Key features
- Built-in solid state 3-axis tilt compensated compass
- Heading and tilt compensation for each ping
- Insensitive to fouling
- Low maintenance needs
- Direct readout of engineering data
- Output interval from 30 seconds to 2 hours
- RS-232/RS-422 output for integration to most third party Dataloggers
- Configurable output for easy integration
- Cell size selectable from 0.5 to 5 meters
- Up to 150 individual cells divided into three columns

Applications
- Oceanographic research
- Marine Transport
- Offshore / Oil & Gas
- Aquaculture / fisheries
- Environmental management
- Infrastructure design / Survey companies
- Integration into third party systems; data buoy, ocean observatory

Increased deployment time
- Low power consumption
- Reduced power consumption with broadband technology

Smart Data quality control
- Increased quality control
- Automatic flagging of bad data; status report for each cell
- User selectable advanced autobeam algorithm; automatic selection of the best 3-beam combination to remove faulty cells in case of an object passing in front of one beam

Sensor communication protocols
The AADI Real-time collector PC software can be used together with all DCPS versions. It simplifies the sensor configuration process and saves sensor data to files on a PC. The AADI Real-Time communication protocol is a XML-based protocol which also includes numerous metadata for all the data parameters from the sensor.

The Smart Sensor Terminal protocol is a simpler protocol which gives smaller message sizes since it includes a limited amount of metadata in the output. The size of the output message can be reduced in both protocols by only enabling the necessary data parameters. Both protocols use ASCII output which makes it directly readable without any conversion (no binary data).

Comments
- Surface referred columns and surface cell require pressure data from an external pressure sensor. This functionality is only available when the DCPS is used together with an Aanderaa Datalogger, SmartGuard or SeaGuard II in combination with a pressure sensor.

Doppler Current Profiler Sensor – DCPS 5400/5400R/5402/5402R/5403/5403R
The Doppler Current Profiler Sensor (DCPS) is a medium range, 600kHz current profiler smart sensor. It features innovative development of the acoustic profiling ability to collect high quality current information also on moving and tilting platforms. Available as 300m depth rated (5400/5400R), 4500m (5402/5402R), 6000m (5403/5403R). The DCPS 5400/5402/5403 can be connected to a SeaGuard II or SmartGuard using the CANbus based AiCaP protocol. It can also be connected to a PC or third party systems through the RS-232 interface using the AADI Real Time Collector or SmartSensor Terminal protocol. This makes the DCPS the ideal cost effective solution for obtaining current profiles in systems already containing a Datalogger. The 5400R/5402R/5403R has the RS-422 interface for use on longer cables.
Specifications

Velocity profile measurement
Acoustic frequency: 600 kHz
Typical profiling range: Broadband: 30-70m | Narrowband 35-80m
Cell size: 0.5m - 5m
Cell overlap: 0-90%
Velocity range: Narrowband: 0-500cm/s (up to 1000cm/s with max tilt ± 5°) Broadband: 0-400cm/s
Velocity accuracy: 0.3cm/s or ±1% of reading
Velocity resolution: 0.1cm/s
Velocity precision: <3.3cm
Ping rate: Up to 10Hz (depends on config)
Output interval: from 30s to 2h
Cell positioning: Static (instrument referred) Dynamic (surface referred)
Number of columns: 3 simultaneous columns + Surface cell
Max. number of cells: 150 total, 75 for first column 50 for the second and 25 for the third
Blanking zone: 1m

Transducers
Number of beams: 4
Beam angle: 25°
Beam width: 2.5°

Echo intensity
Dynamic range: > 50dB
Resolution: < 0.1dB
Precision: < 0.1dB

Tilt and compass
Type: Internal solid state
Pitch / roll range: ± 90° / ± 180°
Tilt accuracy: <0.5° (RMS), ± 1.5°
Heading accuracy: <2° (RMS), ± 3.5°
Tilt / Heading resolution: < 0.1°

Interfaces:
5400/5402/5403: AiCaP protocol, RS-232
5400R/5402R/5403R: RS-422

Maximum cable length:
RS-232: 15m
RS-422: 1500m

Embedded temperature sensor 4080 (not included/optional)
Range: -4 to +40°C
Resolution: 0.001°C
Accuracy: ± 0.05°C
Response Time (63%): <5 sec

Power
Supply voltage: 6-30 Vdc
Current drain example: 4.2 mA

Environmental
Depth rating: SW-300m/IW-4500m/DW-6000m
Operating temperature: -5 to +40°C
Dimensions: D: 160mm | H: 167mm
Weight: In Air | In Sea Water
SW: 5.1kg | 1.8kg
IW/DW: 7.2kg | 4kg
Materials: PET, PUR, Titanium, Stainless steel 316, polyurethane

Specifications subject to change without prior notice.