



Rajshahi University of Engineering & Technology

Department of Electrical & Computer Engineering.

Lab report

Course Code : ECE 1202

Course Title : Circuits and System-II Sessional

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Submitted To:	Submitted By:
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Experiment No. 04

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1. Experiment Name: Three phase Sequence test using motor

2. Objectives: To verify the phase sequence of a three-phase supply using a motor and ensure the motor runs in the correct direction. This test ensures that the three-phase power supply is connected in the correct sequence (ABC) and avoids incorrect rotation, which could damage machinery or affect operation.

3. Theory:

In a three-phase system, phase sequence refers to the order in which the voltages reach their peak values. A correct phase sequence (ABC) ensures that motors rotate in the desired direction, while a reverse sequence (CBA) causes the motor to rotate in the opposite direction. This test is important to avoid incorrect rotation, which could damage equipment. The test is done by observing motor rotation or using a phase sequence indicator. Switching any two phase connections reverses the rotation. Ensuring the correct phase sequence is critical for safe and efficient operation of motors and machinery.

4. Required Apparatus:

1. Motor (6 Terminal or 3 Terminal)
2. Connecting Wire

5. Diagram:

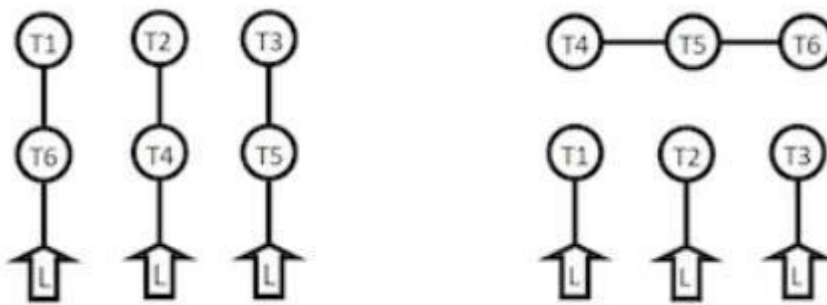


Fig 1: Delta and Wye Connection of a six terminal Motor

6. Result:

After performing the three-phase sequence test using a motor, it was observed that the motor initially rotated in the wrong direction, indicating an incorrect phase sequence. By switching two of the phase connections, the motor's direction of rotation was corrected, confirming the proper ABC phase sequence. This validated the correct connection of the three-phase power supply, ensuring safe and efficient motor operation without any damage or irregularities.

7. Discussion:

1. I learned how to verify and correct the phase sequence in a three-phase system, ensuring proper motor operation.
2. I learnt to take measure without getting a major shock from AC circuit.

8. References:

1. Alexander, Charles K. Sadiku, Matthew N.O. *Fundamentals of electric circuits*. 7th ed New York: McGraw-Hill, 2020.
2. *Wikipedia.com*