Weather Station

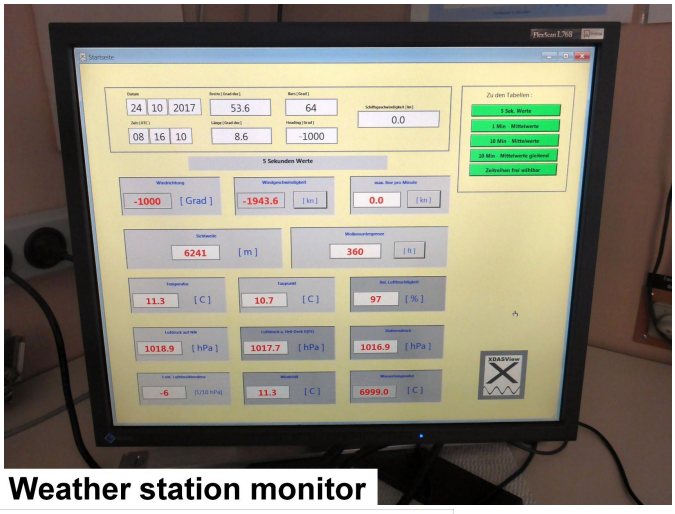
> **Attention:**
>
> The observatory is always manned with a weather radio technician and a meteorologist during scientific cruises. The facilities of the meteorological observatory can be co-used by scientists for special measurements.

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.

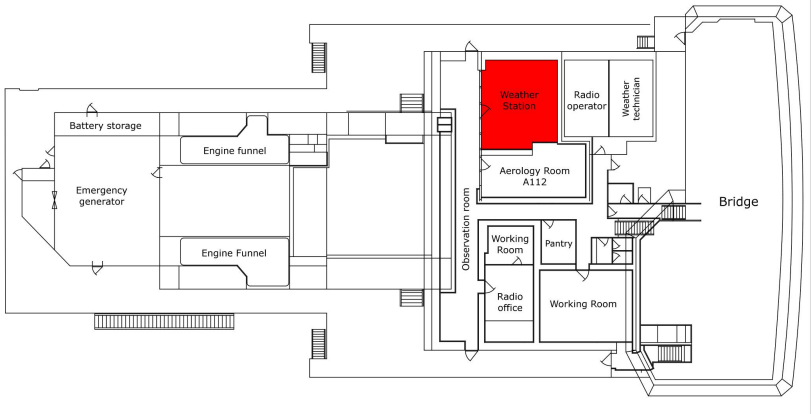
Manufacturer	AWI
Model	AWI
Serial No.	n/a
Type	small scale facility
REGISTRY-Link	REGISTRY (22)

Weather station data aquisition



schematic drawing of Polarstern deck A

location of weather station



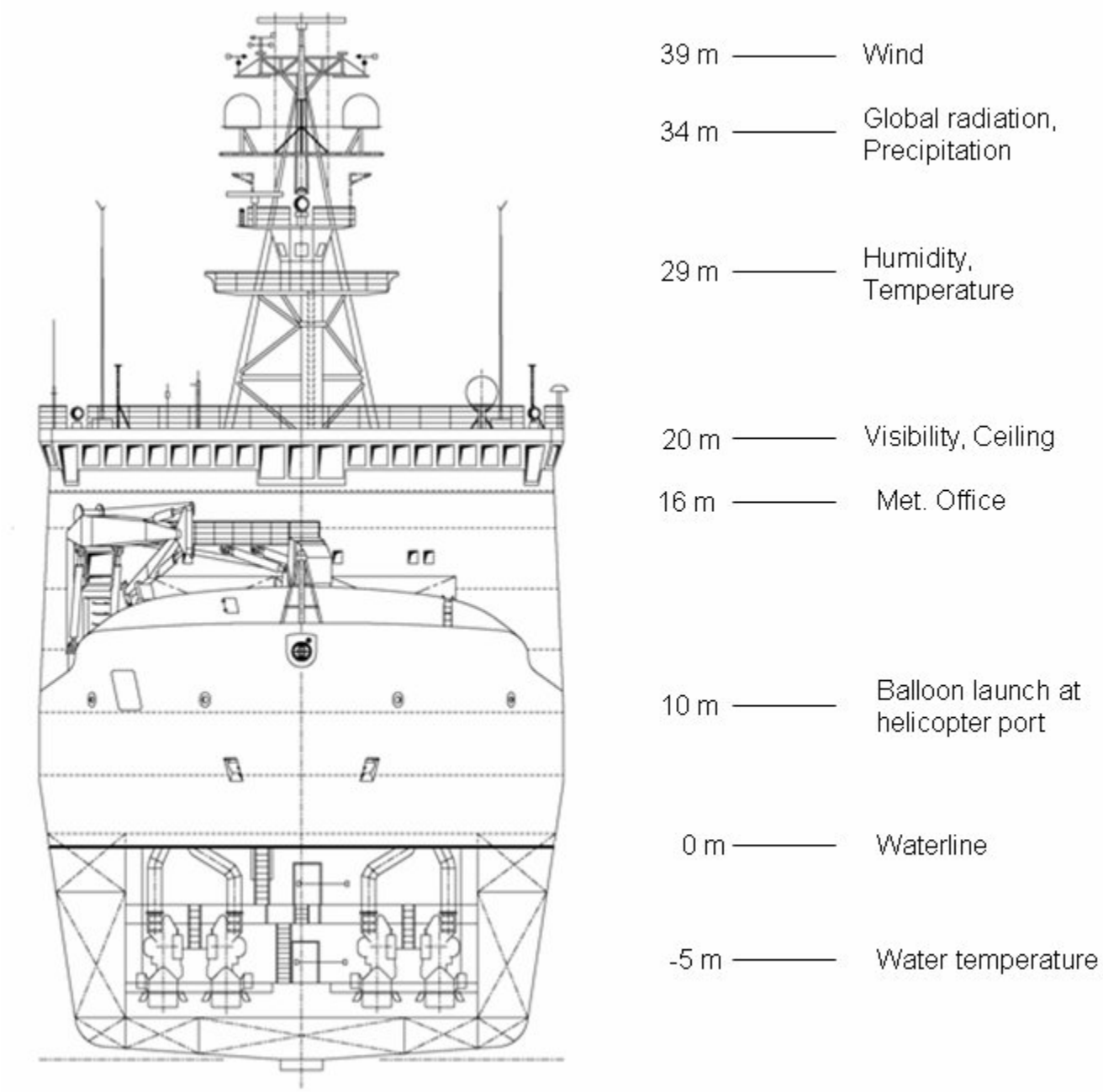
Contacts

Name	Institution	Role
Bernd Loose	Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research	Engineer In Charge
Holger SchmithÃ¼sen	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)



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