



## Conductivity Sensor 4319

*A compact fully integrated sensor for measuring the electrical conductivity of seawater. It is designed to be used with SEAGUARD® datalogger using AiCaP CANbus or as stand-alone sensor using RS-232*

### Features Conductivity Sensor 4319:

- Smart Sensor for easy integration with SEAGUARD®
- 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 AiCaP CANbus, RS-232.
- 3 depth ranges available maximum 6000 meter

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.

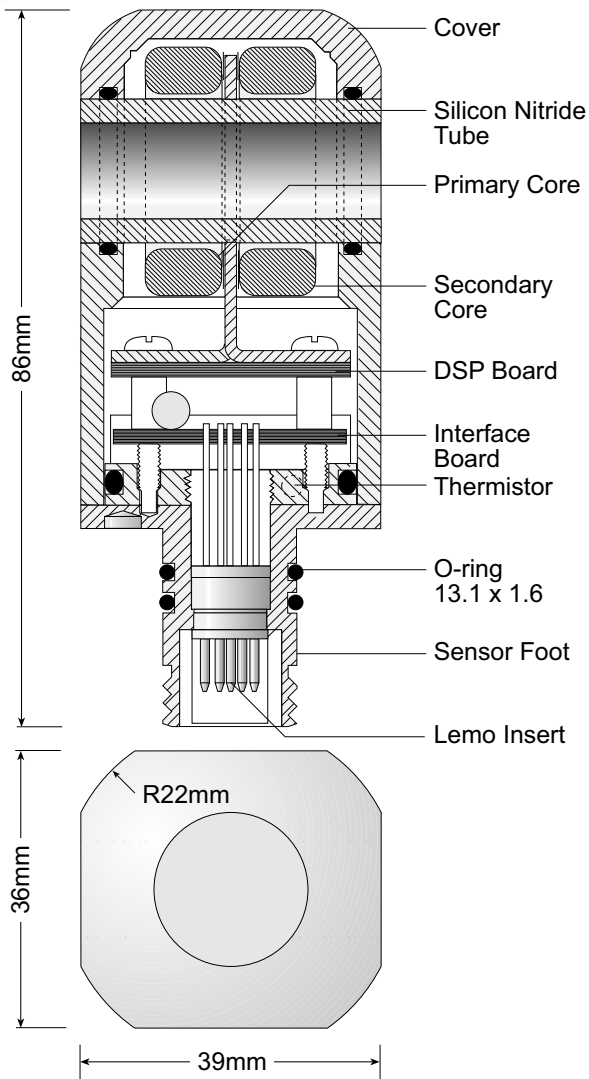
The Conductivity sensor outputs data in AiCaP CANbus and RS-232. Output parameters are Conductivity and Temperature in AiCaP and Conductivity, Temperature, Salinity, Density and Sound speed. Data can be presented in Engineering unit or raw data.

The SEAGUARD® datalogger and the smart sensor are interfaced by means of a reliable CANbus interface (AiCaP), using XML for plug and play capabilities.

The smart sensors can be mounted directly on the top end plate of the AADI SEAGUARD® or in a SEAGUARD® String System node and are automatically detected and recognized.

# Specifications for 4319

D369 - April 2011



## CONDUCTIVITY:

**Range:** 0 – 7.5 S/m (0 – 75mS/cm)

**Resolution:** 0.0002 S/m (0.002mS/cm)

**Accuracy:**

**4319A** ±0.005 S/m (±0.05 mS/cm)

**4319B** ±0.0018 S/m (±0.018 mS/cm)

**Response Time (90%):** <3s <sup>1)</sup>

## TEMPERATURE:

**Range:** -5 – 40°C (23 - 104°F) <sup>2)</sup>

**Resolution:** 0.01°C (0.018°F)

**Accuracy:** ±0.1°C (0.18°F)

**Response Time (63%):** <10 seconds

**Output format:**

AiCaP CANbus, RS-232

**Output Parameter:**

**AiCaP:** Conductivity, Temperature

**RS-232:** Conductivity, Temperature, Salinity, Density and Sound of speed

**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 – 19690 ft)

**Electrical connection:**

10-pin receptacle mating CSP-plug

**Dimension (WxDxH):**

36 x 39 x 86 mm (1.4”x1.5”x3.4”)

**Weight:**

240 g (8.466 oz)

**Materials:**

Epoxy coated Titanium

**Accessories, not included:**

Resistor Set for functional test 3719

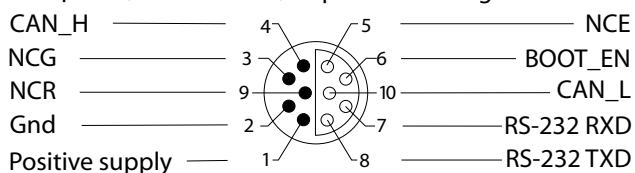
Sensor Cable 4762,4865

Patch Cable 4999,3880L

Set-up and config. cable 3855 <sup>3)</sup>

## PIN CONFIGURATION

Receptacle, exterior view; pin = • bushing = °



<sup>1)</sup> Dependant on flow through cell bore

<sup>2)</sup> Calibrated range is 0 to 36°C (32-96.8 °F)

<sup>3)</sup> Laboratory use only

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

*Specifications subject to change without prior notice.*

Representative's Stamp

Latest version on internet

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