


Weather Station

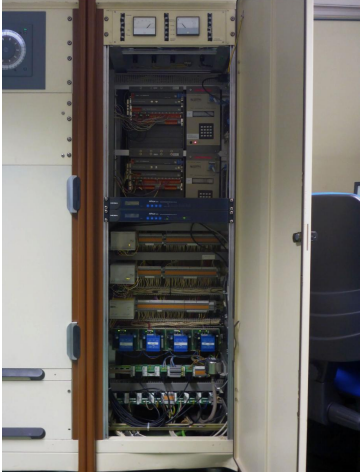
**Attention:**

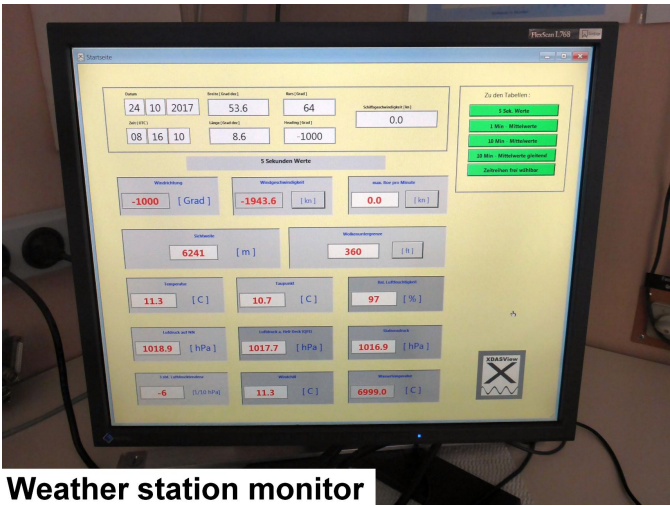
The observatory is always manned with a weather radio technician and a meteorologist during scientific cruises. The facilities of the meteorological observatory can be co-used by scientists for special measurements.

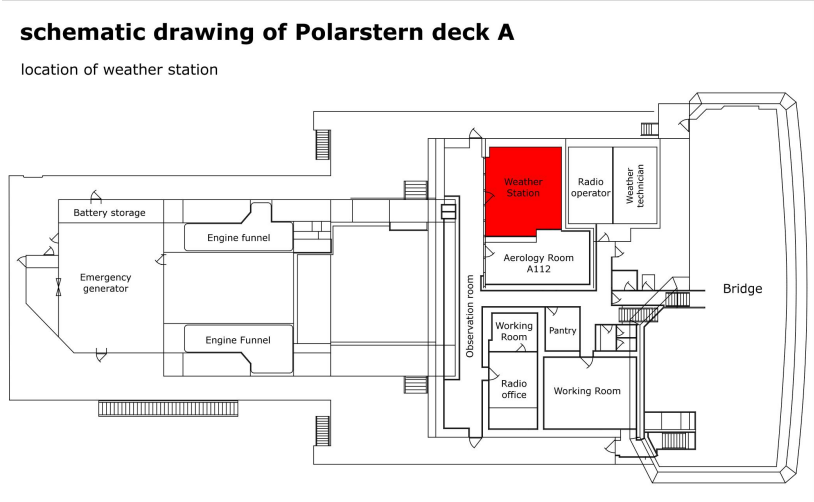
Summary

The weather station at Polarstern consists of several devices which measure standard parameters such as temperature, wind, humidity, barometric pressure, radiation and precipitation. Satellite images are received with a dedicated antenna which, together with the data, are used for forecast purposes. The station is operated by a weather technician-observer from the German Weather Service (DWD) who is responsible for the routine 3-hourly synoptic observations and the daily upper air soundings.

| | |
|---------------|-------------------------------|
| Manufacturer | AWI |
| Model | AWI |
| Serial No. | n/a |
| Type | small scale facility |
| REGISTRY-Link | REGISTRY (22) |

Weather station data aquisition

Weather station monitor



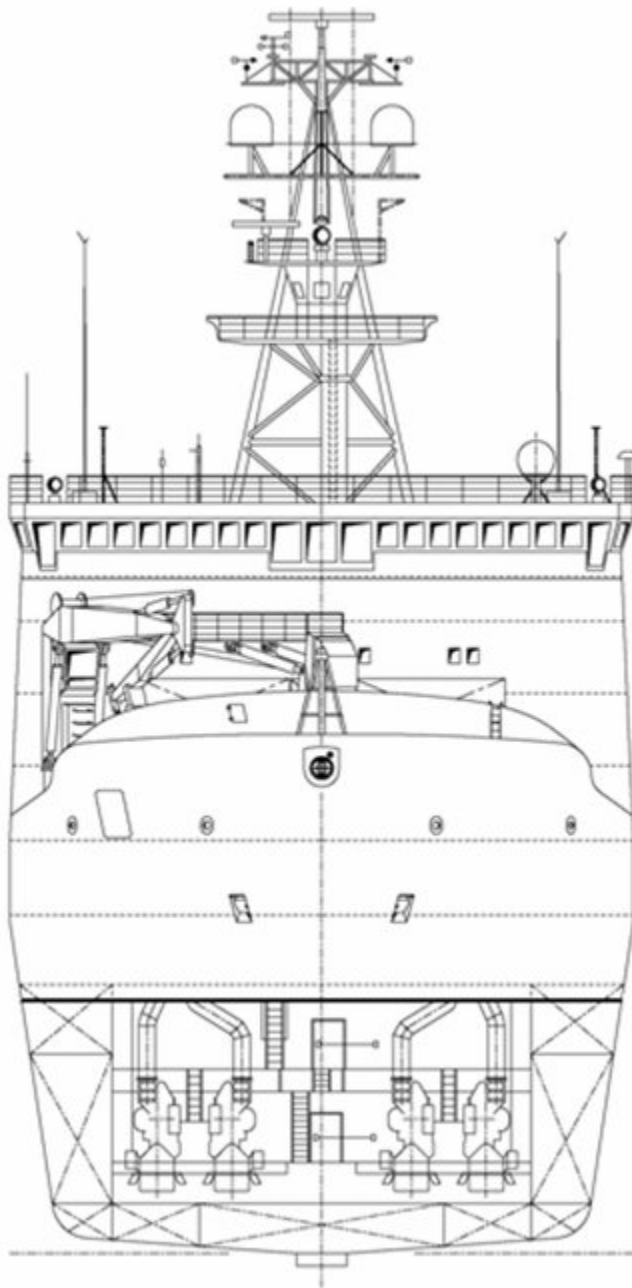
Contacts

| Name | Institution | Role |
|--|--|--------------------------------|
| Bernd Loose | Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research | Engineer In Charge |
| Holger SchmithÅ¼sen | Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research | Principal Investigator, Editor |
| Alfred Wegener Institute for Polar and Marine Research | Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research | Owner |
| Loretta Preis | Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research | Engineer In Charge, Editor |

Components

Subdevices

| Name | Model | Serial Number | REGISTRY-Link |
|---------------------------------------|----------------------------------|---------------|---------------------------------|
| Barometric Pressure Sensor | Vaisala PTB330 digital barometer | n/a | REGISTRY (1410) |
| Cloud Height Detector | CL51 | F4060001 | REGISTRY (1409) |
| Global Radiation Sensor | Pyranometer SMP21 | n/a | REGISTRY (1415) |
| Ship Rain Gauge | SRM 450 H | 093999 | REGISTRY (1417) |
| Sunshine Detector | SONI e3 | n/a | REGISTRY (1416) |
| Temperature and Humidity | HMP155 | n/a | REGISTRY (1523) |
| Visibility Sensor | FS11 | n/a | REGISTRY (1408) |
| Water temperature for weather station | PT100 | n/a | REGISTRY (5010) |
| Wind Sensors (anemometer) | Ultrasonic Anemometer Sonic 2D | n/a | REGISTRY (1413) |



| | |
|------|--------------------------------------|
| 39 m | Wind |
| 34 m | Global radiation, Precipitation |
| 29 m | Humidity, Temperature |
| 20 m | Visibility, Ceiling |
| 16 m | Met. Office |
| 10 m | Balloon launch at helicopter port |
| 0 m | Waterline |
| -5 m | Water temperature |

Position

| | |
|-------------|---|
| Info | no xyz-position given, the weather station is located on deck A |
| X | 0.0 (no unit given) (no description given) |
| Y | 0.0 (no unit given) (no description given) |
| Z | 0.0 (no unit given) (no description given) |

Data logging, storage and archiving

Logged parameters

| Parameter | O2ARegistry Output Type | Unit |
|---------------------------------|-------------------------|---------|
| true wind direction | wind direction | deg |
| true wind velocity | wind speed | m/s |
| air pressure | pressure | hPa |
| air temperature | air temperature | °C |
| rel. humidity | relative humidity | % |
| global radiation | global radiation | W/m2 |
| precipitation | precipitation | mm/min |
| ceiling | cloud ceiling | ft |
| direct radiation | direct radiation | W/m2 |
| sunshine indicator | UV radiation | unknown |
| visibility | visibility | m |
| max rel. wind velocity last min | wind speed | m/s |
| rel. wind velocity | wind speed | m/s |
| rel. wind direction | wind direction | deg |
| true wind speed | wind speed | m/s |
| ceiling_m | cloud ceiling | m |

Central geographical ship's position and time standard

Rawdata storage on board

Dship

Data archiving on land