Conductivity Sensors 4019A/4019B

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Conductivity Sensors 4019A and 4019B are compact fully integrated sensors for measuring the electrical conductivity of seawater. They are designed to be mounted on the Recording Doppler Current Profiler RDCP 600.

Two versions of this sensor are available, 4019B has enhanced accuracy compared to 4019A, see specifications overleaf.

These Sensors have a number of advantages over previous models:

- **16-bits resolution over full range 0 - 75 mS/cm**
- **Smart Sensor technology -no configuration or setup**
- **Improved depth rating of 6000 meters**
- **Very easy functionallity check**
- **Internal pressure never exceeds 1 bar therefore electronics and sensors are unaffected by sea depth**
- **Rugged and Robust with minimal and simple maintenance needs**
- **Short response time**
- **Resolution:** 0.002mS/cm
- **Accuracy:** ±0.05 mS/cm (A-model) / ±0.01 8 mS/cm (B-model)

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

Measurements of Conductivity together with Temperature and Depth improves the RDCP 600 virtual sensors, like Salinity and Speed of Sound. These parameters strongely improves the calculated current speed and cell position, making our RDCP 600 a very good CTD instrument when used with the conductivity sensor 4019 and the high accuracy pressure sensor 3187.

The Conductivity Sensors 4019A and 4019B are based on an inductive principle. This provides for stable measurement without electrodes that are easily fouled and may wear out in the field.

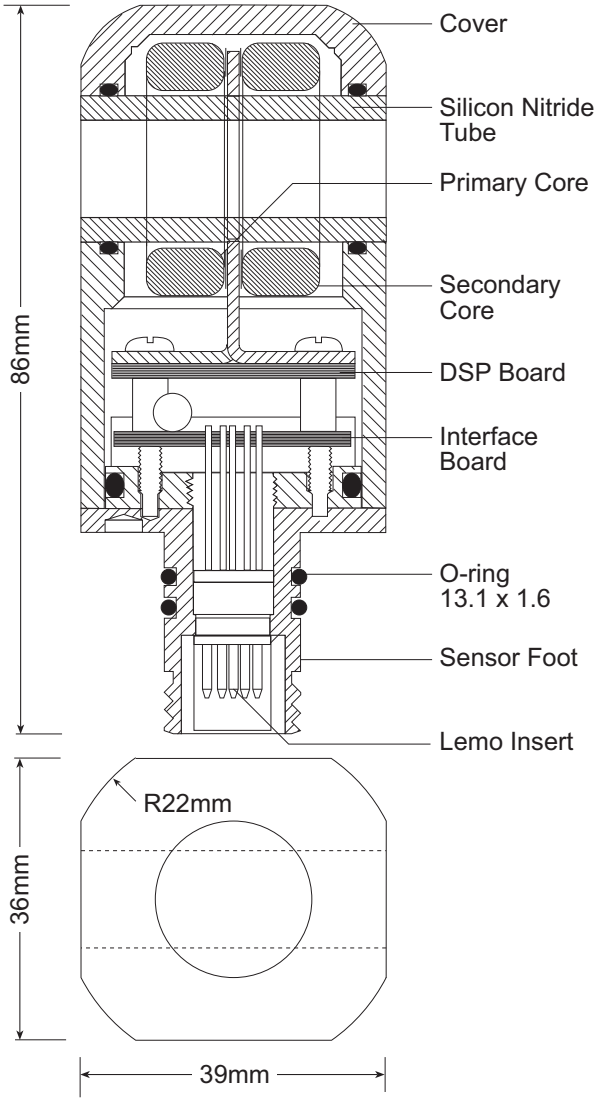
Utilization of miniature components has made it possible to integrate all the required electronics.

The output parameter is electrical conductivity in mS/cm, which is sent to the RDCP via the RDCP Internalbus.

The sensors are designed to operate down to 6000 meters. Conductivity Sensors 4019A and 4019B are available for Recording Doppler Current Profiler RDCP 600 only.

The RDCP 600 is a very good CTD instrument when used with Conductivity Sensor 4019 and our quartz pressure sensor 3187

Specifications



CONDUCTIVITY:	
Range:	0 – 7.5 S/m (0 – 75mS/cm)
Resolution:	0.0002 S/m (0.002mS/cm)
Accuracy:	
4019A	±0.005 S/m (±0.05 mS/cm)
4019B	±0.0018 S/m (±0.018 mS/cm)
Response Time (90%):	<3s (1)
TEMPERATURE:	
Range:	0 – 36°C (32 – 96.8°F)
Resolution:	0.01°C (0.018°F)
Accuracy:	±0.1°C (0.18°F)
Response Time (63%):	<10 seconds
OUTPUT FORMAT:	RDCP Internal bus
SAMPLING INTERVAL:	2s – 255 minutes (Controlled by RDCP600 Internal bus)
SUPPLY VOLTAGE:	6 to 14 VDC
CURRENT DRAIN:	
Average:	0.16 +48 mA/S where S is sampling interval in seconds
Maximum:	110 mA
Quiescent:	0.16 mA
OPERATING TEMP.:	-5 – +40°C (23 – 104°F)
OPERATING DEPTH:	0 – 6000 meters (0 – 19690 ft)
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 included:	Sensor Cable Set 4054
	Resistor Set for Cond. Sensor 3719
(not included):	Sensor Cable 3855 to PC

(1) *Dependant on flow through cell bore*

The above specifications are for the stand-alone sensor only, not the installation it is utilized with.
Specifications subject to change without prior notice.

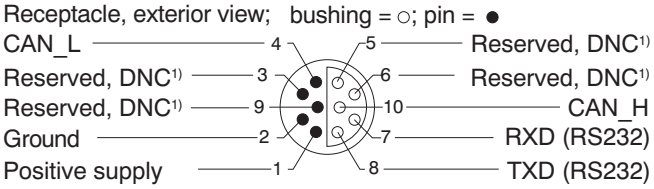
The sensor can be mounted directly on the top end plate of the Aanderaa RDCP 600 and connected to the Sensor Board with a short cable, Sensor Cable 4054.

The 10-pin receptacle in the sensor foot mates with Aanderaa Plug 3216A giving access to both outputs. Use Sensor Cable 3855 (1.5m) for connection to a Personal computer (PC). Cable 3855 is furnished with a watertight 10-pin plug at the sensor end. An additional USB plug is used for providing power to the sensor.

The distance from the PC can be extended to 15m by using a Cable Coupler 3472 and a standard Connecting Cable 3282 with watertight titanium plugs.

PIN CONFIGURATION

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



1) *DNC: Do Not Connect*

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