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# AcquaLink

Maximum reliability and progressive technology in premium quality.



**VDO**





# Content

System architecture	6
Instrumentation	8
TFT displays	8
Wind gauges	9
Compass	12
Depth gauge	13
Speed gauges	14
Tachometer	16
Temperature gauges	17
Pressure gauges	20
Rudder angle	23
Fuel level gauges	24
Trim	25
Ammeter	26
Voltmeter	27
Level gauges	28
Nav Box	30
Engine Box	31
Media Box	32
Nav Control	33
Sensors	34
Depth sensor	34
Nav Sensor	35
Wind sensors	35
Sumlog® Transducer	36
Rudder angle sensors	37
Level sensors	38
Pressure sensors	39
Speed and revolution sensors	46
Temperature sensors and connectors	48
Fuel level sensors	52
Accessories	54

# Timeless instruments. High-quality design.

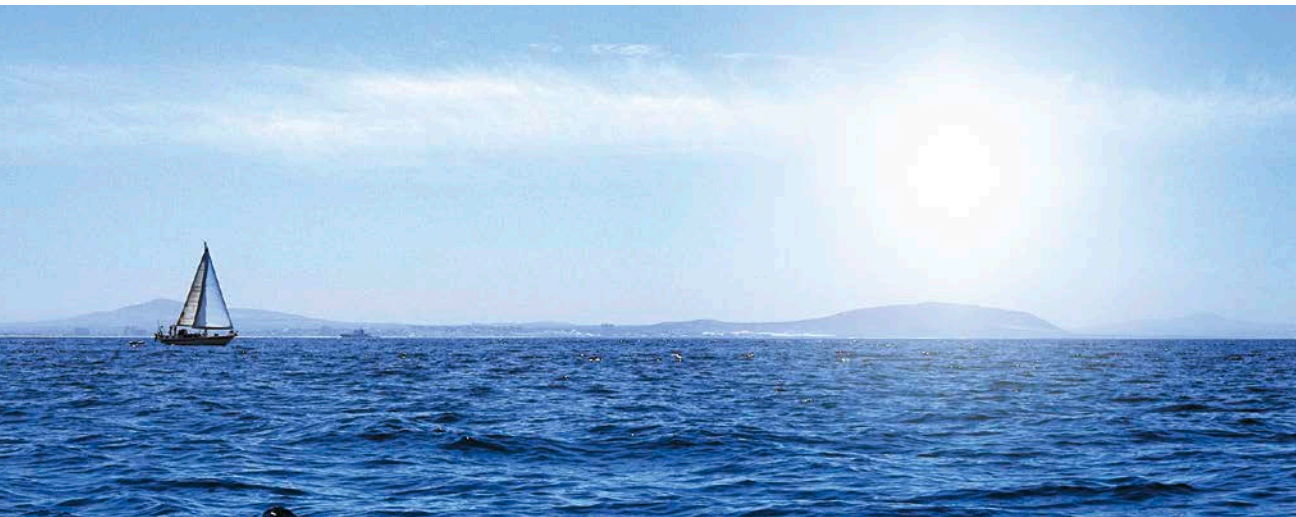
With over 50 years experience VDO stands as one of the oldest marine suppliers in the industry. This sustained level of success is the product of our ongoing innovation, combined with our eye for design and dedication to quality. Our products have appealed to generations of clients in the sailing and motorboat sector, and our long-term vision is to serve many more generations to come.

In this scope we'd like to introduce you to AcquaLink®, our new comprehensive product range. Beyond gauges, AcquaLink® realizes state of the art solutions to provide customers with instantaneous, accurate nautical information. The instruments are designed for performance, with ease of use remaining an important attribute. The use of solely premium material, such as mineral glass lenses, guarantees the highest level of reliability and readability, as well as low energy consumption.

All AcquaLink® instruments are lead free, a token of our commitment to environmental responsibility. In line with this, our production plant is ISO 14001:2009 certified. In addition, the timelessly elegantly stylish yet modern design of AcquaLink® displays and gauges provides your cockpit with pleasant clarity. Every component of the AcquaLink® series fulfills highest standards with regard to functionality, design and quality.



\*low power consumption due to transfective display  
\*lead-free instruments



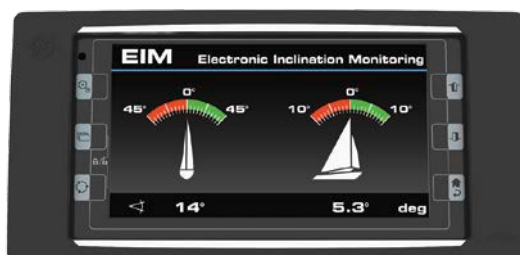


## The benefits of using AcquaLink®:

- Maximum precision and the deployment of pioneering technologies are equally important as ease of use and stylish design.
- All AcquaLink® components are made out of high class materials, like mineral glass, stainless steel and aluminum.
- All products are ISO/TS 9001 certified.
- 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 AcquaLink® devices for extreme conditions at sea.
- Our ecological production in Europe guarantees highest quality standards according to TS-16949.
- Harmonised dashboard look.



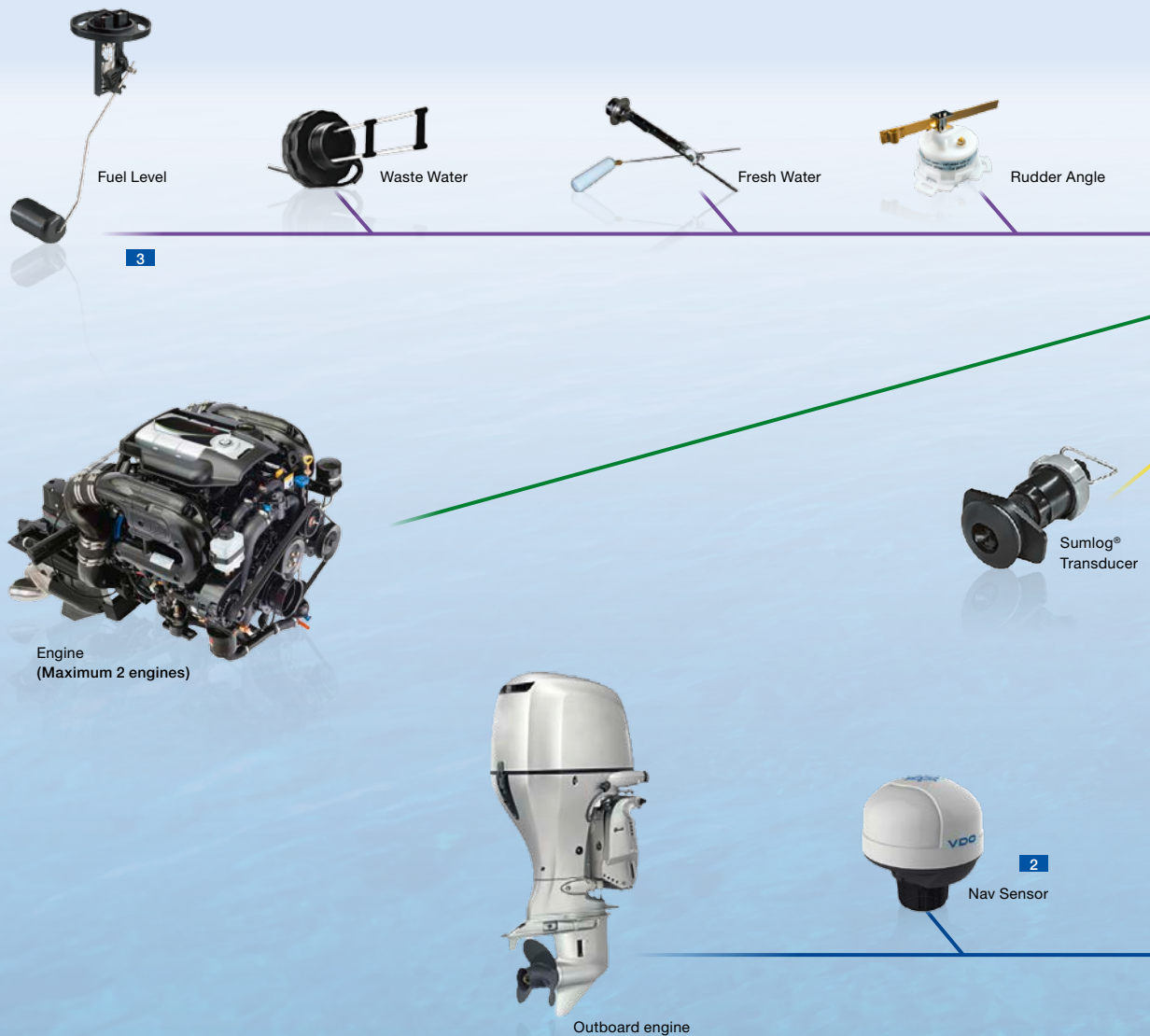
4.3" TFT display



7" TFT display



# System architecture



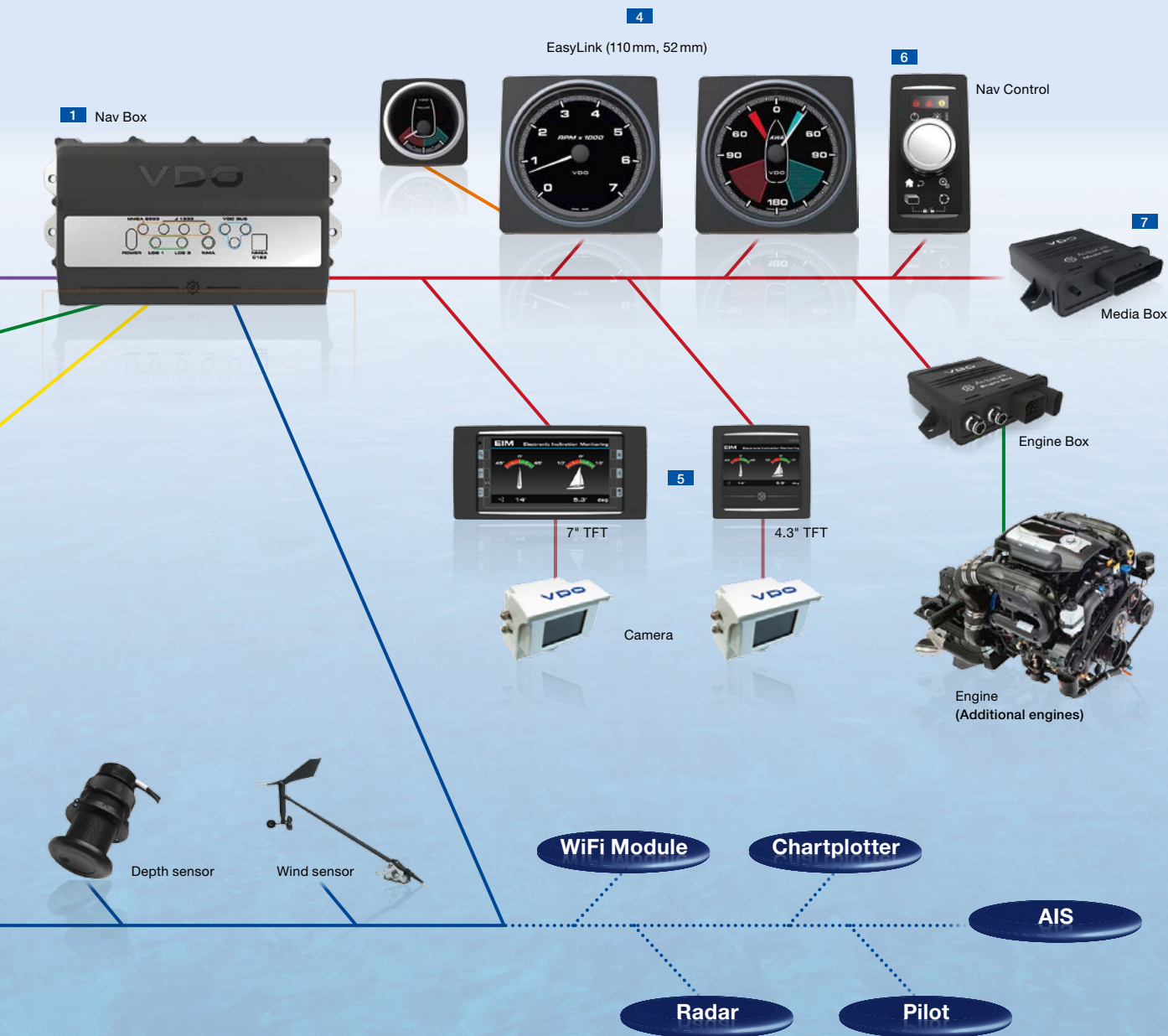
**1** The Nav Box is the brain of the system. It has three VDO Bus, an NMEA 2000® & 0183 input and several digital outputs.

**2** The Nav Sensor is the gem of all sensors. The inertial sensor complements the inbuilt GPS to provide accurate readings of the speed of travel as well as the pitch & roll (up and down) and YAW (sideways) motion of the boat. Compass readings can be displayed electronically thanks to the fluxgate, which also facilitate course corrections in electronic autopilots. The barometer and air temperature sensors are early indicators of forthcoming weather conditions.

**3** Analogue wiring harness is a programmable input allowing up to 12 sensors to be connected to the Nav Box. These include: fuel level-, fresh- & waste water level sensors; rudder angle sensor; voltmeter; pressure & temperature sensor; ammeter shunt; and trim.

**4** Up to 20 gauges can be daisy-chained from the gauges connected to the VDO Bus via EasyLink.

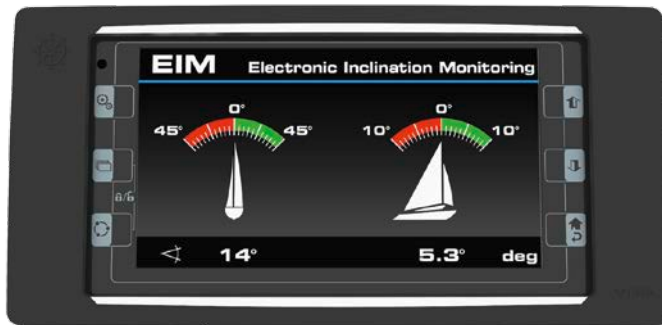
**5** The TFTs can display any of the information received by the Nav Box. A remote control allows the user to select which information he'd like to view and the anti-reflexion layer ensures a clear picture even in daylight.



**6** The Remote Human Machine Interface operates multiple strategically placed TFTs, allowing nautical information to be accessed from anywhere on the boat.

**7** The Media Box has an inbuilt AM/FM tuner and Bluetooth. A memory stick, MP3 player or CD player can be connected so users can listen to their favourite music. The Media Box can be controlled using the AcquaLink® Nav Control and an installed AcquaLink® TFT.

- Analog /digital wiring harness
- CAN line
- 2x VDO signal
- NMEA 2000® certified
- 3x VDO Bus multiple connection options displayed
- Easy Link



7" TFT display



4.3" TFT display

AcquaLink® multifunction TFT displays are available in 4.3" and 7" sizes. The full 24 bit/16 mio. color optically bonded displays feature transreflective layer technology for unprecedented and unsurpassed readability even in direct sunlight. TFT displays connect to a VDO Bus backbone for simple installation in any yacht with up to 5 displays per VDO Bus line. AcquaLink® displays also feature direct video inputs on the device for cameras and other surveillance equipment. 7" TFTs are equipped with capacitive multi touch screens whereas 4.3" displays require the use of a Nav Control unit for data input and operation.

- M12 4 pin (video input)
- 2x M12 8 pin VDO Bus connectors
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

#### Aftermarket package:

TFT Display, Black bezel, Foam seal, Silicone cover, QR code, Screw, Safety instructions

Screen size	Voltage	Resolution	Article number
4.3"	8–28 V	480 x 272 (WQVGA)	A2C59501996
7"	8–28 V	800 x 480 (WVGA)	A2C59501997

Feature and function			
Speed through Water	Time of Arrival (Mark)	Theoretical Boat Speed	Rudder Angle
Distance through Water	Time of Arrival (Track)	Magnetic Heading	Acceleration
Average Speed through Water	Local Time	Field Strength	Yaw (Rotation)
Trip	Current Vector	True Magnetic Heading	Heeling
Depth below Transducer	Track Made Good	Deviation	Roll & Pitch
Depth below Drift	Waypoint & Route Selection	Auto-Calibration	Damping for Values
Depth below Surface	Skip Mark/Stop Track	Position	Engine Speed*
Anchor Watch (Change of Depth)	Anchor Watch (Change of Position)	Speed over Ground	Fuel Consumption*
Navigation Alarm on/off	Alarm Clock	Course over Ground	Oil Pressure*
Apparent Wind Angle	Supply Voltage	Time (UTC)	Coolant Water Temperature*
Apparent Wind Speed	Fuel Tank	Number of satellites	Oil Temperature*
True Wind Angle	Freshwater Tank	HDOP	Coolant Pressure*
True Magnetic Heading	Wastewater Tank	Cross Track Error	Water in Fuel*
Velocity made Good (VMG)	Starter Battery	Course to Mark	Fuel Range*
Absolute Wind Angle	Navigation light control	Distance to Mark	Barometer
Leeway Angle	Voltage Alarms	Distance of Track	Air Temperature
Race Timer	Water Temperature Alarm	Time to Go (Mark)	Water Temperature
Sail Performance	Gas Alarm	Time to Go (Track)	Water intrusion

\*Information received from engine



## Gauge to indicate apparent wind angle

The AcquaLink® apparent wind angle gauge displays the direction of the wind. It can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8 pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C



110 mm apparent wind angle 360°

### Aftermarket package:

Wind angle gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
<b>Ø 110 mm</b>			
360°	8–28 V	Black/Silver with white numbering	A2C59501900



## Gauge to indicate apparent wind angle magnified



110 mm apparent wind angle magnified 360°

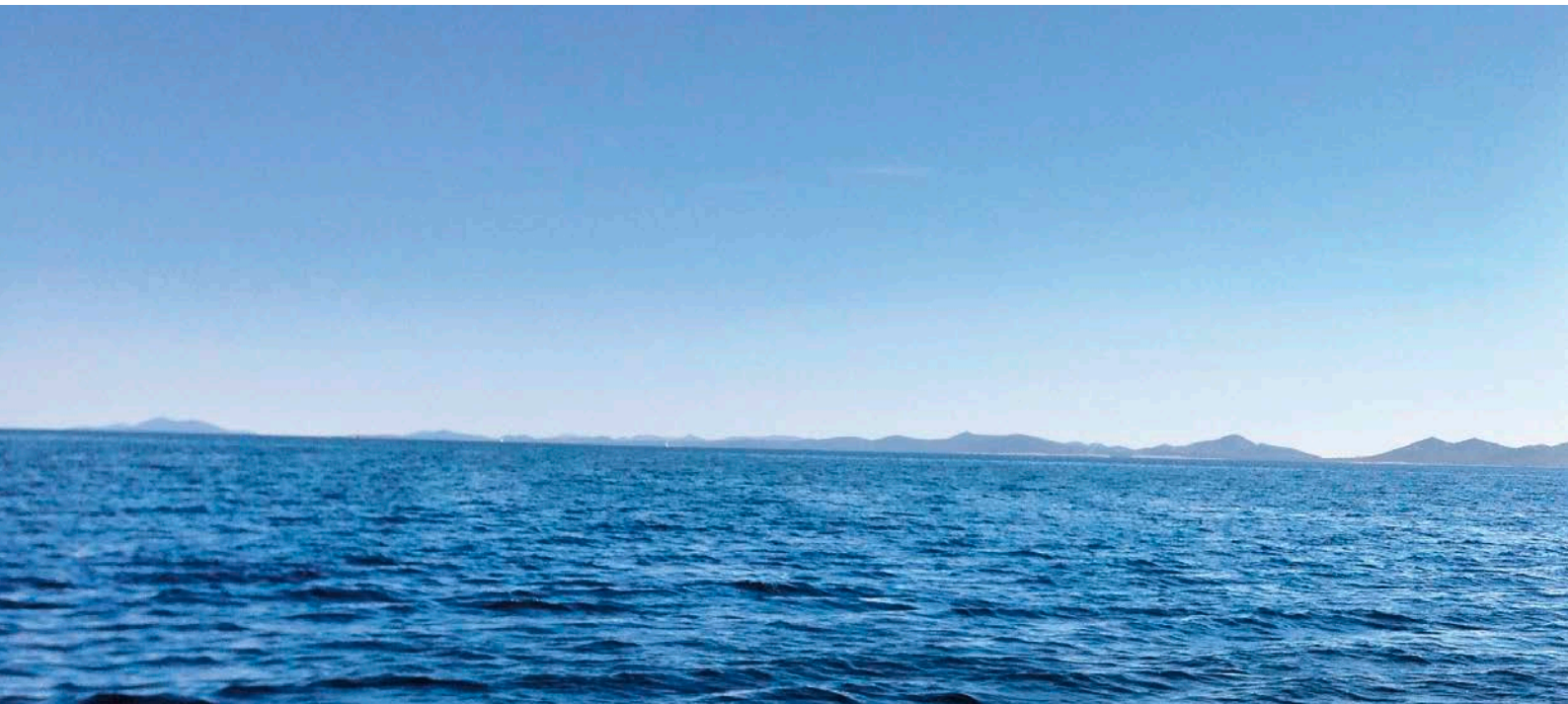
The AcquaLink® Apparent wind angle magnified gauge displays the direction of the wind relative to the position of the boat. It can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8 pin VDO Bus connectors
- 360° movement
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Magnified wind angle gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
Ø 110 mm			
360°	8–28 V	Black/Silver with white numbering	A2C59501901



## Gauge to indicate apparent wind speed

The AcquaLink® apparent wind speed gauge displays the wind speed apparent to the movement of the boat. It can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8 pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C



110 mm apparent wind speed 50 knots

### Aftermarket package:

Wind speed gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
<b>Ø 110 mm</b>			
0–50 knots	8–28 V	Black/Silver with white numbering	A2C59501902





## Gauge to indicate the direction of travel



110 mm compass 360°

The stylish AcquaLink® compass indicates the direction of travel – an essential instrument for all boats. Acqua Link gauges can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8 pin VDO Bus connectors
- 360° movement
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Compass gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
Ø 110 mm			
360°	8–28 V	Black/Silver with white numbering	A2C59501911



## Gauge to indicate depth

The AcquaLink® depth gauge facilitates safe passage through shallow waters. It can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Depth gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range outer/inner	Voltage	Color	Article number
<b>Ø 110 mm</b>			
200 m / 660 feet	8–28 V	Black/Silver with white numbering	A2C59501903
660 feet / 200 m	8–28 V	Black/Silver with white numbering	A2C59501904



110 mm depth 200 m / 660 feet



110 mm depth 660 feet / 200 m

## Gauge to indicate Speed over Ground (SOG)



110 mm SOG 12 knots



110 mm SOG 35 mph / 60 kmh



110 mm SOG 70 mph / 115 kmh

The AcquaLink® Speed over Ground gauges can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8 pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

SOG speed gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range outer/inner	Voltage	Color	Article number
<b>Ø 110 mm</b>			
12 knots	8–28 V	Black/Silver with white numbering	A2C59501908
35 mph / 60 kmh	8–28 V	Black/Silver with white numbering	A2C59501910
70 mph / 115 kmh	8–28 V	Black/Silver with white numbering	A2C59501909



## Gauge to indicate Speed through Water (LOG®)

The AcquaLink® speed through water gauges can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

LOG® speed gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range outer/inner	Voltage	Color	Article number
<b>Ø 110 mm</b>			
12 knots	8–28 V	Black/Silver with white numbering	A2C59501905
50 knots	8–28 V	Black/Silver with white numbering	A2C59501906
35 mph / 60 kmh	8–28 V	Black/Silver with white numbering	A2C59501907



110 mm LOG® 12 knots



110 mm LOG® 35 mph / 60 kmh



110 mm LOG® 50 knots

## Gauge to indicate engine revolution



110 mm tachometer 3000 rpm



110 mm tachometer 5000 rpm



110 mm tachometer 7000 rpm

The AcquaLink® tachometer can be daisy-chained for an easy installation on the VDO Bus.

- 2x M12 8 pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 110 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Tachometer gauge, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range rpm	Voltage	Color	Article number
<b>Ø 110 mm</b>			
3000 rpm	8–28 V	Black/Silver with white numbering	A2C59501913
5000 rpm	8–28 V	Black/Silver with white numbering	A2C59501914
7000 rpm	8–28 V	Black/Silver with white numbering	A2C59501915

## Gauge to indicate coolant temperature

The AcquaLink® temperature gauge displays any sudden rise in coolant temperature, thus helping to prevent serious damage to the engine and the associated expense. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Coolant temperature gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions



52 mm coolant temperature  
120 °C / 250 °F



52 mm coolant temperature  
250 °F / 120 °C

Range outer/inner	Voltage	Color	Article number
<b>Ø 52 mm</b>			
120 °C / 250 °F	8–28 V	Black/Silver with white numbering	A2C59501931
250 °F / 120 °C	8–28 V	Black/Silver with white numbering	A2C59501932





## Gauge to indicate engine oil temperature



52 mm engine oil temperature  
150 °C / 300 °F



52 mm engine oil temperature  
300 °F / 150 °C

The AcquaLink® temperature gauge displays any sudden rise in oil temperature. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Engine oil temperature gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range outer/inner	Voltage	Color	Article number
<b>Ø 52 mm</b>			
150 °C / 300 °F	8–28 V	Black/Silver with white numbering	A2C59501926
300 °F / 150 °C	8–28 V	Black/Silver with white numbering	A2C59501927



## Gauge to indicate exhaust gas temperature

The AcquaLink® 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. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Pyrometer gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions



52 mm pyrometer 900 °C / 1650 °F



52 mm pyrometer 1650 °F / 900 °C

Range outer/inner	Voltage	Color	Article number
<b>Ø 52 mm</b>			
900 °C / 1650 °F	8–28 V	Black/Silver with white numbering	A2C59501933
1650 °F / 900 °C	8–28 V	Black/Silver with white numbering	A2C59501934

## Gauge to indicate engine oil pressure



52 mm engine oil pressure  
10 bar / 150 psi



52 mm engine oil pressure  
150 psi / 10 bar

The AcquaLink® pressure gauge detects fluctuations in engine oil pressure. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Engine oil pressure gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range outer/inner	Voltage	Color	Article number
<b>Ø 52 mm</b>			
10 bar / 150 psi	8–28 V	Black/Silver with white numbering	A2C59501935
150 psi / 10 bar	8–28 V	Black/Silver with white numbering	A2C59501936



## Gauge to indicate transmission oil pressure

The AcquaLink® pressure gauge detects fluctuations in gear oil pressure. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Gear oil pressure gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

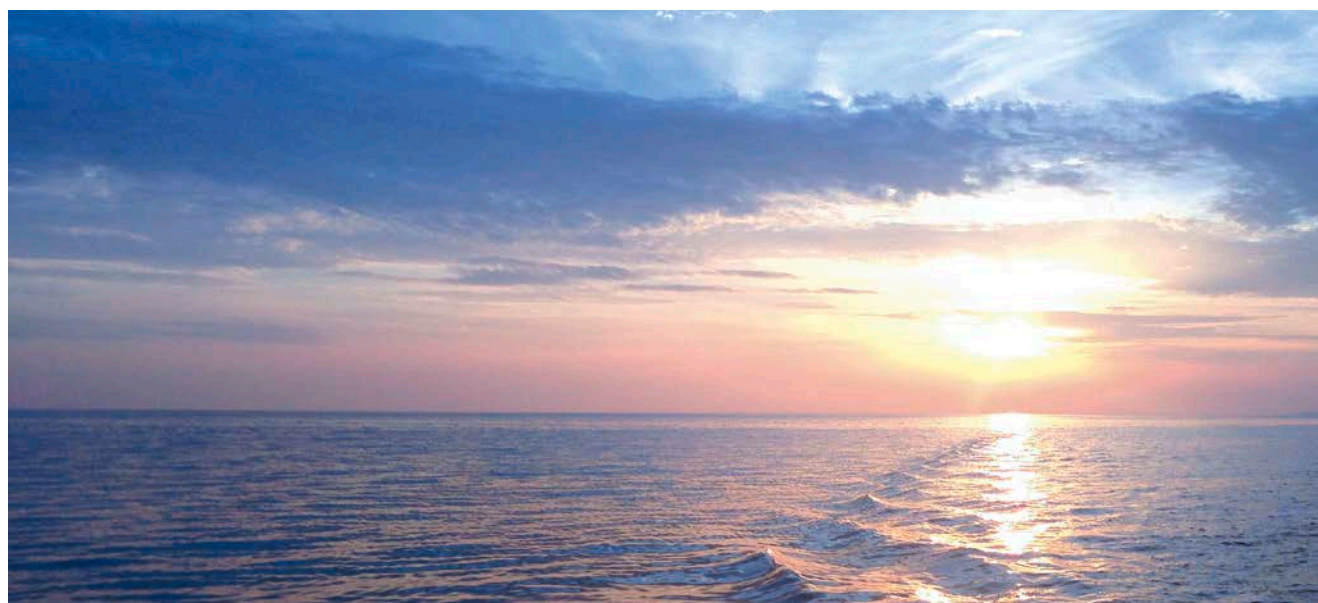


52 mm transmission oil pressure  
30 bar / 450 psi



52 mm transmission oil pressure  
450 psi / 30 bar

Range outer/inner	Voltage	Color	Article number
<b>Ø 52 mm</b>			
30 bar / 450 psi	8–28 V	Black/Silver with white numbering	A2C59501937
450 psi / 30 bar	8–28 V	Black/Silver with white numbering	A2C59501938



## Gauge to indicate boost pressure



52 mm turbo charger 2 bar / 30 psi



52 mm turbo charger 30 psi / 2 bar

The AcquaLink® pressure gauge detects changes in the turbocharger boost. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Turbo pressure gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range outer/inner	Voltage	Color	Article number
<b>Ø 52 mm</b>			
2 bar / 30 psi	8–28 V	Black/Silver with white numbering	A2C59501944
30 psi / 2 bar	8–28 V	Black/Silver with white numbering	A2C59501945



## Gauge to indicate the rudder position

The AcquaLink® rudder angle gauges for wheel-controlled yachts continually display the current rudder position. An important cockpit instrument for accident-free maneuvers in narrow waterways.

The 52 mm rudder angle gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

### For 52 mm:

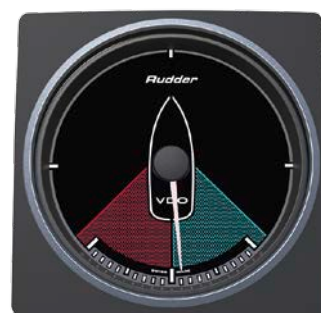
- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 50 mm installation depth
- 40° Port to 40° Starboard
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### For 110 mm:

- Two M12 8pin VDO Bus connectors
- < 150 mA
- Reverse polarity protection
- Anti-fog coated mineral glass lens
- Front & rear side protection rating IP67
- 50 mm installation depth
- 45° Port to 45° Starboard
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Rudder angle gauge, Daisy chain harness (for 52 mm only), Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions



110 mm rudder angle



52 mm rudder angle

Voltage	Color	Article number
<b>Ø 52 mm</b>		
8-28 V	Black/Silver with white numbering	A2C59501939
<b>Ø 110 mm</b>		
8-28 V	Black/Silver with white numbering	A2C59501912



## Gauge to indicate fuel tank level



52 mm fuel level Empty – Full

The AcquaLink® fuel gauge provides information about the fuel level in the tank. It receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Fuel level gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
<b>Ø 52 mm</b>			
Empty – Full	8–28 V	Black/Silver with white numbering	A2C59501930



## Gauge to indicate trim angle (outboard position)

The AcquaLink® 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 and he can optimise the boat's trim accordingly. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.



52 mm trim

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Trim gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
Ø 52 mm			
up / down	8–28 V	Black/Silver with white numbering	A2C59501925



## Gauge to indicate battery charge and discharge current



52 mm ammeter 60 A



52 mm ammeter 150 A

The AcquaLink® ammeter gauge provides an overview of the entire electrical system. It displays the level of current being drawn or generated. The ammeter gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Ammeter gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range amp	Voltage	Color	Article number
<b>Ø 52 mm</b>			
- 60 / + 60 A	8-28 V	Black/Silver with white numbering	A2C59501942
- 150 / + 150 A	8-28 V	Black/Silver with white numbering	A2C59501943





## Gauge to indicate battery voltage

The AcquaLink® voltmeter displays the status of generator and battery and their loads on a voltage scale. Values exceeding the normal charging voltages can be closely monitored and potentially deep discharges detected. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Voltmeter gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions



52 mm voltmeter, 8–16 V



52 mm voltmeter 16–32 V

Range	Voltage	Color	Article number
<b>Ø 52 mm</b>			
8–16 V	8–28 V	Black/Silver with white numbering	A2C59501940
16–32 V	8–28 V	Black/Silver with white numbering	A2C59501941

## Gauge to indicate fresh water tank levels



52 mm fresh water level Empty – Full

The AcquaLink® tank gauge displays the level of fresh water. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

### Aftermarket package:

Fresh water gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
<b>Ø 52 mm</b>			
Empty – Full	8–28 V	Black/Silver with white numbering	A2C59501929



## Gauge to indicate waste water tank levels

The AcquaLink® blackwater tank gauge displays the level of waste water. The gauge receives its information from an EasyLink Master which is connected to the VDO Bus. Gauges can easily be daisy-chained to any other EasyLink gauge using the attached harness.

- AMP Superseal 3 pole connector
- < 100 mA
- 240° pointer deflection angle
- Reverse polarity protection
- Anti-fog mineral glass lens
- Front & rear protection rating IP67
- 52 mm installation diameter
- 50 mm installation depth
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C



52 mm waste water level Empty – Full

### Aftermarket package:

Waste water gauge, Daisy chain harness, Black bezel, Rubber seal, Spinlock nut, QR code, Safety instructions

Range	Voltage	Color	Article number
Ø 52 mm			
Empty – Full	8–28 V	Black/Silver with white numbering	A2C59501928







Nav Box



The AcquaLink® Nav Box is the heart of the AcquaLink® system. It acts as a CPU and signal interface. The Nav Box provides a wide range of digital and analog input possibilities. These include J1939 CAN, NMEA 2000®, VDO Wind sensor and Sumlog® paddle wheel sensor inputs. For all analog input requirements the Nav Box provides multiple, freely programmable 0–5 V, 3–20 mA and 0 to 400 Ω connections via the supplied auxillary harness. Data output to three separate VDO Bus lines allows flexible and easy routing to multiple control stands or chart tables. Simply “T” in gauges along a backbone cable or use the daisy chain connectors on AcquaLink® gauges and TFTs to expand the system.

With a plethora of information made available from various sources, the Nav Box processes, calculates and checks received signals for discrepancies, demonstrating its intelligent programming with automated system diagnosis and guided fault finding. An intuitive user interface (via AcquaLink® TFTs) makes for easy programming of vessel parameters, alarms and more.

- NMEA 2000® certified
- Molded front cover with LED signal status indication
- Aluminum base plate
- Front & rear side protection rating IP67
- 3x VDO bus lines with 3x M12 Connectors
- 1x J1939 CAN bus with 3x M12 Connectors
- 1x NMEA 2000® bus with 1x M12 Connector
- 1x VDO Digital Wind Sensor Input (M12 connector)
- 2x VDO Sumlog® Inputs (2x M12 connectors)
- AMP Super Seal power input
- 26 pin AUX input (analog signals, NMEA 0183 and USB interface)
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

#### Aftermarket package:

Nav Box, Power cable & fuse, 26 pin auxillary harness with USB interface termination resistors, screws

Voltage	Article number
8–28 V	A2C59501928

## Engine Box

The AcquaLink® Engine Box expands the possibilities of the Nav Box for multi-engine applications or can be used stand-alone when navigation information are not required. The Engine Box has an NMEA 2000® and J1939 CAN and common analog inputs required to tie in a second, third or fourth CAN based engine to the AcquaLink® system (one Engine Box per engine required). The Engine Box can also be used on older, completely analog engines thanks to the provided frequency input to register engine RPM. As with the Nav Box, an intuitive user interface (via AcquaLink® TFTs) makes for easy programming of inputs.

- Front & rear side protection rating IP67
- molded housing
- 2x VDO Bus connection with M12 Connector
- 1x J1939 CAN Bus input with M12 Connector
- 1x NMEA 2000® certified
- 2x freely programmable 0–5 V
- 3x 3–20 mA
- 4x 0 to 400  $\Omega$  inputs
- 1x 400 to 2 k $\Omega$  input
- 2x frequency input
- AMP Superseal power input
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C

### Aftermarket package:

Engine Box, Auxillary Harness, Power cable and fuse, QR code, Safety instructions

Voltage	Article number
8–28 V	A2C59501978



Engine Box



## Media Box



Media Box

The AcquaLink® Media Box expands the possibilities of the AcquaLink® System with a HiFi experience. Listen to Radio and weather forecasts with its built in AM/FM Tuner or connect a memory stick, MP3 player or CD Player to enjoy your favorite music. Control it all without leaving the helm using the AcquaLink® Nav Control and an installed AcquaLink® TFT.

- AM/FM radio tuner with RDS – Backup memory
- Bluetooth audio player with 50m range
- USB memory device MP3 player
- Three band equalizer with volume control
- Power amplifier 4x 28W (D class)
- J1939 CAN interface (2 channels)
- K line interface
- IP 67 protection rating
- Operating temperature range -20°C / +70°C
- Storage temperature range -30°C / +80°C

**Aftermarket package:**

Media Box, QR code, Safety instructions

Voltage	Article number
8–28 V	A2C59501980





## Nav Control

The AcquaLink® Nav Control unit enables skippers to assume control of AcquaLink® TFTs in situations where the touch screen can not be reached or is impractically placed.

Screens can be switched and menus and input variables navigated by using the push/turn knob and six other push buttons. A Nav Control unit can assume control of any display connected to the same VDO Bus with just the push of a button. Even multiple units can be connected to the same Bus without conflicts.

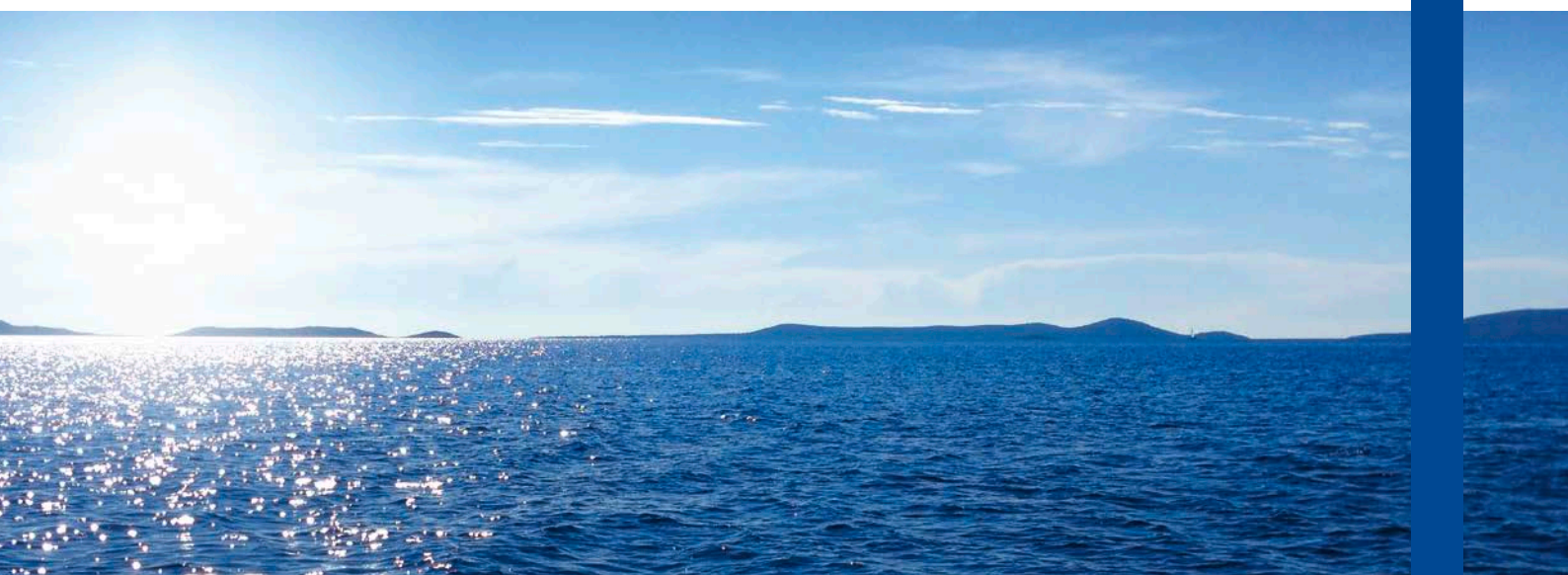
### Aftermarket package:

Nav Control, QR code, Safety instructions



Nav Control

Voltage	Article number
8-28 V	A2C59501982





Depth sensor



This depth sensor is a low-profile, retractable, thru-hull sensor that computes accurate depth and temperature data and sends it to any NMEA 0183 or NMEA 2000® display. It operates at a frequency of 235 kHz. The broadband ceramic delivers depth readings to 183 m (600'), as well as accurate shallow-water readings in as little as 500 mm (1.6'). The signal from the depth transducer is processed right inside the sensor itself. All that is needed to receive depth and temperature data is a single cable into a compatible device or display. Because the ceramic is tilted inside the housing, the transducer beam is oriented straight down, resulting in strong bottom echo returns and accurate depth readings. The retractable housing with a self-closing valve reduces water flow into the vessel when the transducer is removed for cleaning.

- 20° tilt angle
- NMEA 2000®
- Supply voltage 9–16 V
- 60 watt
- 235 kHz
- Temperature sensor for water -10/+40 °C
- Pigtail cable
- Plastic housing
- retractable housing
- Water valve

#### Aftermarket package:

Depth sensor, Valve, Plug, 2x Rubber seal, QR code, Safety instructions

Material	Article number
Plastic housing	A2C59501985

## Nav Sensor

The multifunctional AcquaLink® Nav Sensor is the gem of all sensors. The inertial sensor complements the inbuilt satellite receiver module (GPS, Bei Dou, Glonass, Galileo) to provide accurate readings of the speed of travel as well as the pitch & roll (up and down) and YAW (sideways) motion of the boat. Compass readings can be displayed electronically thanks to the fluxgate, which also facilitates course corrections in electronic autopilots. The barometer and air temperature sensors are early indicators of forthcoming weather conditions.



Nav Sensor

- M12 5 pin connector
- NMEA 2000® certified
- GPS Module: Position, time, boats vector, signal quality, satellites
- Flux compass: +/-40° tilt angle, <2° accuracy, alarm (rapid field strength change, tilt angle overrun, undervoltage condition)
- Barometer: Air pressure, air temperature inside the sensor
- Air temperature: -20/+65 °C
- Inertial sensor: Resolution 1 °/s
- YAW-range 100 °/s, linearity +/-3 °/s
- Acceleration-range 50 m/s<sup>2</sup>, linearity +/-1 m/s<sup>2</sup>
- Calculated heeling, pitch & roll-range +/-50°
- Operating temperature range -20 °C / +70 °C
- Storage temperature range -30 °C / +80 °C



### Aftermarket packaging:

Nav Sensor, 2x brackets, QR code, Safety instructions

Voltage	Article number
8-28 V	A2C59501981

## Wind sensors

The wind vane turns in the direction of the wind and steers the wind direction gauge. The rotor records the relative wind speed which in turn is displayed on the wind speed gauge

- short arm: M12 5 pin NMEA 2000® certified
- long arm: M12 5 pin NMEA 2000® certified

### Aftermarket package:

Wind sensor, QR code, Bracket, Screw, Safety instructions



Wind sensor

Voltage	Article number
8-28 V	A2C59501983
8-28 V	A2C59501984





## Sumlog® Transducer



Sumlog® Transducer

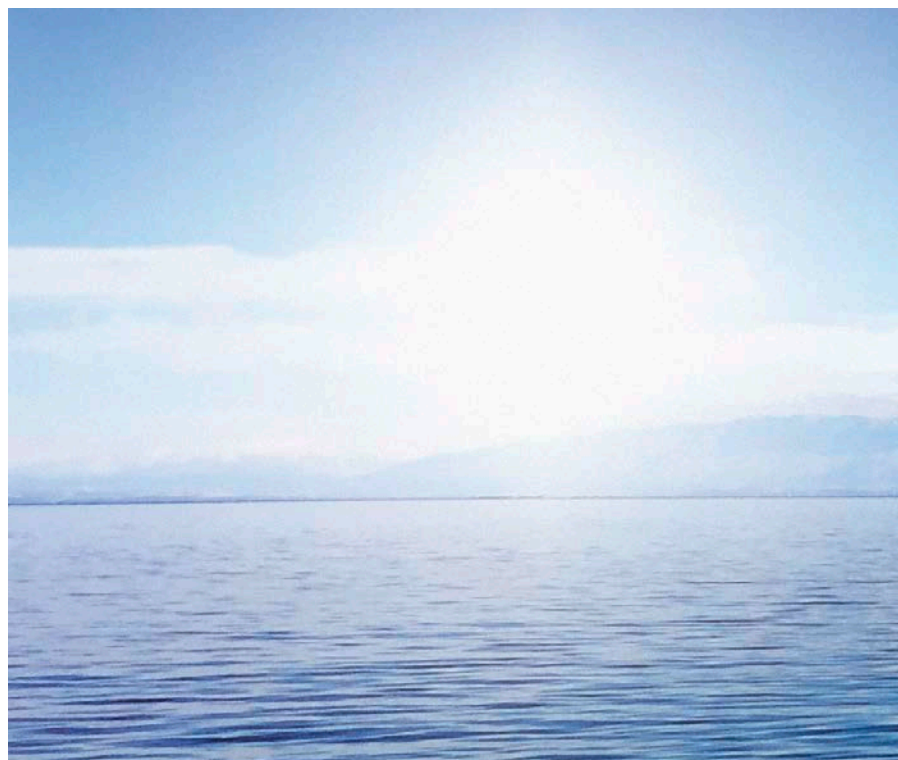
The Sumlog® Transducer is required to measure boat speed through water. The Sumlog® includes two paddle wheels which can be exchanged to match the speed range of the boat, thereby supporting speeds from 0 to 12 or up to 50 knots respective of the installed paddle wheel. The Nav Box supports up to two Sumlogs® which can be directly connected to the dedicated Sumlog® ports using a 4 pin M12 connector extension cable.

- 4 pin M12 connector
- 8–28 V

**Aftermarket package:**

12 knots Sumlog® Transducer, additional 50 knots paddle wheel, Valve, Plug, 2x Rubber seal, QR code, Safety instructions

Voltage	Article number
8–28 V	A2C59501986



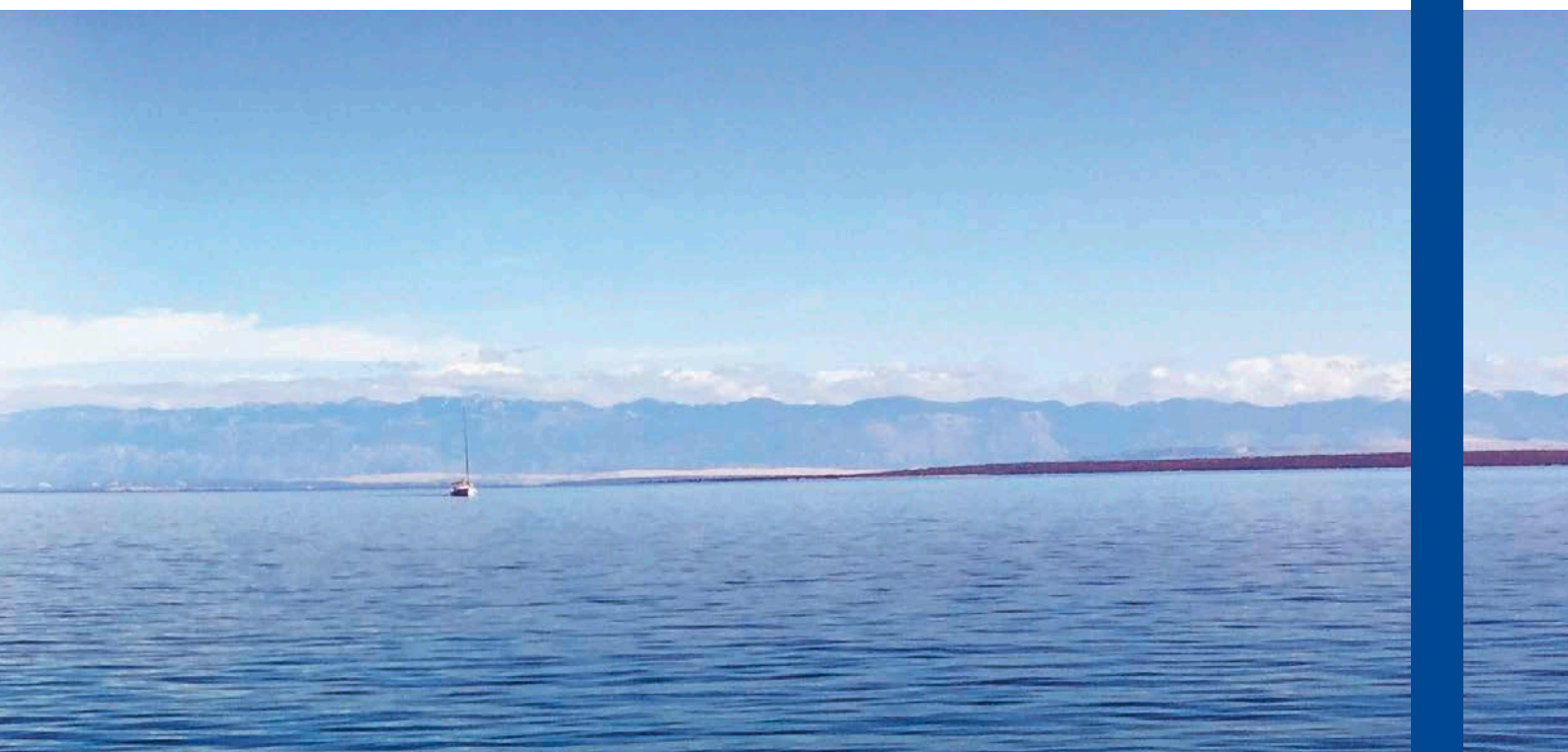
## Rudder angle sensors

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

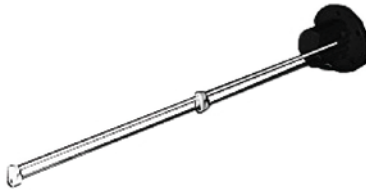
Dual station (fly bridge)		
Voltage	Resistance ohm	Article number
12/24 V	5–90 $\Omega$	440-102-002-001D



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	4–20mA	200–600 mm	N02-240-902
12 / 24 V	4–20mA	600–1200 mm	N02-240-904
12 / 24 V	4–20mA	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:

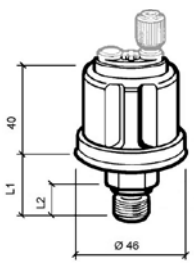



Tightening Torque depends on threaded port size and sensor body material.

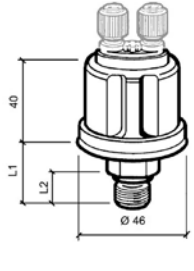



Connector type: Bayonet according to ISO15170 (formerly DIN 72585).



Electronic pressure sensor with voltage output

## Engine oil pressure sensors 5 bar

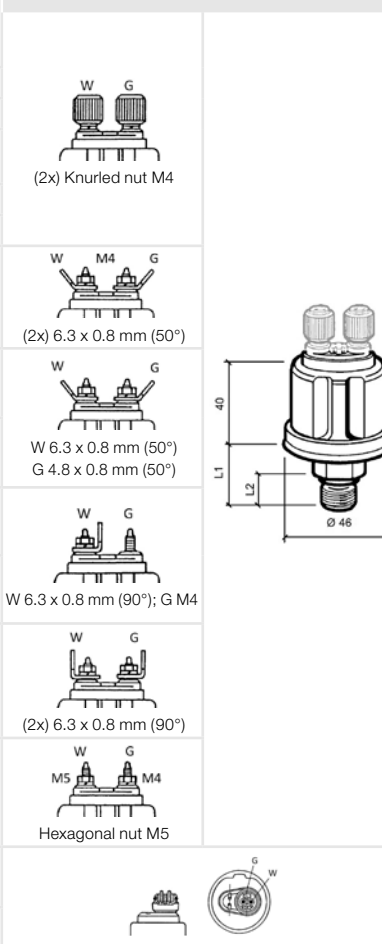
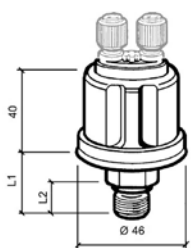
Single-pole, common ground							
		Range	Voltage	L1	L2	Thread	Article number
	 Knurled nut M4	5 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-029-001C
		5 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-029-004C
		5 bar	6–24 V	23.8 mm	15.3 mm	1/4" – 18 NPTF	360-081-029-008C
		5 bar	6–24 V	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

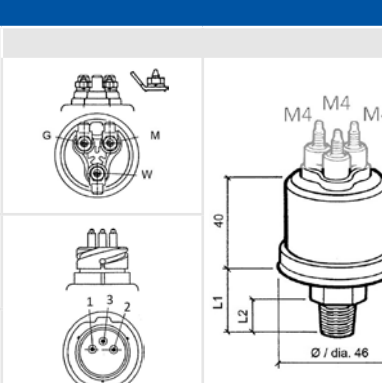
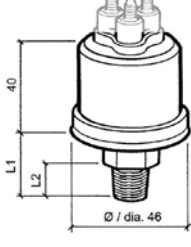
## Engine oil pressure sensors 5 bar

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

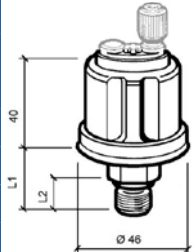


With warning contact, 3 connections					
Range	Voltage	L1	L2	Thread	Article number
0.8 ± 0.15 bar	6-24 V	19.5 mm	11 mm	1/8" - 27 Dryseal NPTF	360-081-039-002C
0.25 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-064-001C
0.25 ± 0.15 bar	6-24 V	20.5 mm	12 mm	M18 x 1.5	360-081-064-003C

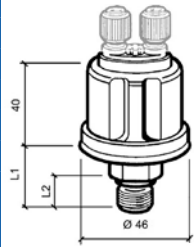
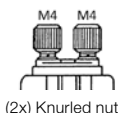
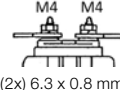
Images: G = Sensor; M = Ground; W = Warning contact  
 1 = Sensor; 2 = Warning contact; 3 = Anti-twist guard



## Engine oil pressure sensors 10 bar

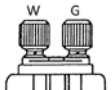
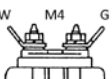
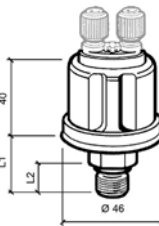


Single-pole, common ground								
		Range	Voltage	L1	L2	Thread	Article number	
	 <p>Knurled nut M4</p>	10 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	360-081-029-012C	
		10 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-029-013C	
		10 bar	6–24 V	23.8 mm	15.3 mm	1/4" – 18 NPTF	360-081-029-020C	
		10 bar	6–24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

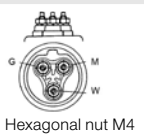
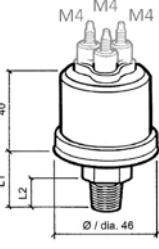

Dual-pole, insulated return								
		Range	Voltage	L1	L2	Thread	Article number	
	 <p>(2x) Knurled nut</p>	10 bar	6–24 V	19.5 mm	11 mm	M10 x 1 tapered, short	360-081-032-003C	
		10 bar	6–24 V	20.5 mm	12 mm	M12 x 1.5	360-081-032-004C	
		10 bar	6–24 V	20.5 mm	12 mm	M14 x 1.5	360-081-032-006C	
		10 bar	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	
		 <p>(2x) 6.3 x 0.8 mm</p>	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	 <p>(2x) Knurled nut M4</p>
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	 <p>(2x) 6.3 x 0.8 mm (50°)</p> 
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	 <p>Special push-on connector</p>
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	 <p>Special push-on connector</p>
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	 <p>(3x) Hexagonal nut M4</p> 
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>	 <p>Special bayonet connector</p>
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

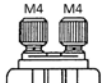
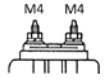
\* for dual units (fly bridge)

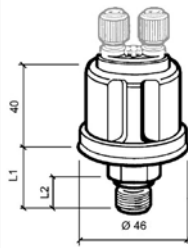
Dual-pole, insulated return							
		Range	Voltage	L1	L2	Thread	Article number
	 (2x) Knurled nut	25 bar	6–24 V	20.5 mm	12 mm	M18 x 1.5	360-081-038-005C
		25 bar	6–24 V	23.8 mm	15.3 mm	3/8" – 18 Dryseal NPTF	360-081-038-002C
	 (2x) 6.3 x 0.8 mm	25 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-002-001K*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

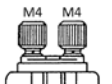
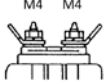
## Transmission oil pressure sensors 400–435 psi

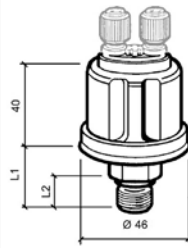
Dual-pole, insulated return						
Range	Voltage	L1	L2	Thread	Article number	
30 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-002-003C*	 (2x) Knurled nut
30 bar	6–24 V	19.5 mm	11 mm	1/8" – 27 NPTF	362-081-002-004C*	 (2x) Hexagonal nut



\* for dual units (fly bridge)

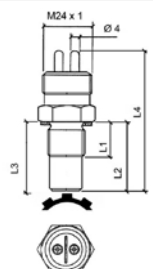
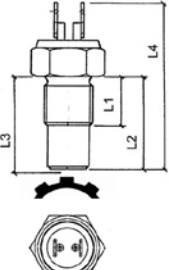
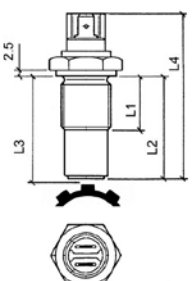
## Turbo pressure sensors

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	



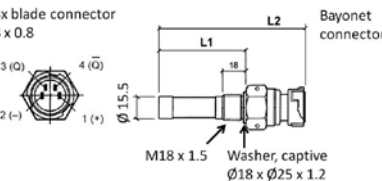
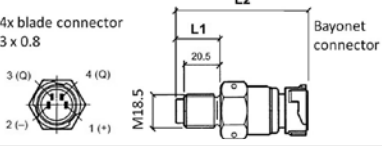
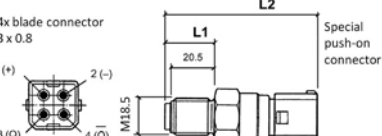


## Speed and revolution sensors

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
	8 – 15 V	90.2 mm	133 mm	340-216-005-001C
	8 – 15 V	63.2 mm	106 mm	340-216-005-002C
	8 – 15 V	25 mm	74 mm	A2C59513983
	8 – 15 V	25 mm	78.3 mm	340-216-010-003C

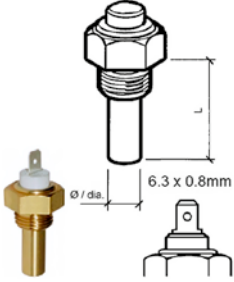

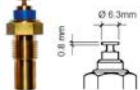
## Speed and revolution sensors

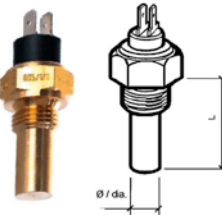
Blocking oscillator sensor 4-pole, insulated return, 30 V, 14 mA				
Voltage	L1	L2	Article number	
30 V	90.2 mm	133 mm	340-216-010-004C	

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	

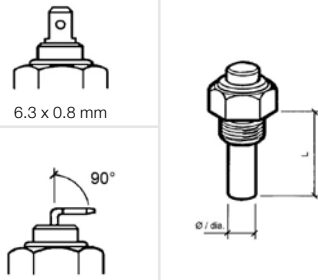
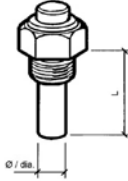

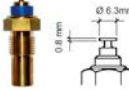

Hall-effect sensor 3-pole, insulated return		
Voltage	Article number	
10.8 to 16 V	340-214-013-001Z	

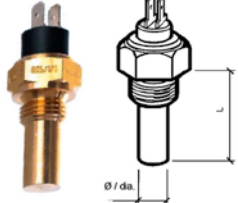
## Coolant temperature sensors

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

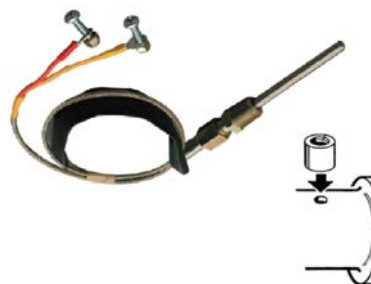
Range	Terminals	Article number
100–900°C 250–1650°F	Red = Negative Yellow = Positive	N03-320-264

### Connecting cable




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


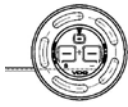

### Threaded bushing for welding to manifold

Article number
N03-320-266

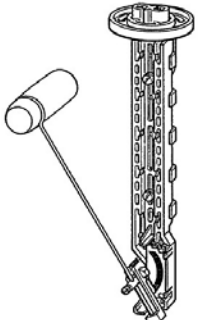





### Fuel level 0–90 sensors




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


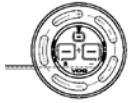

Aftermarket package		Item specifics	Signal Range empty/full	Length	Article number
		Fuel level sensor Sensor type: Adjustable lever	3–180 Ω	150–600 mm	226-801-015-001G
		Fuel level sensor Sensor type: Adjustable lever for dual units (flying bridge)	3–180 Ω	150–600 mm	N02-240-106*
		Fuel level sensor 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		










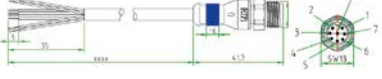



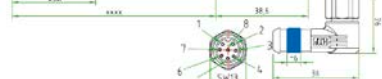
### Fuel level 240–33.5 sensors

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
	White camera, can be connected to the TFTs: 150° vision angle, 3.2 megapixel, operating temperature -30° / +60 °C, dimensions 70 x 42 x 55 mm	A2C59517756
	Black bezel 110	A2C59501963
	Black bezel 52 single	A2C59501965
	Black bezel 52 double	A2C59501966
	Black bezel TFT 4.3"	A2C59501967
	Black bezel TFT 7"	A2C59501968
	Spinlock nut 110 mm	A2C53238881
	Spinlock nut 52 mm	A2C52059471
	5 pin male cable, straight NMEA 2000® input	5.0 m A2C59501946
		10.0 m A2C59501947
	8 pin male cable, straight VDO Bus input	5.0 m A2C59501948
		10.0 m A2C59501949
	4 pin female cable, straight Video input	0.5 m A2C59501950
		2.0 m A2C59501951
		5.0 m A2C59501952
		10.0 m A2C59501953
	5 pin female cable, straight NMEA 2000® input	0.5 m A2C59501954
		2.0 m A2C59501955
		5.0 m A2C59501956
		10.0 m A2C59501957
	8 pin female cable, straight VDO Bus input	0.5 m A2C59501958
		2.0 m A2C59501960
		5.0 m A2C59501961
		10.0 m A2C59501962
	8 pin female cable, 90° angle VDO Bus input	0.5 m A2C59501959

Coming soon

Item specifics	Article number
Silicone instrument cover 110 & 85	A2C59501969
Silicone instrument cover 52 mm single	A2C59501970
Silicone instrument cover 52 mm double	A2C59501971
Silicone cover for 4.3" TFT	A2C59501972
Silicone cover for 7" TFT	A2C59501973
Silicone cover for HMI remote control	A2C59501974
Foam seal for 4.3" TFT	A2C59501975
Foam seal for 7" TFT	A2C59501976
Foam seal for HMI remote control	A2C59501977





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