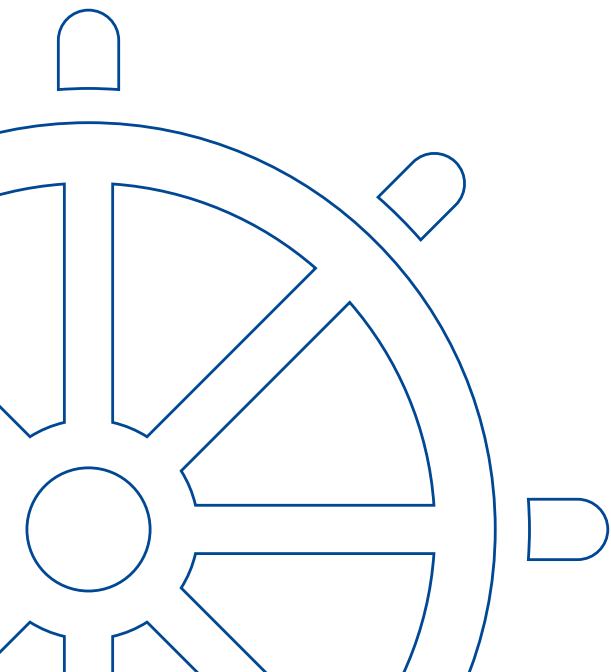




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# ViewLine

At the cutting edge of tomorrow's trends.



**VDO**



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# Timeless instruments.

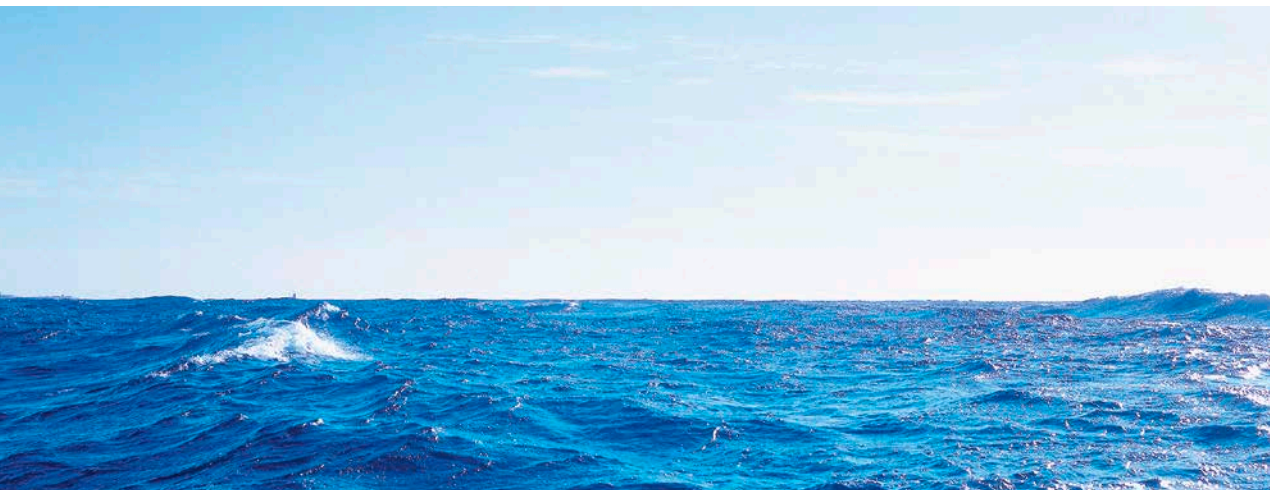
ViewLine offers a comprehensive modular, modern series of instruments for engine monitoring. More functions and greater flexibility in installation and design increase the scope for high manufacturing standards and guarantee the highest level of reliability and readability.

As the result of ongoing research and development work, we offer an innovative, comprehensive standard instrumentation platform which is also available for outboard

engine use. ViewLine provides maximum freedom to customize the cockpit and is the natural choice for an attractive price/performance ratio.

## The benefits of using ViewLine:

- Maximum precision and the deployment of pioneering technologies are equally important as ease of use and stylish design.
- Our plug and play solution design concept offers a high level of installation flexibility for panel and flush mounting instruments.
- A cross-platform standard offers maximum freedom in respect of cockpit customization.
- We ensure seamless integration and optimum utilisation of ViewLine devices for extreme conditions at sea.
- In addition to the standard platform, ViewLine displays and gauges now have solutions to encompass combi and multifunction features.

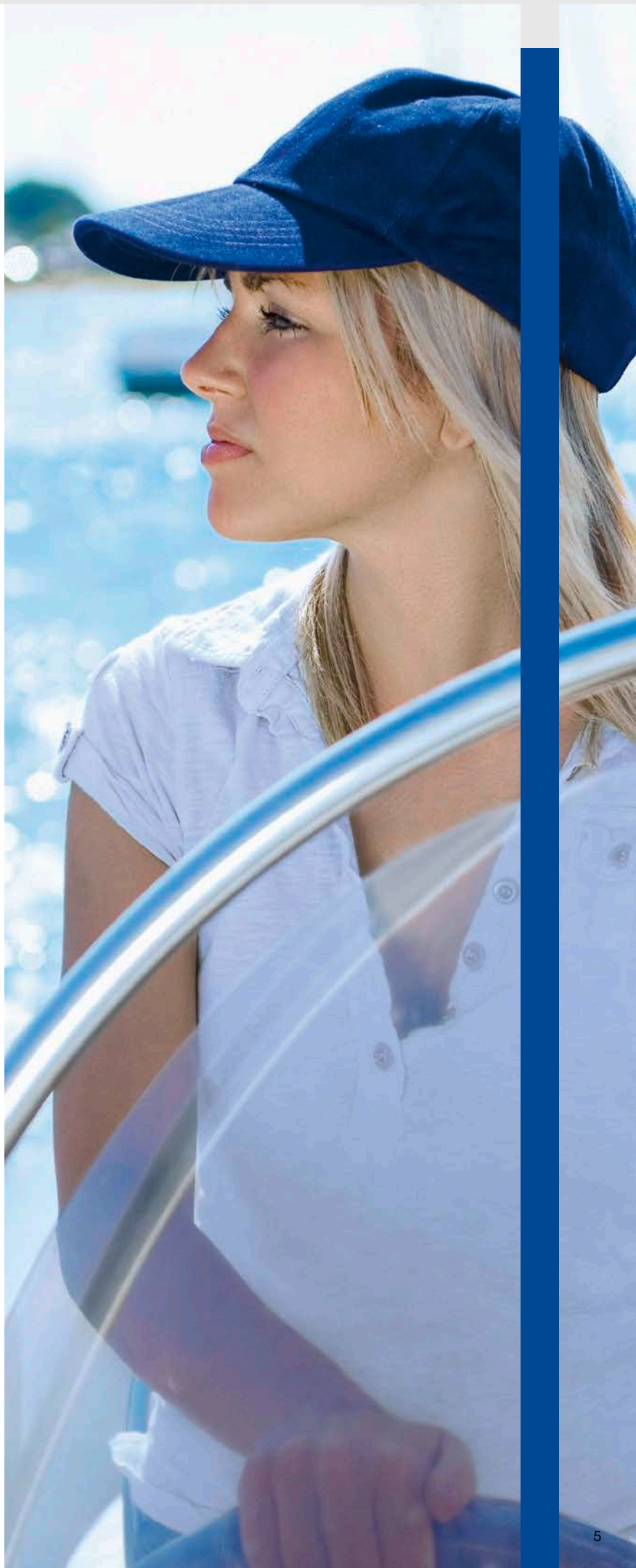




GPS Speed, gauge range  
0 to 35 knots/kmh/mph.



GPS Speed, gauge range  
0 to 70 knots/kmh/mph.



## Gauge to indicate engine revolution



Gauge to indicate engine revolution, in black, with 85 mm installation diameter and 3000 rpm gauge range.



Gauge to indicate engine revolution, in white, with 52 mm installation diameter and 4000 rpm gauge range.

The ViewLine rev counter can be connected to conventional marine engines (no data bus).

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 and 14 pole Tyco/Hirschmann bush housing
- Operating voltage 8–32 V
- Accuracy +/- 2.5 % of full scale reading
- < 175 mA current consumption with an LED warning light as standard
- Number of pulses programmable via dip switch or PC software (ViewLine programming tool)
- Anti-fog double lens
- Front side protection rating IP67
- 52 & 85 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Tachometer gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

### Versions without LCD:

Range rpm	Voltage	Color	Article number
<b>Ø 52 mm</b>			
4000 rpm	8–32 V	Black White	A2C59512344 A2C59512347
6000 rpm	8–32 V	Black White	A2C59512345 A2C59512348
8000 rpm	8–32 V	Black White	A2C59512346 A2C59512349
<b>Ø 85 mm</b>			
3000 rpm	8–32 V	Black White	A2C59512430 A2C59512433
4000 rpm	8–32 V	Black White	A2C59512431 A2C59512434
6000 rpm	8–32 V	Black White	A2C59512432 A2C59512435

### Bulk package (10 units):

Tachometer gauge, Spinlock nut, Rubber seal

### Versions without LCD:

Range rpm	Voltage	Color	Article number
<b>Ø 52 mm</b>			
4000 rpm	8–32 V	Black White	A2C59510038 A2C59510041
6000 rpm	8–32 V	Black White	A2C59510039 A2C59510042
8000 rpm	8–32 V	Black White	A2C59510040 A2C59510043
<b>Ø 85 mm</b>			
3000 rpm	8–32 V	Black White	A2C59510203 A2C59510206
4000 rpm	8–32 V	Black White	A2C59510204 A2C59510207
6000 rpm	8–32 V	Black White	A2C59510205 A2C59510208

## Gauge to indicate engine revolution, engine hours, voltage and clock

The ViewLine rev counter with or without operating hours counter (OHC) can be connected to conventional marine engines (no data bus).

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- Operating voltage 8–32 V
- Indication error <2.5 % over the entire display range
- Current consumption < 175 mA, with warning light (LED)
- Output for acoustic alert (option)
- Various sensor inputs
- LC display size 37 mm x 11 mm
- Individually programmable display e. g., for clock, trip, odometer, etc. via externally switchable button or PC software (ViewLine programming tool)
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 85 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Tachometer gauge, Adapter cable 8 pole, Adapter cable 14 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

### Versions with LCD:

Range rpm	Voltage	Color	Input	Article number
<b>Ø 85 mm</b>				
3000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59512390 A2C59512396
4000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59512391 A2C59512397
5000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59512392 A2C59512398
6000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59512393 A2C59512399
7000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59512394 A2C59512400
8000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59512395 A2C59512401

### Bulk package (10 units):

Tachometer gauge, Spinlock nut, Rubber seal

### Versions with LCD:

Range rpm	Voltage	Color	Input	Article number
<b>Ø 85 mm</b>				
3000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59510086 A2C59510092
4000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59510087 A2C59510093
5000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59510088 A2C59510094
6000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59510089 A2C59510095
7000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59510090 A2C59510096
8000 rpm	8–32 V	Black White	W, Ind, Hall, Generator	A2C59510091 A2C59510097



Gauge to indicate engine revolution, engine hours, voltage and clock, in black, with LCD and 3000 rpm gauge range.

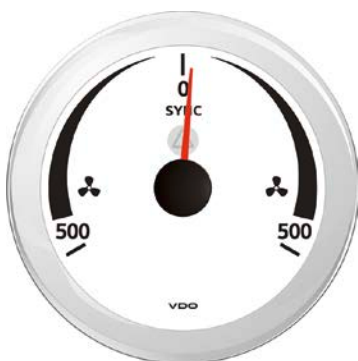


Gauge to indicate engine revolution, engine hours, voltage and clock, in white, with LCD and 5000 rpm gauge range.

## Gauge to synchronize the engine revolution of two engines



Gauge to synchronize the engine revolution of two engines, in black.



Gauge to synchronize the engine revolution of two engines, in white.

On pleasure boats with twin engine installations, the ViewLine synchronizer is an indispensable aid to ensuring correct synchronized running of both units.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 and 14 pole Tyco / Hirschmann bush housing
- Operating voltage 8–32 V
- Accuracy +/- 2.5 %
- Current consumption 150 mA
- 2nd frequency input
- Connection for external alerts (option)
- Number of pulses programmable via dip switch or PC software (ViewLine programming tool)
- Anti-fog double lens
- Front side protection rating IP67
- 85 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Synchronizer gauge, Adapter cable 8 pole, Adapter cable 14 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range rpm	Voltage	Color	Input	Article number
<b>Ø 85 mm</b>				
-500 / +500 rpm	8–32 V	Black White	W, 1, Ind	A2C59512402 A2C59512403

### Bulk package (10 units):

Synchronizer gauge, Spinlock nut, Rubber seal

Range rpm	Voltage	Color	Input	Article number
<b>Ø 85 mm</b>				
-500 / +500 rpm	8–32 V	Black White	W, 1, Ind	A2C59510098 A2C59510099



## GPS speed

This multifunctional gauge with segment display is intended for use in the marine market in open boats.

Based on the ViewLine housing concept, the cluster provides an ideal IP protection class, a modern appearance and high quality standards. It provides many parameters in NMEA 2000® and there are several customization opportunities to meet specific customer demands.

- Embedded GPS antenna
- Robust and flexible design for versatile applications
- CAN capability (NMEA 2000®)
- Pointer for analog indication of Speed over Ground (SOG)
- Programmable speed alarm
- Fixed segment LC display
- Flush mount possibility
- Front side protection rating IP67
- Compass for Course over Ground (COG)
- Clock
- 110 mm installation diameter
- 126 mm outer diameter
- 50 mm installation depth

### Aftermarket package:

GPS speed gauge, GPS speed cable, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range knots/kmh/mph	Voltage	Operating temperature	Article number
<b>Ø 110 mm</b>			
0–12 knots/kmh/mph	8.5–16 V	-20° / +85 °C	A2C59501987
0–35 knots/kmh/mph	8.5–16 V	-20° / +85 °C	A2C59501782
0–70 knots/kmh/mph	8.5–16 V	-20° / +85 °C	A2C59501781



GPS speed, gauge range  
0 to 35 knots/kmh/mph.



GPS speed, gauge range  
0 to 70 knots/kmh/mph.

## Gauge to indicate depth, water temperature, time and voltage



Gauge to indicate depth, water temperature, time and voltage, in white, with LCD, gauge range 0 to 30 m.

The ViewLine depth indicator measures water depth. The integrated alarm, which can be configured to the user's specification, ensures safe passage through shallow waters.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 and 14 pole Tyco/Hirschmann bush housing
- Operating voltage 8–32 V
- Accuracy  $\pm 2.5\%$  (depending on the nature of the bottom and water quality)
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Warning light for configurable shallow water alarm
- NMEA input for active NMEA 0183 depth sensor
- Display with various functions, e. g., water temperature, depth, shallow water alarm, time, voltage, etc.
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 85 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Depth gauge, Adapter cable 8 pole, Adapter cable 14 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR DB code, Safety instructions

Range meter	Voltage	Color	Input	Article number
<b>Ø 85 mm</b>				
0–30 m	8–32 V	Black White	NMEA 0183	A2C59514247 A2C59514250

### Bulk package (10 units):

Depth gauge, Spinlock nut, Rubber seal

Range meter	Voltage	Color	Input	Article number
<b>Ø 85 mm</b>				
0–30 m	8–32 V	Black White	NMEA 0183	A2C59501321 A2C59501324

## Gauge to indicate engine oil temperature

The ViewLine temperature gauge displays any sudden rise in oil temperature, thus helping to prevent serious damage to the engine and the associated expense.

### Available:

in black or white, outer scale is available in °C or °F, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/-3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- 90° display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Oil temperature gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
50°–150 °C 120°–300 °F	8–32 V	Black White	322.8–18.6 $\Omega$	A2C59514160 A2C59514231
120°–300 °F 50°–150 °C	8–32 V	Black White	322.8–18.6 $\Omega$	A2C59514165 A2C59514234

### Bulk package (10 units):

Oil temperature gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
50°–150 °C 120°–300 °F	8–32 V	Black White	322.8–18.6 $\Omega$	A2C60001077 A2C60001020
120°–300 °F 50°–150 °C	8–32 V	Black White	322.8–18.6 $\Omega$	A2C60001079 A2C60001022



Gauge to indicate engine oil temperature, in black, outer scale in °C, temperature range 50° to 150 °C.



Gauge to indicate engine oil temperature, in white, outer scale in °F, temperature range 120° to 300 °F.

## Gauge to indicate coolant temperature



Gauge to indicate coolant temperature, in black, outer scale in °C, temperature range 40° to 120 °C.



Gauge to indicate coolant temperature, in white, outer scale in °F, temperature range 105° to 250 °F.

The ViewLine temperature gauge displays any sudden rise in coolant temperature, thus helping to prevent serious damage to the engine and the associated expense.

### Available:

in black or white, outer scale is available in °C or °F, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- 90° display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Coolant temperature gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
40°–120 °C 105°–250 °F	8–32 V	Black White	287.4–22.7 $\Omega$	A2C59514170 A2C59514237
105°–250 °F 40°–120 °C	8–32 V	Black White	287.4–22.7 $\Omega$	A2C59514176 A2C59514241

### Bulk package (10 units):

Coolant temperature gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
40°–120 °C 105°–250 °F	8–32 V	Black White	287.4–22.7 $\Omega$	A2C60001076 A2C60001021
105°–250 °F 40°–120 °C	8–32 V	Black White	287.4–22.7 $\Omega$	A2C60001078 A2C60001080

## Indication of exhaust gas temperature

The ViewLine pyrometer indicates the exhaust temperature at the end of the exhaust pipe (up to 900 °C/ 1650 °F). The relationship of this value to the maximum permitted exhaust temperature shows how efficient combustion is at that particular load. A rise in temperature is therefore an important early warning signal.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- <2.5 % accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 100 mA, with integrated warning light (LED)
- 240° display angle
- Programmable warning point (via optional PC software)
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Pyrometer gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range temp	Voltage	Color	Input mV	Article number
<b>Ø 52 mm</b>				
100°–900 °C	8–32 V	Black White	37 mV	A2C59512332 A2C59512333
250°–1650 °F	8–32 V	Black White	37 mV	A2C59512334 A2C59512335

### Bulk package (10 units):

Pyrometer gauge, Spinlock nut, Rubber seal

Range temp	Voltage	Color	Input mV	Article number
<b>Ø 52 mm</b>				
100°–900 °C	8–32 V	Black White	37 mV	A2C59510026 A2C59510027
250°–1650 °F	8–32 V	Black White	37 mV	A2C59510028 A2C59510029

### Kit package:

Pyrometer gauge, Thermocouple element, Threaded bushing for welding to manifold (N03-320-266), 6m cable for pyrometer system (N03-320-268), Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, QR DB code, Safety Instructions

Range temp	Voltage	Color	Input mV	Article number
<b>Ø 52 mm</b>				
100°–900 °C	8–32 V	Black White	37 mV	A2C59514801 A2C59514802



Indication of exhaust temperature, in black, scale in °C, temperature range 100° to 900 °C.



Indication of exhaust gas temperature, in white, scale in °F, temperature range 250° to 1650 °F.

## Indication of outside temperature



Indication of outside temperature, in black, scale in °C, temperature range -25° to +50 °C.



Indication of outside temperature, in white, scale in °F, temperature range -10° to +120 °F.

The ViewLine outside temperature gauge can display both the engine compartment temperature and the current air temperature.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- <2.5 % accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 100 mA, with integrated warning light (LED)
- 240° display angle
- Programmable warning point (via optional PC software)
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Outside temperature gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR DB code, Safety instructions

Range temp	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
-25° / +50 °C	8–32 V	Black White	2k Ω	A2C59512336 A2C59512338
-10° / +120 °F	8–32 V	Black White	2k Ω	A2C59512337 A2C59512339

### Bulk package (10 units):

Outside temperature gauge, Spinlock nut, Rubber seal

Range temp	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
-25° / +50 °C	8–32 V	Black White	2k Ω	A2C59510030 A2C59510032
-10° / +120 °F	8–32 V	Black White	2k Ω	A2C59510031 A2C59510033

### Kit package:

Outside temperature gauge, air temperature sensor (323-809-010-005C), Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, QR code, Safety instructions

Range temp	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
-25° / +50 °C	8–32 V	Black White	2k Ω	A2C59514803 A2C59514804

## Gauge to indicate engine oil pressure

The ViewLine pressure gauge detects fluctuations in engine oil pressure.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- $\pm 3.6^\circ$  angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- $90^\circ$  display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Oil pressure gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–5 bar 0–80 psi	8–32 V	Black White	10–184 $\Omega$	A2C59514123 A2C59514211
0–80 psi 0–5 bar	8–32 V	Black White	10–184 $\Omega$	A2C59514128 A2C59514214

### Bulk package (10 units):

Oil pressure gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–5 bar 0–80 psi	8–32 V	Black White	10–184 $\Omega$	A2C60001024 A2C60001035
0–80 psi 0–5 bar	8–32 V	Black White	10–184 $\Omega$	A2C60001028 A2C60001044



Gauge to indicate engine oil pressure, in black, gauge range 0 to 5 bar (outer scale).



Gauge to indicate engine oil pressure, in white, gauge range 0 to 80 psi (outer scale).

## Gauge to indicate engine oil pressure



Gauge to indicate engine oil pressure, in black, gauge range 0 to 10 bar (outer scale).



Gauge to indicate engine oil pressure, in white, gauge range 0 to 10 bar (outer scale).

The ViewLine pressure gauge detects fluctuations in engine oil pressure.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- $\pm 3.6^\circ$  angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- $90^\circ$  display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Oil pressure gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–10 bar 0–150 psi	8–32 V	Black White	10–184 $\Omega$	A2C59514111 A2C59514199
0–150 psi 0–10 bar	8–32 V	White	240–33.5 $\Omega$	A2C59514202

### Bulk package (10 units):

Oil pressure gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–10 bar 0–150 psi	8–32 V	Black White	10–184 $\Omega$	A2C60001025 A2C60001036
0–150 psi 0–10 bar	8–32 V	Black White	240–33.5 $\Omega$	A2C60001030 A2C60001046



## Gauge to indicate transmission oil pressure

The ViewLine pressure gauge detects fluctuations in gearbox oil pressure.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- $\pm 3.6^\circ$  angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- $90^\circ$  display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Oil pressure gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–25 bar 0–350 psi	8–32 V	Black White	10–184 $\Omega$	A2C59514136 A2C59514206
0–350 psi 0–25 bar	8–32 V	White	10–184 $\Omega$	A2C59514220

### Bulk package (10 units):

Oil pressure gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–25 bar 0–350 psi	8–32 V	Black White	10–184 $\Omega$	A2C60001026 A2C60001037
0–350 psi 0–25 bar	8–32 V	Black White	10–184 $\Omega$	A2C60001000 A2C60001048



Gauge to indicate transmission oil pressure, in black, gauge range 0 to 25 bar (outer scale).



Gauge to indicate transmission oil pressure, in white, gauge range 0 to 350 psi (outer scale).

## Gauge to indicate transmission oil pressure



Gauge to indicate transmission oil pressure, in black, gauge range 0 to 30 bar (outer scale).



Gauge to indicate transmission oil pressure, in white, gauge range 0 to 400 psi (outer scale).

The ViewLine pressure gauge detects fluctuations in gearbox oil pressure.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- $\pm 3.6^\circ$  angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- $90^\circ$  display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Oil pressure gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–30 bar 0–435 psi	8–32 V	Black White	10–184 $\Omega$	A2C59514141 A2C59514208
0–400 psi 0–25 bar	8–32 V	Black White	10–184 $\Omega$	A2C59514145 A2C59514223

### Bulk package (10 units):

Oil pressure gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–30 bar 0–435 psi	8–32 V	Black White	10–184 $\Omega$	A2C60001027 A2C60001038
0–400 psi 0–25 bar	8–32 V	Black White	10–184 $\Omega$	A2C60001032 A2C60001049

## Gauge to indicate boost pressure

The ViewLine pressure gauge detects changes in the turbocharger boost.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- $\pm 3.6^\circ$  angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- $90^\circ$  display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Turbo pressure gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR DB code, Safety instructions

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–2 bar	8–32 V	Black	10–184 $\Omega$	A2C59514149
0–30 psi		White		A2C59514225

### Bulk package (10 units):

Turbo pressure gauge, Spinlock nut, Rubber seal

Range outer/inner	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–2 bar	8–32 V	Black	10–184 $\Omega$	A2C60001023
0–30 psi		White		A2C60001034



Gauge to indicate boost pressure, in black, gauge range 0 to 2 bar (outer scale).

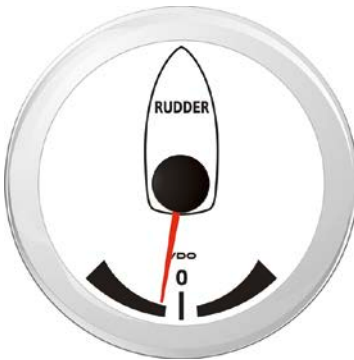


Gauge to indicate boost pressure, in white, gauge range 0 to 2 bar (outer scale).

## Gauge to indicate the rudder position



Gauge to indicate the rudder position, in black, diameter 52 mm.



Gauge to indicate the rudder position, in white, diameter 85 mm.

The ViewLine rudder angle gauge for wheel-controlled yachts displays the current rudder position at all times. An important cockpit gauge for accident-free maneuvers in narrow waterways.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

### Note:

52 mm range: 40° Port to 40° Starboard  
85 mm range: 45° Port to 45° Starboard

- 8 pole Tyco/Hirschmann bush housing
- Operating voltage 8–32 V
- Current consumption < 150 mA
- Anti-fog double lens
- Front side protection rating IP67
- 52 or 85 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Rudder angle instrument, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range angle	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
-40° / +40°	8–32 V	Black White	3–180 Ω	A2C59514154 A2C59514230
<b>Ø 85 mm</b>				
-45° / +45°	8–32 V	Black White	3–180 Ω	A2C59512410 A2C59512411

### Bulk package (10 units):

Rudder angle gauge, Spinlock nut, Rubber seal

Range angle	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
-40° / +40°	8–32 V	Black White	3–180 Ω	A2C60001065 A2C60001066
<b>Ø 85 mm</b>				
-45° / +45°	8–32 V	Black White	3–180 Ω	A2C59510106 A2C59510107

### Kit package:

Rudder angle gauge, Elec. rudder angle sensor (440-102-001-001D), Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, QR code, Safety instructions

Range angle	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
-40° / +40°	8–32 V	Black White	3–180 Ω	A2C59514811 A2C59514813
<b>Ø 85 mm</b>				
-45° / +45°	8–32 V	Black White	3–180 Ω	A2C59514812 A2C59514814

## Gauge to indicate fuel tank level

The ViewLine fuel gauge provides information about the fuel level in the tank and can be used with lever type tank sensors.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values for lever type sensors
- 90° display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Fuel level gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
Empty – Full	8–32 V	Black White	0–90 $\Omega$	A2C59514085 A2C59514186

### Bulk package (10 units):

Fuel level gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
Empty – Full	8–32 V	Black White	0–90 $\Omega$	A2C60001054 A2C60001059



Gauge to indicate fuel tank level, in black.



Gauge to indicate fuel tank level, in white.

## Gauge to indicate fuel tank level



Gauge to indicate fuel tank level, in black.



Gauge to indicate fuel tank level, in white.

The ViewLine fuel gauge provides information about the fuel level in the tank and can be used with lever type tank sensors.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values for lever type sensors
- 90° display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Fuel level gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	3–180 $\Omega$	A2C59514082 A2C59514184

### Bulk package (10 units):

Fuel level gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	3–180 $\Omega$	A2C60001050 A2C60001056

### Kit package:

Fuel level gauge, Adjustable lever arm sensor with contact warning (A2C59510165), Installation kit, Adapter cable 8 pole, Pushbuttons for mode and configuration, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	3–180 $\Omega$	A2C59514842 A2C59514843

## Gauge to indicate fuel tank level

The ViewLine fuel gauge provides information about the fuel level in the tank and can be used with lever type tank sensors.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values for lever type sensors
- 90° display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Fuel level gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
Empty – Full	8–32 V	Black White	240–33.5 $\Omega$	A2C59514094 A2C59514190

### Bulk package (10 units):

Fuel level gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
Empty – Full	8–32 V	Black White	240–33.5 $\Omega$	A2C60001053 A2C60001058



Gauge to indicate fuel tank level, in black.



Gauge to indicate fuel tank level, in white.

## Gauge to indicate fuel tank level



Gauge to indicate fuel tank level, in black, with a range of 0–1/1.



Gauge to indicate fuel tank level, in white, with a range of Empty – Full.

The ViewLine fuel gauge provides information about the fuel level in the tank and can be used with dip type tank sensors.

### Available:

in black or white, with a range of 0–1/1 or Empty – Full, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values for dip type sensors
- 90° display angle
- Optional makepoint switch can be connected
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Fuel level gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	90–4 $\Omega$	A2C59514079 A2C59514182
Empty – Full	8–32 V	Black White	90–4 $\Omega$	A2C59514088 A2C59514188

### Bulk package (10 units):

Fuel level gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	90–4 $\Omega$	A2C60001051 A2C60001057
Empty – Full	8–32 V	Black White	90–4 $\Omega$	A2C60001055 A2C60001060



## Gauge to indicate trim angle (outboard position)

The ViewLine trim gauge provides information about the position of the engine in relation to the boat's stern. In this way the skipper always knows whether the drive is in the raised or lowered position. He can also optimize the boat's trim.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- $\pm 3.6^\circ$  angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption  $< 150$  mA, with integrated warning light (LED)
- Input signal: standard  $\Omega$  values
- 90° display angle
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Trim gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
up / down	8–32 V	Black White	167–10 $\Omega$	A2C59514180 A2C59514244

### Bulk package (10 units):

Trim gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
up / down	8–32 V	Black White	167–10 $\Omega$	A2C60001067 A2C60001068



Gauge to indicate trim angle (outboard position), in black.



Gauge to indicate trim angle (outboard position), in white.

## Gauge to indicate battery charge and discharge current



Gauge to indicate battery charge and discharge current, in black, gauge range -60 to +60 A.



Gauge to indicate battery charge and discharge current, in white, gauge range -150 to +150 A.

The ViewLine ammeter provides an overview of the entire electrical system. The level of current being drawn and the supply current are clearly displayed and the shunt – a measurement resistor – can be inserted into the measurement point in a matter of seconds. The fine connecting cable that runs from the shunt to the gauge is easy to lay without taking up much space.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- <2.5 % accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 100 mA, with integrated warning light (LED)
- 240° display angle
- Programmable warning point (PC software)
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Ammeter gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range amp	Voltage	Color	Input megavolt	Article number
<b>Ø 52 mm</b>				
- 60 / +60 A	8–32 V	Black White	60 mV	A2C59512328 A2C59512330
- 150 / +150 A	8–32 V	Black White	60 mV	A2C59512329 A2C59512331

### Bulk package (10 units):

Ammeter gauge, Spinlock nut, Rubber seal

Range amp	Voltage	Color	Input megavolt	Article number
<b>Ø 52 mm</b>				
- 60 / +60 A	8–32 V	Black White	60 mV	A2C59510022 A2C59510024
- 150 / +150 A	8–32 V	Black White	60 mV	A2C59510023 A2C59510025

### Kit package:

Ammeter gauge, Ammeter shunt , Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, QR code, Safety instructions

Range amp	Voltage	Color	Input megavolt	Article number
<b>Ø 52 mm</b>				
- 60 / +60 A	8–32 V	Black White	60 mV	A2C59514815 A2C59514817
- 150 / +150 A	8–32 V	Black White	60 mV	A2C59514816 A2C59514818

## Gauge to indicate battery voltage

The ViewLine voltmeter displays the status of generator and battery and their loads on a voltage scale. Values exceeding the normal charging voltages can therefore be monitored exactly. Even potential deep discharges can be detected.

### Available:

in black or white, with 12 or 24 V, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–16 V, 18–32 V
- Current consumption < 150 mA, with integrated warning light (LED)
- 90° display angle
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Voltmeter gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Voltage	Color	Article number
<b>Ø 52 mm</b>		
8–16 V	Black	A2C59512545
	White	A2C59512546
18–32 V	Black	A2C59512458
	White	A2C59512459

### Bulk package (10 units):

Voltmeter gauge, Spinlock nut, Rubber seal

Voltage	Color	Article number
<b>Ø 52 mm</b>		
8–16 V	Black	A2C60100178
	White	A2C60100179
18–32 V	Black	A2C60100078
	White	A2C60100079



Gauge to indicate battery voltage, in black, gauge range 8 to 16 V.



Gauge to indicate battery voltage, in white, gauge range 18 to 32 V.

## Gauge to indicate fresh water tank levels (capacitive)



Gauge to indicate fresh water tank levels (capacitive), in black.



Gauge to indicate fresh water tank levels (capacitive), in white.

The ViewLine fresh water tank gauge indicates the level of fresh water. Capacity sensors can be fitted for a maximum depth of up to 1500 mm.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 150 mA, with integrated LED warning light (red)
- Input signal: 4–20 mA current consumption (VDO fresh water sensor)
- 90° display angle
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Fresh water gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	4–20 mA	A2C59514676 A2C59514677

### Bulk package (10 units):

Fresh water gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	4–20 mA	A2C60520086 A2C60520087

### Kit package:

Fresh water gauge, fresh water sensor 80–600 mm (N02-240-402), Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, QR code, Safety instructions

Range	Voltage	Color	Input	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	4–20 mA	A2C59514805 A2C59514806

## Gauge to indicate fresh water tank levels (resistive)

The ViewLine fresh water gauge provides information about the water level in the tank and can be used with all types of tank sensors.

### Available:

in black or white, in range 0–1/1 or Empty – Full, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- +/- 3.6° angle degree accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption < 140 mA
- Input signal: standard  $\Omega$  values
- 90° display angle
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Fresh water gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	3–180 $\Omega$	A2C59514097 A2C59514192
Empty – Full	8–32 V	Black White	3–180 $\Omega$	A2C59514099 A2C59514193

### Bulk package (10 units):

Fresh water gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input ohm	Article number
<b>Ø 52 mm</b>				
0–1/1	8–32 V	Black White	3–180 $\Omega$	A2C60001061 A2C60001063
Empty – Full	8–32 V	Black White	3–180 $\Omega$	A2C60001062 A2C60001064



Gauge to indicate fresh water tank levels (resistive), in black, in range Empty – Full.



Gauge to indicate fresh water tank levels (resistive), in white, in range 0–1/1.

## Gauge to indicate waste water tank levels



Gauge to indicate waste water tank levels, in black.



Gauge to indicate waste water tank levels, in white.

The ViewLine blackwater tank gauge indicates the level of waste water. Capacity sensors can be fitted for a maximum depth of up to 1500 mm.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- <2.5 % accuracy over the entire display range
- Operating voltage 8–32 V
- Current consumption <100 mA, with integrated warning light (LED)
- Input signal: 4–20 mA current consumption (VDO waste water sensor)
- 240° display angle
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Waste water gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Range	Voltage	Color	Input	Article number
Ø 52 mm				
0–1/1	8–32 V	Black White	4–20 mA	A2C59512342 A2C59512343

### Bulk package (10 units):

Waste water gauge, Spinlock nut, Rubber seal

Range	Voltage	Color	Input	Article number
Ø 52 mm				
0–1/1	8–32 V	Black White	4–20 mA	A2C59510036 A2C59510037

### Kit package:

Waste water gauge, waste water sensor (N02-240-902), Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, QR DB code, Safety instructions

Range	Voltage	Color	Input	Article number
Ø 52 mm				
0–1/1	8–32 V	Black White	4–20 mA	A2C59514807 A2C59514808

## Gauge to count engine running hours

The ViewLine operating hours counter makes it easy to stick to an effective maintenance schedule. It is only activated when the engine is running so only genuine engine operating hours are counted.

### Available:

in black or white, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- Operating voltage 9–30 V
- Current consumption <30 mA, with integrated LED function control light (red)
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Hour counter gauge, Adapter cable 8 pole, Round bezel, Pushbuttons for mode and configuration, Spinlock nut, Rubber seal, QR code, Safety instructions

Voltage	Color	Article number
<b>Ø 52 mm</b>		
9–30 V	Black	A2C59512453
	White	A2C59512454

### Bulk package (10 units):

Hour counter gauge, Spinlock nut, Rubber seal

Voltage	Color	Article number
<b>Ø 52 mm</b>		
9–30 V	Black	A2C59510876
	White	A2C59510877



Gauge to count engine running hours, in black.



Gauge to count engine running hours, in white.

## Gauge to indicate time



Gauge to indicate time, in black.

The clearly readable dial on the ViewLine quartz clock adds a stylish touch to every pleasure boat and yacht cockpit.

### Available:

in black or white, as 12 or 24 V, as a single, bulk (10 units) or kit purchase

- 8 pole Tyco/Hirschmann MQS plug
- Operating voltage 8–16 V, 18–32 V
- Current consumption < 10 mA
- Reverse polarity protection
- Anti-fog double lens
- Front side protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth

### Aftermarket package:

Clock gauge, Adapter cable 8 pole, Round bezel, Pushbutton for time setting configuration, Spinlock nut, Rubber seal, QR code, Safety instructions



Gauge to indicate time, in white.

Voltage	Color	Article number
<b>Ø 52 mm</b>		
8–16 V	Black	A2C59513445
	White	A2C59513443
18–32 V	Black	A2C59513446
	White	A2C59513444

### Bulk package (10 units):

Clock gauge, Spinlock nut, Rubber seal

Voltage	Color	Article number
<b>Ø 52 mm</b>		
8–16 V	Black	A2C60001017
	White	A2C60001015
18–32 V	Black	A2C60001018
	White	A2C60001016



## Rudder angle sensors

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### Single station

Voltage	Resistance ohm	Article number
12/24 V	10–180 $\Omega$	440-102-001-001D

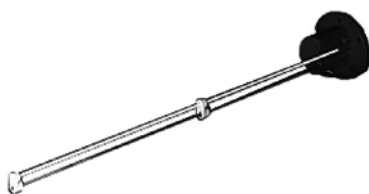
### Dual station (fly bridge)

Voltage	Resistance ohm	Article number
12/24 V	5–90 $\Omega$	440-102-002-001D



Rudder angle

## Fresh water capacitive sensors



Fresh water level sensor  
Sensor type: Adjustable dip

Voltage	Signal Range	Length	Article number
12 / 24 V	40–20 mA	80–600 mm	N02-240-402
12 / 24 V	40–20 mA	600–1200 mm	N02-240-404
12 / 24 V	40–20 mA	1200–1500 mm	N02-240-406

## Fresh water resistive sensors



Fresh water level sensor  
Sensor type: Adjustable lever

Voltage	Signal Range	Length	Article number
12 / 24 V	3–180 $\Omega$	200–600 mm	226-828-001-001K

## Waste water capacitive sensors



Waste water level sensor  
Sensor type: Adjustable lever

Voltage	Signal Range	Length	Article number
12 / 24 V	4–20 mA	200–600 mm	N02-240-902
12 / 24 V	4–20 mA	600–1200 mm	N02-240-904
12 / 24 V	4–20 mA	1200–1500 mm	N02-240-906

## Ammeter shunt

Individual packaging



Range amp	Voltage	Input	Article number
-60 / +60 A	12 / 24 V	60 mV	A2C59514043
-150 / +150 A	12 / 24 V	60 mV	A2C59514047

## Electronic pressure sensors

The active pressure sensors with voltage output are used to measure pressure of gaseous and liquid media in a variety of applications at various locations.

The pressure sensor unit is based on a stainless steel sensing element and converts fluctuations of measuring medium into a pressure-proportional electrical output signal (0.5–4.5 V).

Range bar	Voltage	Thread	Article number
10 bar	8–32 V	M12 x 1.5	365-100-010-121C
16 bar	8–32 V	M12 x 1.5	365-100-016-121C
30 bar	8–32 V	M12 x 1.5	365-100-030-121C

### Note:

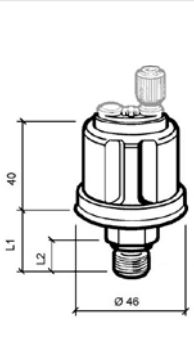



Tightening Torque depends on threaded port size and sensor body material.

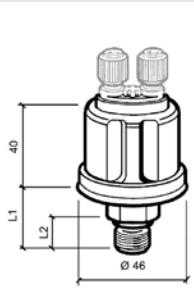

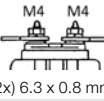
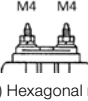
Connector type: Bayonet according to ISO15170 (formerly DIN 72585).



Electronic pressure sensor with voltage output.

## Engine oil pressure sensors 5 bar

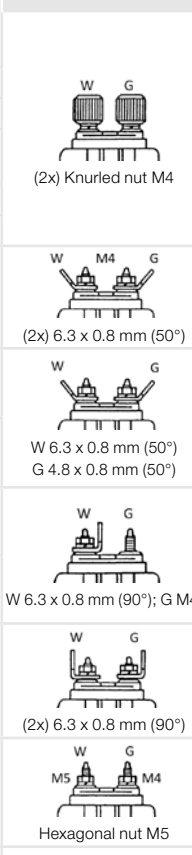
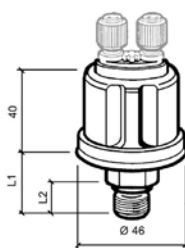
Single-pole, common ground							
		Range	Voltage	L1	L2	Thread	Article number
	 Knurled nut M4	5 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-029-001C
		5 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-029-004C
		5 bar	6–24 V	23.8 mm	15.3 mm	1/4" – 18 NPTF	360-081-029-008C
		5 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-029-026C
		5 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-029-085C
	 6.3 x 0.8 mm M4	5 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-029-041C
		 Hexagonal nut M4	5 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5

Dual-pole, insulated return							
		Range	Voltage	L1	L2	Thread	Article number
	 (2x) Knurled nut	5 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-032-001C
		5 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-032-002C
		5 bar	6–24 V	20.8 mm	12 mm	M18 x 1.5	360-081-032-013C
	 (2x) 6.3 x 0.8 mm	5 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-032-007C
		 (2x) Hexagonal nut	5 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5
	5 bar		6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-032-060C*

\* without hexagonal nut

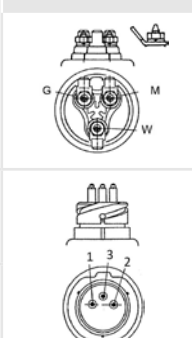
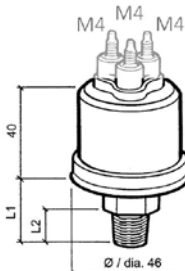
## Engine oil pressure sensors 5 bar

With warning contact, common ground					
Range	Voltage	L1	L2	Thread	Article number
0.7 ± 0.15 bar	6-24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-004C
0.5 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M12 x 1.5	360-081-030-008C
1.4 ± 0.3 bar	6-24 V	19.5 mm	11 mm	1/8" - 27 NPTF	360-081-030-010C
1.2 ± 0.15 bar	6-24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-018C
0.5 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M14 x 1.5	360-081-030-028C
0.5 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-036C
0.5 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M14 x 1.5	360-081-030-097C
0.4 <sup>+0.2</sup> bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-085C
0.5 <sup>+0.2</sup> <sub>-0.1</sub> bar	6-24 V	19.5 mm	11 mm	1/8" - 27 NPTF	360-081-030-086C
0.4 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M14 x 1.5	360-081-030-071C
0.5 <sup>+0.15</sup> bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-157C
1.4 ± 0.3 bar	6-24 V	19.5 mm	11 mm	1/8" - 27 NPTF	360-081-030-119C
0.25 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M14 x 1.5	360-081-034-002C
0.4 ± 0.2 bar	6-24 V	20.5 mm	12 mm	M14 x 1.5	360-081-062-002A
1.0 ± 0.2 bar	6-24 V	20.5 mm	12 mm	M14 x 1.5	360-081-062-004A

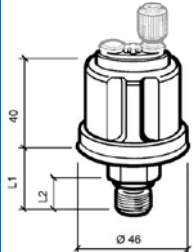


Images: G = Sensor terminal; W = Warning contact terminal

With warning contact, 3 connections					
Range	Voltage	L1	L2	Thread	Article number
0.8 ± 0.15 bar	6-24 V	19.5 mm	11 mm	1/8" - 27 Dryseal NPTF	360-081-039-002C
0.25 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-064-001C
0.25 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-064-003C

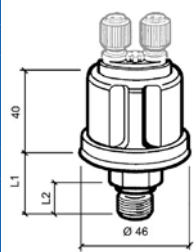
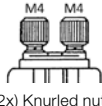
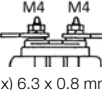



Images: G = Sensor; M = Ground; W = Warning contact  
 1 = Sensor; 2 = Warning contact; 3 = Anti-twist guard

## Engine oil pressure sensors 10 bar

Single-pole, common ground							
		Range	Voltage	L1	L2	Thread	Article number
	 Knurled nut M4	10 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-029-012C
		10 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-029-013C
		10 bar	6–24 V	23.8 mm	15.3 mm	1/4" – 18 NPTF	360-081-029-020C
	 6.3 x 0.8 mm (50°) M4	10 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-029-033C
		10 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-029-042C
		10 bar	6–24 V	19.5 mm	11 mm	R 1/8 DIN 2999	360-081-029-062C
		10 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-003-002K*

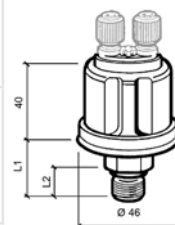
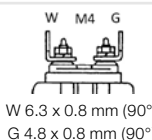
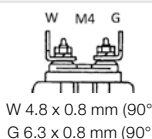
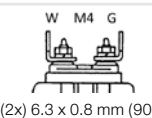
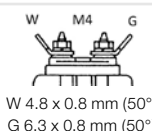
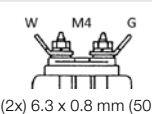
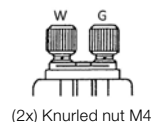
\* for dual units (fly bridge)

Dual-pole, insulated return							
		Range	Voltage	L1	L2	Thread	Article number
	 (2x) Knurled nut	10 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-032-003C
		10 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-032-004C
		10 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-032-006C
		10 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-032-014C
		10 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-032-053C
		10 bar	6–24 V	40 mm	10 mm	R1/8 DIN 2999	360-081-032-057C
	 (2x) 6.3 x 0.8 mm	10 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-001-002C*

\* for dual units (fly bridge)

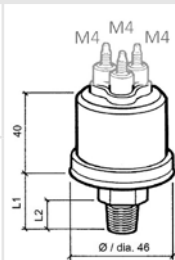
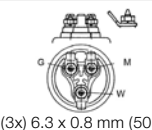
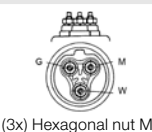
## Engine oil pressure sensors 10 bar

With warning contact, common ground					
Range	Voltage	L1	L2	Thread	Article number
0.5 ± 0.15 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-009C
0.8 ± 0.3 bar	6–24 V	19.5 mm	12 mm	1/8" – 27 NPTF	360-081-030-015C
0.9 ± 0.15 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-017C
1.5 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-030-019C
0.5 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-030-022C
0.7 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-030-030C
0.5 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-030-032C
0.75 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-037C
2.0 ± 0.3 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-041C
0.5 <sup>+0.2</sup> <sub>-0.1</sub> bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-030-052C
0.5 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-074C
0.75 ± 0.15 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-039C
1.0 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-030-063C
0.5 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-070C
4.0 <sup>+0.5</sup> bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-030-100C
5.5 ± 0.3 bar	6–24 V	20.5 mm	12 mm	M16 x 1.5	360-081-030-107C
0.75 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-030-122C
5.2 ± 0.5 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-030-152C
1.25 <sup>+0.3</sup> bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-030-138C
1.35 ± 0.15 bar	6–24 V	18.5 mm	10 mm	M10 x 1	360-081-030-112C
0.7 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-061-002C
5.0 ± 0.3 bar	6–24 V	21.5 mm	13 mm	M12 x 1.5 tapered, short	360-081-061-006C
5.5 ± 0.3 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-062-003C
3.0 ± 0.3 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-062-005A



Images: G = Sensor terminal; W = Warning contact terminal

With warning contact, 3 connections					
Range	Voltage	L1	L2	Thread	Article number
1.0 ± 0.15 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-039-007C
0.8 ± 0.15 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 Dryseal NPTF	360-081-039-003C
5.2 ± 0.3 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-063-001C <sup>1)</sup>
0.6 <sup>+0.3</sup> bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-064-004C <sup>2)</sup>



<sup>1)</sup> 1 = Sensor; 2 = Warning contact; 3 = Ground

<sup>2)</sup> 1 = Sensor; 2 = Warning contact; 3 = Anti-twist guard

## Transmission oil pressure sensors 25 bar

Single-pole, common ground							
		Range	Voltage	L1	L2	Thread	Article number
	 6.3 x 0.8 mm (50°) M4	25 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-037-008C
		25 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-004-001C*
	 M4	25 bar	6–24 V	20.8 mm	11 mm	M18 x 1.5	360-081-037-003C
		25 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-037-010C
		25 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-037-017C
		25 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-037-018C

\* for dual units (fly bridge)

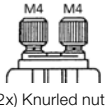
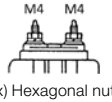
Dual-pole, insulated return							
		Range	Voltage	L1	L2	Thread	Article number
	 (2x) Knurled nut	25 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-038-005C
		25 bar	6–24 V	23.8 mm	15.3 mm	3/8" – 18 Dryseal NPTF	360-081-038-002C
	 (2x) 6.3 x 0.8 mm	25 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-002-001K*
		25 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-038-001C
		25 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-038-003C

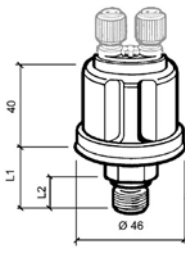
\* for dual units (fly bridge)

With warning contact, common ground							
		Warning contact	Voltage	L1	L2	Thread	Article number
	 (2x) Hexagonal nut	5.5 <sup>+1.0</sup> <sub>-0.5</sub> bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-053-003C



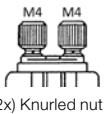
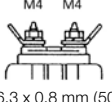
## Transmission oil pressure sensors 400–435 psi

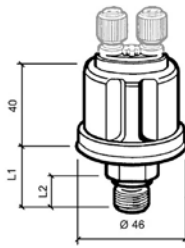
Dual-pole, insulated return						
Range	Voltage	L1	L2	Thread	Article number	
30 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-002-003C*	 (2x) Knurled nut
30 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-002-004C*	 (2x) Hexagonal nut



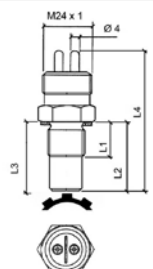
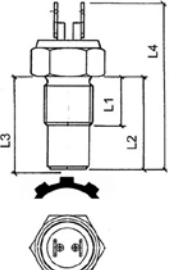
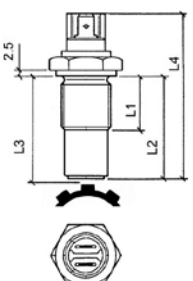
\* for dual units (fly bridge)

## Turbo pressure sensors

Dual-pole, insulated return						
Range	Voltage	L1	L2	Thread	Article number	
2 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-032-058C	 (2x) Knurled nut
2 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-032-011C	 (2x) 6.3 x 0.8 mm (50°)
2 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-032-025C	

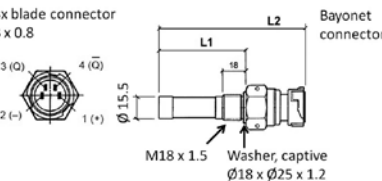
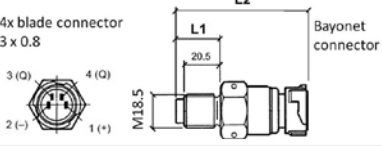
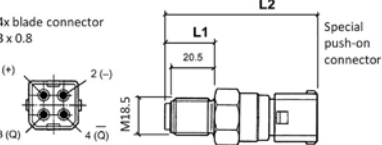


## Speed and revolution sensors

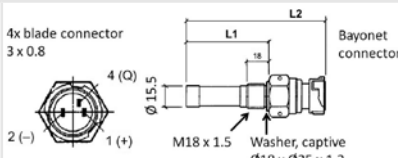
Inductive sensor 2-pole, insulated return (independent voltage)						
	L1	L2	L3	L4	Thread	Article number
 <p>Special push-on connector (KOSTAL)</p>	18 mm	35 mm	36.15 – 35.80 mm	71.5 mm	M18 x 1.5	340-804-005-001C
	15 mm	35 mm	36.1 ± 0.1 mm	71.5 mm	M18 x 1.5	340-804-005-007C
	18 mm	71.4 mm	72.63 – 72.20 mm	107.9 mm	M18 x 1.5	340-804-005-013A
	24.9 mm	63.4 mm	64.55 – 64.20 mm	99.9 mm	M18 x 1.5	340-804-005-028C
	24.9 mm	26.5 mm	27.5 <sup>+0.15</sup> <sub>-0.2</sub> mm	63 mm	M18 x 1.5	340-804-005-033C
 <p>2x blade connector 6.3 x 0.8 mm</p>	18 mm	35 mm	36.1 ± 0.1 mm	63.5 mm	M18 x 1.5	340-804-006-002C
	33 mm	34 mm	35.1 ± 0.1 mm	62 mm	M18 x 1.5	340-804-006-007C
	33 mm	34 mm	35.1 ± 0.1 mm	64.5 mm	M18 x 1.5	340-804-007-003C
	27.5 mm	28.5 mm	29.6 ± 0.1 mm	70 mm	M18 x 1.5	340-804-007-002A <sup>1)</sup>
	27.5 mm	28.5 mm	29.6 ± 0.1 mm	70 mm	3/4" – 16 UNF-2A	340-804-007-004C <sup>1)</sup>
	33 mm	34 mm	35.1 ± 0.1 mm	70 mm	M18 x 1.5	340-804-007-011C <sup>1)</sup>
	18.2 mm	70.7 mm	71.8 ± 0.1 mm	79.7 mm	M18 x 1.5	340-804-007-019C <sup>2)</sup>
	20 mm	39 mm	40.1 ± 0.1 mm	62 mm	M18 x 1.5	340-804-007-020C <sup>2)</sup>

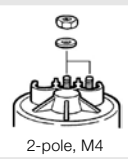
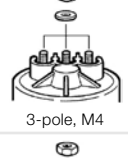
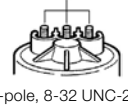
<sup>1)</sup> Blade connector G = 6.3 x 0.8 mm; W = 6.3 x 0.8 mm

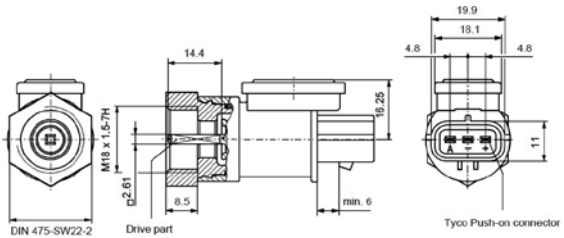
<sup>2)</sup> Blade connector G = 4.8 x 0.8 mm; W = 6.3 x 0.8 mm

Blocking oscillator sensor 4-pole, insulated return, 8–15 V, 12 mA				
	Voltage	L1	L2	Article number
 <p>4x blade connector 3 x 0.8</p> <p>Bayonet connector</p> <p>M18 x 1.5 Washer, captive Ø18 x 25 x 1.2</p>	8–15 V	90.2 mm	133 mm	340-216-005-001C
	8–15 V	63.2 mm	106 mm	340-216-005-002C
 <p>4x blade connector 3 x 0.8</p> <p>Bayonet connector</p>	8–15 V	25 mm	74 mm	A2C59513983
 <p>4x blade connector 3 x 0.8</p> <p>Special push-on connector</p>	8–15 V	25 mm	78.3 mm	340-216-010-003C

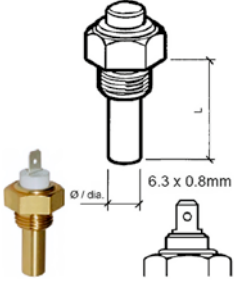

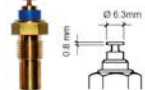
## Speed and revolution sensors

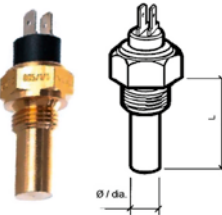
Blocking oscillator sensor 4-pole, insulated return, 30 V, 14 mA				
Voltage	L1	L2	Article number	
30 V	90.2 mm	133 mm	340-216-010-004C	

Generator sensors 2-pole, 3-pole, insulated return (No-load voltage)				
No-load voltage	Type	Thread	Article number	
19.3 V to 2000 min <sup>-1</sup>	2-pole, M4	M22 x 1.5	340-808-001-002C	
19.3 V to 2000 min <sup>-1</sup>	3-pole, M4	M22 x 1.5	340-807-001-001C	
19.3 V to 2000 min <sup>-1</sup>	3-pole, 8-32 UNC-2A	7/8" – 18UNS-2B	340-807-001-003C	

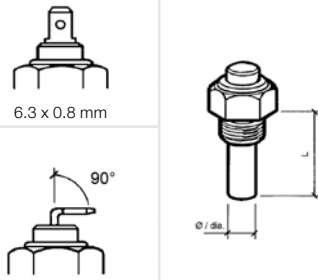

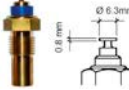

Hall-effect sensor 3-pole, insulated return		
Voltage	Article number	
10.8 to 16 V	340-214-013-001Z	

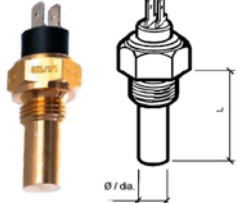
## Coolant temperature sensors

Single-pole, common ground						
	Range degrees	Voltage	Length	Ø	Thread	Article number
	40–120 °C	6–24 V	29 mm	9 mm	M14 x 1.5	323-801-001-006N
	40–120 °C	6–24 V	29 mm	9 mm	3/8" – 18 NPTF	323-801-001-007N
	40–120 °C	6–24 V	29 mm	9 mm	5/8" – 18 UNF-3A	323-801-001-008N
	40–120 °C	6–24 V	29 mm	9 mm	1/4" – 18 NPTF	323-801-001-009N
	40–120 °C	6–24 V	29 mm	9 mm	1/2" – 14 NPTF	323-801-001-010N
	40–120 °C	6–24 V	29 mm	9 mm	M18 x 1.5	323-801-001-022N
	40–120 °C	6–24 V	29 mm	9 mm	M16 x 1.5	323-801-001-040N
 <p>Knurled nut M4</p>	40–120 °C	6–24 V	29 mm	9 mm	M16 x 1.5	323-801-001-029N
	40–120 °C	6–24 V	29 mm	9 mm	R 3/8" DIN 2999, tapered	323-801-001-058C
	40–120 °C	6–24 V	22 mm	8.5 mm	1/8" – 27 NPTF	323-801-005-001D
	40–120 °C	6–24 V	10.5 mm	8.4 mm	M10 x 1 tapered, short	323-801-017-001N

Dual-pole, insulated return						
	Range degrees	Voltage	Length	Ø	Thread	Article number
	40–120 °C	6–24 V	24 mm	11 mm	5/8" – 18 UNF-2A	323-805-001-002C
	40–120 °C	6–24 V	29 mm	11 mm	1/2" – 14 NPTF	323-805-001-004N
	40–120 °C	6–24 V	29 mm	11 mm	3/8" – 18 Dryseal NPTF	323-805-001-005N
	40–120 °C	6–24 V	29 mm	9 mm	M18 x 1.5	323-805-001-015N

## Engine oil temperature sensors

Single-pole, common ground							
Range degrees	Voltage	Length	Ø	Thread	Article number		
50–150 °C	6–24 V	29 mm	9 mm	M14 x 1.5	323-801-004-002N		
50–150 °C	6–24 V	29 mm	9 mm	R 1/2	323-801-004-003D		
50–150 °C	6–24 V	29 mm	9 mm	1/2" – 14 NPTF	323-801-004-007D		
50–150 °C	6–24 V	29 mm	9 mm	M14 x 1.5	323-801-004-039D		
50–150 °C	6–24 V	15 mm	9 mm	M16 x 1.5	323-801-012-001D		
50–150 °C	6–24 V	15 mm	9 mm	M14 x 1.5	323-801-012-002D		
50–150 °C	6–24 V	15 mm	9 mm	M18 x 1.5	323-801-012-003D		
50–150 °C	6–24 V	29 mm	9 mm	M16 x 1.5	323-801-004-012C	 <p>Knurled nut M4</p>	
50–150 °C	6–24 V	22 mm	6.9 mm	M10 x 1.5	323-801-010-001D	 <p>Ø 6.3mm</p>	
50–150 °C	6–24 V	29 mm	9 mm	1/4" – 18 NPTF	323-801-004-017D	 <p>Hexagonal nut M4</p>	

Dual-pole, insulated return							
Range degrees	Voltage	Length	Ø	Thread	Article number		
50–150 °C	6–24 V	29 mm	11 mm	M14 x 1.5	323-805-003-001N		
50–150 °C	6–24 V	29 mm	11 mm	1/4" – 18 NPTF	323-805-003-002N		
50–150 °C	6–24 V	29 mm	11 mm	5/8" – 18 UNF-2A with sealing cone	323-805-003-003N		

## IP temperature connectors

Sensors for electronically controlled safety functions are the eyes, ears and the antenna of a modern-day high-tech vehicle. Nothing escapes them – neither the smallest temperature deviations inside cooling systems, nor the monitoring of engine and gear oil temperature. Intelligent safety systems are inconceivable without them.

The temperature sensor is based on NTC-Technology (Negative Temperature Coefficient). It is a semi-conductor which changes the resistance value according to temperature deviation. This resistance value as an output value is much more an indication of a media's medium temperature.

Suitable for Engine oil, Engine coolant, Diesel fuel					
	Range degrees	Thread	O-Ring	Tightening Torque	Article number
	-40 / +150 °C	M12 x 1.5	FMP (Shore A 70 ±5)	15–20 Nm	A2C59900813 <sup>1)</sup>

<sup>1)</sup> Mating connector: Bosch, 1928403920, code 2

Suitable for Engine coolant					
	Range degrees	Thread	O-Ring	Tightening Torque	Article number
	-40 / +140 °C	M12 x 1.5	Copper	17 + 3–0 Nm	A2C59515306 <sup>2)</sup>
	-40 / +130 °C	M14 x 1.5	None	Max 45 Nm	A2C59515307 <sup>3)</sup>
	-40 / +130 °C	M12 x 1.5	EN AW – 1200 (Al 99)	20Nm ± 10%	A2C59900816 <sup>4)</sup>

<sup>2)</sup> Mating connector: Delphi, DRW. 152624 way 2, code 1

<sup>3)</sup> Mating connector: Leopold Kostal receptacle housing (black) 2 pole code A, 09 4412 11, Contact SLK 8 ELA, TAB 2 99 00 47295 0

<sup>4)</sup> Mating connector: Tyco, AMP925597-2 or AMP925596

· +150 °C max 10 min

## Pyrometer sensors

### Thermocouple element – compatible only with VDO

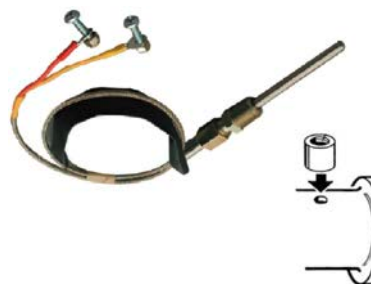
Range	Terminals	Article number
100–900° C 250–1650° F	Red = Negative Yellow = Positive	N03-320-264

### Connecting cable




Range	Terminals	Article number
6 m	White = Negative Blue = Positive	N03-320-268


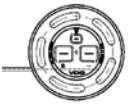

### Threaded bushing for welding to manifold

Article number
N03-320-266

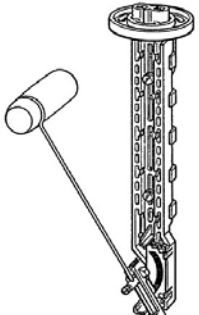





### Fuel level 0–90 sensors

Aftermarket package					
		Item specifics	Signal Range empty/full	Length	Article number
		Fuel level sensor with warning contact Sensor type: Adjustable lever ALAS I	2–90 Ω	145–400 mm	A2C59510167
		Fuel level sensor without warning contact Sensor type: Adjustable lever ALAS I	2–90 Ω	145–400 mm	A2C59510173




Bulk package (10 units)					
		Item specifics	Signal Range empty/full	Length	Article number
		Fuel level sensor with warning contact Sensor type: Adjustable lever ALAS I	2–90 Ω	145–400 mm	A2C59510164
		Fuel level sensor without warning contact Sensor type: Adjustable lever ALAS I	2–90 Ω	145–400 mm	A2C59510170

### Fuel level 3 – 180 sensors




Aftermarket package					
		Item specifics	Signal Range empty/full	Length	Article number
		Fuel level sensor Sensor type: Adjustable lever	3–180 Ω	150–600 mm	226-801-015-001G
		Fuel level sensor Sensor type: Adjustable lever for dual units (flying bridge)	3–180 Ω	150–600 mm	N02-240-106*
		Fuel level sensor with warning contact Sensor type: Adjustable lever ALAS I	3–180 Ω	145–400 mm	A2C59510165
		Fuel level sensor without warning contact Sensor type: Adjustable lever ALAS I	3–180 Ω	145–400 mm	A2C59510171


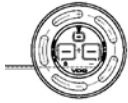

\* for dual units (flying bridge)






















Bulk package (10 units)					
Item specifics	Signal Range empty/full	Length	Article number		
Fuel level sensor with warning contact Sensor type: Adjustable lever ALAS I	3–180 Ω	145–400 mm	A2C59510162		
Fuel level sensor without warning contact Sensor type: Adjustable lever ALAS I	3–180 Ω	145–400 mm	A2C59510168		

### Fuel level 240–33.5 sensors

Aftermarket package					
Item specifics	Signal Range empty/full	Length	Article number		
Fuel level sensor with warning contact Sensor type: Adjustable lever ALAS I	240–33.5 Ω	145–400 mm	A2C59510166		
Fuel level sensor without warning contact Sensor type: Adjustable lever ALAS I	240–33.5 Ω	145–400 mm	A2C59510172		

Bulk package (10 units)					
Item specifics	Signal Range empty/full	Length	Article number		
Fuel level sensor with warning contact Sensor type: Adjustable lever ALAS I	240–33.5 Ω	145–400 mm	A2C59510163		
Fuel level sensor without warning contact Sensor type: Adjustable lever ALAS I	240–33.5 Ω	145–400 mm	A2C59510169		

## Accessories

Image	Item specifics	Article number
	Spinlock nut 52 mm	A2C52059471
	Spinlock nut 85 mm	A2C53212238
	Spinlock nut 110 mm	A2C53238881
	Pushbutton for LCD 13.6 mm IP67	A2C59512684
	Connector set 8 pin	A2C59510850
	Connector set 14 pin	A2C59510851
	Adapter cable for 52 mm 5 x AMP taps, 6.3 mm 2 x AMP taps, 2.8 mm	A2C59510852
	Make Point Switch 12 V, Gauges: 52 mm: temperature, pressure, tank, trim, rudder angle 85/110 mm: temperature, pressure, tank	A2C59510886
	Adapter cable 8-pole for temperature, pressure, fuel level, trim, pyrometer, outside temperature, fresh water, blackwater, tachometer, speedometer	A2C59512947
	Adapter cable 8 pole for voltmeter, engine hours counter, clock	A2C59512948
	Adapter cable 14 pole for tachometer with LCD	A2C59512950
	GPS Speed cable	A2C95822600
	Connector protective cap 8 pole	A2C53324664
	Connector protective cap 14 pole	A2C53324671
	Connector blind plug 14 pin	A2C59513492
	Dropping Resistor 24 V (without connector)	A2C59510221
	Dropping Resistor 24 V (with connector)	A2C59510853
	Bracket assembly mounting set	A2C59510854
	Flush mount fixing bracket	A2C59510864

## Bezels

Profile	Color	Article number
<b>Ø 52 mm</b>		
Flat	Black	A2C53186040
	White	A2C53186022
	Chrome	A2C53186023
Triangular	Black	A2C53186024
	White	A2C53186025
	Chrome	A2C53186026
Round	Black	A2C53186027
	White	A2C53186028
	Chrome	A2C53186029
<b>Ø 85 mm</b>		
Flat	Black	A2C53192911
	White	A2C53192912
	Chrome	A2C53192910
Triangular	Black	A2C53192917
	White	A2C53192920
	Chrome	A2C53192918
Round	Black	A2C53192913
	White	A2C53192916
	Chrome	A2C53192914
<b>Ø 110 mm</b>		
Flat	Black	A2C53210745
	White	A2C53210746
	Chrome	A2C53210747
Triangular	Black	A2C53210763
	White	A2C53210764
	Chrome	A2C53210765
Round	Black	A2C53210749
	White	A2C53210760
	Chrome	A2C53210761



Bezels in chrome, black and white.



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