



SNS COLLEGE OF TECHNOLOGY
(Autonomous)
Coimbatore-35
Department of EEE



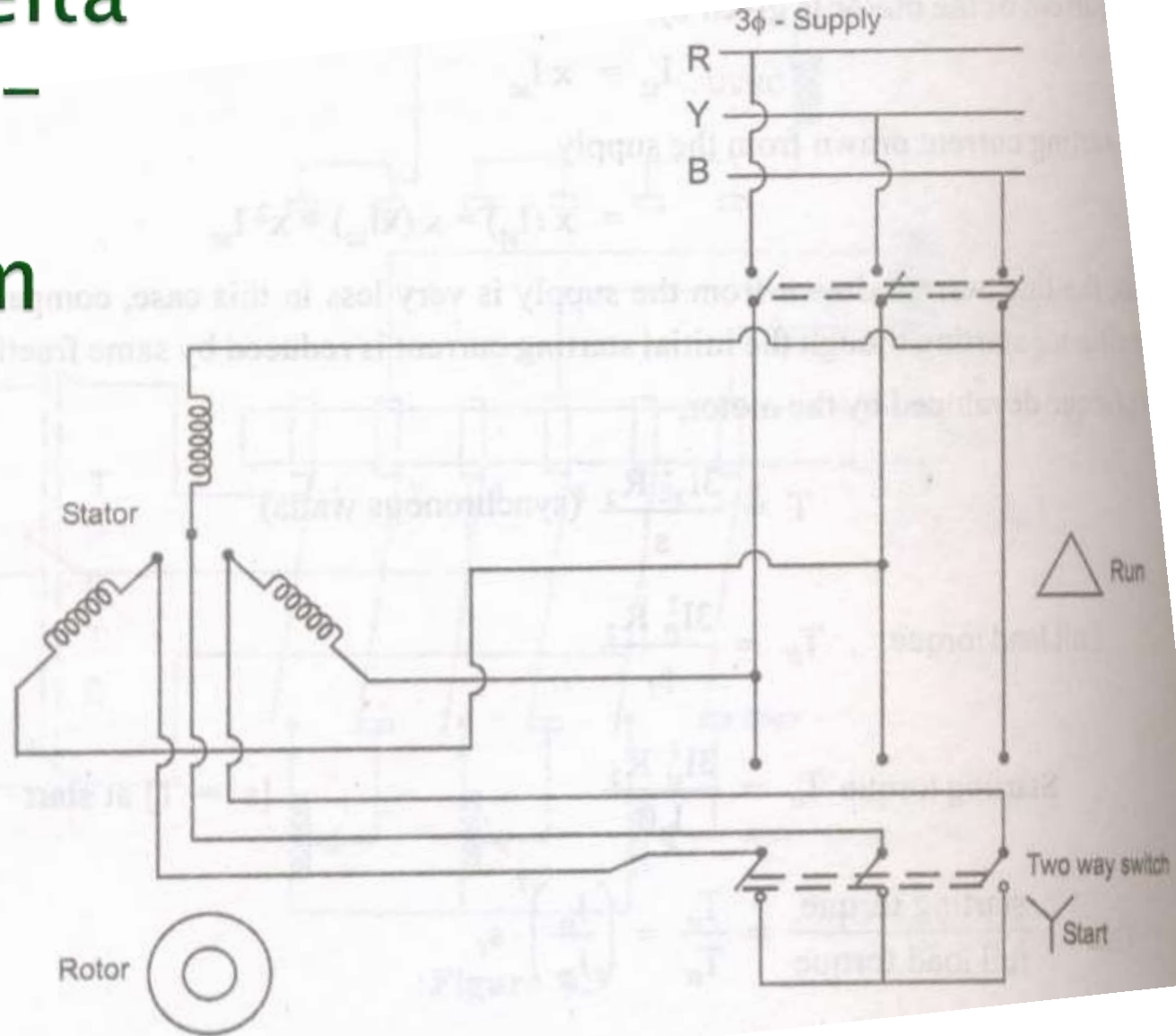
**16EE205 / INDUCTION AND SYNCHRONOUS
MACHINES**

**STAR- DELTA starting -
power circuit**

3. Star-Delta Starter

- ▶ This method applicable for motors designed to run normally with delta connected stator windings
- ▶ At starting, the stator windings connected in star
- ▶ After the motor has reached nearly the steady state speed, the windings are connected in delta
- ▶ Over load and single phasing protection are provided

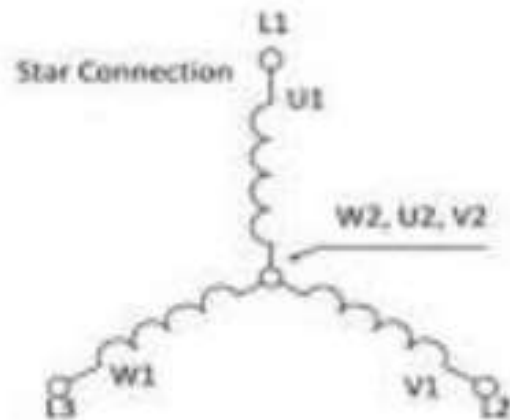
Star-Delta Starter - Circuit diagram



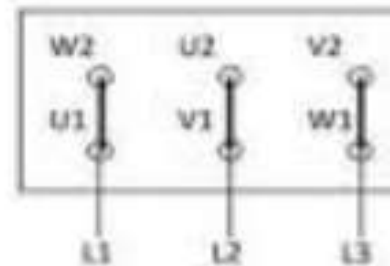
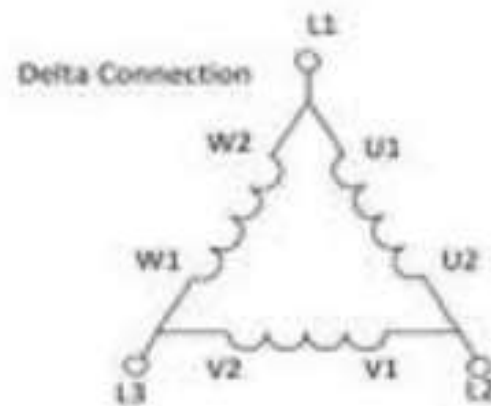
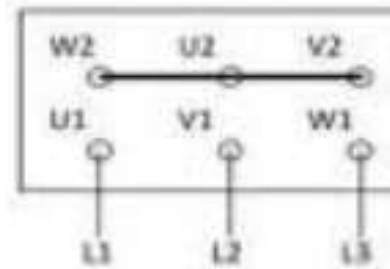
Star-Delta Starter – current limitation

- ▶ At starting the stator phase voltage reduced by $1/\sqrt{3}$ times the voltage.
- ▶ Phase current reduced by $1/\sqrt{3}$ times the current with the direct online starting.
- ▶ Line current reduce by 3 times.

Star-Delta Starter - Winding terminals



Terminal Connections



Star-Delta Starter - Power circuit

