Three Phase Resistive Load

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Abstract- *The present study aimed that online shopping has become a new trend and is quickly becoming an important part in people's lifestyle. Due to wide spread of internet access people's turn to purchasing on digital platform. This web application*

Keywords- E-commerce

I. INTRODUCTION

A load bank is a device which develops an electrical load, applies the load to an electrical power source and converts or dissipates the resultant power output of the source. A load bank includes load elements with protection, control, metering and accessory devices required for operation. Load banks can either be permanently installed at a facility and permanently connected to a power source or portable versions can be used for testing power sources such as standby generators and batteries. Load banks are the best way to replicate, prove and verify the real-life demands on critical power systems.
A load bank is a self-contained and systematic device that generates a specific amount of electric load in order to determine the dependability of power systems like UPS systems and generator output. In other words, load bank is a device that tests the performance of a power system.

Load testing of power generators can help avoid loss of utility power and ensures that the power generators support loads by maintaining frequencies and voltages that are compatible with the design criteria. Load banks can be categorized as inductive, resistive, and capacitive. The applications of load banks are broad from testing facility generators, and UPS systems to data center tests.

Types of load banks

Resistive load bank
Inductive load bank
Capacitive load bank
Resistive Reactive (Combined) load bank
Electronic load bank
.
CIRCUIT DIAGRAM

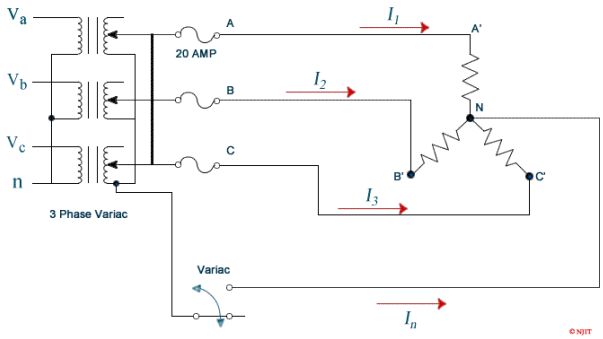

Figure 1: The balanced three phase wye connection.

COMPONENTS

1. Wire wound resister
2. Digital voltmeter
3. Digital ammeter
4. Fuse
5. Fiber glass

APPLICATIONS

1. It is applicable for both workshop and labs.
2. It is used to measure high voltage and current.
3. It is used for testing and maintaining AC power source.
4. It is used for testing diesel generator test in shipyard.
5. It is used for testing in gas engine.
6. Stand-by Emergency Generators.
7. Rotary UPS systems.
8. Turbines.
9. Automatic transfer switches

10. Rectifiers and Inverters.

11. Switchgear and Distribution equipment.

ADVANTAGES

1. Power to weight ratio of 3-ø alternator is high as compared to 1-ø alternator. That means for generation for same amount of Electric Power, the size of 3-ø alternator is small as compare to 1-ø alternator. Hence, the overall cost of alternator is reduced for generation of same amount of power.

2. For electric power transmission and distribution of same amount of power, the requirement of conductor material is less in 3-ø system as compare to 1-ø system. Hence, the 3-ø transmission and distribution system is economical as compare 1-ø system.

3. Let us consider the power produced by single phase supply and 3-phase supply at unity power factor. Waveform of power produce due 1-phase supply at unity power factor is shown in figure (C), and figure (D) shows the waveform of power produced due to 3-phase supply.

4. the 3-phase system, the instantaneous power is almost constant over the cycle results in smooth and vibration-free operation of the machine. Whereas in 1-ø system the instantaneous power is pulsating hence change over the cycle, which leads to vibrations in machines.

5. 3-phase motor is having better power factor and efficiency as compare to 1-ø

.

II. CONCLUSION

In this project we conclude that Resistive load banks are the most reliable sources for maintenance, commissioning and testing of electrical circuits to ensure proper functioning. It develops an electrical load, which will be applied to a power source and then distributes the resultant power output to a source. It is known to mimic the real load, but in a contained, organized and in a completely controlled manner. It is recommeneded to use where it unfeasible to apply actual load. It also serves the power source, using its output to test, support or protect the power source. However Resistive load bank had more impacts upon all aspects of a generating system.

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