



TRAINING EQUIPMENT CATALOGUE

Three Phase Squirrel Cage Induction Motor Training System with Soft Starter

Introduction

The Three Phase Squirrel Cage Induction Motor Training System with Soft Starter is an advanced and industry-oriented training setup designed for electrical laboratories. It enables students to understand the construction, working principles, and controlled starting techniques of a three-phase squirrel cage induction motor.

The system is equipped with a built-in Soft Starter, allowing smooth acceleration of the motor by limiting starting current and reducing mechanical stress. The panel is designed with a simple and user-friendly layout, enabling students to perform connections independently and safely.

Note: Shown image is for illustration purposes only. Actual product may vary.

Training Objectives

- To understand the construction and working of three-phase induction motors
- To study the principle and operation of soft starters
- To analyze controlled motor starting techniques
- To observe reduction in inrush current and mechanical stress
- To evaluate motor performance during gradual acceleration

Key Features

- Integrated control with built-in Soft Starter
- Digital microcontroller-based measuring instruments
- Screen-printed symbols, circuit diagrams, and graphics for easy understanding
- Standard BS-10 terminals with patch cords for electrical safety

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



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- Copper-wound motor for long operational life
- Class "F" insulation for enhanced durability
- Standard mechanical loading arrangement
- Tabular spring balance arrangement for load measurement
- Heavy-duty MS channel base with provision for concrete mounting
- Brake drum/pulley with internal heat suppression facility
- Equipped with supply indication lamps
- Smooth and controlled motor starting capability

System Components

Three Phase Induction Motor

- Type : Squirrel Cage
- Power Rating : 1 HP
- Voltage Rating : 415 V AC $\pm 10\%$, 50 Hz
- Current Rating : As per standard
- Speed : 1440 RPM $\pm 10\%$
- Insulation : Class 'F'

Soft Starter Unit

- Power Rating : 1 HP
- Input Voltage : 380 V AC $\pm 10\%$, 50 Hz
- Output Voltage : 0 – 415 V AC $\pm 10\%$
- Starting Method : Controlled voltage ramp-up
- Direction Control : Forward / Reverse (CW & CCW)
- Function : Reduces starting current and mechanical stress

Loading Arrangement

- Type : Mechanical loading
- Brake Drum / Pulley : MS / Aluminum cast with heat suppression facility
- Spring Balance : 2 Nos.

Machine Base

- Material : MS "C" Channel
- Construction : Heavy-duty with suitable interconnections

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Measuring Instruments

- **AC Voltmeter** : 0 – 500 V
- **AC Ammeter** : 0 – 10 A

Technical Specifications

Mains Supply

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

Protection Devices

- MCB (TPN) : 10 A
- Glass Fuse : 10 A

Scope of Learning / Experiments

- Study of three-phase squirrel cage induction motor
- Understanding fundamentals and working principles of soft starter
- Controlled starting of induction motor using soft starter
- Observation of reduction in starting current
- Analysis of reduction in mechanical stress
- Performance evaluation during gradual acceleration

Supporting Accessories Supplied

- Patch cords with different color schemes
- Single-phase and three-phase mains cords
- Extra glass fuses
- Learning material manual (soft copy)

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