AMRON

ELECTRICAL MACHINE TRAINER DM100-E

The Standard DM100-E trainer comprises of a precision-drilled ultra high impact acrylic (UHI) mounting matrix on a steel frame which accommodates a variety of plug-in component modules.

The power supply enclosure is attached to the matrix frame and is connected to a 3 phase supply via a safety plug.It has a 5-wire input comprising 3 phases,neutral & earth.

The PSU contains:

Ammeter 0-5amp ac/dc
Voltmeter 0-40v or 0-400v ac/dc
Main contact breaker
Emergency stop switch
Single phase/3 phase keyed selector switch
Switched & thermal fuse protected variac,5amp,0-250v
Bridge rectifier,35amp
Switched & thermally protected load control unit
Tachometer 0-5000rpm
DC supply for load control of eddy current brake
A variety of clearly marked power take off terminals are conveniently situated on the PSU
Outputs are brought out via polyamide binding post terminals,which allow various methods of connection
The mounting matrix/power supply assembly is bolted to a solid,lockable wooded cabinet with hard-wearing surface.The cabinet is fitted with adjustable feet,and serves as storage for all the component parts of the trainer

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The following Amron plug-in component modules are supplied:
Ammeter(x2);Voltmeter(x2);Load resistor(250watt,50 ohm,with 20,30& 40 ohm taps);
Lamp module(3x100watt,230volt);Double pole double throw(DPDT) switch;multimeter.
The plug-in modules attach to the UHI matrix via 4x chromed spring-load pins.

The electrical machines are constructed from a variety of components,including endshields,stators,rotors,brushgear,mechanical brake assembly,centrifugal switch set,clamping set,assembly bolt/nut set,coupling set,allen keys.
These parts comprise of the standard Amron DM-100 Demountable Electrical Machine set,and the eddy current brake assembly,which is fully compatible with all machines,is also supplied.
The machines are rated at 375watt,80 frame.

A set of stackable silicone banana plug connecting leads and comprehensive user/experimental manual is supplied.

Experimental Capability

Single Phase Cage Motor
Demonstrating:
- Ø No capacitor
- Ø Capacitor starting
- Ø Capacitor start, capacitor run
- Ø 2 value capacitor start & run
- Ø Changing rotational direction in each case

Shaded Pole Induction Motor
Demonstrating:
- Ø Starting & running

Synchronous Motor
Demonstrating:
- Ø Starting & running
- Ø Reversal of rotation
- Ø Star & delta connections

Direct Current Motor
Demonstrating:
- Ø Starting & running
- Ø Series configuration
- Ø Shunt configuration
- Ø Compound configuration
- Ø Reversal of rotation in each of the above

Single Phase Alternator
Demonstrating:
- Ø Generation of an AC voltage

Split Phase Cage Motor
Demonstrating:
- Ø Starting & running
- Ø Reversal of rotation

Three Phase Cage Motor
Demonstrating:
- Ø Starting & running
- Ø Reversal of rotation
- Ø Star connections
- Ø Delta connections

Slipring Motor
Demonstrating:
- Ø Starting & running
- Ø Reversal of rotation
- Ø Star & delta connections

Universal Motor
Demonstrating:
- Ø Starting & running on AC & DC supplies
- Ø Series configuration
- Ø Shunt configuration
- Ø Reversal of rotation

Eddy Current Brake
This provides a load for motors & measures the speed of rotation, as well as torque readout in Newton metres.

Additional Plug- In Modules

To increase the experimental scope of the DM100-E,a comprehensive range of Amron plug-in modules is available.
Details are available in the Product List.
As this trainer is modular,it can easily be tailored to meet the specific requirements of users,and additional modules may be added when required.

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