

**MEASUREMENT OF X_d AND X_q
OF THREE PHASE SYNCHRONOUS
MACHINE**
OMEGA TYPE - 20 114

OMEGA TYPE 20 114 - Measurement of X_d and X_q 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 analyze 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.

FEATURE:

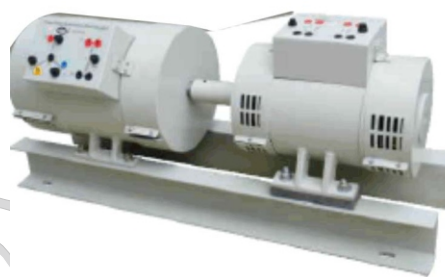
- 01 Electrical Loading Arrangement
- 02 Flexible Shaft Coupling Arrangement
- 03 Provided with Digital Tachometer
- 04 Machine with Class "B" Insulation
- 05 Heavy Duty Base/Channel
- 06 Equipped with supply indication lamps
- 07 Terminals provided to use the optional externally
- 08 Equipped with supply indication lamps
- 09 Designed by considering all the safety standards
- 10 Diagrammatic representation for the ease of connections
- 11 Exclusive and Compact Design

OBJECTS:

- 01 Study and Measurement of Direct Axis (X_d) and Quadrature Axis (X_q) Reactance by Slip Test
- 02 Study and Measurement of Positive Sequence Impedance of Three Phase Synchronous Generator
- 03 Study and Measurement of Negative Sequence Impedance of Three Phase Synchronous Generator
- 04 Study and Measurement of Zero Sequence Impedance of Three Phase Synchronous Generator

TECHNICAL SPECIFICATION:

- 01 Mains Supply :**
Three Phase, 415V \pm 10 %, 50Hz
- 02 DC Power Supply Required:**
Input Mains : 230V AC, 50Hz
Fixed DC output : 200V
Variable DC output : 0 - 200V
- 03 Motor Specification (2 nos.)**
Both the Motors are flexibly coupled and mounted on "C" channel base
- 04 DC Motor**
Type : Shunt
Rating : 1HP
Voltage Rating : 200V
Speed : 1500 RPM (no load)
Insulation : Class "B"



05 Phase Synchronous Machine

- Type : Star Connected
Voltage Rating : 415V
Rating : 1HP
Speed : 1500 RPM (no load)
Excitation Voltage : 120V
Insulation : Class "B"

06 Analog Meters Size 72x72mm:

- DC Voltmeter : 300V
DC Ammeter : 10A
AC Voltmeter : 500V
AC Voltmeter : 300V
AC Ammeter : 1A
AC Ammeter : 10A
07 MCB (TPN) : 10A
08 Dimensions (C.Pnl). : L 600 x H450 x D350 mm
09 Dimension (MG-set) : L900 x H400 x D250 mm
10 Weight (C.Pnl). : 12Kg (Approx)
11 Weight (MG-set) : 56Kg (Approx)

LIST OF ACCESSORIES:

- 01 Shrouded Patch cord 4mm length 50/100cm Red & Black ----- 20
05 Digital Tachometer ----- 01

OTHER APPARATUS REQUIRED:

- 01 DC Power Supply OMEGA TYPE 20 102.
02 Rheostat 2.8A, 220V
03 Three phase variac Input 0-415 V
Output 0-470 V current 10 Amp

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

OMEGA ELECTRONICS