# BLUE LINE - Service Parts



Blue Line Service Parts are packaged individually and contain both square and round bezels

(display package only), mounting hardware, and are fully illuminated.

## SPEEDOMETER, Pitot Tube Type

Indicator Head Only, 3<sup>3</sup>/<sub>8</sub>" (85mm) dia. Order pickup kit separately.

Description	12V	24V
125 MPH	260 010	-
50 MPH	260 014	-
75 MPH	260 015	-
Pitot tube pickup and tubing kit	270 900	-

## TACHOMETERS for Gasoline Engines

Floating Ground. 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Description	12V	24V
6,000 RPM, All Conventional I/O See page 16 for sender listings.	430 001	-

## TACHOMETERS for Diesel Engines, 12/24V

Description	12V	24V
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### Generator type, for VDO Sender Unit:

3,000 RPM, GEN, 1:2 Ratio*	3 <sup>3</sup> / <sub>8</sub> " (85mm) dia.	337 002	337 002
4,000 RPM, GEN, 1:2 Ratio*	3 <sup>3</sup> / <sub>8</sub> " (85mm) dia.	337 003	337 003
4,000 RPM, GEN, 1:1 Ratio*Δ	3 <sup>3</sup> / <sub>8</sub> " (85mm) dia.	-	-

\*For 24V applications, use bulb #600 807. Δ Available by special order only.

### Alternator type, 12/24V Single & Dual Station, Adjustable Cal.:

4,000 RPM, w/EHM, 12V Only	4" (100mm) dia.	430 004	-
4,000 RPM, w/oEHM, 12/24V	3 <sup>3</sup> / <sub>8</sub> " (85mm) dia.	430 007	430 007
6,000 RPM, w/EHM, 12V Only	4" (100mm) dia.	430 005	-
6,000 RPM, w/oEHM, 12/24V	3 <sup>3</sup> / <sub>8</sub> " (85mm) dia.	430 006	430 006

### Inductive type:

4,000 RPM 504K Imp. 126 teeth	3 <sup>3</sup> / <sub>8</sub> " (85mm) dia.	430 011	-
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See page 16 for sender listings.

## ENGINE SYNCHRONIZERS, 3<sup>3</sup>/<sub>8</sub>" (85mm) dia.

Description	12V	24V
Ignition / Gas See page 16 for sender listings.	NLA - See Vanguard	

## TEMPERATURE GAUGES, Electrical, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Description	12V	24V
250°F / 120°C, VDO Sender	313 001	313 003
300°F / 150°C, VDO Sender See page 15 for sender listings.	313 002	313 004

## PRESSURE GAUGES, Electrical, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Description	12V	24V	
30PSI / 2 BAR	10-180 Ohms (VDO)	352 703	352 059
80PSI / 5 BAR	10-180 Ohms (VDO)	352 001	352 004
80PSI / 5 BAR,	240-33 Ohms (US)	352 705	352 058
150PSI / 10 BAR	10-180 Ohms (VDO)	352 002	352 005
350PSI / 25 BAR	10-180 Ohms (VDO)	352 003	352 006
400PSI / 28 BAR	10-180 Ohms (VDO)	352 015	-

See page 14 for sender listings.

## FLUID LEVEL GAUGES, Electrical, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Description	12V	24V
Fuel VDO Lever-Type Sender	306 001	306 003
Fuel US Lever-Type Sender	306 702	-
Fuel VDO Tube-Type Sender / Adjustable	306 005	-
Water VDO Sender	306 002	306 004

See page 13 for sender listings.



260 014



337 003



313 001



352 001

## BLUE LINE Continued

### VOLTMETERS, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Description	12V	24V
8-16 Volts Range 12 V Systems	431 001	-
16-32 Volts Range 24 V Systems	-	431 002

### AMMETER, NON-SHUNTED TYPE, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

24 V light bulbs extra.

Description	12V	24V
50-0-50 Amp 6-24 Volts	192 002	192 002
80-0-80 Amp 6-24 Volts	192 003	192 003

### AMMETER, SHUNTED-TYPE, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Kit includes 80A shunt, wiring, and 12/24V bulbs.

Description	12V	24V
Kit:80-0-80 Amp 6-24V	402 071	402 071
Replacement Instrument Only	192 020	192 020

### CLOCKS, Quartz

Description	12V	24V
4" (100mm) dia.	371 002	371 003
2 <sup>1</sup> / <sub>16</sub> " (52mm) dia.	371 030	-

### ENGINE HOURMETER, Quartz, 2<sup>1</sup>/<sub>16</sub>" (52mm) dia.

Description	12V	24V
12/24V Systems	339 001	339 001

### ANGLE INDICATOR GAUGES, Electrical

Description	12V	24V
Rudder Angle Indicator, 40/0/40 2 <sup>1</sup> / <sub>16</sub> " (52mm) dia.	382 001	382 003
3 <sup>3</sup> / <sub>8</sub> " (85mm) dia., 12/24V	382 006	382 006
Power trim, Mercury, 2 <sup>1</sup> / <sub>16</sub> " (52mm) dia.	382 712	-

See page 17 for Rudder Angle Indicators.

### ACOUSTICAL WARNING ALARM, 85dB @ Distance of 12", 2<sup>1</sup>/<sub>16</sub>" (52mm)

Description	12V	24V
12/24 Volts Square Bezel Only	407 003	407 003

### BLUE LINE ACCESSORIES

Description	Part #
Square Bezel 2 <sup>1</sup> / <sub>2</sub> " (63mm) Sq.*	600 001
Square Bezel 4 <sup>7</sup> / <sub>8</sub> " (125mm) Sq. for 3 <sup>3</sup> / <sub>8</sub> " (85mm) and 4" (100mm) dia. housings*	600 003
Round Bezel 2 <sup>1</sup> / <sub>2</sub> " (63mm) dia.*	600 004
Round Bezel 4 <sup>3</sup> / <sub>4</sub> " (119mm) dia.*	600 005
Lens Kit Inner & Outer 4" (100mm)	600 513
Lens Kit Inner & Outer 2 <sup>1</sup> / <sub>16</sub> " (52mm)	600 515
Gauge Blank 2 <sup>1</sup> / <sub>2</sub> " (63mm) dia.	100 201
Gauge Blank 4 <sup>7</sup> / <sub>8</sub> " (125mm) dia.	100 202

\*Includes Bezel Gasket.

See page 23 for Blue Line instruments specifications and dimensions.



306 001



431 001



407 003



382 712



Photo courtesy of Hatteras Yachts

# FUEL AND WATER LEVEL SENDERS

## FUEL TANK SENDERS, Swing-Arm Type

2 1/8" (54mm), Bolt Circle dia., left or right hand float arm travel.

Description	Part #
-------------	--------

### Single Station Reading, 12/24V

Without Installation Kit No. 226 451 (6-23" Depth)	226 001
With Installation Kit No. 226 451 (6-23" Depth)	226 002

### Dual Station Reading, 12/24V or 0-90 Ohms

(For using two fuel gauges with one sender.)

With Installation Kit No. 226 451	226 008
With Floating Ground (6-21" Depth)	226 403

### Replacement US Fuel Sender, 12/24V

Includes Installation Kit No. 226 451, standard ground.

240-33 Ohms (E-F): Stewart Warner, Datcon, Faria, Medallion & Teleflex	226 007
--	---------

### Fresh Water Level Sender, 12/24V

2 1/8" bolt circle, adjustable tank depths 8-24", installation kit included. VDO single station.	226 452
--	---------

## TUBE TYPE TANK UNITS FOR ADJUSTABLE FUEL LEVEL GAUGE

2 1/8" (54mm) Bolt Circle

Length	# on sender	Part No.
5 1/8" (131.5 mm)	82/8/17	224 058
6 9/16" (166.5 mm)	82/8/18	224 059
8 11/16" (221.5 mm)	82/8/21	224 061
9 15/16" (251.5 mm)	82/6/97	224 062
11" (279.5 mm)	82/7/22	224 055
12 1/4" (310.5 mm)	82/5/136	224 063
13 7/16" (341.5 mm)	82/5/137	224 064
14 5/8" (372 mm)	82/7/4	224 065
15 15/16" (404.5 mm)	82/5/142	224 054
17 1/16" (433.5 mm)	82/5/98	224 066
18 1/4" (463.5 mm)	82/5/44	224 053
19 5/8" (498.5 mm)	82/5/117	224 067
22" (530 mm)	82/7/5	224 003
23 7/16" (596.0 mm)	82/7/17	224 069
27 1/4" (692.2 mm)	82/5/11	224 004
31" (787.4 mm)	82/5/72	224 049
32 7/8" (835 mm)	82/5/34	224 051

3 1/8" (80mm) Bolt Circle

Length	# on sender	Part No.
21 3/32" (536.0 mm)	82/9/37	224 068
25 1/4" (641.0 mm)	82/9/48	224 070
28 3/16" (716.0 mm)	82/9/16	224 071
29 3/16" (741.0 mm)	82/9/29	224 072
30 3/4" (781.0 mm)	82/9/19	224 073
34 11/16" (881.0mm)	82/14/3	224 074
36 1/16" (916.0 mm)	82/14/11	224 052
42 3/4" (1,085.9 mm)	82/9/40	224 050

## ACCESSORIES

Description	Part No.
-------------	----------

### Fuel Sender Installation Kit, 2 1/8" (54mm)

Bolt-on fuel sender mounting kit; for fuel tanks without threaded mounting screw holes	226 451
--	---------

### Replacement Fuel Sender Gaskets

Neoprene-type, 2 1/8" (54mm)	226 053
Cork-type, 3 1/8" (80mm), Fuel & Water	600 525



226 001



226 451



226 053



TUBE TYPE TANK UNITS

# PRESSURE AND TEMPERATURE SENDERS

Universal Sender Kits take the guess work out of finding the right sender for your application.  
 NOTE: Failure to match instrument and sender

will result in incorrect instrument readings.  
**All kits have SAE tapered threads;**  
**DO NOT USE TEFLON TAPE!**

## UNIVERSAL PRESSURE SENDER KITS

Description	Part #
80 PSI (5 Bar)	360 900
150 PSI (10 BAR)	360 905

Includes 1/8-27 NPT pressure sender, 1/4-18 bushing, 3/8-18 bushing and 1/2-14 bushing.

## INDIVIDUAL PRESSURE SENDERS

Description	Thread	Warning contact	# on sender	Part #
0-30 PSI	1/8-27 NPT		32/25	360 043
0-80 PSI/5 bar	1/8-27 NPT		29/4	360 003
0-80 PSI	1/8-27 NPT	7.0 PSI	30/23	360 009
0-80 PSI	1/8-27 NPT		32/1	360 410
0-80 PSI	1/8-27 NPT		1/1	362 001
0-80 PSI	1/8-27 NPT		3/1	362 033
0-80 PSI	1/8-27 NPT		N/A	360 801*
0-80 PSI	1/8-28 BSP		29/61	360 080
0-80 PSI	1/8-28 BSP	5.7 PSI	30/65	360 082
0-80 PSI	1/4-18 NPT		29/8	360 005
0-100 PSI	1/8-27 NPT		N/A	360 086
0-100 PSI	1/8-27 NPT		N/A	360 811*
0-150 PSI/10 bar	1/8-27 NPT		29/12	360 004
0-150 PSI	1/8-27 NPT		32/14	360 430
0-150 PSI	1/8-27 NPT		3/2	362 034
0-150 PSI	1/8-27 NPT		1/2	362 002
0-350 PSI	1/8-27 NPT		2/1	362 003
0-350 PSI	1/8-27 NPT		38/3	360 431
0-400 PSI/28 bar	1/8-27 NPT		38/8	360 406
0-400 PSI	1/8-27 NPT		2/3	362 004

	Single Station Standard Ground	Single Station Floating Ground	Dual Station Standard Ground	Dual Station Floating Ground
		X		
	X			
	X			
		X		
				X
			X	
	X			
	X			
	X			
		X		
			X	
				X
		X		
		X		
				X

\*240-33 Ohm

**PLEASE NOTE: VDO senders have tapered threads;**  
**DO NOT use teflon tape or pipe sealant.**  
**This will interfere with grounding.**



Pressure sender



Universal pressure sender kit



Photos courtesy of Robalo

**UNIVERSAL TEMPERATURE SENDER KITS**

Description	Part #
250°F (120C)	323 900
300°F (150C)	323 905

\*Includes 1/8-27 NPT temperature sender, 1/4-18 bushing, 3/8-18 bushing, 1/2-14 bushing and 1/4" spade terminal.

**INDIVIDUAL TEMPERATURE SENDERS**

Description	Thread	Warning contact	# on sender	Part #
250°F / 120°C	1/8-27 NPT		801/5/1	323 095
250°F	1/2-14 NPT	205°F	803/1/6	323 098
250°F	1/2-14 NPT	230°F	803/1/6	323 100
250°F	M14 x 1.5	205°F	803/1/6	323 102
250°F	M14 x 1.5		801/1/26	323 416
250°F	M16 x 1.5		801/1/29	323 417
250°F	1/2-14 NPT	212°F	803/1/30	NLA
250°F	1/4-18 NPT		801/1/9	323 420
250°F	1/4-18 NPT		805/1/7	323 477
250°F	3/8-18 NPT		801/1/38	323 421
250°F	3/8-18 NPT		805/1/5	323 479
250°F	3/8-18 NPT		801/2/4	325 008
250°F	3/8-18 NPT		805/3/3	325 007
250°F	1/2-14 NPT		801/1/16	323 419
250°F	1/2-14 NPT		805/1/4	323 478
250°F	1/2-14 NPT		N/A	325 010
250°F	1/4-18 NPT		801/2/1	325 001
250°F	1/4-18 NPT		805/3/1	325 002
250°F	3/8-18 NPT		801/1/7	323 094
300°F/150°C	1/4-18 NPT		801/4/17	323 058
300°F	1/2-14 NPT		801/4/6	323 060
400°F/200°C	1/8-27 NPT		801/18/1	323 086

	Single Station Standard Ground	Single Station Floating Ground	Dual Station Standard Ground	Dual Station Floating Ground
	X			
	X			
	X			
	X			
	X			
	X			
	X			
	X			
		X		
	X			
		X		
			X	
	X			
		X		
			X	
				X
	X			
	X			
	X			
	X			

**PLEASE NOTE: VDO senders have tapered threads; DO NOT use teflon tape or pipe sealant. This will interfere with grounding.**

**Temperature Senders**



Photo courtesy of Tiara



Universal temperature sender kit

# TACHOMETER AND SYNCHRONIZER SENDERS

## Electric Generator Senders

For use with tachometers or engine synchronizers designated as generator type. Current: 10V AC @ 1000 RPM, 4 Pulses/Revolution.

### RPM Reading Only

Description	Part #
$\frac{7}{8}$ -18 Thread	340 001
M22 x 1.5 Thread	340 002

### RPM Reading with Average Hour Counter

Description	Part #
$\frac{7}{8}$ -18 Thread	340 008
M22 x 1.5 Thread	340 007

### GENERATOR SENDER DRIVE KEYS

Description	Part #
.152"	340 060
.187"	340 061
.203"	340 062
.104"	340 065
.200"	340 064

### INDUCTIVE / MAGNETIC PICK-UP SENDER

For use with tachometers and engine synchronizers designated as inductive type.

Description	Part #
M18 x 1.5	340 009
2" Long, $\frac{3}{4}$ -16 UNF Thread	340 020
3 $\frac{1}{2}$ " Long, $\frac{3}{4}$ -16 UNF Thread	340 021



340 008



340 060



340 020

Photo courtesy of  
Mainship



Photo courtesy of  
Robalo





# SPECIALTY SENDERS AND ACCESSORIES

## PITOT TUBE & PICKUP KIT

For Pitot type speedometers.

Description	Part #
Includes pitot tube pickup and 20' tubing	270 900



270 900

## RUDDER ANGLE INDICATOR SENDERS

For use with VDO 12/24V Gauges.

Description	Part #
<b>Single Station Transmitter</b> for operating one VDO indicator.	440 003
<b>Dual Station Transmitter</b> for operating two VDO indicators from one sender.	440 004
<b>Installation Kit</b> connects transmitter arm assembly to rudder cable.	440 050
<b>Replacement Arm</b>	440 100



440 003

## RESISTOR KITS

Description	Part #
for conversion of 12V systems to 24V systems	391 704

## TUBING KITS

For mechanical pressure gauges.

Includes one each: 1/8 - 27 NPT and 1/4 - 18 NPT adapters.

Description	Part #
6' nylon tubing	150 851
16' nylon tubing	150 855
6' copper tubing	150 856



150 851

## REMOTE MOUNT PRESSURE SENDER ADAPTERS

Hose adapter for remote mounting of pressure senders. Extremely useful in high vibration environments. Includes pressure sender mounting clamp.

Description	Part #
1/8 - 27 NPT connection	240 902
M10 x 1 connection	150 752
1/8 - 28 BSP	150 754



240 902

## PUSH-ON CONNECTORS

For VDO 3-prong electrical 2 1/16" (52mm) dia. gauges.

Cannot be used for tachometers, synchronizers, ammeters, or the Vision or Vanguard lines.

Description	Part #
With crimp terminals	240 026
Without crimp terminals	600 814



240 026

## WARNING LIGHTS

12V snap-in warning lights with bulb. Requires 1/2" hole.

Description	Part #
Red lens	600 844
Green lens	600 845
Yellow lens	600 846
Blue lens	600 847



Warning lights

# LIGHT BULBS AND SOCKETS

## LIGHT BULBS:

### Type A

Fits socket numbers 600 813, 600 816, and 600 817.

Description	Part #
$\frac{9}{32}$ " 12V 2W	600 802
$\frac{9}{32}$ " 24V 3W	600 807

### Type B

Fits socket numbers 600 818 and 600 819.

Description	Part #
$\frac{11}{32}$ " 12V 2W	600 804
$\frac{11}{32}$ " 12V 4W	600 806

### Type C

Fits socket number 600 821.

Description	Part #
$\frac{3}{8}$ " 12V 2W	600 820

### Type D

Fits socket number 600 808.

Description	Part #
Peanut bulb 12V 1.2W	600 809
Peanut bulb 12V 1.2W Red*	600 824
Peanut bulb 24V 1.2W Red*	600 822

\* red bulbs used in BlueLine Instrument Series only.

### Type E

Fits socket #600 839

Description	Part #
Wedge-base bulb 12V	600 815
Wedge-base bulb 24V	600 826

## INSULATED LIGHT BULB SOCKETS

Description	Part #
$\frac{3}{8}$ " , uses bulb type A	600 813
$\frac{15}{32}$ " , uses bulb type B	600 819
Uses peanut type bulb D	600 808
Uses bulb type E	600 839

## LIGHT BULB SOCKETS

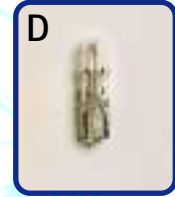
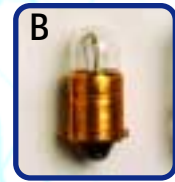
Description	Part #
$\frac{3}{8}$ " steel, uses bulb type A	600 816
$\frac{3}{8}$ " brass, uses bulb type A	600 817
$\frac{5}{8}$ " steel, uses bulb type C	600 821
$\frac{15}{32}$ " steel, uses bulb type B	600 818

## LIGHT DIFFUSERS

The easy and convenient way to change the lighting color in your VDO gauge. Simply slips over light bulb to give your dash a whole new color at night.

Description	Part #
Red, Type A, $\frac{9}{32}$ " bulb	600 853
Green, Type A, $\frac{9}{32}$ " bulb	600 856
Red, Type B, $\frac{11}{32}$ " bulb	600 857
Green, Type B, $\frac{11}{32}$ " bulb	600 858
Red, Type D, "peanut" bulb	600 859
Green, Type D, "peanut" bulb	600 860
Red, Types E and C bulbs	600 861
Green, Types E and C bulbs	600 862

## Light Bulbs



## LIGHT BULB SOCKETS



600 813



600 819



600 808



600 839



600 816



600 817



600 821



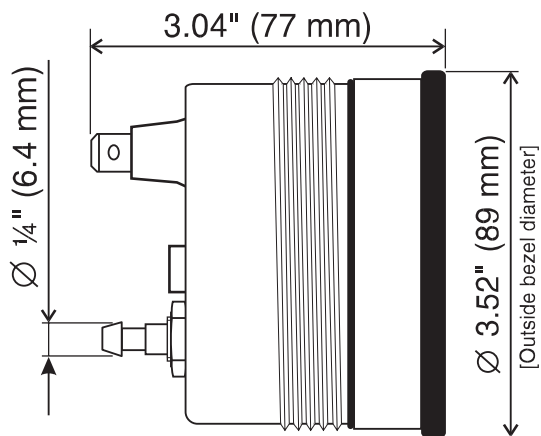
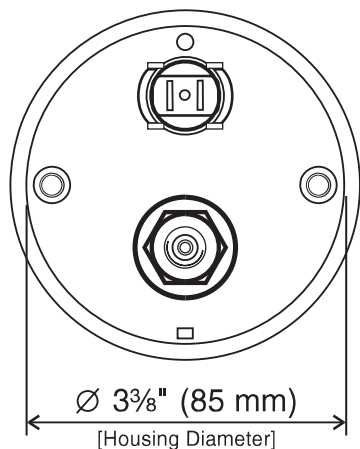
600 818



# INSTRUMENT DIMENSIONS

## Vision – Pitot Tube Speedometer

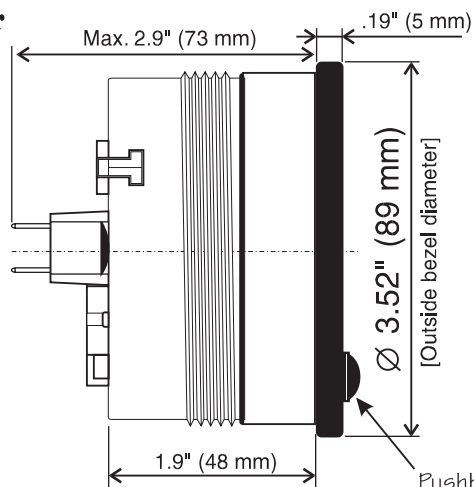
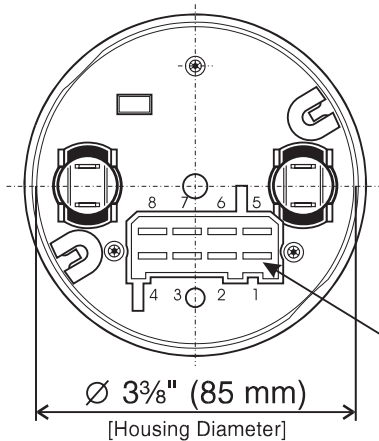
3 3/8" (85 mm)



Mounting Hole Dimension = 3/8" (85 mm)  
Dimensions in inches (millimeters)

## Vision – Programmable Tachometer with Hourmeter

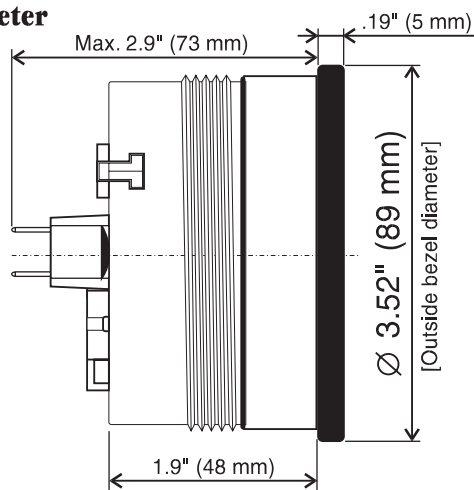
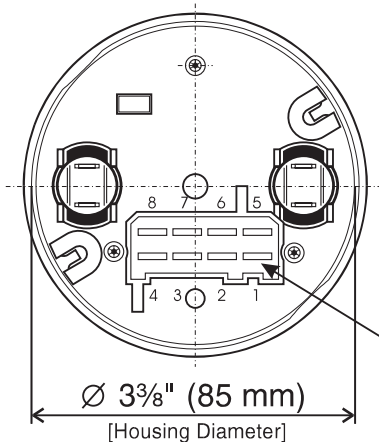
3 3/8" (85 mm)



Mounting Hole Dimension = 3/8" (85 mm)  
Dimensions in inches (millimeters)

## Vision – Programmable Tachometer without Hourmeter

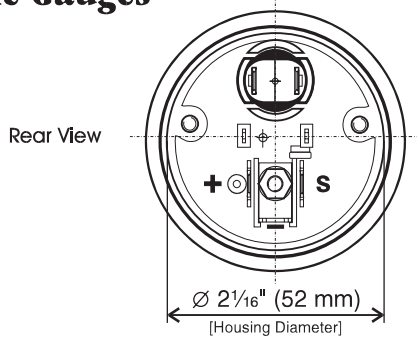
3 3/8" (85 mm)



Mounting Hole Dimension = 3/8" (85 mm)  
Dimensions in inches (millimeters)

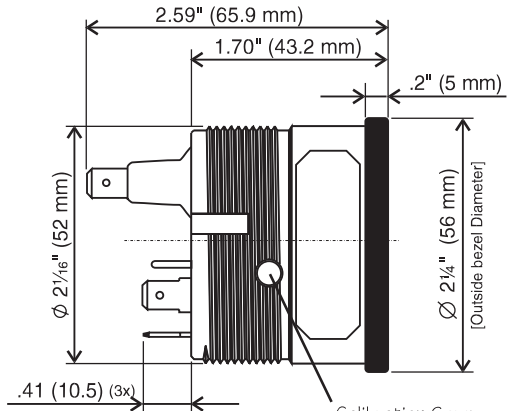
# INSTRUMENT DIMENSIONS

## Vision 2 1/16" (52 mm) — Electronic Gauges



Dimensions in inches (millimeters)

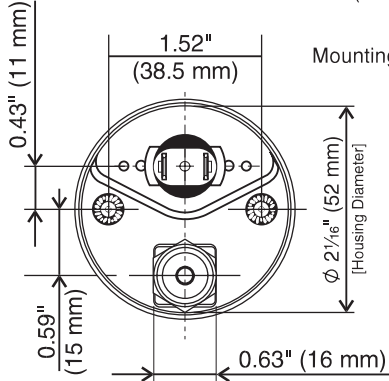
Mounting Hole Dimension = 2 1/16" (52 mm)



Calibration Screw  
(adjustable fuel gauge only)

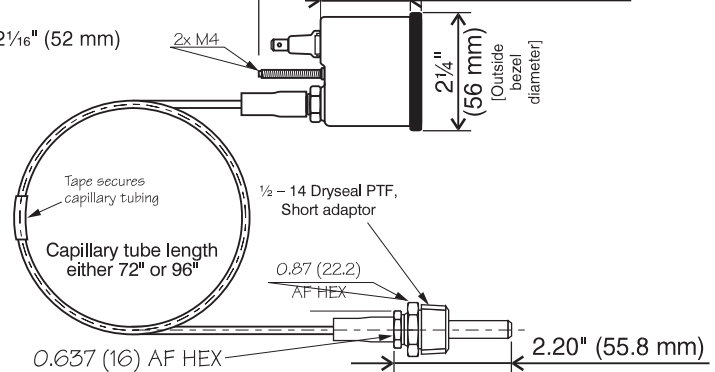
## Vision 2 1/16" (52 mm) Mechanical Temperature

Dimensions in inches (millimeters)



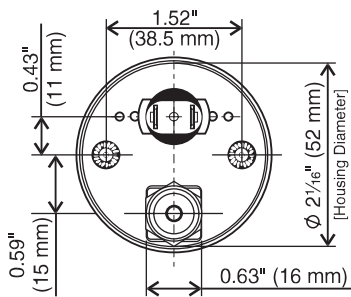
Mounting Hole Dimension = 2 1/16" (52 mm)

0.88" (22.3 mm) 0.17" (4.3 mm)  
1.76" (44.7 mm)

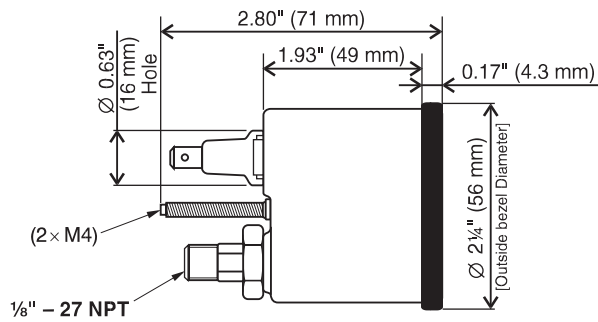


## Vision 2 1/16" (52 mm) Mechanical Pressure

Dimensions in inches (millimeters)

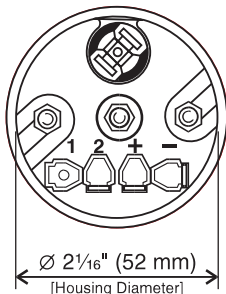


Mounting Hole Dimension = 2 1/16" (52 mm)

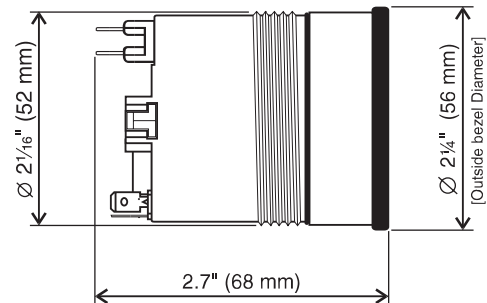


## Vision 2 1/16" (52 mm) Clock & Hourmeter

Dimensions in inches (millimeters)



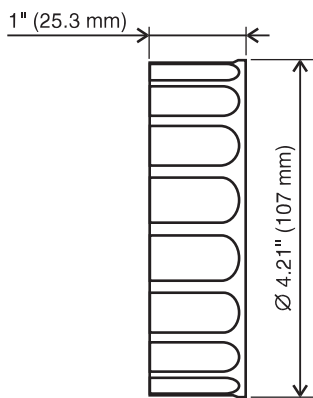
Mounting Hole Dimension = 2 1/16" (52 mm)



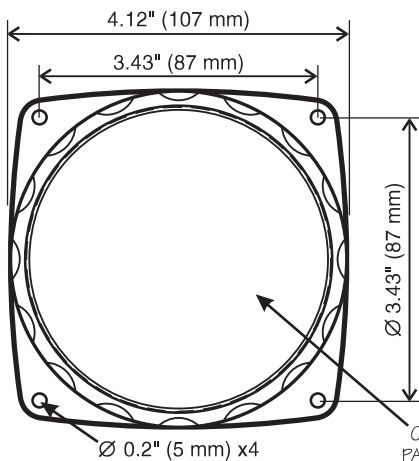
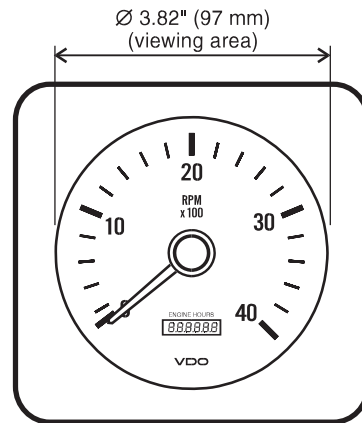
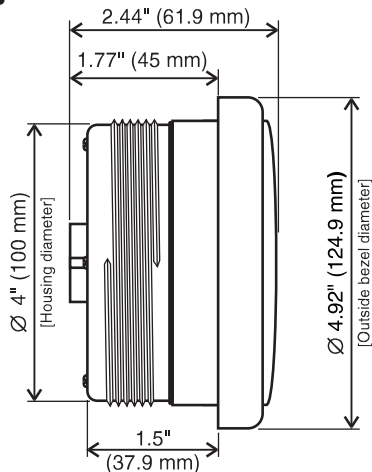
# INSTRUMENT DIMENSIONS

## Vanguard - Large Instruments

Dimensions in inches (millimeters)

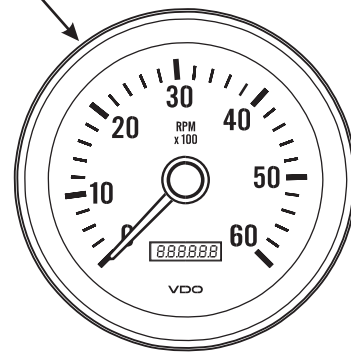
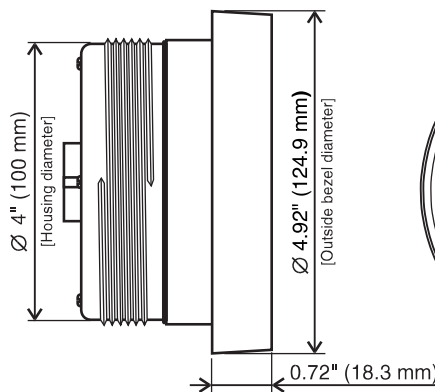


Mounting Hole Dimension = 4" (100 mm)



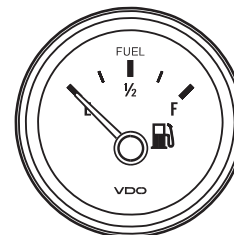
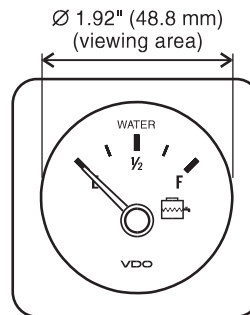
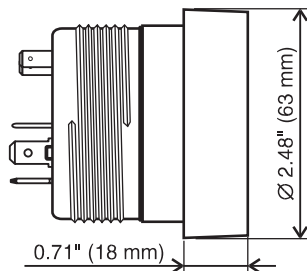
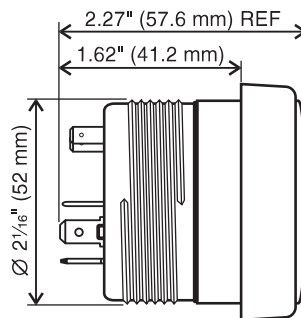
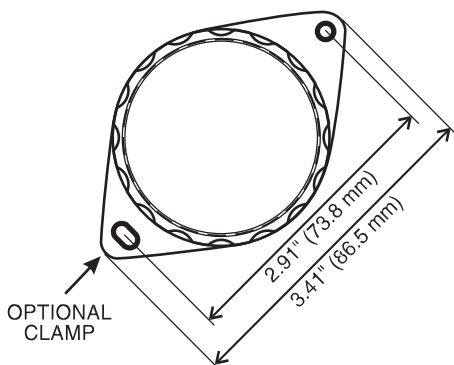
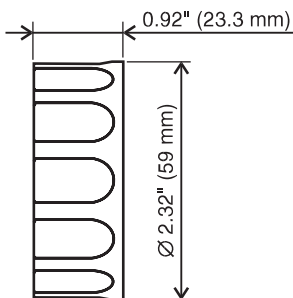
OPTIONAL CLAMP FOR PANEL/BACK MOUNTING

ROUND BEZEL ACCESSORY



## Vanguard - Small Instruments

Dimensions in inches (millimeters)

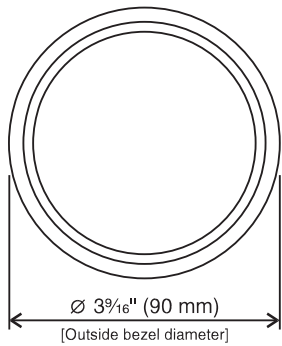


ROUND BEZEL ACCESSORY

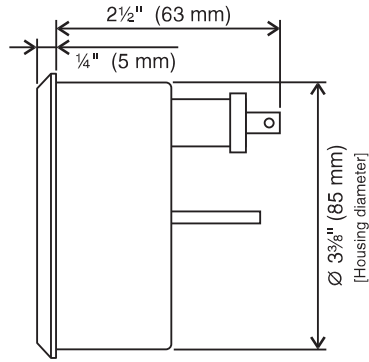
Mounting Hole Dimension = 2 1/16" (52 mm)

# INSTRUMENT DIMENSIONS

## Standard Line Speedometer 3 3/8" (85 mm)

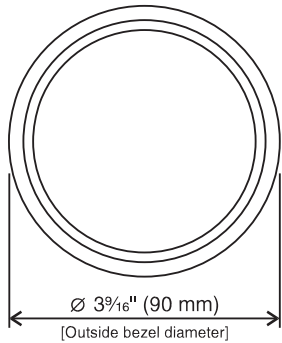


Dimensions in inches (millimeters)

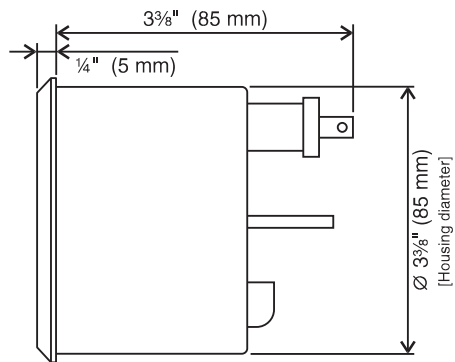


Mounting Hole Dimension = 3 3/8" (85 mm)

## Standard Line Tachometer 3 3/8" (85 mm)

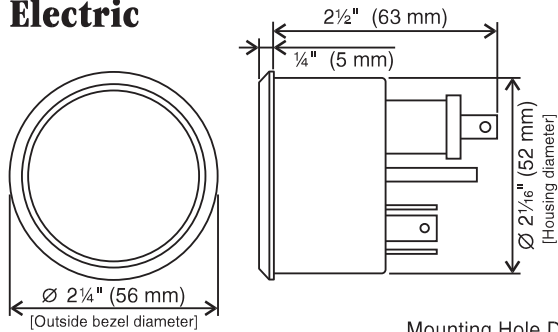


Dimensions in inches (millimeters)



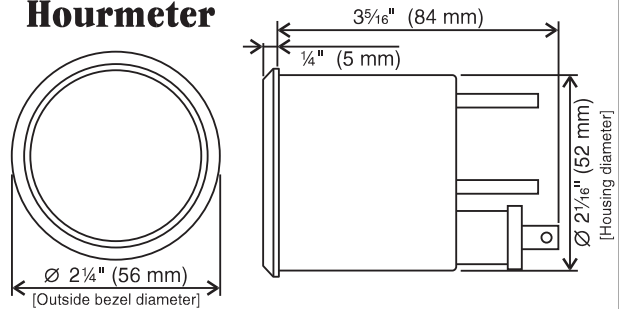
Mounting Hole Dimension = 3 3/8" (85 mm)

## Standard Line 2 1/16" (52 mm) Electric



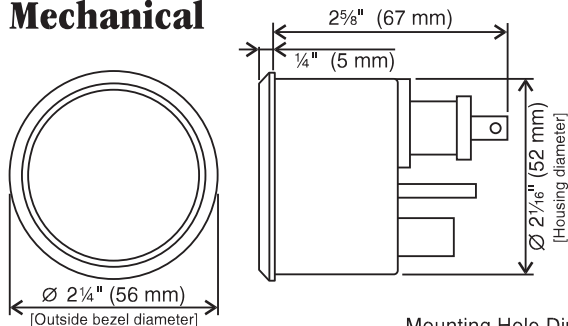
Mounting Hole Dimension = 2 1/16" (52 mm)

## Standard Line 2 1/16" (52 mm) Hourmeter



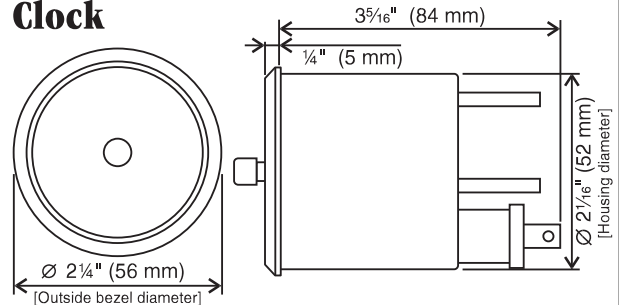
Dimensions in inches (millimeters)

## Standard Line 2 1/16" (52 mm) Mechanical



Mounting Hole Dimension = 2 1/16" (52 mm)

## Standard Line 2 1/16" (52 mm) Clock

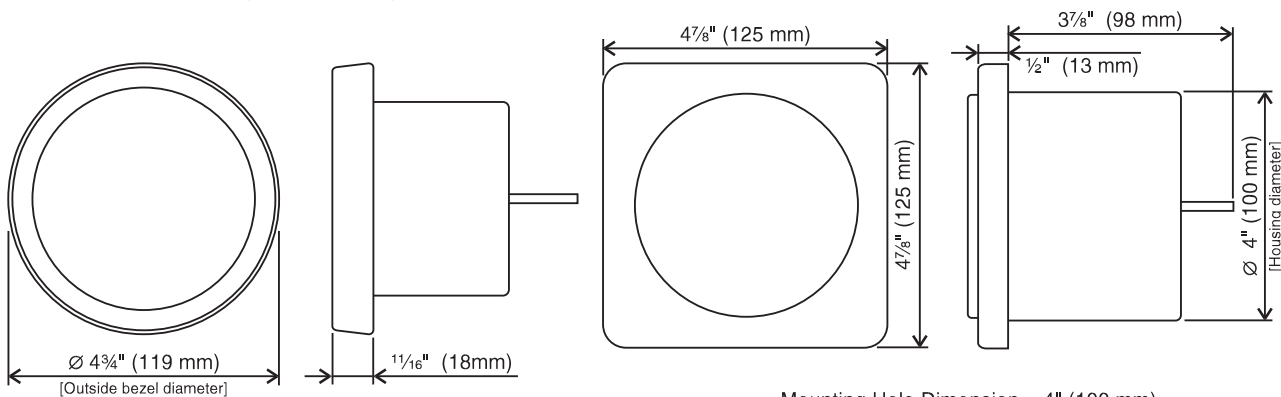


Dimensions in inches (millimeters)

# INSTRUMENT DIMENSIONS

## Blue Line 4" (100 mm)

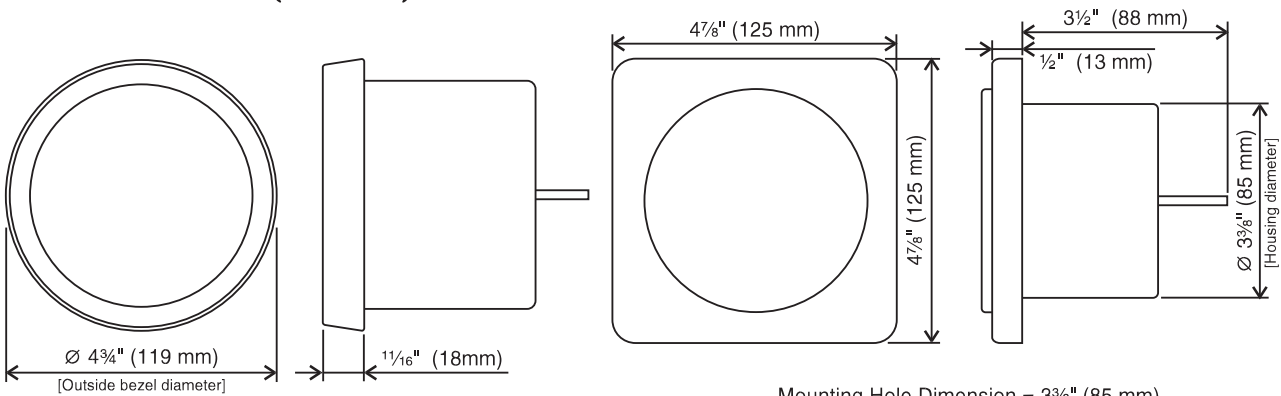
Dimensions in inches (millimeters)



Mounting Hole Dimension = 4" (100 mm)

## Blue Line 3 3/8" (85 mm)

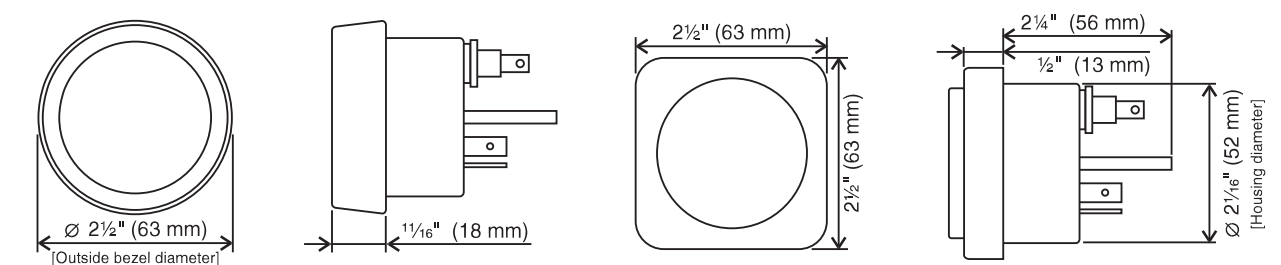
Dimensions in inches (millimeters)



Mounting Hole Dimension = 3 3/8" (85 mm)

## Blue Line 2 1/16" (52 mm)

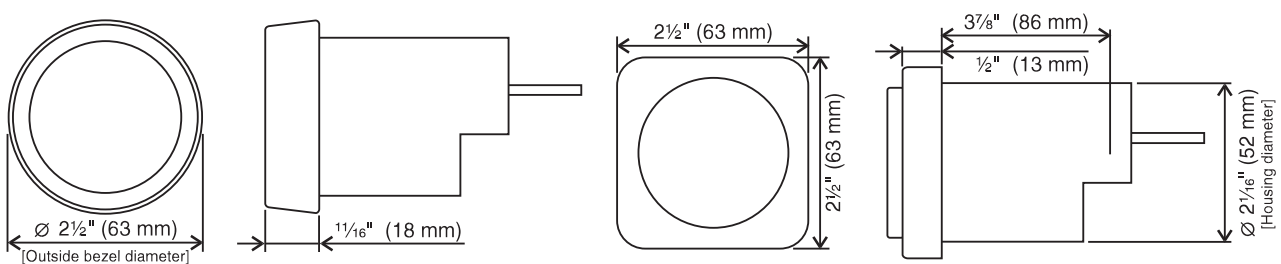
Dimensions in inches (millimeters)



Mounting Hole Dimension = 2 1/16" (52 mm)

## Blue Line 2 1/16" (52 mm)

Dimensions in inches (millimeters)



Mounting Hole Dimension = 2 1/16" (52 mm)



VDO Marine designs, engineers, and manufactures electronic information, control systems, and fuel systems for marine service applications and boat builders around the world.

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VDO North America LLC

188 Brooke Road  
Winchester, VA 22603  
Phone: (540) 665-0100  
Fax: (540) 722-4198

[www.vdona.com](http://www.vdona.com)