



## Feeder Control Panel & Transformer Testing Training System (1 kVA)

### Introduction

The Feeder Control Panel & Transformer Testing Training System is a comprehensive educational setup designed to study distribution feeder behavior and transformer performance. The system enables students to perform practical tests such as detection of loose connections, winding faults, and short circuits using voltage and current measurements. It also facilitates transformer impedance testing, load testing, and insulation resistance measurement using a Megger.

This setup provides hands-on experience in analyzing feeder characteristics and transformer efficiency in a controlled laboratory environment.

### Training Objectives

- To study characteristics of distribution feeders
- To detect loose connections and short circuit faults
- To identify winding faults in transformers
- To perform transformer impedance and load tests
- To measure insulation resistance using Megger
- To analyze voltage regulation and efficiency of transformers

### System Description

The system consists of a 1 kVA transformer integrated with a control panel equipped with measuring instruments and protection devices. The panel allows safe testing and monitoring of electrical parameters during feeder and transformer analysis.

### Key Features

- Compact and rugged control panel design
- Integrated transformer testing facility

*Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.*



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- Multiple metering points for accurate measurement
- Provision for fault simulation and analysis
- Built-in safety features and protection system
- User-friendly layout for easy operation and connections

## System Components

### Transformer Unit

- Rating : 1 kVA
- Type : Three Phase Transformer
- Application : Feeder and load testing

### Control Panel Section

- Three Phase Power Supply Input
- Panel-mounted instruments and control elements
- Proper terminal connections for safe operation

### Measurement Section

- **AC Voltmeters** : 3 Nos.
- **AC Ammeters** : 2 Nos.
- **Megger (Insulation Resistance Tester)** : 1 No.

### Power Supply

- Three Phase AC Supply
- Suitable input terminals with protection

## Technical Specifications

### Input Supply

- Voltage : 415 V AC  $\pm 10\%$
- Frequency : 50 Hz

### Transformer Rating

- Capacity : 1 kVA

## Functional Requirements / Experiments

- Study of distribution feeder characteristics
- Detection of loose connections using voltage drop analysis
- Identification of short circuits and winding faults

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- Transformer impedance testing
- Load testing and performance evaluation
- Insulation resistance measurement using Megger
- Analysis of voltage regulation and efficienc



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