



SEAGUARD® Platform

The new AADI SEAGUARD® Platform is the basic module of our new Underwater Observatory. The SEAGUARD® Platform is used as data logger in SEAGUARD® RCM, SEAGUARD® CTD, SEAGUARD® WTR and SEAGUARD® WLR and SEAGUARD® O₂

Features of the SEAGUARD® Platform:

- *Great Flexibility: data registration from up to 20 sensors*
- *High resolution and low drift*
- *Low maintenance needs*
- *Selectable interval from 2 seconds to 2 hours*
- *SEAGUARD® Studio visualization software*
- *Smart sensor topology based on a reliable CANbus interface (AiCaP)*
- *Real-Time XML Output on RS-422(optional)*
- *Windows CE based datalogger with TFT colour touch panel for configuration*
- *For use in sea and fresh water*
- *300m/2000m/6000m version*
- *Available sensors: Z-Pulse Doppler current sensor; Pressure, Temperature, Oxygen optode, Pressure, Conductivity, Wave and Tide*
- *Up to 4 Analog sensor input (0-5V), e.g. Turbidity*

Aanderaa Data Instruments SEAGUARD® Platform is a self recording instrument with storage on SD card. Storage capacity is more than adequate for any practical applications. The instrument is delivered with pressure case.

The SEAGUARD® Platform and the AADI smart sensors are interfaced by means of a reliable CANbus protocol (AiCaP), using XML for plug and play capabilities. The smart sensors can be mounted directly on the top-end plate or connected via cable to an AADI SEAGUARD® Platform. During power-up, each of 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.

Since all calibration and temperature compensation data are stored inside the sensor, the parameters are by default presented directly in engineering units without any external calculation.

6 sensors can be fitted onto the Top-end Plate of the Platform; 4 of which can be analog (0 - 5V) sensors.

The SEAGUARD® Platform has 2 Battery Compartments for long deployment time; the AiCaP CANbus based protocol ensures low power consumption.

The output parameters from the SEAGUARD® Platform are easily presented in SEAGUARD® Studio.

The SEAGUARD® Platform can be configured to suite your requirements and applications.

The SEAGUARD® Instrument can be deployed in an In-line string mooring, Fixed bottom frame mooring, Buoy deployment, Long term/short term deployment.

The SEAGUARD® Instrument can be used with AADI Real-time Collector for Real-time data.



SEAGUARD® RCM with Doppler Current, Conductivity, Temperature and Pressure sensors, 2000 meter version.



SEAGUARD® CTD with Conductivity, Temperature and Pressure sensors, 300 meter version.

SEAGUARD® Oxygen Recorder

The SEAGUARD® O₂ is a robust instrument based on the SEAGUARD® Platform and AADI Oxygen Optode sensor. It is a self contained instrument for measuring dissolved Oxygen. The SEAGUARD® O₂ output parameters are O₂ concentration in μM , the Air Saturation in % and the Temperature in $^{\circ}\text{C}$. The instrument can be used as a platform for additional measurements (like e.g. CTD, current, turbidity or Wave and Tide). Refer D394 for further information.

SEAGUARD® Recording Current Meter

The SEAGUARD® RCM series is a completely new generation of current meters based on the SEAGUARD® Platform and the ZPulse™ Doppler Current Sensor. Modern computer technology combined with advanced digital signal processing provides accurate and detailed measurements with almost unlimited resolution. The new current sensor comprises acoustic pulses of several frequency components to lower the statistical variance in the Doppler shift estimate. The new Doppler Current Sensor also incorporates a robust fully electronic compass and a tilt sensor. Optional parameters are available through a range of smart sensors that include temperature, pressure, conductivity, dissolved oxygen, wave and tide. Refer D368 for further information.

SEAGUARD® CTD Recorder

The SEAGUARD® CTD is a robust instrument based on the SEAGUARD® Platform and the AADI Conductivity, Temperature and Pressure sensors. The output parameters from the SEAGUARD® CTD are easily presented in SEAGUARD® Studio. Salinity, Density, Depth and Sound of speed is postcalculated in SEAGUARD® Studio. The instrument can be used as a platform for additional measurements (like e.g. current, dissolved oxygen, turbidity or wave and tide). Refer D373 for further information.

SEAGUARD® Water Level Recorder

The SEAGUARD® WLR is a robust instrument based on the SEAGUARD® Platform and AADI Tide sensor. It is a self contained instrument for measuring tide and temperature. The SEAGUARD® WLR output parameters are Tide pressure, Tide level, Pressure and Temperature. Tide levels are preliminary, internally calculated estimates, based on fixed, user selectable values of atmospheric pressure and water salinity. Compensation for actual atmospheric pressure and salinity can be postprocessed if such data is available. Tide pressure is an average of hydrostatic pressure over the integration time. The instrument can be used as a platform for additional measurements (like e.g. CTD, current, dissolved oxygen or turbidity). Refer D387 for further information.

SEAGUARD® Wave and Tide Recorder

The SEAGUARD® WTR is a robust instrument based on the SEAGUARD® Platform and AADI Wave and Tide sensor. It is a self contained instrument for measuring wave parameters, water level and temperature. The wave measurements are based on the pressure time series measured over a time period of 64 seconds to 17 minutes (configured by the user). The update interval is between 2 seconds and 255 minutes. The instrument can be used as a platform for additional measurements (like e.g. CTD, current, dissolved oxygen or turbidity). Refer D386 for further information.

Specifications

D366 - February 2010

Platform Capability:	Multiple nodes can be connected to the Platform	External Materials	
Top-end Plate capability:	Up to 6 sensors can be fitted onto the Top-end Plate, of which 4 can be analog sensors (0-5V)	300m version:	PET, Titanium, Stainless Steel 316
Recording System:	Data Storage on SD card	2000/6000m version:	Stainless steel 316, Titanium, OSNISIL
Storage Capacity:	≤ 4GB	Supply Voltage:	6– 14 Vdc
Battery:	1 or 2 batteries inside the instrument	Operating Temperature:	-5 to +40°C
Alkaline 3988:	9V, 15Ah (nominal 12.5Ah; 20W down to 6V at 4°C)	Accessories Included:	SEAGUARD Studio SD card: 2 GB 1 Alkaline Battery 3988 Documentation on CD
or Lithium 3908:	7V, 35Ah	Accessories not included:	Carrying handle 4132,4032,3965 SD card with capacity up to 4GB In-line mooring frame 4044/ 3824A, Protecting Rods 3783 Bottom mooring frame 3448R Internal Lithium 3908 Internal Alkaline 3988 Internal Battery Shell 4513 Maintenance Kit 3813/3813A Tool kit 3986A Real Time licence and collector 4715 Offline Configuration 4811 Analog cable/license 4564/4802 AC/DC adapter for lab. use 4908 Sensor Cable 4865 to PC Electrical terminal w/Subconn 4784 Real Time signal/power cable 5071/4937
Recording Interval:	From 2s, depending on the node configuration for each instrument		
Recording Settings:	Fixed interval settings or Customized Sequence setting		
Protocol:	AiCaP CANbus based protocol		
Deployment depth:			
Shallow Water (SW):	0 - 300m (0 - 984.3ft)		
Intermediate Water (IW):	0 - 2000m (0 - 6590ft)		
Deep Water (DW):	0 - 6000m (0 - 19690ft)		
Platform Dimensions:			
Shallow Water (SW):	H: 356mm OD: 139mm		
Intermediate Water (IW):	H: 352mm OD: 140mm		
Deep Water (DW):	H: 368mm OD: 143mm		
Weight:	In Air In Water		
Shallow Water (SW):	5.9 kg 1.5 kg		
Intermediate Water (IW):	11.8 kg 7.1 kg		
Deep Water (DW):	12.7 kg 8.3 kg		

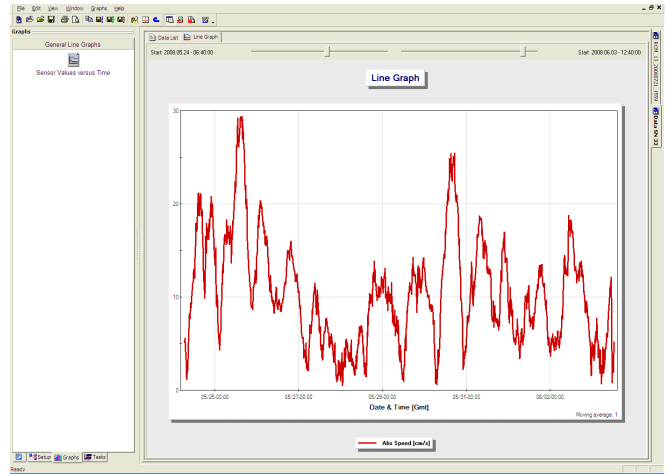


Available AiCap sensors. Top left: Doppler current sensor 4420, Doppler current sensor 4520. Bottom left: Pressure sensor 4117, Oxygen Optode 4330/4330F, Conductivity sensor 4319, Temperature sensor 4060, Wave and Tide sensor 4646,4647,4648, Oxygen Optode 4835, Temperature sensor 4880.

SEAGUARD Studio

With SEAGUARD Studio you can:

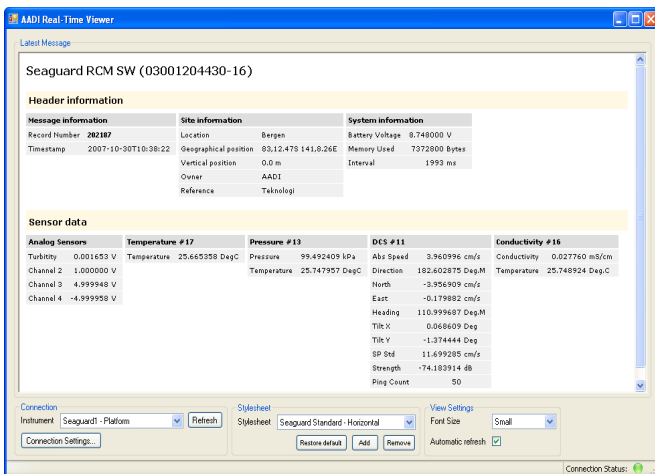
- Import deployment data collected by the SEAGUARD® RCM from a SD card.
- Display configuration settings used in the deployment.
- Display listed data.
- Possible to show data from several instruments at the same time for comparative studies.
- Export data to Matlab.
- Export data to ASCII text files.
- Print or export graphs in different formats.
- Copy graphs to the clipboard for inclusion into other programs such as Word, Excel or similar.
- Save edited sessions.
- Calculate virtual parameters.



Example of SEAGUARD Studio presenting absolute speed data measured with a SEAGUARD® RCM.

AADI Real Time

The data message from the instrument is in XML format. A user application can access the AADI Real-Time Collector over the Internet or Intranet. Each user application will experience an individual connection to the instrument data due to a queue management system in the collector. One license per SEAGUARD® instrument serves multiple user applications. Including AADI Real-Time Collector, AADI Real-Time Viewer, StyleSheets and example application (Refer B163)



Latest version on internet

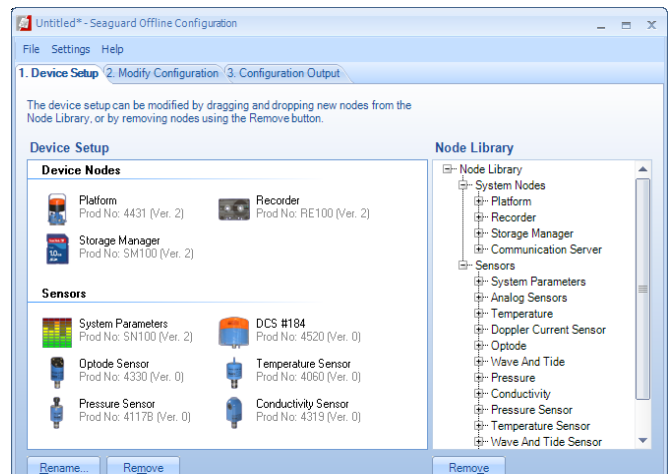
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Offline Configuration

The SEAGUARD® Offline Configuration is a PC application used to create and modify configuration files for the SEAGUARD®. The configuration files can be imported to one or multiple SEAGUARD® instruments using a compatible memory card (SD card). (Refer TD 275).



Representative's Stamp

