

WSM-1

Electric Machine Experiment Trainer



Introduction

- The equipment consists of a DC machine, a single induction motor, a slip ring motor, a universal motor and brake. According at connection, a DC machine can be used a shunt motor and generator, a compound motor and generator or series motor and generator.
- A single Induction Motor can be used as a condenser and split-phase motor and a slip-ring motor can be used as a synchronous machine and a wound induction motor. In addition, an universal motor can be used both as a DC and AC and a Brake can be used both as a brake and a Dynamo-Meter.
- According at assemble method, this equipment can be used for a DC, induction or synchronous machine experiment.

Experiment

■ Induction motor

- Starting experiment of the three phase induction motor
- Y- Δ starting of three phase squirrel cage induction motor
- Forward / Reverse operation of three phase induction motor
- Slip measurement of the three phase induction motor
- Load experiment of the three phase induction motor
- Forward / Reverse operation of the single phase induction motor
- Characteristic experiment of the single induction motor
- Operation of universal motor
- Power factor of the three phase induction motor
- Rotor characteristic of the three phase wound-rotor motor

■ Synchronous machine

- Non-load & load experiment of the synchronous generator
- Starting method of the synchronous motor
- Phase and load characteristic experiment of the synchronous

■ DC Motor

- Starting method of the DC shunt motor
- Non-load experiment of the DC shunt generator
- Load experiment of the DC shunt & compound generator
- Load experiment of the DC shunt & compound motor
- Efficiency measurement of DC shunt motor by loss separation method
- Forward / Reverse operation method of DC motor

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Specification

■ Main Controller

- Main Voltage : 3 Phase 220V / 50/60Hz (380V / 415V - Selective)
- Power Supply Block
- Speed & Torque Meter Block
- DC & AC Digital Meter Block
- Motor Assemble Frame
- Variable Resistor & Motor Switch Block
- Main Switch Block
- Safety Cover & Speed Detector

■ Working Table & Frame

- Working Table
- Module Frame & Motor Cabinet
 - Frame : 2 Step

■ Electric Machine

- | | |
|---|--|
| ■ WSM-M1
3 Phase Induction Motor <ul style="list-style-type: none">- Input Voltage : 3 Phase 220V- 360W (1/2Hp) | ■ WSM-M2
3 Phase Wound / Synchronous Motor <ul style="list-style-type: none">- Input Voltage : 3 Phase 220V- 360W (1/2Hp) |
| ■ WSM-M3
1 Phase Condenser Motor <ul style="list-style-type: none">- Input Voltage : 1 Phase 220V- 360W (1/2Hp) | ■ WSM-M4
1 Phase Split Phase Starting Motor <ul style="list-style-type: none">- Input Voltage : 1 Phase 220V- 360W (1/2Hp) |
| ■ WSM-M5
Universal Motor <ul style="list-style-type: none">- Input Voltage : AC / DC | ■ WSM-M6
DC Compound Motor <ul style="list-style-type: none">- Input Voltage : DC 200V- 360W (1/2Hp) |
| ■ WSM-M7
Dynamometer <ul style="list-style-type: none">- Excitation Voltage : DC 0 ~ 200V- Eddy Current Type of Squirrel Cage Motor | |

■ Experimental Module

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|---|--|
| ■ WSM1-01
- Load Resistor Module of DC Generator | ■ WSM1-02
- Load Resistor Module of 3 Phase Generator |
| ■ WSM1-03
- Push Button Switch Module | ■ WSM1-04
- Y- Δ Switch Module |
| ■ WSM1-05
- Forward / Reverse Switch Module | ■ WSM1-06
- Condenser Module |
| ■ WSM-07
- Magnetic Contactor Module | ■ WSM-08
- Over Load Relay Module |
| ■ WSM-09
- Timer Module | |

* Product's design and appearance can be changed without any notice.

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■ Graphic Board

- WSM1-201
Three Phase Squirrel Cage Induction Motor Graphic Board
- WSM1-202
Three Phase Slip Ring Induction Motor Graphic Board
- WSM1-203
Single Phase Condenser Starting Motor Graphic Board
- WSM1-204
Single Phase Split Phase Starting Graphic Board
- WSM1-205
Universal Motor Graphic Board
- WSM1-206
Three Phase Synchronous Motor Graphic Board
- WSM1-207
Three Phase Synchronous Generator Graphic Board
- WSM1-208
DC Shunt Motor Graphic Board
- WSM1-209
DC Shunt Generator Graphic Board
- WSM1-210
DC Compound Motor Graphic Board
- WSM1-211
DC Compound Generator Graphic Board

Accessory

- Experiment Manual : 1Copy
- Test Lead (Banana Plug) : 1Unit
- Calibration Device : 1EA
- Power Cable : 1Unit
- Dust Cover : 1Set

Option

- Analog Frequency Meter & DC Volt Meter : 1EA
 - 45 ~ 65Hz & mV
- 3 Phase Digital Watt Meter : 1EA
 - Voltage / Current / Power / Power Factor

01

02

03

04