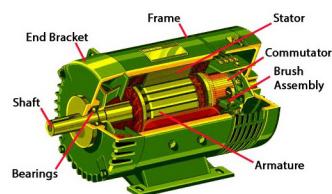


ELECTROMAGNETICS

Unit 4
Session 4

Introduction to -

- Automation System
- Car Operation and Circuits
- Control circuit and its parameters



Lesson Aims:

1. Differentiate different Applications.
2. Identify star-delta winding-wise variation.
3. Classify different modules of the motor.



- What kind of application do you know about motor?
- Which components are there in the AC motor?
- How can we change the characteristics of the Motor by changing the connection?





Brainstorming



Identifying Wye or Delta with an Ohmmeter

It sometimes becomes necessary to test or confirm the configuration of a motor before the final connection. If a Wye wound motor is connected to a Delta wound motor or vice versa, the motor will not operate properly.

Consider this situation: You have nine leads coming from a motor, but no indication of whether it's a Wye or Delta wound. By using an ohmmeter to do a simple continuity check, you can determine the construction type of the motor.

If it is a Wye wound, each of wires 1, 2, and 3 should only have continuity with one other lead (4, 5, and 6 respectively). The three leads without continuity to wires 1, 2, and 3 should all have continuity.

Low-voltage Wye

High-voltage Wye

Low-voltage Delta

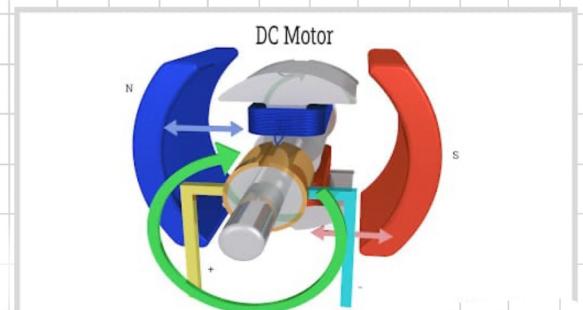
High Voltage Delta

Electric Motor Application: The applications of electrical motors include the following.

The applications of electrical motors mainly include blowers, fans, machine tools, pumps, turbines, power tools, alternators, compressors, rolling mills, ships, movers, and paper mills.

The electric motor is an essential device in different applications like HVAC- heating, ventilating & cooling equipment, home appliances, and motor vehicles.

Practical on Motor: Present Video on different types of applications varies different motor



Activity

Demonstration of Remote Control Car: Follow the steps below



Step 1: Watch the Video by scanning the QR code
A video is a wonderful tool that provides deep insight into the procedure and makes it easy to understand. However, it is also recommended to visit the next steps for additional details and images.

Step 2: Arrange Parts (High rpm DC motor, Geared DC motor, TP4056 Module, Li-Ion Battery, Switch, Plastic Gears, Ball Bearing, Ice cream Stick, Hot Glue Gun, Stationary Knife, Cardboard, wooden stick, tape, Toothpick, Rx & Tx Circuit board, and connecting wires).

Step 3: Prepare Base & Rear Axle

Step 4: Make Steering Mechanism

Step 5: Make Cardboard Wheels

Step 6: Make Electronic Steering

Step 7: Connect the Components

Step 8: Make Body Parts

After pasting all the cardboard pieces, our remote control car is now ready. Connect a 5v mobile charger to completely charge the battery for the remote control car. Take the transmission remote and get ready to have fun with this amazing remote control F1 Car.





Reflection

- 1) What is the application of motors?
- 2) What are three common uses for electric motors?
- 3) Where is an electric motor used in our daily life?
- 4) How does the remote control the car?
- 5) What materials do you need to make a remote control car?
- 6) Which circuit is used in the remote control car?

See

For more information -

