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Two Speed Motor

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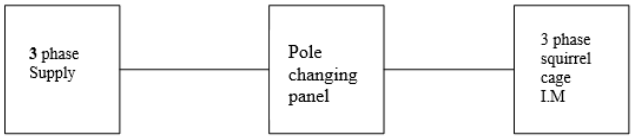
***Abstract*: Economic and efficient two-speed single-winding single-phase motors of any pole ratio are shown possible using normal coils with only eight terminals taken out from the winding. The rotor is of conventional squirrel-cage type. The new two-speed motors are characterized by good independent starting and running performances at both the speeds. The design is based on a novel theory known as the total pole-amplitude modulation method and is described in full.**

***Keywords*: Three phase induction motor, Pole changing method, Two speed in one motor.**

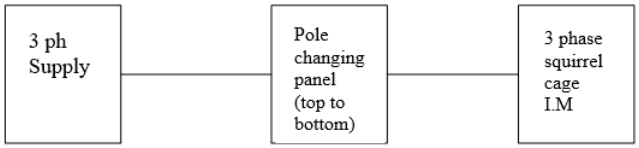
1. Introduction

In this Project an innovative method of generating electricity by using roof ventilator. This paper deals with design and construction of the model. The main function of roof ventilator is to exhaust the hot air from industries, warehouse, buildings, houses, etc. And intake atmospheric air/ fresh air. Ventilation and lighting, both purposes are served by this model simultaneously which is important for improving working conditions of employees in factory. Such ecofriendly models are recommended for upcoming factories in order to mitigate effects of vitiated atmosphere because of lack of ventilation & lighting.

2. Methodology



a) For TOP to TOP connection



b) For TOP to BOTTOM connection

Fig. 1. Block diagram

Circuit diagram explanation:

1. From this project we can conclude that 3 ph Induction motor can more speed high and low. depending upon load.
2. Here the motor consists of 36 slot with 36 coil double layer winding the pitch factor is coil and it has 65 turns with coil outputs of 6.
3. For 4Pole 1440 RPM we have to give supply to W1, U2 and V2and secondary winding U1, V1, and w1 should be started.
4. For two pole 2800 RPM we have to give supply to U1

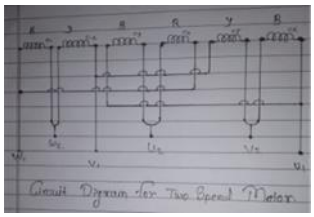


Fig. 2. Circuit diagram

A. Components details

1. 3 phase I.M, 1 HP Squirrel cage
2. Polycab (0.5mm^2)
3. Cotton Tap (1/2 “)
4. Varnish
5. Slews
6. Plywood panal (12*12)
7. Banana key
8. Digital printing (12*12)
9. Motor color
10. Maintenance

Fig. 3. 3 phase I.M, 1 HP Squirrel cage

Fig. 4. Varnish

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Fig. 5. Polycab (0.5mm^2)

Fig. 6. Cotton tap (1/2 “)

Fig. 7. Slews

3. Analyses

The 3 phase Induction motor can be run one speed in same production and another one motor run on the high speed during product demand increases.

To minimize this problem, we can use two speed in one motor.

4. Result

1. The induction motor is widely used in both industrial and home application.
2. The powers small for one and other power required is high so optimization of induction motor performance control problem.
3. To avoid this, we generated the idea of two speed motor. By changing pole Top to Top and Top to Bottom.

5. Conclusion

From this project we can conclude that 3 ph. Induction motor can more speed high and low. depending upon load.

6. Future Scope

This two speed in motor project in future we can control by remote or mobile.

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