



SMARTGUARD

is the next generation sensor and instrument HUB for ocean, lake, reservoir, estuary and river hydrometric stations.

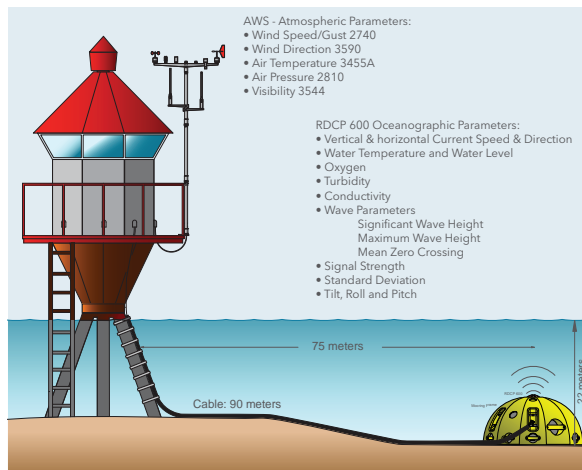
Monitoring water and weather conditions is essential in many operations and the SmartGuard node is well suited for stand-alone stations powered by battery and solar power utilizing wireless real-time data communication.

Designed for ease of integration of new and existing sensor technologies into a single Aanderaa observatory node with modern self-describing XML data output formats.

SmartGuard interfaces with all Aanderaa atmospheric and in water sensors, along with most 3rd party sensors.

SMARTGUARD advantages:

- Great flexibility: Basic extended full versions handle air and water sensors
- Flexible easy configuration and setup using PC software
- Fully integrated with Aanderaa real-time system
- Full AiCaP Bus compatibility, including 150m string with up to 25 sensors
- Plug-n-play Aanderaa Smart sensor interfaces: O₂, conductivity, temperature, pressure, water level, tide and current
- Aanderaa SR10 and VR22 meteorological sensor interfaces: wind speed and direction, temperature, RH, visibility, air pressure and more
- Interfaces for most 3rd party RS-232/RS-422 sensors, analog sensors, digital sensors
- XML data records with complete metadata; traceable and with status info on individual parameters
- Large onboard data storage capacity on a removable SD memory card
- External power supply 12- 30V internally regulated
- Up to 6 double ended analog sensor input (0-5V, 24 bit)
- Individual power control for attached sensors
- Low power consumption
- RS-232 communication port with controlled power supply for communication equipment
- Easy readable display and 6 key operator panel



SMARTGUARD versions:

Basic, Basic w/SR10, Extended, Extended w/SR10

SMARTGUARD capabilities:

- Up to 25 Aanderaa Smart sensors (AiCaP nodes) can be connected on an up to 150m string
- Up to 10 Aanderaa SR10/VR22 sensors (AADI Met and Full)
- RS-232/RS-422 for 3rd party serial sensors. Individual power control. Basic and Aanderaa Met: 1 (Extended and Full: 5)
- Analog input, 0-5V, differential, 24 bits. Basic and Aanderaa Met: 3 (Extended and Full: 6)
- Digital input, 1 Opto-isolated, 500 Hz, 1 non isolated, 0/10V, 5 kHz. Basic and AADI Met.:1 (Extended and Full: 2)
- Digital output: 2X 0/10V. Basic and AADI Met.:1 (Extended and Full: 2)
- RS-232 communication channel for modem and direct cable. Direct cable also RS-422
- USB for local PC operation
- LAN for remote operation and networking (socket)

Recording system:

- Multiple sensor groups with individual recording interval and activation
- Recording interval from 2s to 3 hrs. depending on attached sensors
- Data storage on SD card
- Binary format

Real-time communication:

- Aanderaa real-time protocols, XML
- Condensed and compressed for limited bandwidth
- Retransmission for noisy channels

Available telemetry options:

- LAN, Radio modem, GPRS, GOES, Iridium

Remote operation:

- Aanderaa real-time operator panel

- Device layout (adaptation to attached sensors etc.)
- Configuration
- Recording start/stop
- Status monitoring

Storage:

- ≤ 2GB
- Remote downloadable
- Exchangeable

Clock:

- ≤12s per month over temperature range

Power:

- 12 - 30V
- Sleep current < 1mA @12V
- Operating current <20mA @12V; depending on layout and configuration

Housing:

- 320x217x70mm
- Rugged aluminium box
- IP 65
- Designed for high EMC compliance

Operating temperature: -40 to +60°C

Optional Aanderaa sensors sub sea:

- Temperature 4060, 4880
- Conductivity 4319A/B
- Wave and Tide 4648, 4647A/B/C
- Pressure 4117, 4646A/B/C
- Turbidity 4112
- Oxygen Optode 4835/4330
- Doppler Current 4420, 4520

Optional Aanderaa sensors air:

- Wind Speed and Gust 2740
- Wind Direction 3590
- Air Temperature 3455
- Air Pressure 2810
- Solar Radiation 2770
- Radiation 2811
- Mira Visibility 3544
- Relative Humidity 3445
- Rainfall 3864
- Temperature 3444
- Road Condition 3565
- Road Temperature 3304

Enclosure and Mast hardware:

- Sensor Cross Arm 3415/3435
- Free standing base cabinet and 4m mast - 10m mast with guy wire and hand winch

Accessories included:

- Aanderaa Real-Time Collector, including operator panel and data viewer
- Aanderaa Data® Studio software
- SD card: 2 GB
- Documentation on CD



Visit our Web site for the latest version of this document and more information

www.aanderaa.com

Aanderaa is a trademark of Xylem Inc. or one of its subsidiaries.
© 2012 Xylem, Inc. D401 November 2012

Aanderaa Data Instruments AS
Sanddalsringen 5b, P.O. Box 103 Midtun,
5828 Bergen, Norway
Tel +47 55 60 48 00
Fax +47 55 60 48 01