FINO2 – Meta data

Institutions / contact persons	
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Platform	
Name	**FINO2**
Position Platform [°,min,sek]	N 55°00'24,94''; E13°09'15,08''
Water depth (Ref.:MSL) [m]	25
Height of platform deck [m above MSL]	10
Area (m*m)	12,2 *12,2
Heli pad	no
Foundation	Monopile

Mast	
Geometry	square
Length [m]	90
TOP Height [m above MSL]	102.5
Length of the edge bottom [m]	4.5
Length of the edge top [m]	0.9
Number of segments	4

Data acquisition system				
Logger	Manufacturer	Type	Number	Bussystem
	Gantner	various	7	RS485
Back-up-Logger	Manufacturer	Type	Number	Bussystem
electr. supply				
Central data acquisition system	Manufacturer	Type	Bussystem	
	Gantner	Q-Station	RS485	
electr. supply	24V			

Booms and Mast							
Number of measuring heights	8						
Number of booms	14						
Height above MSL [m]	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
	31	41	51	61	71	81	91
Boom length [m]	7.66	6.48	6.08	5	4.51	3.53	2.91
Boom diameter [m]	0.076	0.076	0.076	0.076	0.076	0.076	0.076
Width of mast [m]	3.66	3.26	2.86	2.46	2.06	1.66	1.2
Diameter of mast shaft [m]	0.1778	0.1524	0.1524	0.108	0.108	0.0761	0.0761
Brace width [m]							
Solidity (acc. IEC 61400-12-1)	-	-	-	0.294	-	-	-

Sensor overview												
Device	Measurement	Manufacturer	Sensor Type	Accuracy	Units	Position (e.g. A,B,C)	Orientation [°]	Method of orientation	Boom height above MSL [m]	Measuring height above MSL [m]	Horizontal distance of the device to the outer edge of the mast [m]	Vertical distance between the boom and the device [m]
Pyrometer	Surface temperature of water	Heitronics			°C	-	0	-	-	11	-	-
Barometer	Air pressure	Vaisala	PTB100A	± 0.3 mBar	hPa	-	-	-	-	30.8	-	-
Hygrometer	Relative humidity of air	Thies	1.1005.50.015	± 3% rel. H.	% RF	-	180	-	-	30.3	-	-
Thermometer	Air temperature	Thies	1.1005.50.015	± 0.1°C	°C	-	180	-	-	30.3	-	-
Wind vane	Wind speed	Thies	4.3120.22.012	± 2°	°	-	0	oriented on mast / platform	31	31.8	7.66	0.8
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	31	32.4	7.66	1.5
Thermometer	Air temperature	Thies	2.1260.00.000	± 0.1°C	°C	-	180	-	-	40.3	-	-
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	41	42.4	6.48	1.5
Ultrasonic anemometer (3-D)	Wind speed	Thies	4.3830.21.400	0.1 m/s	m/s	-	0	-	41	42.1	6.48	1.08
Hygrometer	Relative humidity of air	Thies	1.1005.50.015	± 3% rel. H.	% RF	-	180	-	-	50.3	-	-
Thermometer	Air temperature	Thies	1.1005.50.015	± 0.1°C	°C	-	180	-	-	50.3	-	-
Wind vane	Wind direction	Thies	4.3120.22.012	± 2°	°	-	0	oriented on mast / platform	51	51.8	6.08	0.8
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	51	52.4	6.08	1.5
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	61	62.4	5	1.5
Ultrasonic anemometer (3-D)	Wind speed	Thies	4.3830.21.400	0.1 m/s	m/s	-	0	-	61	62.1	5	-
Precipitation sensor	Precipitation (Status)	Thies	5.4103.10.000	k.A.	-	-	0	-	-	60.8	-	-
Pyranometer	Global irradiance	Kipp & Zonen	CM 11	± 3%	W/m²	-	180	-	-	60.3	-	-
UV A/B Sensor	UV A and B radiation	Thies	7.1416.10.041	± 10%	W/m²	-	180	-	-	60.3	-	-
Wind vane	Wind direction	Thies	4.3120.22.012	± 2°	°	-	0	oriented on mast / platform	71	71.8	4.51	0.8
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	71	72.4	4.51	1.5
Thermometer	Air temperature	Thies	2.1260.00.000	± 0.1°C	°C	-	180	-	-	70.3	-	-
Cup anemometer	Wind speed	Vector Instruments	A100/L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	81	82.4	3.53	1.5
Ultrasonic anemometer (3-D)	Wind speed	Thies	4.3830.21.400	0.1 m/s	m/s	-	0	-	81	82.1	3.53	-
Wind vane	Wind direction	Thies	4.3120.22.012	± 2°	°	-	0	oriented on mast / platform	91	91.8	2.91	0.8
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	180	-	91	92.4	2.91	1.5
Precipitation sensor	Precipitation (Intensity)	Thies	5.4103.20.741	k.A.	mm	-	0	-	-	90.8	-	-
Barometer	Air pressure	Vaisala	PTB100A	± 0.3 mBar	hPa	-	-	-	-	90.8	-	-
Cup anemometer	Wind speed	Vector Instruments	A100L2/PC3/WR	0.1 m/s (from calibration)	m/s	-	-	-	-	102.5	-	-
Hygrometer	Relative humidity of air	Thies	1.1005.50.015	± 3% rel. H.	% RF	-	180	-	-	99.3	-	-
Thermometer	Air temperature	Thies	1.1005.50.015	± 0.1°C	°C	-	180	-	-	99.3	-	-

Record of relevant building activities and other events		
Date	**Events**	**Height above MSL**
23.04.2008	All devices installed, measurement complete	all
14.05.2009	Change of the vertical tubes	all
10.11.2010	Change of the ultrasonic anemometers (from Gill WindMaster to Thies 3D)	all
2014/2015	Erection of Baltic 2	-
19.03.2015	Change of the data acquisition system from Friedrichs/IMC to Gantner	-
11.06.2015	Completion of the last WT of Baltic 2	-

Disclaimer
The information herein is provided without warranty for correctness or completeness. It represents the current state of the measurement system at FINO2 at the time of publication and may be modified without warning to account for errors, omissions and/or changes to the measurement system.

FINO WIND