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Products
Products range
Units
4.- Electricity

DESCRIPTION

Unit for the study of alternators. Starting, operation and regulation of an alternator without load, half load and full load.

This unit comprises:

- Base structure (painted steel and anodized aluminium).
- Couplings.
- Connectors.
- EMT7. Asynchronous Three-phase motor of squirrel cage.
- EMT6. A. C. Synchronous alternator motor.
- WVCA/B. AC. motors speed controller.

SPECIFICATIONS

Base structure (painted steel and anodized aluminium).

Couplings.

Connectors.

EMT7. Asynchronous Three-phase motor of squirrel cage:

Power: 250-300W. Speed: 2769 r.p.m. (50Hz), 3330 r.p.m. (60Hz). Connections: Star/triangle.

Frequency: 50/60 Hz. V.Armature: 230/400V (50Hz), 250/440V. (60Hz). I.Armature nominal: 1A-0.7A.

EMT6. A. C. Synchronous alternator motor:

Power: 250-300W. Speed: 3000 r.p.m. Frequency: 50Hz. Connections: Star/triangle.

Vexcitation nominal: 220V D.C. I.Excitation nominal: 0.59A. V.Armature.: 3x220/380V.

WVCA/B. AC motors speed controller:

This unit enables to change the speed of an asynchronous motor, obtaining features which characterize a motor.

Maximum power: 750 W. Frequency from 0 to 60Hz.

Cables and accessories, for normal operation.

Manuals:

This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.



ISO:9001-2000 Certificate of Approval. Reg. No. E204034



European Union Certificate



Certificates ISO 14001: 2004 and ECO-Management and Audit Scheme (environmental management)



Worlddidac Quality Charter Certificate
Worlddidac Member

Some Practical Possibilities of the Unit:

- 1.- Starting, voltage and frequency regulation in a three-phase alternator.
- 2.- Typical practices for a three-phase alternator.
- 3.- Characteristic curve of an alternator without load.
- 4.- Characteristic curve of an alternator in short circuit.
- 5.- Characteristic curve of an alternator with load.
- 6.- Synchronous motor starting.
- 7.- Working at a frequency given.
- 8.- Curves in V at constant power ($1/4$, $1/3$, $1/2$, 1) PN and different power factors.

REQUIRED SERVICES

-Electrical supply: Three-phase with neutral and ground, 380V.

DIMENSIONS & WEIGHT

-Dimensions: 750 mm x 250 mm x 250mm. approx.

-Weight: 30 Kg. approx.

REQUIRED ACCESSORIES

①

①① **EME/B. Electrical Machines Unit (Basic Unit)** (of EDIBON):

Steel box.

Diagram in the front panel.

Thermal Magnetic Circuit Breaker.

DC supply 200 V dc.

Connection Key Emergency stop push button.

Electrical supply: Three-phase with neutral and ground, 380V.

Dimensions (approx.)=300x180x120 mm. Weight : 5 Kg.



EME/B

OR

①② **DC power supply: 150 W, input 220 Vac - 200 Vdc Output.**

② **RCL3R. Resistive, Inductive and Capacitive Loads Module** (of EDIBON):

Steel box.

Diagram in the front panel.

Resistive loads: $3 \times [150 \Omega (500 \text{ W})]$.

Fixed resistive loads: $3 \times [150 \Omega (500 \text{ W}) + 150 \Omega (500 \text{ W})]$.

Inductive loads: $3 \times [0, 33, 78, 140, 193, 236 \text{ mH}]$. (230V /2 A).

Capacitive loads: $3 \times [4 \times 7 \mu\text{F}]$. (400V).

Dimensions (approx.)= 490x450x470 mm. Weight : 30 Kg.



RCL3R

- ③ **1 Rheostat of 0-150 Ω , 500 W.** Only required for the practice "8.- Curves in V at constant power ($1/4$, $1/3$, $1/2$, 1) PN and different power factors.

- EAL. **Network Analyzer Unit**

This unit shows the main electric parameters on the electric network through the interface and an easy parameter selection.

Steel box. Diagram in the front panel.

3 current inputs. 3 voltage terminals.

Control and visualization digital display.

Voltage: Range 20 - 500 Vrms. Prec.: $\pm 0.5\%$. Phase to phase-Phase to neutral.

Current: Range 0.02 - 5 Arms. Prec.: $\pm 0.5\%$.

Frequency: Range 40 - 500 Hz. Prec.: $\pm 0.5\%$.

Power: Active, Reactive and Apparent. Range 0.01 to 9900 kW. Prec.: $\pm 1\%$.

Power Factor: Power Factor for each phase and average. Range -0.1 to + 0.1. Prec.: $\pm 1\%$.

Temperature: Average temperature by an internal sensor. Range 0-60 °C. Prec.: ± 2 °C.

Power supply: 220 V/50 Hz. - 110 V/60Hz.

Dimensions: 300 x 180 x 120 mm. approx. Weight: 3 Kg. approx.

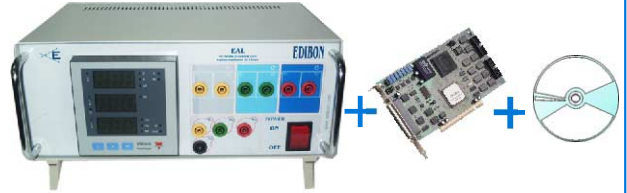
*It has to be complemented with a digital multimeter when working with DC.



EAL

Other available versions:

- EALD. **Network Analyzer Unit, with Computer Data Acquisition + Oscilloscope (PC)**



EALD

- EALDG. **Network Analyzer Unit, with Computer Data Acquisition + Oscilloscope (PC) + Oscilloscope Display**



EALDG

- MUAD. **Power Data Acquisition System**

MUAD System includes EPIB + DAB + MUAD/SOF:

1) Hardware :

1.1) **EPIB. Electric power interface box** (dimensions: 300 x 120 x 180 mm. approx.):

Interface that carries out the conditioning of the diverse signals that can be acquired in a process, for their later treatment and visualisation.

Front panel separated in two: left-hand part for VOLTAGE sensors, and right-hand part for CURRENT

Sensors.

- 8 analog input channels.

- 4 Tension sensors AC/DC, 400V.

- Sampling range: 300KHz for single channel.

- 4 Current sensors.

1.2) **DAB. Data acquisition board :**

PCI Data acquisition board (National Instruments) to be placed in a computer slot. Bus PCI.

Analog input:

Number of channels= 16 single-ended or 8 differential. Sampling rate up to: 250 KS/s.

Analog output:

Number of channels=2. Maximum output rate up to: 833 KS/s.

Digital Input/Output:

Number of channels=24 inputs / outputs.

Timing: Counter/timers=2.



EPIB

+



DAB

+



MUAD/SOF

2) **MUAD/SOF. Data acquisition software :**

Data Acquisition Software with Graphic Representation:

Amicable graphical frame. Compatible with actual Windows operating systems.

Configurable software allowing the representation of temporal evolution of different signals.

Visualization of circuit tensions on the computer screen.

Sampling rate up to 250 KS/s (Kilo samples per second) guaranteed.

* Software is available in English and Spanish. Any other language available on request.

* Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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REPRESENTATIVE:

