

Benefits of the SEAGUARD® Multi-Sensor Platform

1. On-screen configuration of the instrument and the sensors, no PC is needed for configuration.
2. The configuration can be saved on and loaded from a SD card. In this way it is possible to copy the configuration from one instrument to another. The configuration can also be downloaded to a PC.
3. The use of the instrument and the sensors is very flexible, and it is easy to adopt the configuration to various requests. An example is that transducers may easily be enabled or disabled before a deployment.
4. SD memory card means that memory is not an issue any more. 512 MB is standard, and 1 GB is no problem.
5. Engineering values are standard, raw data can be enabled at configuration time (we recommend to do so). The raw data can be used for quality check of the data.
6. It is possible to select additional parameters from a sensor at configuration time, e.g. to get the temperature from the conductivity sensor and from the pressure sensor. The temperature measurement from the pressure sensor is the best.
7. CANBus communication (AiCaP) between master (platform) and slaves (nodes).
Safe transfer of data between nodes and the master (datalogger).
8. Each sensor has its own ID. The sensors work independently, and communicate directly to the master (data logger). The cabling is simplified due to the bus system.
9. Calibration data is contained in the sensors. All the configuration information about the smart sensors is saved in the sensors and is available when the data is analyzed in Seaguard Studio.
10. It is not necessary to calibrate the sensor on the instrument, since all the calibration information is kept in the sensor. Thus it is easy to move sensors from an instrument to another without having to recalibrate the sensor.
The conductivity should be calibrated in similar surroundings as it will be used in, since it is an inductive sensor.
11. Tilt is measured every second. Each measurement is corrected by the associated tilt.
12. Tilt compensation for tilt up to 45 grades. The tilt sensor is calibrated for the range 0 to 45 degrees. Measurement range is 0 to 80 degrees.
13. Solid-state tilt sensor and compass, no moving parts.
14. Customers can choose between many possible ping settings, 50 is minimum, 600 is maximum.
15. ZPulse™ (Unique multi-frequency acoustic technology improves data quality, sampling speed and reduces power consumption) has increased accuracy at lower number of pings (compared to RCM 9/RCM 11).
Two frequencies are sent out in one pulse, giving a factor of $\sqrt{2}$ reduction of the statistical noise.
16. Single ping STD, signal strength and tilt are standard QA parameters from the DCS.
17. Low currents are better resolved. Improved signal-to-noise ratio. Low scatter conditions are not a problem (it has not been a problem for RCM 9/RCM 11 either).
18. Doubled battery capacity (compared to RCM 9/RCM11).
19. It is easy for the customers to make their own battery. Shells for batteries can be ordered (4513, drawing V9877).
20. AiCaP sensors can have 5 meter AiCaP cable remote from instrument for applications on rigs and observatories.
21. Good selection of smart sensors (Conductivity, Temperature, Depth, Dissolved Oxygen, Wave and Tide and Turbidity).
22. Easy to add additional sensors later (plug and play).
23. Automatic detection of the sensors when Seaguard is powered up.
24. Easy to enable or disable sensors during configuration. You don't need to physically remove them.
25. Off-line sensor configuration.
26. Flexible sample intervals. Seaguard® RCM has sampling intervals from 2 s on (75 pings and above).
27. Seaguard® Studio is included. Fast downloading of the data from the instrument.
28. Easy export of data to Matlab, Excel, ASCII and 5059.
29. Sensor Platform for the future.
30. Easy integration of third party analogue sensors. Data from the analogue sensors are available in engineering units.
31. Up to 4 analogue sensors can be integrated at the top end plate.
32. The measurements are now transferred and presented in engineering units (floating point number).
33. The AiCaP communication will not limited the resolution. AiCaP has no bit limitation, and will always give the resolution of the sensor.
34. There are 300 m, 2000 m and 6000 m versions available.
35. The AADI Real-Time enabled devices like the Seaguard® Platform may be configured to transmit data autonomously (non-pollled mode). They may also respond to specific data requests (pollled mode) as well as control commands for remote operation and configuration.



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