



Conductivity Sensor 4319

is a compact fully integrated sensor for measuring the electrical conductivity of seawater. It is designed to be mounted on the SEAGUARD® Platform.

Features Conductivity Sensor 4319:

- *Smart Sensor for easy integration on the Seaguard platform.*
- *Direct readout of engineering data.*
- *Internal pressure never exceeds 1 bar therefore electronics and sensors are unaffected by sea depth.*
- *Rugged and Robust with minimal and simple maintenance needs.*
- *Output format AiCaP CANbus.*

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 4319 is based on an inductive principle. This provides for stable measurement without electrodes 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.

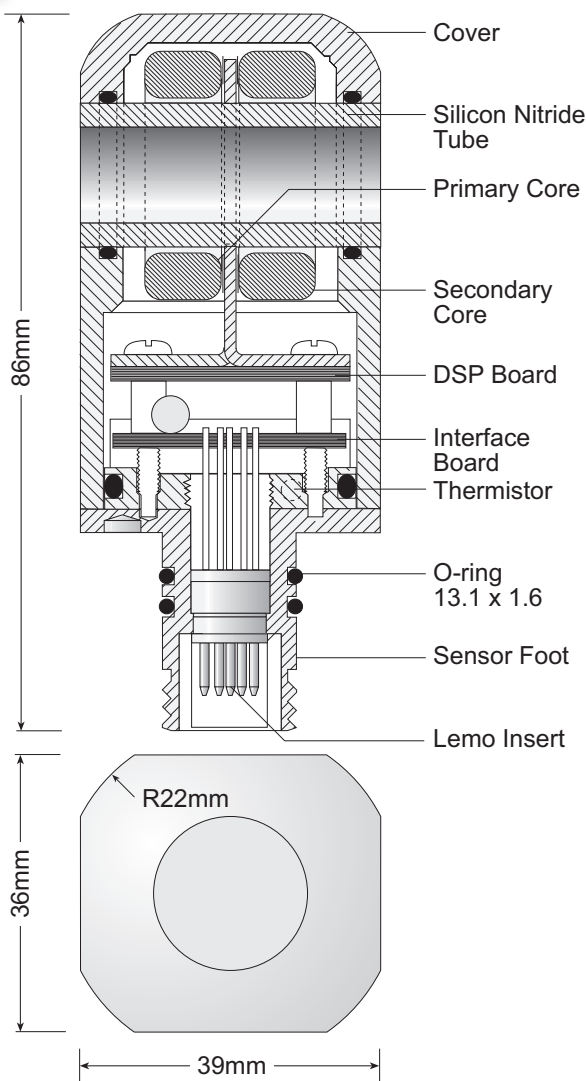
The Conductivity sensor outputs data in AiCaP CANbus. Both Conductivity in mS/cm, and Temperature in °C may be presented.

The datalogger and the smart sensor is interfaced by means of a reliable CANbus interface using an XML based protocol (AiCaP). During power-up, the sensors that are connected to the bus will report their capabilities and specifications to the datalogger. The datalogger then assembles the information and provides the user with the possibility to configure the instrument based on the present nodes. The solution provides for great flexibility in both use and design of the different elements within the system.

The autonomous sensor topology also gives the sensor designer flexibility and opportunities where each sensor type may be optimized with regard to its operation, each sensor may now provide several parameters without increasing the total system load.

Specifications for 4319

D369 - February 2007



CONDUCTIVITY:

Range:	0 – 7.5 S/m (0 – 75 mS/cm)
Resolution:	0.0002 S/m (0.002 mS/cm)
Accuracy:	
4319A	±0.005 S/m (±0.05 mS/cm)
4319B	±0.0018 S/m (±0.018 mS/cm)

Response Time (90%): <3s⁽¹⁾

TEMPERATURE:

Range:	-5 – 40°C (23 – 104 °F) ⁽²⁾
Resolution:	0.01°C (0.018°F)
Accuracy:	±0.1°C (0.18°F)
Response Time (63%):	<10 seconds

OUTPUT FORMAT: AiCaP CANbus

SAMPLING INTERVAL: 2s – 255 minutes

SUPPLY VOLTAGE: 6 to 14 VDC

CURRENT DRAIN:

Average:	0.16 + 48 mA/S where S is sampling interval in seconds
Maximum:	100 mA
Quiescent:	0.16 mA

OPERATING DEPTH:

Shallow Water (SW)	0 – 300 meters (0 – 984.3ft)
Intermeditate Water (IW)	0 – 2000 meters (0 – 6590ft)
Deep Water (DW)	0 – 6000 meters (0 – 19690ft)

ELEC. CONNECTION: 10-pin receptacle mating plug 3216A

DIMENSIONS (WxDxH): 36 x 39 x 86 mm (1.4"x1.5"x3.4")

WEIGHT: 240 g (8.466 oz)

MATERIALS: Epoxy coated Titanium

WARRANTY: Two years against faulty materials and workmanship

ACCESSORIES
(not included): Resistor Set for Cond. Sensor 3719
Patch Cable 3969492

⁽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.

The sensor can be mounted directly on the top end plate of the Aanderaa SEAGUARD® and will be automatically detected and recognized.

Ordering information:

Remember to both select Conductivity Range (A or B version) and Operating Depth (SW, IW or DW) when ordering Conductivity Sensor 4319.

Example: If you are going to use Conductivity Sensor 4319 version A, shallow water version; this is 4319ASW.

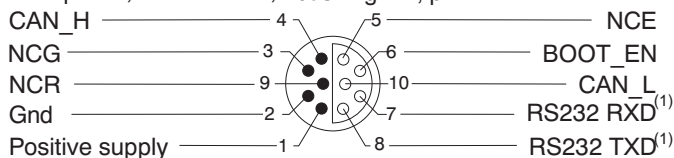
Latest version on internet

Post Box 34 SLÅTTHAUG
5851 BERGEN, NORWAY
TEL. +47 55 60 48 00
FAX. +47 55 60 48 01

<http://www.aadi.no>
e-mail: info@aadi.no

PIN CONFIGURATION

Receptacle, exterior view; bushing = ○; pin = ●



⁽¹⁾ For factory use only

Representative's Stamp

AADI SEAGUARD®

AANDERAA DATA INSTRUMENTS • www.aadi.no

Reliable Solutions 2