

# Nordic N1000 (60Hz)- Data Sheet

## N1000 Technical Data

59 m rotor

### GENERAL

Nominal power	1000 kW
Rated wind speed	16 m/s
Operational range	4-22 m/s
Certification	DNV Design to IEC Class IIIb
Extreme wind speed	52.5 m/s
Operational Temperature Range	-10° - +40° Celsius
Survival Temperature Range	-20° - +50° Celsius
Control principle	Stall

### WIND TURBINE

Rotor diameter	59 m
Number of blades	2
Rotor orientation	Upwind
Rotational speed	23 rpm
Blade tip speed	72 m/s
Blade material	GRP/Carbon
Type of hub	Teeter
Teeter bearing	Elastomeric

### BRAKING SYSTEMS

Aerodynamic blade tip brakes	
Hydraulic disc brake on rotor shaft	

### GEARBOX

Type	2 planetary & 1 stage helical, integrated turbine bearings
Gear ratio	1:81
Cooling	heat exchanger

### GENERATOR

Rating	1,000 kW
Type of generator	4-pole induction
Voltage	690 V
Environmental Protection	NEMA3/IP34
Cooling	Air
Power Factor	0.96 at 100% Power
Generator Protection	DEIF Generator Protection Unit

### YAW SYSTEM

Hydraulic drive motors	
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### TOWER

Hub height	70 m
Diameter top/bottom	1.9/3.2 m
Type	Welded steel tube, painted
Number of tower sections	2
Tower weight	64.6 tonnes

### CONTROL SYSTEM

Distributed control system	
Controller Type	Bachmann M-1 PLC
Monitoring	Web-based SCADA system

### WEIGHTS

Nacelle, with hub	41.5 tonnes
Blades (each)	4.5 tonnes

### NOISE LEVEL

Less than 104 dB(A) at 8 m/sec	
IEC 61400-11 compliant	

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