



# DEEPA SOLAR SYSTEMS PRIVATE LIMITED

#4,80ft ring road next to BDA complex ,Nagarabhavi,Bangalore,

WWW.deepasolar.com,Ph:08023188484

## SOLAR - WIND HYBRID SYSTEM

Deepa's offer of a Great Green Living which feels Great!!!



When an aero-generator and an SPV system are interfaced, the power generation from these is mutually supplemented, and the resultant hybrid system offers a reliable and cost-effective electric supply in a decentralized mode. The wind-solar hybrid system mainly consists of one or two aero-generators along with SPV panels of suitable capacity, connected with charge controller, inverter, battery bank, etc. to supply AC power.

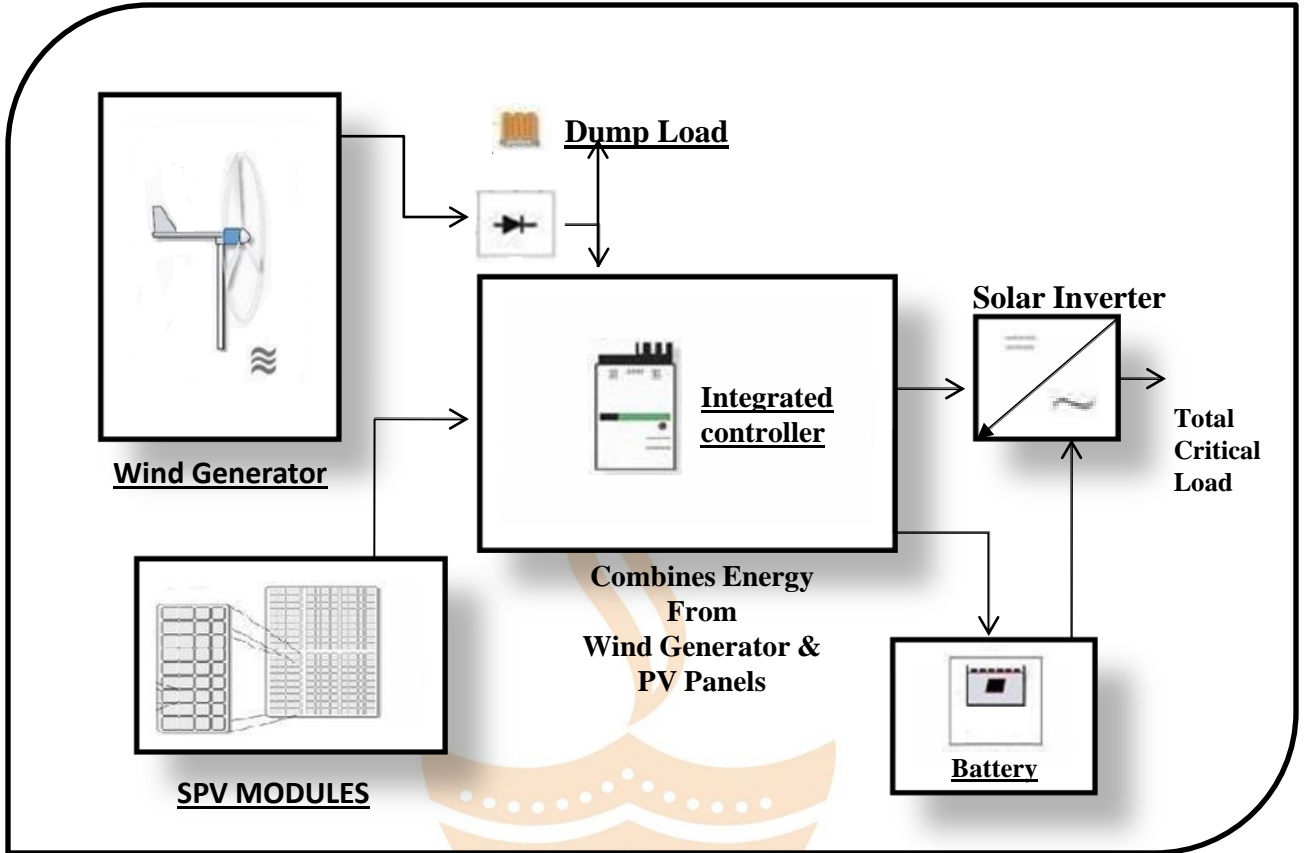
### **Why do we need Hybrid System?**

The conventional energy sources decrease day by day and they may produce pollution which is very harmful for the world and increasing global warming. So the aim of the world is to reach the 40 percent rate of the Renewable energy sources in the energy production by 2020. One option to achieve this aim is to increase the rate of the solar and wind energy in energy production. These energy sources provide 26.1% electricity for the consumption. These targets can be realized by increasing the green energy production. This target can be realized by member states in function of geographical and economical ability. Recently in the Eastern part of Europe we can find a lot of farms, situated in remote areas, where electricity supply has not reached. One obvious solution for electrification of these regions is the installation of small-scale stand-alone solar and wind energy production systems.



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**Established wind/PV Hybrid Power Generation Unit**



**Wind Turbine / Solar PV Modules**



## TECHNICAL SPECIFICATION FOR WIND SOLAR HYBRID SYSTEMS

### Array of Solar Wind Hybrid Systems

#### 1] 1.2 kW

- 650 Watt Wind Generator
- 550 Watt Solar

#### 2] 2.5 kW

- 1.5 kW Wind Generator
- 1kW Solar

#### 3] 5.1 kW

- 3.3kW Wind Genetaror
- 1.8 kW Solar

#### 4]8.2 kW

- 4.2 kW Wind Generator
- 4 kW Solar

#### 5]10 kW

- 5.1 kW Wind Generator
- 4.9 kW Solar



**This combination can be scaled from min 1.2 kW to 100kW and more**



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## Product: Deepa DS-42 Plus / 5.1 kW



MODEL	DS42 plus
RATED OUTPUT	5100W
RATED WIND SPEED m/s mph	11/25
PEAK OUTPUT	5400W
NUMBER of BLADES	3
BLADE MATERIAL & Cp	Carbon Fiber Composite, ~ 0.37
GENERATOR	PM 3 phase alternator (variable speed)
RPM- 50hz/60hz	375 / 450
Over speed limit RPM / Hz	525 / 70
YAW SYSTEM	Passive by tail Vane
YAW / Tower Cable	N x 360°
POLES	16
SWEPT AREA	21.4 /230 Sq. m / sq. feet
ROTOR DIAMETER	5.24 m / 17.20 ft.
GOVERNOR / over speed limit	Angle tilt (Hydraulic assisted)
GOV. SHUT-DOWN / OPTIONAL STOP	Electro-dynamic Switch
UNIT WEIGHT (tower top)	99 Kg.
OPERATING LIFE	20 Yrs.
SURVIVAL WIND	55 m/s
SUGGESTED ROUTINE MAINTENANCE	Annual inspection



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## Product: Deepa DS – 42/4.2kW



MODEL	DS 42
RATED OUTPUT	4200W
RATED WIND SPEED m/s mph	11 / 25
PEAK OUTPUT	4600W
NUMBER of BLADES	3
BLADE MATERIAL & Cp	Carbon Fiber Composite, ~ 0.37
GENERATOR	PM 3 phase alternator (variable speed)
RPM- 50hz/60hz	375 / 450
Over speed limit RPM / Hz	525 / 70
YAW SYSTEM	Passive by tail Vane
YAW / Tower Cable	N x 360 <sup>0</sup>
POLES	16
SWEPT AREA	19 / 205 Sq. m / sq. feet
ROTOR DIAMETER	4.9 m / 16 ft.
GOVERNOR / over speed limit	Angle tilt (Hydraulic assisted)
GOV. SHUT-DOWN / OPTIONAL STOP	Electro-dynamic Switch
UNIT WEIGHT (tower top)	89 Kg.
OPERATING LIFE	20 Yrs.
SURVIVAL WIND	55 m/s
SUGGESTED ROUTINE MAINTENANCE	Annual inspection



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## Product: Deepa DS-33 / 3.3 kW



MODEL	DS33
RATED OUTPUT	3300W
RATED WIND SPEED m/s mph	10.5 / 24
PEAK OUTPUT	3650W
NUMBER of BLADES	3
BLADE MATERIAL & Cp	Carbon Fiber Composite, ~ 0.37
GENERATOR	PM 3 phase alternator (variable speed)
RPM- 50hz/60hz	375 / 450
Over speed limit RPM / Hz	525 / 70
YAW SYSTEM	Passive by tail Vane
YAW / Tower Cable	N x 360°
POLES	16
SWEPT AREA	16.4 / 175 Sq. m. / sq. feet
ROTOR DIAMETER	4.65m / 15 ft.
GOVERNOR / over speed limit	Angle tilt (Hydraulic assisted)
GOV. SHUT-DOWN / OPTIONAL STOP	Electro-dynamic Switch
UNIT WEIGHT (tower top)	89 Kg.
OPERATING LIFE	20 Yrs.
SURVIVAL WIND	55 m/s
SUGGESTED ROUTINE MAINTENANCE	Annual inspection



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## Product: DS 15 plus (1.5KW)



<b>MODEL</b>	<b>DS15</b>
<b>RATED OUTPUT</b>	1500W
<b>RATED WIND SPEED m/s mph</b>	10.5 / 24
<b>PEAK OUTPUT</b>	1700W
<b>NUMBER of BLADES</b>	3
<b>BLADE MATERIAL &amp; Cp</b>	Carbon Fiber Composite, ~ 0.37
<b>GENERATOR</b>	PM 3 phase alternator (variable speed)
<b>RPM- 50hz/60hz</b>	375 / 450
<b>Over speed limit RPM / Hz</b>	525 / 70
<b>YAW SYSTEM</b>	Passive by tail Vane
<b>YAW / Tower Cable</b>	N x 360°
<b>POLES</b>	16
<b>ROTOR DIAMETER</b>	3.2m / 11 ft.
<b>SWEPT AREA</b>	9.2 / 95 Sq. m /sq. ft.
<b>GOVERNOR / over speed limit</b>	Angle tilt (Hydraulic assisted)
<b>GOV. SHUT-DOWN / OPTIONAL STOP</b>	Electro-dynamic Switch
<b>UNIT WEIGHT (tower top)</b>	34 Kg.
<b>OPERATING LIFE</b>	20 Yrs.
<b>SURVIVAL WIND</b>	55 m/s
<b>SUGGESTED ROUTINE MAINTENANCE</b>	Annual inspection



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## Product: DS 6 /650 w



MODEL	DS6
RATED OUTPUT	650W
RATED WIND SPEED m/s mph	10.5 / 24
PEAK OUTPUT	750W
NUMBER of BLADES	3
BLADE MATERIAL & Cp	Carbon Fiber Composite, ~ 0.37
GENERATOR	PM 3 phase alternator (variable speed)
RPM- 50hz/60hz	600 / 720
Over speed limit RPM / Hz	840 / 70
YAW SYSTEM	Passive by tail Vane
YAW / Tower Cable	N x 360°
POLES	10
SWEPT AREA	3.7 / 43 Sq. m. / sq. ft.
ROTOR DIAMETER	2.2 m / 7.2 ft.
GOVERNOR / over speed limit	Angle tilt (Hydraulic assisted)
GOV. SHUT-DOWN / OPTIONAL STOP	Electro-dynamic Switch
UNIT WEIGHT (tower top)	23 Kg.
OPERATING LIFE	20 Yrs.
SURVIVAL WIND	55 m/s
SUGGESTED ROUTINE MAINTENANCE	Annual inspection





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