

ZEALTECH WORKBENCH™ BASED LAB INFRASTRUCTURE ML SERIES

MACHINES LAB INFRASTRUCTURE FOR STUDY OF
AC MOTORS | DC MOTORS | TRANSFORMER | ALTERNATOR - GENERATOR



Complete Infrastructure Solution covering the Machines Lab requirement of
EEE, ECE and MECHANICAL Engineering Branches



- ✓ Intuitive Design
- ✓ Rugged and Reliable
- ✓ Effective Teaching / Learning
- ✓ Low noise / vibration
- ✓ Complete Lab Solution
- ✓ Single point support

ZEALTECH
WORKBENCH

ZTWBML01: SINGLE PHASE TRANSFORMER EXPERIMENTAL SETUP

Workbench-Poly Carbonate front panel with mimic diagram consists of AC MCB, Fuses, Supply Indicators, Push Button, Rotary Switches, BTI-30 terminals, Digital Voltmeters and Ammeters, Loading rheostat setup with Work Center, Storage drawer with telescopic arrangement with lock, Patch cords and Spare fuse holders



ZTWBML02: THREE PHASE TRANSFORMER EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of AC MCB, Fuses, Supply Indicators, Push Button, Rotary Switches, BTI-30 terminals, Digital voltmeters and Ammeters, 3 Phase loading rheostat setup with Work Center, Storage drawer with telescopic arrangement with lock, Patch cords, Spare fuse holders

ZTWBML03: DC SERIES MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCB, Fuses, Supply Indicators, Push Button, 2 Point starter, RPM Meter, BTI-30 terminals, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer with telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: DC series motor - 3HP / 220V / 1500rpm
Option 2: DC series motor - 5HP
 with mechanical loading arrangement with scale and friction belt for Torque measurement

ZTWBML04: DC SHUNT MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCB, Fuses, Supply Indicators, Push Button, 3 Point starter, RPM Meter, BTI-30 terminals, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: DC Shunt motor - 3HP / 220V / 1500rpm
Option 2: DC Shunt motor - 5HP
 with mechanical loading arrangement having scale and friction belt for Torque measurement



ZTWBML05: DC COMPOUND MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCB, Fuses, Supply Indicators, Push Button, 4 Point starter, RPM Meter, BTI-30 terminals, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: DC Compound motor - 3HP / 220V / 1500rpm
 with mechanical loading arrangement having scale and friction belt for Torque measurement
Option 2: DC Compound motor - 5HP with mechanical loading arrangement having scale and friction belt for Torque measurement



ZTWBML06: DC SHUNT MOTOR - SHUNT GENERATOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCBs, Fuses, Supply Indicators, Push Button, Rotary Switches, 3 Point starter, RPM Meter, BTI-30 terminals, Loading rheostat, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: DC shunt motor - 3HP/220V/1500 rpm coupled to DC shunt generator 1.8KW/220V/1500RPM with powder coated base and coupling
Option 2: DC shunt motor - 5HP coupled to DC shunt generator 3.5KW with powder coated base and coupling

ZTWBML07: DC SHUNT MOTOR - COMPOUND GENERATOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCBs, Fuses, Supply Indicators, Push Button, Rotary Switches, 3 Point starter, RPM Meter, BTI-30 terminals, Loading rheostat - 12 Steps, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: DC shunt motor - 3HP/220V/1500 rpm coupled to DC compound generator 1.8KW/220V/1500RPM with powder coated base and coupling
Option 2: DC shunt motor - 5HP coupled to DC compound generator 3.5KW with powder coated base and coupling

ZTWBML08: DC SHUNT MOTOR - SERIES GENERATOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCBs, Fuses, Supply Indicators, Push Button, Rotary Switches-12 nos, 3 Point starter, RPM Meter, BTI-30 terminals. Loading Rheostat, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: DC shunt motor - 3HP/220V/1500 rpm coupled to DC series generator - 1.8KW/220V/1500 rpm with powder coated base and coupling
Option 2: DC shunt motor - 5HP coupled to DC series generator - 3.5KW with powder coated base and coupling

ZTWBML09: SINGLE PHASE SQUIRREL CAGE INDUCTION MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of AC MCB, Fuses, Supply Indicators, Push Button, RPM Meter, Digital Voltmeter and Ammeter, BTI-30 Terminals with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

2HP/230V/1440 RPM/50 Hz/1 phase squirrel cage induction motor with mechanical loading arrangement having scale and friction belt for Torque measurement


ZTWBML10: THREE PHASE SQUIRREL CAGE INDUCTION MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of, AC MCB, Fuses, Supply Indicators, Push Button, RPM Meter, BTI-30 Terminals, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

3HP/415V/1500RPM/3 phase squirrel cage induction motor with mechanical loading arrangement having scale and friction belt for Torque measurement

ZTWBML11: THREE PHASE SLIP RING INDUCTION MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of AC MCB, Fuses, Supply Indicators, Push Button, RPM Meter, BTI-30 Terminals, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: 3HP/415V/1500RPM/3 phase slip ring induction motor
Option 2: 5HP - 3 phase slip ring induction motor

with mechanical loading arrangement having scale and friction belt for Torque measurement


ZTWBML12: THREE PHASE AUTO SYNCHRONOUS MOTOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of AC MCB, DC MCB, Fuses, Supply Indicators, Push Button, RPM Meter, BTI-30 Terminals, Digital Ammeter and Voltmeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

3HP/415V/1500RPM /3Phase auto synchronous motor (alternator converted as synchronous motor) with mechanical loading arrangement scales and friction belt for Torque measurement

ZTWBML13: SHUNT MOTOR - ALTERNATOR EXPERIMENTAL SETUP

Workbench - Poly Carbonate front panel with mimic diagram consists of DC MCB, AC MCB, Fuses, Supply Indicators, Push Button, Rotary Switches, 3 Point Starter, RPM Meter, BTI-30 Terminals, Loading Rheostat, Digital Voltmeter and Ammeter with Work Center. Motor mounting platform - Metal stand with cold rolled steel tube structure. Storage drawer - telescopic arrangement with lock, Digital RPM Indicator with optical sensor, patch cords and spare fuse holders

Option 1: 3HP/220V/1500RPM DC shunt motor coupled to 2KVA/3 Phase/415V/50Hz Salient pole alternator with powder coated base and coupling.
Option 2: 7HP DC shunt motor coupled to 5KVA Salient pole alternator with powder coated base and coupling.
 Cylindrical option also available

ACCESSORIES FOR THE LAB

- Single phase transformers (2 KVA, 230-115V, Air Cooled)
- Single phase auto transformers -
 Variac Input : 1 phase /230V / 50Hz AC,
 Output : 1 phase / 0 - 250V / 10 Amps AC
- Wattmeter LPF (0 - 300V), 5/10A
- Wattmeter LPF (0 - 150/300V), 1/2 A
- Wattmeter UPF (0 - 300/600V), 5/10A, 3 Phase
- Wattmeter UPF (0 - 75/150/300V), 2.5/5A
- 3 Phase auto transformer with motorized dimmer 415V/10A
- Field Rheostat 360 Ohms/1.5A
- Field Rheostat 700 Ohms/1.5A
- Armature Rheostat 50 Ohms/5A
- 3 Phase transformer 3 KVA /415V,
 separate termination for both primary and secondary



DC AND INDUCTION MOTOR STARTERS

- Three point starter
- Four point starter
- Synchronous Starter
- Fully automatic star-delta starter
- DOL starter
- Rotor Resistance starter



About Zealtech : Zealtech Electromec India Private Limited (ZEALTECH) is a company with a clear vision and well defined mission to address the need arising out of the paradigm shift in the higher education sector, engineering education in particular. Zealtech offers complete solution to meet the range of Lab requirements for an institution in the field of Electrical Sciences. The labs are designed in such a way that the needs of different circuit branches such as EEE, ECE, E&I, Computer Science and IT branches can be effectively managed with the infrastructure which increases the resource utilization and reduces the total cost of ownership. Call us for a personal discussion to understand how this is achieved. Lab Infrastructure offering from Zealtech include, Zealtech Workbench SE (Standard Edition) caters to devices, circuits, and Linear Integrated circuits labs. Zealtech Workbench LE (Lite Edition) targeted at Digital and communication labs. Zealtech Workbench AL (Advance Learning) covers the lab requirements for Microprocessors, Microcontrollers, VLSI, DSP, Biomedical lab requirements. Besides Zealtech also offers solutions for power electronics, Microwave and Fiber optic Communication labs. Zealtech Workbench based Project Labs are labs built and delivered with all requisite tools both hardware and software to provide a in house infrastructure for the students to do their mini-project and final year projects themselves from scratch. Zealtech ELS software is a web based application that supports the learning process in the Zealtech workbench based labs.