LAB REPORT-04

Experiment No :4
Experiment Name :Three Phase Sequence test using motor.

Objectives:
(i)To observe the three phase sequence by observing rotation of a motor.

Theory:
In a three-phase system, the amplitude for voltage remain same but the angle vary by 120 degres. So if a three phase motor is connected the amplitude will be same for all three connection but the phases will vary by 120 from each other. Therefore there will be a clockwise or counterclockwise sequence.

Phase sequence is the order in which the three phases of a three-phase system reach their peak values. For example, if phase A reaches its peak before phase B, and phase B reaches its peak before phase C, then the phase sequence is ABC. If phase C reaches its peak before phase B, and phase B reaches its peak before phase A, then the phase sequence is CBA. The phase sequence can be either clockwise or counterclockwise, depending on the direction of rotation of the phasor diagram.

Diagram:

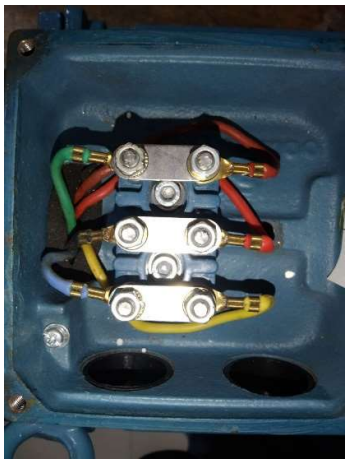

Fig.1: Delta Connection

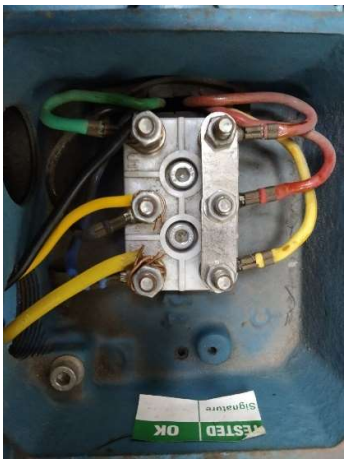

Fig.2: Wye Connection

Required Apparatus:
1. A Motor
2. Connecting Wires

3. Voltage source

Results:

If the motor rotates in clockwise direction then the sequence is connected as ABC.
If the motor rotates in anti clockwise direction then the sequence is connected as ACB.

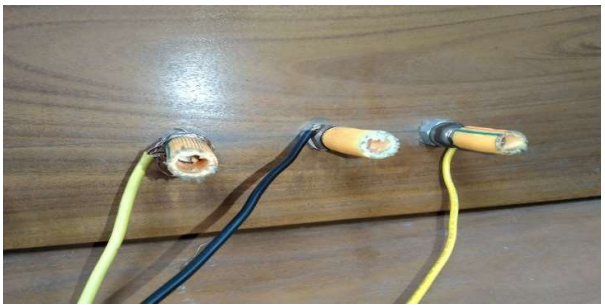

Fig-3: Source connection

Discussions:

The sequence change results in the change of the direction of the motor. The reason behind this is the phase difference of 120 from one another.