AANDERAA
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Conductivity Sensor 4419R

is a compact fully integrated sensor for measuring the electrical conductivity of sea-water. 4419 is designed to be used as stand-alone sensor using RS-422. For applications with either AiCaP or RS-232 use please refer to Conductivity sensor 4319.

Advantages:

- Direct readout of engineering data
- Internal pressure never exceeds 1 bar therefore electronics and sensors are unaffected by sea depth
- Rugged and robust with low maintenance needs
- Output format: RS-422
- 3 depth ranges available max. 6000 meters

Conductivity is a key parameter for in-situ determination of several fundamental physical properties of seawater.

For seawater, the ability to conduct electrical current is mostly dependent on temperature and the amount of inorganic dissolved solids. This means that, together with temperature and depth information, a good estimate of the salinity may be determined.

Salinity is defined as the concentration of dissolved solids. Other important properties of seawater are again dependent on the salinity. Among these are the density and the speed of sound.

The Conductivity Sensor 4419R is based on an inductive principle. This provides for stable measurement without elec-trodes that are easily fouled and may wear out in the field.

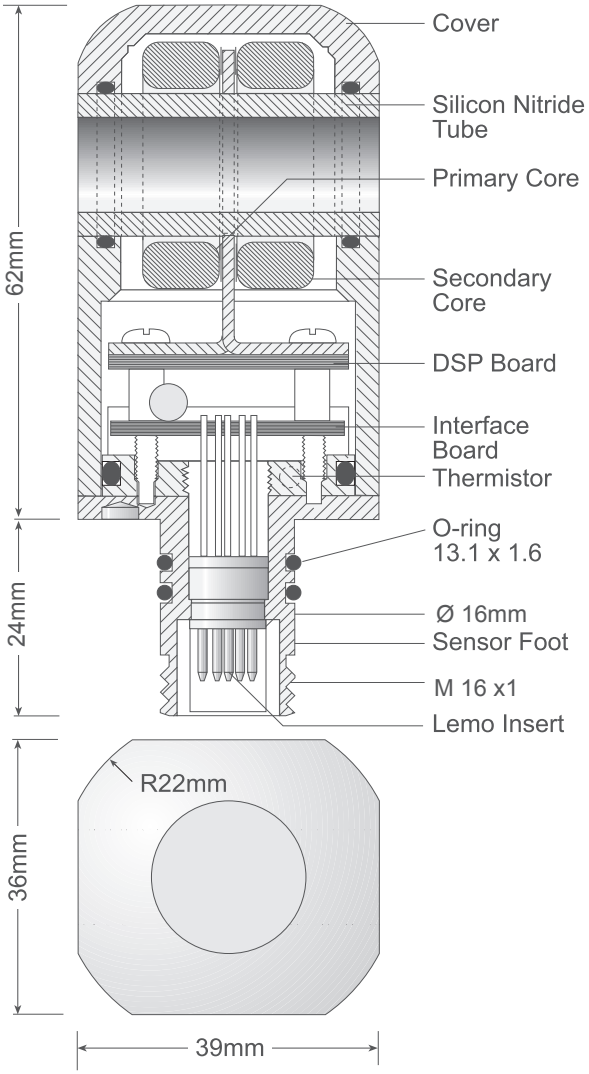
Utilization of miniature components have made it possible to integrate all the required electronics.

The output format for 4319 are AiCaP CANbus and RS-232, while the output format for the 4419R version is RS-422. The sensor version must be specified when ordered as the two version are not interchangeable. The R-version cannot be used in SeaGuard applications.

Output parameters are conductivity, temperature, salinity, density and sound speed in RS-422. Data can be presented in engineering units or raw data.

The Smart sensors can be mounted directly on the top end plate of the Aanderaa SeaGuard, in a String System node or connected to the SmartGuard and are automatically detected and recognized.

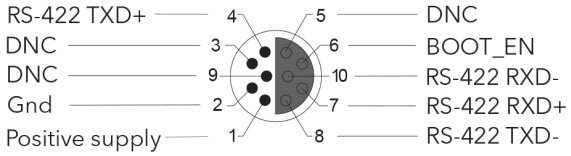
Aanderaa offer a easy to use configuration sofware; AADI Real-Time Collector, both for configuration but also logging of data. As alternative to this software you may also use a terminal sofware like Terra Term or Hyper Terminal.



Conductivity:	
Range:	0–7.5S/m (0–75mS/cm)
Resolution:	0.0002S/m (0.002mS/cm)
Accuracy:	
4419RA	±0.005S/m (±0.05mS/cm)
4419RB	±0.0018S/m (±0.018mS/cm)
Response Time (90%):	<3s [1]
Temperature:	
Range:	-5–40°C (23-104°F)[2]
Resolution:	0.01°C (0.018°F)
Accuracy:	±0.05°C (0.09°F)/ (±0.1°C (0.18°F) for interval <30s.)
Response Time (63%):	<10 seconds
Output format:	4419R: RS-422
Output Parameter:	Conductivity, temperature, salinity, density and sound of speed
Sampling interval:	2 sec – 255 min
Supply voltage:	5 to 14VDC
Current drain:	
Average:	0.16 +48mA/S where S is sampling interval in seconds
Maximum:	100mA
Quiescent:	1.5mA
Operating depth:	
Shallow Water (SW):	0–300m (0–984.3ft)
Intermeditate Water (IW):	0–3000m (0–9843ft)
Deep Water (DW):	0–6000m (0–19690ft)
Electrical connection:	10-pin receptacle mating Sensor plug
Dimension (WxDxH):	36 x 39 x 86mm (1.4"x1.5"x3.4")
Weight:	240g (8.466oz)
Materials:	Epoxy coated titanium
Accessories, not included:	Resistor Set 3719 for functional test Sensor Cable 4763, 4799

PIN CONFIGURATION FOR 4419R, RS-422

Receptacle, exterior view; pin =● bushing =●



(1) Dependant on flow through cell bore
(2) Calibrated range is 0 to 36°C (32-96.8 °F)

The above specifications are for the stand-alone sensor only, not the installation it is utilized with.

Specifications subject to change without prior notice.

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Let's Solve Water

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