

Dhanbad Instruments LLP is in ISO 9001:2008 certified company. We are leading provider of Electrical & Electronics Engineering Lab products in East India. We have entire range of solution for Electrical & Electronics Engineering. For any kind of solutions related to EE Engineering please feel free to contact us.

1. Control System Lab

1. PID Simulator
2. PID Simulator
3. PID Controller Kit (Model Process)
4. ON/OFF Temperature Controller (Indicator cum controller)
5. Stepper Motor Controller Trainer
6. Potentiometer as Error Detector
7. Synchro Transmitter Receiver Pair
8. Study of Compensation Network
9. Magnetic Amplifier
10. Variac 2 Amps Single Phase
11. AC Ammeter (Rectifier Type) 0-1A (Internal Shunt) (With current transformer)
12. AC Ammeter (Rectifier Type) 0-5A (Internal Shunt) (With current transformer)
13. DC voltmeter 0-300V (Internal Shunt)
14. AC Voltmeter (Rectifier Type) 0-150V (Internal Shunt)
15. DC Regulated Power Supply Dual Channel (with four digital panel meters) 0- + 30VDC/2 Amps with fixed 5V/3.3V output
16. Rheostat 50 Ohms / 5 Amps (Double Tube)
17. Rheostat 250 Ohms / 3 Amps
18. Magnetic Amplifier (Series & Parallel connection of
19. Megnetic Amplifier) Magnetic Amplifier (Positive & Negative Feed Back)
20. DC Voltage Regulator as a Closed Loop System
21. Relay Control System
22. Measurement of water level using strain guage
23. Educational Analog Computer
24. Light Intensity Control
25. PLC Trainer Demonstration Unit
26. Linear System Simulator (Open Loop & Close Loop system of first order & Second order Systems)
27. AC Synchro : Transmitter & Receiver Demons. Unit
28. Position control of DC servo system with Lead / Lag compensator in the loop.
29. Pneumatic system (Pneumatic Trainer)
30. Stepper motor control using 8-bit Microprocessor
31. PID control of thermal / temperature control system.
32. PID Controller Kit (Model Process)



2. Network Lab

- a. Network Theorems Trainer (Superposition, Norton's, Thevinin's, Maximum Power)
- b. Superposition Theorem Trainer
- c. Norton's Theorem Trainer
- d. Thevinin's Theorem Trainer
- e. Maximum Power Transfer Theorem Trainer
- f. Reciprocity Theorem Trainer
- g. Tellegan's Theorem Trainer
- h. Millman's Theorem Trainer



3. Power System And Switchgear & Protective Lab

- a. Microcontroller based IDMT/DMT type over current relay study trainer.
- b. Electro mechanical over current relay study trainer (IDMT/DMT)
- c. Microcontroller based over/under voltage relay study trainer (IDMT/DMT).
- d. Electro mechanical type over voltage relay study trainer (DMT/IDMT).
- e. Electro mechanical type under voltage relay study trainer (DMT/IDMT).
- f. Microcontroller based over/under frequency relay study trainer.
- g. Microcontroller based earth fault relay study trainer.
- h. High voltage at transmission line analysis.
- i. FACTS Study trainer.
- j. Bucholtz relay study trainer.
- k. AC transmission line analyser.
- l. DC Network analyser.
- m. Electro mechanical type
- n. Measurement of Earth Resistance by earth tester
To determine positive, negative and zero sequence impedance of three phase transformer/three-phase induction motor
- o. To determine dielectric strength of insulation oil
- p. Power Factor control of a system excited by single-phase supply
- q. To determine phase-sequence of three-phase circuit using RC and Two Lamp method
- r. Simulation of DC distribution by network analysers
- s. To draw the characteristics curves of percentage biased differential relay for various current setting and bas setting
- t. Study & testing of static type Over, under Voltage relay test kit
- u. To determine generalized constants A,B,C and D of a given system
- v. Study of different type of insulators, Conductors



4. Electrical Lab Training Modules

- a. Anderson Bridge with inbuilt Digital Null Detector, Sinewave Oscillator etc.
- b. Schering Bridge with inbuilt with Digital Null Detector, Sinewave Oscillator etc
- c. Maxwell Inductance Bridge with inbuilt Digital Null Detector, sinewave oscillator etc
- d. Weins Bridge (Capacity Measurement) with inbuilt Digital Null Detector, Sinewave Oscillator etc.
- e. Weins Bridge (Frequency Measurement) with Digital Null Detector and Audio Frequency Function Generator 1Hz-200Khz, etc.
- f. Desauty Bridge with inbuilt Digital Null Detector, Sinewave Oscillator etc.
- g. Hay's Bridge with inbuilt Digital Null Detector, Sinewave Oscillator etc.
- h. DC Machine with Loading Arrangements
- i. Load Test on a DC shunt generator
- j. 3 Phase AC Machine With Loading Arrangement
- k. 3 Phase Induction Motor
- l. Single Phase Transformer
- m. Alternator
- n. Repulsion Motors
- o. Slip Ring Induction Motor
- p. Squirrel Cage Induction Motor Squirrel Cage Induction Motor
- q. DC Shunt Generator No Load Tests On DC Shunt Generator Open Circuit Test
- r. Auto Transformer



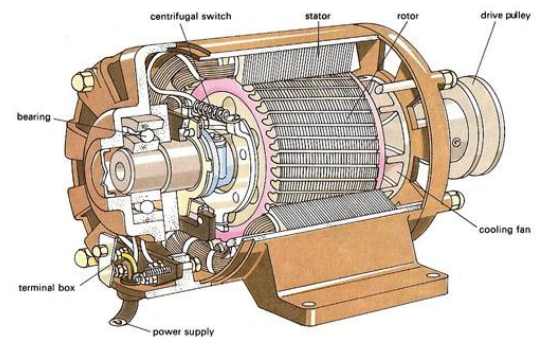
5. Power Electronics

- a. Light intensity control using SCR & Triac
- b. SCR Firing Circuits
- c. SCR Commutation Techniques
- d. Phase control using Triac
- e. Switching Action of a BJT
- f. Switching Action of a FET
- g. Thyristor firing circuit kit (UJT controlled SCR Time Delay)
- h. Zero Voltage Switching using SCR
- i. Step up chopper
- j. SCR single phase Half wave, Full wave, Fully Controlled Bridge Rectifier / Converter
- k. DC Motor Control using SCR's (with tachometer)
- l. Three phase fully controlled converter
- m. Single phase cycloconverter
- n. SMPS Trainer Kit
- o. Jone's Chopper
- p. Morgan's Chopper
- q. Series inverter using SCR's
- r. Parallel inverter using SCR's
- s. Single phase inverter (using power mosfet)



6. Power Engine and Machines

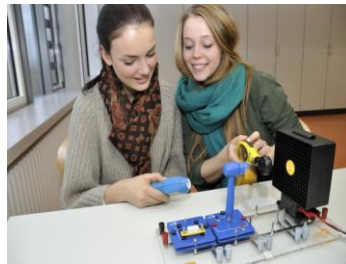
- a. Throttling Calorimeter
- b. Two cylinder Steam Engine Module
- c. Two Stage Air Compressor Module
- d. Single Stage Compressor Module
- e. Two Stage Piston Compressor Unit
- f. Air Compressor Test Unit
- g. Two Shaft Gas Turbine Jet Engine
- h. Two Shaft Gas Turbine
- i. Jet Turbine Module
- j. Two Shaft Gas Turbine Simulator
- k. Steam Generator Module
- l. Steam Turbine Module
- m. Steam Generator
- n. Steam Power Plant
- o. Cooling Tower





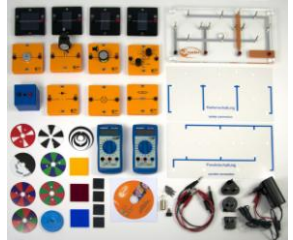
7. Renewable Energy Lab

a. leXsolar-Wind



This system provides you with all the answers you need concerning the basics of using wind energy. With the help of curriculum-based trials, it discusses different topics, which are necessary for understanding the functions of wind power plants. The study of how wind force, wind direction or rotor type influences the power output are only some examples of possible experiments. Both qualitative experiments for students from age of 11 through 13 and complete quantitative trials for physics lessons until the age of 19 are described in detail.

b. leXsolar-Photovoltaic



The name says it all: this fully equipped experiment system can be used wherever you are without further components. This kit already includes all necessary ancillary equipment, like measuring equipment, and is delivered in an aluminum case with heavy-duty foam inserts. The scope of experiments ranges from simple trials that show the basic characteristics of the solar energy, to more challenging experiments dealing with topics like IV characteristics or temperature dependency of solar cells.

c. leXsolar-SmartGrid



The leXsolar-SmartGrid Small melds solar energy, wind energy and storage possibilities into one product. That is why students from elementary school up to an age of 13 years are able to acquire knowledge about the basics and applications of these technologies. Another strength of the product is its curriculum-based themes of energy and energy conversion for experiments. The product requires no external voltage source ? neither a power supply nor a battery. Students will generate the required energy with a hand generator and crank.