

# Chapter:4

## (Short Circuit Current Calculation )

Presented By

Hasan Murad Munna

## *Define Short Circuit Faults:*

- A short circuit can be defined as an abnormal connection of very low impedance between two points of different potential, whether made intentionally or accidentally. ... These faults are caused due to the insulation failure between phase conductors or between earth and phase conductors or both.

## Describe causes of Short Circuit Faults:

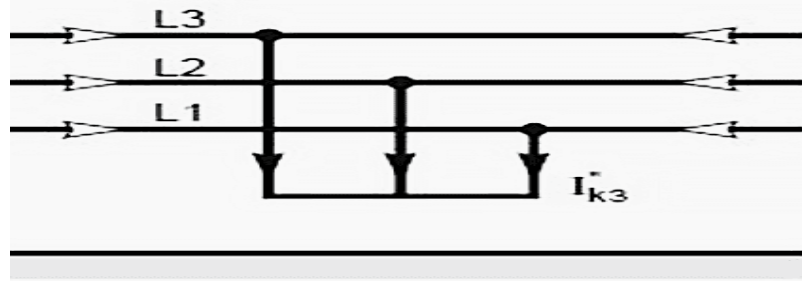
- Various electrical equipment like generators, motors, transformers, reactors, switching devices, etc causes short circuit faults due to malfunctioning, aging, insulation failure of cables, and winding. These failures result in high current to flow through the devices or equipment which further damages it.

# Different types of short circuit faults:

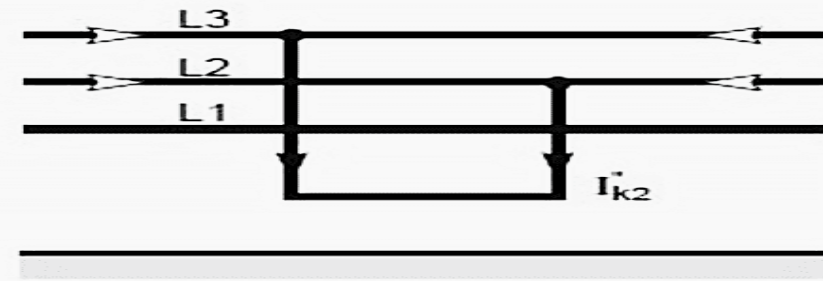
- 1.Symmetrical Fault.
- 2.Unsymmetrical Fault.

# Different Types of Short Circuit:

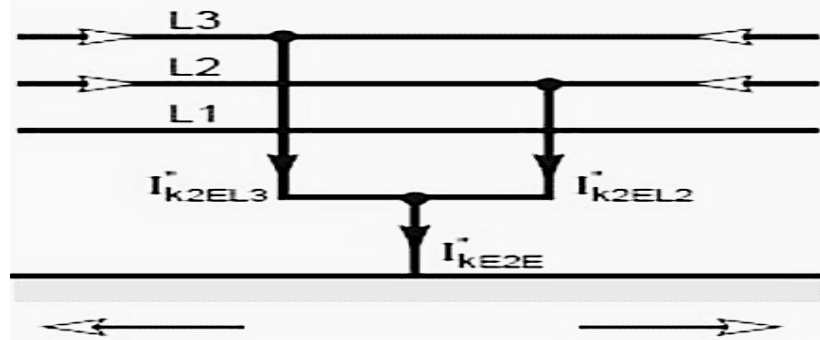
a) Three-phase short-circuit



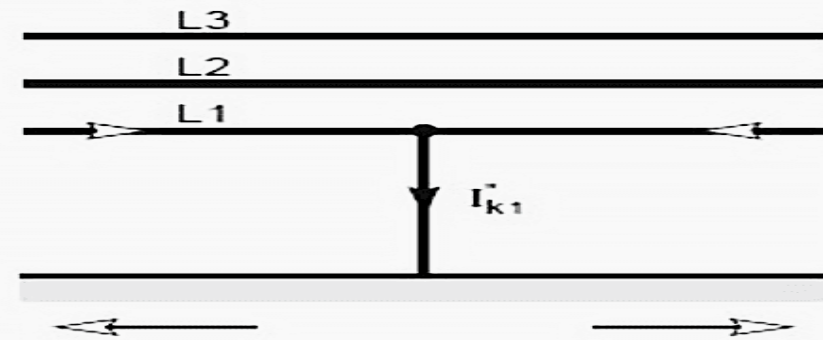
b) Phase-to-phase short-circuit clear of earth



c) Phase-to-phase-to-earth short-circuit



d) Phase-to-earth short-circuit



— Short-circuit current,  
— Partial short-circuit currents in conductors and earth.