Jyoti Ltd.

'Jyoti' Induction Generators (for Wind Turbines)

Utilise Wind Energy for Power Generation

INTRODUCTION :

Since the oil crisis of the seventies, the world is increasingly becoming aware about the fast depletion of conventional sources of energy like coal, oil etc. Not only their future availability is threatened, but the eco-system itself is in danger with the pollution and the green-house effect created by growing consumption of these conventional sources of energy.

As a result, for last two decades the world-over, efforts have been concentrated to find out alternative sources of energy. The non-conventional energy sources like Solar (thermal, photovolatic etc.), wind and bio-mass are not only renewable but are found to be environment friendly. Wind energy has a great potential, particularly in areas having high wind velocities and long sea-coast. The technologies utilising these non-conventional, renewable sources of energy are emerging as technically feasible and commercially viable options.

WIND-FARMS :

World-wide experience over two decades has evolved the concept of 'wind-farms' for 'harvesting' wind energy and the concept has now been established. A wind-farm has a large number of small or medium power wind turbines which generate electricity. The power thus generated is directly fed to the grid. The generator is of 100 KW to 600 KW capacity.

INDUCTION GENERATORS :

To achieve economies of operation on the Wind Farms, the induction generators are preferred to synchronous ones. Induction Generators have lower fixed cost, and are easy to manufacture, install and maintain. Their squirrel cage construction makes the rotating assembly extremely simple and robust. This is ideal for the arduous operating duties which require high reliability.

To meet the exacting demands of wind power generation, Jyoti has developed induction generators which maximise power generation even during periods of low wind velocity. In addition to the single-speed design, Jyoti also offers a two-speed version.

FEATURES :

- Both single and 2-speed versions
- Robust construction
- Dual coat class H winding wire
- Vacuum impregnated
- Regreasing facility
- Ratings to suit requirements (100 KW to 600 KW)
- High efficiency
- Suited for wide voltage/frequency variation
- Totally enclosed (TEFC) construction
- IP-55 protection
- RTD or thermistor protection for windings
- Windings protected against moisture
- Conforms dimensionally to IS:1231 and IEC 34
- Minimum weight

SPECIFICATIONS (250 KW Wind Generator)

Particulars	Dual Speed	Single Speed
Output, KW	250/60	250
Frame Size	355M	355M
Connection	Delta/Delta	Delta
Voltage, V	400 ± 10%	400 ± 10%
Frequency, Hz	50 ± 5%	50 ± 5%
Speed (Synchronous rpm)	1500/1000	1500
Power Factor	0.9/0.85	0.9
Efficiency, %	94.5/92	94.5
Rated Current, A	410/101	410
Insulation	Class F	
Temperature Rise	As per Class F	
Ambient Temperature (^{0}C)	45^0	
Type of Enclosure	TEFC	
Degree of Protection	IP55	
Type of Cooling	IC 0141	
Body/End Cover Material	Grey Iron Casting to IS:210	
Terminal Box	Fabricated Steel	
Bearing	Grease Lubricated Antifriction Type	

NOTE : The above are typical specifications, other ratings/speeds are available on request.

Jyoti Ltd. VADODARA (INDIA)

FOR FURTHER ENQUIRIES PLEASE CONTACT

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In keeping with the technological strides the world is making in the engineering field, we introduce changes in the design of our products. Hence, the products as actually supplied might have features varying herefrom.