



46591 Measurement of Xd and Xq of Three Phase Synchronous Machine is an exclusive product designed to demonstrate the operating principle and functioning of Three Phase Synchronous Generator. This machine lab can change the mechanical energy to electrical energy. It helps students to analyse and calculate the significant parameters such as positive, negative & zero sequence impedance, direct & Quadrature axis reactance etc. to correctly construct Three Phase Synchronous Generator.

It includes separate terminals for rheostat and three point starter provided on the control set-up so that students can make connections by themselves with adequate protections.

Features

- Electrical Loading Arrangement
- Flexible Shaft Coupling Arrangement
- Provided with Digital Tachometer
- Machine with Class "B" Insulation
- Heavy Duty Base/Channel
- Equipped with supply indication lamps
- Terminals provided to use the optional externally
- Equipped with supply indication lamps
- Designed by considering all the safety standards
- Diagrammatic representation for the ease of connections
- Exclusive and Compact Design
- Learning material CD
- 2 Year Warranty

Scope of Learning

- Study and Measurement of Direct Axis (Xd) and Quadrature Axis (Xq) Reactance by Slip Test
- Study and Measurement of Positive Sequence Impedance of Three Phase Synchronous Generator
- Study and Measurement of Negative Sequence Impedance of Three Phase Synchronous Generator
- Study and Measurement of Zero Sequence Impedance of Three Phase Synchronous Generator

Technical Specifications

Mains Supply	: Three Phase, 415V±10 %, 50Hz
DC Power Supply	
Input Mains	: 230V AC, 50Hz
Fixed DC output	: 200V
Variable DC output	: 0 - 200V
Machines Specification (2 nos.)	
Both the Machines are flexibly coupled and mounted	
on "C" channel base	
DC Machine	
Type	: Shunt
Rating	: 2HP
Voltage Rating	: 200V
Speed	: 1500 RPM (no load)
Insulation	: Class "B"
Three Phase Synchronous Machine	
Type	: Star Connected
Voltage Rating	: 415V
Rating	: 3HP
Speed	: 1500 RPM (no load)
Excitation Voltage	: 120V
Insulation	: Class "B"
Analog Meters used	
DC Voltmeter	: 300V
DC Ammeter	: 10A
AC Voltmeter	: 500V, 20V
AC Ammeter	: 10A, 2A
MCB (TPN)	: 10A
Dimensions (mm)	: W 600 x D 450 x H 600 (Control Panel)
	: W 250 x D 900 x H 400 (MG set)
Weight	: 17.5kg (approx.) (Control Panel)
	: 106kg (approx.) (MG Set)

Optional
DC Power Supply
(for machines rated upto 2HP/3HP respectively)
Rheostat 2.8A, 220V
Three Phase Variac, 10A

Note: Specifications are subject to change.

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