italtec
Technical Training Systems

Company with Quality Management System
Certified by DNV = ISO 9001/2008 =

THREE-PHASE SYNCHRONOUS MACHINE

MOD.3070

Technical specifications

Provided with silk screened front panel and with 4mm CE safety sockets.

Nominal voltage:
220/380V (delta/star) 50Hz

Nominal current:
0,65 / 0,38A (delta/star)

Excitation voltage:
220Vdc

Excitation current:
0,4A

Synchronous speed:
3000 rpm

Power:
***250W** (as generator)*
***200W** (as motor)*
(Other power on request)

Dimensions (LxWxH):
35x18x25 cm

Weight:
10 kg

CE

General

For demonstration and studying AC machines. Each phase of the stator windings have independent terminals and are identified on the faceplate to permit connection both in delta and star configurations.
The rotor of this machine is a salient pole rotor with industrial high power synchronous machines properties.
It is possible to operate this machine as a three phase synchronous alternator or motor.
Variable DC excitation is delivered via a slip rings and brushes.

- *Imprinted terminal boards with the synoptic.*
- *Base plate with four rubber feet.*
- *With coupling cog for easy engagement with other machines.*
- *Protection against thermal overload*
- *All connections on 4 mm safety sockets included thermal contact.*
- *Manual explaining theory and practice for laboratory experiments.*

Didactical purpose

- Measurement of the phase windings resistance
- Measurement of the excitation winding resistance
- No load test of a synchronous generator (alternator)
- Short circuit characteristic of a synchronous machine
- External characteristic of a synchronous machine
- Regulation characteristic of a synchronous machine

Options

Due to its definition, this machine needs a prime motor to be driven up to the synchronous speed.
Depending on the specific requirements of the application the machine can be provided with two shaft ends, with other power values and can be designed with the appropriate number of poles in order to have the required nominal speed.
(MOD.3070-4: 4 poles synchronous machine 1500 rpm).

Accessories:

A full range of accessories is available like electromagnetic brakes, powder brakes,measuring modules such as voltmeter, ammeter, power meter, connection cables and power supplies.

Resistive load
MOD.3020-R

Capacitiev load
MOD.3020-C

Inductive load
MOD.3020-L

3-phase network analyzer
MOD.3209-C

italtec Technical Training Systems S.R.L.
20129 – MILANO – ITALIA – Viale Regina Giovanna, 35
Tel. +39 02 90 721 606 – Fax. +39 02 90 720 227
e-mail: italtec@italtec.it www.italtec.it