

Electromechanical Relays Workbench

Introduction

An integrated workbench consisting of instrument panel and working table with drawers is appropriate for users to learn and perform various experiments over electronics and electrical related subjects. Structure of workbench made up of 38 x 38 x 1.5 mm CRC powder coated pipes with top made up of good quality 19 mm thick plywood and covered with 1.8 mm off white/ivory color mica. There will be a MS drawers with separate lock on each drawer has been offered. The bench working area is covered by 2 mm thick antistatic mat.

Control Board Details

The protection of electrical system is required to maintain any device in operation without failure. There are various types of protective devices used in Power Systems. The knowledge of protective devices helps to use them smartly and avoid system breakdown.

Electromechanical Relays Workbench is a useful learning product for electrical Power Laboratories. Over Current Relay monitors general balanced overloading and have current/time settings. These settings determine the protective schemes. The Earth Fault Relay detects the leakage current well before they cross threshold limit.



The Different Relay operates due to differential current flowing in the circuit. When current between two sections vary from a known and permissible value, the relay gets tripped and protects the connected device.

The relays have different tripping time characteristics with different current conditions. These are classified in accordance with their characteristic curves which indicate the speed of tripping operation. The typical settings for relay are 0.5-2 Amp. It is an ideal platform to enhance education, training, skills & development amongst our young minds.

Product Features

- Alstom Make Electromechanical relay to understand internal mechanism and its working
- Inbuilt automatic timer
- Microcontroller based digital measuring instruments for better accuracy
- Inbuilt Current & Voltage Source
- Diagrammatic representation of relay connection in transmission line
- Exclusive and attractive design
- Designed by considering all the safety standards
- Front board consist of MS Material with power coating / epoxy paint to avoid any rust
- Separate auxiliary supply to actuate digital measuring devices
- Provided with suitable protection such as fuses, MCB, etc wherever requires
- Specially designed BS10 Terminals and patch cords for electrical safety
- Equipped with supply indication lamps
- Earthing screw provided at the back side of the control set-up
- Control panel using standard BS-10 terminal to eliminate electrical shock
- Product should be provided with protection fuses, colored patch cords, single phase cords, User's manual having theory operating procedure with connecting diagram, FAQ, Glossary, etc

Technical Specifications

Mains Supply : 230V ±10%, 50Hz

Single Phase Variac

- Input : 230V
- Output : 0 - 270V
- Current : 0 - 5A

Over Current Relay

- Type : Inverse Time
- Normal Voltage : 110V AC, 50Hz
- Current Setting : 0.5A, 0.75A, 1A, 1.25A, 1.50A, 1.75A and 2A

Earth Fault Relay

- Type : Electromechanical Inverse Time
- Normal Voltage : 110V AC, 50Hz
- Plug Setting : 0.5A, 0.75A, 1.0A, 1.25A, 1.50A, 1.75A and 2A

Over Voltage Relay

- Normal Voltage : 110V AC, 50Hz
- Voltage Setting : 121V, 126.5V, 132V, 137.5V, 143V, 148.5V, 154V
- Contacts : 2 N/O, 1 N/C

Under Voltage Relay

- Normal Voltage : 110V AC, 50Hz
- Voltage Setting : 44V, 51.3V, 58.6V, 65.9V, 73.2V, 80.5V, 88V
- Contacts : 1 N/O, 2 N/C

Differential Relay

- Type : Differential Relay (Fixed Biasing)
- Normal Voltage : 110V AC, 50Hz
- Current Setting : 0.2A TO 0.8A

Digital Measurement

- Voltmeter : 300V (2Nos.)
- Ammeter : 10A (2Nos.)
- Timer : 10mSec - 90min
- Current Source : 1No (2Nos.)
- Voltage Source : 1No (2Nos.)

Rheostat

: 100Ohm, 5A

Protective Devices

- Three Phase MCB (TPN) : 1 No.
- Single Phase MCB (DP) : 2 Nos.
- Glass Fuses : 9 Nos.
- Grounding Nut : Available at the rear side of the panel

Interconnections

: 4mm BS-10 Safety Terminals

Experiments Can be performed:

- To study and use plug setting multiplier
- To study the importance of relays in power system
- To study the operating Characteristics of
 - Over-Current Relay at various plug & time settings
 - Earth Fault Relay with different plug setting
 - Over Voltage Relay with different plug settings
 - Under Voltage Relay with different plug settings
 - Differential Relay with different plug setting

Supporting Accessories supplied with Product

- Patch Cords of different color scheme
- Single Phase Mains Cord
- Extra Glass Fuses
- Operating Manual (softcopy)

****Please feel free to share your queries or requirements by filling your details in ask query section or request a Quote section on the website, we will be happy to cater your requirement.**