eoltec

Wind Runner E11-25

Best Eolian Technology for Highest Wind Yielding

- 25kW output @ 11 m/s
- centrifugal feathered Pitch Control
- direct drive sealed PM generator
- variable speed MPPT operation
- high efficiency / low noise / low wear / low maintenance
- advanced rugged sealed design
- hybrid or utility AC grid-tied applications

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Eoltec's technology represents a breakthrough in the medium range wind turbine market.

WindRunner uses the best of modern multi-megawatts wind turbine's proven technology, and integrates all necessary features to achieve the best possible energy yield out of wind. That is achieved in the prevalent low and medium wind speed conditions, as well as at rated power wind speed.

High efficiency blades and generator, feathered pitch control, variable speed with maximal power point tracking results in more than +75% produced energy compared with conventional equivalent size wind turbines.

Direct drive sealed generator reduces the amount of critical mechanical components, ensuring high reliability and low maintenance. Variable speed management and pitch control overspeed system drastically reduces material stress, axial thrust and aerodynamic noise for increased lifetime and particularly quiet operation.

The wind turbine connects to the AC grid through a specific AC/DC/AC converter using DSP-controlled PWM technology, delivering best quality power and enabling high wind penetration.

Last but not least, Eoltec's WindRunner is designed and realized without compromise, using state of the art components and according to IEC 61400-2 design rules.

- WindRunner E11-25 performances and specifications-

Performances

Rated output power : 25.0kW @ 11.0 m/s (continuous power at inverter output)
Cut in wind speed : 2.6 m/s
Cut out wind speed : None
Survival wind speed : 60 m/s (design according to IEC 61400-2, class II wind site)

Wind speed at hub height (m/s)	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Output Power (kW)	0.52	1.32	2.7	4.9	7.8	11.6	16.8	22.9	25.0	25.0

Average wind speed (m/s @ 10m)	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Average power (kW)	1.6	3.8	6.7	9.8	11.4	12.6	16.7	17.8
Daily energy production (kW.h)	38	91	162	233	300	356	400	430
Monthly energy production (kW.h)	1,155	2,760	4,900	7,100	9,110	10,800	12,100	13,030
Yearly energy production (MW.h)	13.9	33.3	58.8	85.3	109	130	145	156

Estimated for inland site, altitude 300m, Rayleigh distribution (k=2), 24m tower, shear ratio 0.143 , turbulence factor 10%

Operational data

Rated power : 25kW @ 10.5 m/s
Cut in wind speed : 2.5 m/s
Cut out wind speed : none (rated power maintained up to 60m/s)
Survival wind speed : 60 m/s

Rotor

Diameter/swept area : 11.0 m / 95.0m²
Blades : 3 fiberglass blades, aluminum root insert, hollow technology
Blades bearing : 3 sealed slewing rings
Rotational speed : 45 to 145 rpm, variable speed
Power regulation : Full span feathered Pitch control (passive centrifugal passive mechanism, sealed)
Over-speed control : Pitch control

Generator

Type : Synchronous multiple poles permanent magnets, direct drive
Rated output power : 27.5 kW at 140 rpm
Protection : Totally enclosed, fully sealed
Cooling : Passive air flow

Miscellaneous

Yawing system : Passive, downwind vane tail + sealed slewing ring, electric rotating collector
Power regulation : Variable speed, electronically controlled, maximum power point tracking.
Brake : Optional remote control (blades feathering)

Weight : 620 kg (complete nacelle with rotor and generator)
Towers : 18 – 24 – 32m guyed and self supported towers
Grid inverter : 400V-3phases 25kW continuous output grid inverter. Optimal power point tracking
Maintenance : Annual inspection

WR 11-25 Drawing :