

AWS APPLICATIONS

Aanderaa Data Instruments has delivered more than 400 stand alone or combination AWS



Typical Application Areas:

- Stand-alone Weather Stations
- Road Monitoring Systems
- Vessel Traffic Systems (VTMS)
- Ports and Harbour
- Other combined Hyd/Met systems

Product Features:

- *Self-contained*
- *Real-time*
- *Serial production*
- *Rugged constructions*
- *Compact and modular design*
- *Standardized sensor signals*
- *Long-term unattended operation*
- *Automatic transmission of data*
- *Low power consumption*
- *Minimum maintenance*
- *Flexible plugin communication solutions*

Refer Data Sheet D152 for a complete list of sensors and accessories.



Examples of Installations



PORTS, NAVIGATION SAFETY -HYD/MET SYSTEMS

Aanderaa Instruments has delivered 2 separate orders for Port installations in Estonian, Tallinn district.

Common for the 2 sites is very shallow water in the port area, which makes water level monitoring of high interest.

Wind carried tide is the main cause for tidal variations, hence the demand for meteorological data.

Tallinn Port and Muugaa Port:

- 2 Complete AWS Stations with Wave and Tide Recorder 9

Measured parameters:

- Air Temperature, Air Pressure
- Relative Humidity, Visibility,
- Wind Direction, Wind Speed
- Water Temperature, Hydrostatic Pressure
- Wave parameters

Parnü Port:

- 1 AWS Station with Water Level/Tide Sensor

MONITORING, STAND ALONE ROAD WEATHER SYSTEM

Used for automatic surveillance of road conditions. The RWS shown to the right is installed on a bridge just outside Bergen. Data are sent real-time to the county road office and used both for monitoring and notification of critical road conditions, including the need for anti-ice treatment.

Meteorological parameters for an RWS installation:

- *Wind Direction*
- *Wind Speed*
- *Air Temperature*
- *Relative Humidity*
- *Net Radiation*
- *Road Temperature*
- *Wet/Dry condition*
- *Freezing Point*



Examples of Installations

WEATHER FORECAST -HYD/MET SYSTEMS

Aanderaa Instruments has delivered 15 meteorological and 5 Hydrological stations to the Malaysian Meteorological Office. All stations are equipped with GSM data transmission system.



The objective of the project is to provide reliable and better information to Malaysian Weather forecasters.

Meteorological stations -AWS 2700:

- Wind Speed
- Wind Direction
- Air Temperature
- Air Pressure
- Rainfall

Hydrological Stations - RDCP 600:

- Current Speed and Direction in multiple levels
- Water Level
- Wave Height
- Wave Period
- Water Temperature

Five stations are installed at different ports. The rest of the stations are scattered along the Malaysian Coastline.

MONITORING -STAND ALONE AWS

Stand alone AWS located in an undisturbed Arctic environment; the Zeppelin Mountain at the west coast of Svalbard.

Meteorological parameters:

- Wind Speed
- Wind Direction
- Air Temperature
- Humidity



The Zeppelin activities contribute to regional, national and global monitoring networks such as System for Observation of halogenated Greenhouse gases in Europe (SOGE), Network for detection of Stratospheric Change (NDSC), Global Atmospheric Watch (GAW), EMEP and AMAP.

In addition to atmospheric studies, research on marine and terrestrial ecosystems, glaciers, physical properties of snow and ice, surface energy balance and solar radiation is also carried out in Ny-Ålesund.



Buoy Application and Communication

Hyd/Met installation in Buoy

Installation in the North Sea at Marstein Lighthouse west of Bergen. The installation was operating for approximately 3 years and delivered Real Time data via VHF radio transmission reliably.

The objective of the installation has been to measure weather and sea state conditions at the south main entrance of Bergen Port.

Meteorological parameters:

- *Wind Speed and Gust*
- *Wind Direction*
- *Air Temperature*

Hydrological parameters:

- *Wave Height and Period*
- *Current Speed and Direction*
- *Water Temperature*



Communication Solutions

- *UHF/VHF radio transmission up to 10km. Real time data*
- *GSM up to 20km from coast line. Programmable dial-up*
- *GPRS*
- *Radio Modem*
- *Argos Satellite*
- *Inmarsat Satellite*
- *OrbCom Satellite*
- *Iridium Satellite selectable two-way communication*



Communication solutions can be changed according to project.

Refer Brochure B135 for more information about communication solutions.