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Jyoti Ltd.

50 YEARS OF ENGINEERING EXCELLENCE

'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 of over two decades has led to 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 inducion 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 dual-speed version.

FEATURES

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

TYPICAL SPECIFICATIONS

Particulars	Dual Speed		Single Speed
Output, KW	250/60	400/100	250
Frame Size	355M	400L	355M
Connection	Delta/Delta	Star/Star	Delta
Voltage, V	400 ± 13%	690 ±13%	400 ± 13%
Frequency, Hz	50 ± 5%	50±5%	50 ± 5%
Speed (Synchronous rpm)	1500/1000	1500/1000	1500
Power Factor	0.87/0.80	0.87/0.80	0.90
Efficiency, %	94.5/92.0	96/92	94.5
Rated Current, A	410/101	396/107	410
Insulation	Class F		
Temperature Rise	As per Class F		
Ambient Temperature (°C)	45^0		
Type of Enclosure	TEFC		
Degree of Protection	IP55		
Type of Cooling	IC 411		
Body/End Cover Material	Grey Cast Iron/Fabricated		
Terminal Box	Fabricated		
Bearing	Grease Lubricated, Antifriction Type		

NOTE :The above are typical specifictions, other ratings/speeds are availble on request.

Jyoti Ltd. VADODARA (INDIA)

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For Further Enquires Please Contact

HEAD OFFICE

Rotating Electrical Machines Division
Industrial Area
P. O. Chemical Industries
Vadodara-390 003.
Telephones : 380633-380648
Fax : +91-265-381871
E. Mail : cmd. jyoti @ sm3 sprintrpg ems. vsnl. net.in
Telex : 0175-6481 JM-IN
Grams : PROJYOTI

ZONAL OFFICES

Calcutta
45, Jhowtalla Road, Syed Amir Ali Avenue
Calcutta-700 019. Fax : 033-2475267

Chennai
VEE DEE YEM Complex
270, Ground Floor, Lloyds Road (Avvai Shanmugham Salai)
Royapettah, Chennai-600 014., Fax : 041-8275140

Mumbai
103, Kakad Chambers, 132, Dr. Annie Besant Road,
Worli, Mumbai-400 018, Fax : 022-4964468

New Delhi
406, Chiranjiv Towers, 43, Nehru Place,
New Delhi-110 019, Fax : 011-6426225

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.

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