

Consultants, Engineers, Manufacturers

UPS, Generators, Electrical Components, ATS/AMF/PF & Control Panels, Solar system  
Security Systems, Industrial Automation, Dairy / Poultry Farms Electrical & Automation,

**R&D Office:** 11 A - Mian Ghulam Qadir Road,  
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## **LEO Corporation Pakistan's R&D Division Offers Customized Electrical Projects & Ideas for Industries & Engineering Students**

**Following Is The List Of Few Electrical Projects & Ideas For Industry & Engineering Students:**

### **Energy Management and Control System**

- 1. Optimum Energy Management System**
  - 2. PC Based Electrical Load Control**
  - 3. Programmable Energy Meter For Electrical Load Survey**
  - 4. Minimizing Penalty In Industrial Power Consumption By Engaging APFC Unit**
  - 5. GSM Based Monthly Energy Meter Billing Via SMS**
  - 6. DTMF Based Load Control System**
  - 7. Integrated Energy Management System Based On GSM Protocol With Acknowledgement Feature**
  - 8. GSM Based Energy Meter Reading With Load Control**
  - 9. Autonomous Energy Meter With Auto Announcement System**
  - 10. GSM Based Energy Meter Reading With Load Control Using PIC Microcontroller**
  - 11. Bluetooth Energy Meter**
  - 12. Electrical Wireless Billing System Through Power Line (230v Ac Line)**
  - 13. Computer Aided Power Flow Analysis**
  - 14. Computer Through Multichannel Electrical Appliances Controlling System**
  - 15. Deregulation Of Energy Sector**
  - 16. Electrical Units (Watt Per Hour) Money Billing Machine**
  - 17. Electrical Units (Watts Per Hour) Billing Machine Cum (Switch Off) Controller For Saving Money**
  - 18. Power Failure Auto Alert Announcement System For Whole Area Electrical Consumers Through Wireless/Power Line Method From EBB Station**
  - 19. Power Grid Control Through PC**
  - 20. Power Grid Devices Monitoring And Controlling System Using GSM Technology**
  - 21. Power House Monitoring Through Radio Frequency**
  - 22. Power Line Through (AC Mains 230V) Street Light ON/OFF Controlling System**
  - 23. Prepaid Card Energy Meter**
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**24. Mobile Technology (GSM) Based Remote Monitoring And Control Of Digital Energy Meter**

**25. RF Transceiver (Zigbee/X-Bee) Based Energy Meter Monitoring System**

## **AC / DC Motor Control Systems**

- 1. Speed Control Unit Designed For a DC Motor**
  - 2. Automatic Star Delta Starter Using Relays And Adjustable Electronic Timer For Induction Motor**
  - 3. Induction Motor Protection System**
  - 4. BLDC Motor Speed Control With RPM Display**
  - 5. Predefined Speed Control Of BLDC Motor**
  - 6. Four Quadrant DC Motor Speed Control With Microcontroller**
  - 7. Four Quadrant DC Motor Control Without Microcontroller**
  - 8. AC/DC Motor Speed Control Through Fiber Cable**
  - 9. DC Motor Speed Control Through Push Switches**
  - 10. DC Motor Speed Control Using Radio Frequency Suitable For Robotic Arm**
  - 11. Bidirectional Rotation Of An Induction Motor With A Remote Control Device**
  - 12. 3 Phase Squirrel Cage Induction Motor Design**
  - 13. Construction & Design Of Three Phase 1 HP Motor**
  - 14. AC/DC Motor Speed Controlling System Through Internet**
  - 15. Micro Stepping Of Uni Polar Stepper Motor**
  - 16. V/F Speed Control Of Three Phase Induction Motor**
  - 17. Variable Frequency Drive**
  - 18. Vector Controlled AC Drive**
  - 19. Speed Control Of DC Motor Using DC Drives**
  - 20. Speed Control Of DC Shunt Motor Using Four Quadrant Chopper**
  - 21. Speed Control Of Universal Motor Using Microcontroller**
  - 22. Reciprocating Motor**
  - 23. Resistive Touch Screen Controlled Contact Less Speed Monitoring And Controlling Of Dc Motor With Speed Limit Alerts**
  - 24. RF Control Of Induction Motors And Other Industrial**
  - 25. Touch Screen Controlled AC Motor Speed Controlling System**
  - 26. Servo Motor Control Using Mobile Phone**
  - 27. Linear Induction Motor (Design & Performance, Analysis)**
  - 28. MOSFET Based Inverter**
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### AC / DC Power Supplies & Multi Level Battery Charger

1. Auto Power Supply Control From 4 Different Sources: Solar, Mains, Generator & Inverter To Ensure No Break Power
2. Programmable AC Voltage Regulator
3. High Frequency Switching DC Power Supply
4. Multi Voltage High Frequency PWM Switching Type Battery Charger

### Data Logging Systems

1. Data Logger For Energy Meter With Time And KWH Readings
2. Eight Channel Data Logger
3. Electrical Data (Voltage, Current, Frequency, Temperature) Logger
4. Electronic Eye Based With Event Logging On PC
5. GPRS Based Real Time Electrical Data Logger on to Live Website With SMS Based Real Time Device Control
6. GSM Based SCADA And 2GB MMC Card Based Data Logger With Real Time Monitoring
7. Energy Meter Data Logging System With Real-Time Clock And KWH Readings
8. Real Time Channel Data Logger
9. Telephone Calls Logger
10. Smart Phone Based Data Logger

### Automation Systems

1. Automatic Control Of Unmanned Rail Gate
  2. Programmable Switching Control For Industrial Automation In Repetitive Nature Of Work
  3. Control System For Modern House
  4. Controller Of Electrical Vehicle
  5. Controlling Of Exhaust Fan Based On Smoke And Gas Intensity In Industries
  6. Home Appliances Control Through PC
  7. Home Automation Through PC
  8. Hotel Power Management Through PC
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- 9. Machinery Access Control System For Illiterates With Image Based Password With Touch Screen**
- 10. Industrial Automation & Monitoring System**
- 11. Industrial Multi Channel Control Through Fiber Optic Cable**
- 12. Infrared Control For PC**
- 13. Intelligent Sauna Bath Control System**
- 14. Touch Screen Based Industry Automation With Door Controlling**
- 15. Real-Time Home/Industry Automation Based On GSM And Wireless Zigbee**

## **Solar System**

- 1. Solar Powered LED Street Light With Auto Intensity Control**
- 2. Solar Power Charge Controller PWM**
- 3. Solar Powered Auto Irrigation System**
- 4. A Novel Wireless Self-Powered Microcontroller-Based Monitoring Circuit For Photovoltaic Panels In Grid-Connected Systems**
- 5. Design And Construction Of Parabolic Solar Reflectors**
- 6. Maximum Power Point Tracking MPPT Charge Controller**
- 7. Solar Cell Voltage Generation With Auto Tracking**
- 8. Solar Tracking System**

## **Electronic Control Systems**

- 1. Ultra Fast Acting Electronic Circuit Breaker**
  - 2. High Voltage DC Up To 2kv From AC By Using Diode And Capacitors In Voltage Multiplier Circuit**
  - 3. Three Phase Fault Analysis With Auto Reset On Temporary Fault And Permanent Trip Otherwise**
  - 4. Touch Controlled Load Switch**
  - 5. Time Delay Based Relay Operated Load**
  - 6. Power Saver For Industries & Commercial Establishments**
  - 7. Mains Operated LED Light**
  - 8. Step Up 6 Volt DC To 10 Volt DC Using 555 Timer**
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- 9. Auto Selection Of Any Available Phase, In 3 Phase Supply System**
- 10. Artificially Detect The Several Grade Pupils And Segregate The Electrical Loads To Switch ON/OFF**
- 11. Feeder Protection From Over Load**
- 12. Electronic Power Generator Using Transistor**
- 13. Protection Of 3 Phase Induction Motor**
- 14. Design And Construction Of Earth Fault Relay For Single Phase Power System**
- 15. Temp Based Speed Control Of Exhaust Fan Using TRIAC**
- 16. Radio Frequency Remote Control Board (Control Eight Relays)**

### **Testing & Monitoring Systems**

- 1. Underground Cable Fault Distance Locator**
  - 2. Detecting Power Grid Synchronization Failure On Sensing Frequency Or Voltage Beyond Acceptable Range**
  - 3. Phase Sequence Checker For Three Phase Supply**
  - 4. 3 Phase Analyzer**
  - 5. An Online Monitoring System Of Temperature Of Conductors And Fittings Based On GSM SMS And ZigBee**
  - 6. Contactless Techo Generator**
  - 7. Electrical Instrument Or Electrical Appliances Watts Efficiency Calculator**
  - 8. Frequency Locked Loop (FLL) Motor Speed Monitoring And Control System**
  - 9. Heart Beat Monitor With Wave On LCD(PIC Based)**
  - 10. Inductance, Capacitance And Frequency Meter**
  - 11. Four Channel Fault Annunciation For Industries**
  - 12. Gas Leakage Detector & Auto Dialing Controller System**
  - 13. Generator Power O/P Important Load Sharing System**
  - 14. Mainline Wire Identifier For Phase Or Neutral Or Earth**
  - 15. Measurement Of Electrical Parameters**
  - 16. Measurement Of Inrush Current In Transformer**
  - 17. Multi Channel Voltage Scanner**
  - 18. Method Of Measuring Power Quality And Development Of Monitor Device**
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**19. Water Level Indicator On LCD**

**20. Patient Monitoring System**

**21. Hall Effect Sensor Based Non-Contact Tachometer For Electrical Motors Speed Measurement**

**22. Multi Core Cable Tester**

**23. Remote Monitoring And Alarm On PC Using Radio Link**

## Wireless Control Systems

**1. Wireless Power Transfer**

**2. AC Power Line (Mains 230v) Through All Industrial Electrical Appliances Working Status (On/Off) Indicating System By Wireless**

**3. Advanced Wireless Industrial Automation System Based On Bluetooth**

**4. Bluetooth Based Security Enabled Powered Devices Control System**

**5. Checking & Auto Control Water Level Using Wireless Sensor**

**6. Energy Tapping Identifier Through Wireless Data Acquisition System**

**7. Satellite Dish Positioning Control By IR Remote**

**8. Wireless (Power Line Through 230V AC Mains) HT Transformer Servicing System**

**9. Wireless 230v AC Power Line Electrical Appliances Controlling System**

**10. Wireless 3 Phase Motor Starter Using RF Technology With Feedback Indicators**

**11. Wireless AC/DC Motor Speed Controlling System**

**12. Wireless Auto Railway Traffic Signaling Cum Automatic Gate Close/Open System**

**13. Wireless Motor Taco Reading With Voice Communication**

**14. Wireless Multipoint Voltage Reading System**

**15. Wireless Power Theft Monitoring With Automatic Circuit Breaker System And Indication At Local Substations**

**16. Wireless Taco meter For One More Motors**

**17. Working Model Of Solar Power Plant**

**18. Zigbee Based Power Management System**

**19. Head Movement Based Voice Enabled Wireless Device Switching For Physically Challenged**

**20. ON/OFF Program Time Changing For Electrical Appliances By Wireless Method**

**21. Multi/Single Storage Tank Wireless Liquid Level Indicator Cum Wireless Suction Motor/Inlet Motor Controlling System**



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### Cellular, Phone Line, Android Based Control System

1. Diesel/Gas Generators Monitors and Control Thru GSM Cell Phone
  2. Body Temperature Reading Cum Controlling System Thru GSM Cell Phone
  3. Industrial AC/DC Motor Speed Controlling System Thru GSM Cellular Phone
  4. Home Electrical Appliances Remotely Control Thru GSM Cellular
  5. 3 Phase Irrigation Water Pump Controller For Illiterates Using Dual GSM Modems
  6. Android Based Real Time Lamp Dimmer Over Bluetooth
  7. Android Operated Intelligent 230v AC Lamp Dimmer
  8. DTMF 3-Phase Irrigation Control With Feedback
  9. Dual GSM Modems Based Irrigation Water Pump Controller For Illiterates.
  10. Automatic Toll Tax With Voice Using GSM IVRS
  11. Home Automation Controlling Thru GSM/Land Line
  12. Home Monitoring System Thru GSM/Land Line
  13. Google Android Smart Phone Operated Motor & Control System.
  14. Embedded To Embedded Data Communication/Machine Controlling Through Walkie Talkie/Telephone/Cell Phone/Fiber Optic Cable
  15. Embedded To PC Data Communication/Machine Controlling Through Walkie Talkie/Telephone/Cell Phone/Fiber Optic Cable
  16. High Power LED Based Intelligent Streetlight Controlling System With GSM Based Vehicle Counter.
  17. Intelligent Irrigation Water System Controlling System With GSM Technology And Soil Moisture Sensor
  18. Industrial Appliances Monitoring And Controlling System Using GSM With Fencing Auto Alerts
  19. Telephone Line Or Cell Phone Line Through Remote Electrical Instrument Servicing/ Minor Repair Attending System.
  20. Telephone Line Through AC/DC Motor Speed Controlling System
  21. Telephone Line Through Automatic Gas Cylinder/Travel Ticket/Any Booking System
  22. Telephone Line Through Remote Electrical Appliances ON/OFF Indicator Cum Controller
  23. Multichannel Electrical Appliances Controlling ON/OFF System Through Internet (Remote Control)
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**24. IVRS System For Industrial Control**

**25. PC To PC Fiber Optic Communication**

**26. PC To PC Laser Communication**

### PLC & Microcontroller Based Systems

- 1. Microcontroller Based Code Lock With Security Telephone Dialer**
- 2. Microcontroller Based Control Of Any Electrical Machine**
- 3. Microcontroller Based Differential Protection Of Transformer**
- 4. Microcontroller Based Digital Energy Meter**
- 5. Microcontroller Based GSM Controlled Switch With Voice Loads**
- 6. Microcontroller Based Security Dial Up With Event Logging To PC**
- 7. Microprocessor Based Power Factor Measurement & Control**
- 8. Microprocessor Based Speed Control Of Induction Motor**
- 9. PIC LCF Meter**
- 10. PLC Based Boiler Control System**
- 11. PLC Based System**
- 12. Power Factor Correction Using Microprocessor**
- 13. Programmable Logic Controller (PLC)**

### Security Systems

- 1. Intelligent Train Security System And Auto Controlling**
  - 2. Wearable Technology Based Secure Access Control System With Motion Based Password For Industrial Automation**
  - 3. Security Integrated System Based On Wireless Access Protocol For Industrial Applications With SMS Alert System Using GSM Modem**
  - 4. Self-Monitored Industrial Appliance Monitoring System And Remote Data Acquisition**
  - 5. Six Channel Petrochemical Fire Monitoring & Control Station**
  - 6. SMS Based DC Motor Speed Controller With Password Protection**
  - 7. Speech Recognition Based Password Enabled Industrial Devices Switching**
  - 8. Finger Print And Keypad Based Industrial Security Access Control System**
  - 9. MMC/SD Key Security System For Industrial Machinery Access**
  - 10. Auto Answering With Security Dial-Up**
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### Robotics

1. Battery Operated Motorized Wheel Chair For Handicaps
2. Motorized Wheel Chair
3. Voice Activated Multipurpose Robot
4. Hall-Effect Sensor Based Wheel Chair Movement Control Using Tongue
5. Omni Directional Robot With GSM Connectivity For Remote Access
6. Using Mobile Robots To Harvest Data From Sensor Fields
7. Speech Recognition Based Wheel Chair With Elevated Features

For More Technical Details Please Contact: 0322-222-7799

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