

Inrush Current in Induction Motor

1 Introduction

When induction machine is working as a motor, it draws an inrush current which is higher than full-load or rated current. This phenomenon is similar to (but not same - *why?*) that observed in transformers.

2 Procedure

1. Connect the circuit as shown in Fig. 1.
2. Adjust horizontal scale in digital storage oscilloscope (DSO) such that inrush current would be visible - inrush current would typically last for 15-20 cycles of 50 Hz supply. So the DSO horizontal scale should be adjusted accordingly.
3. Close switch S to start induction motor.
4. As soon as inrush current is seen, press "Start - Stop" button on DSO to stop the data reading by DSO (so that only transient part of the current is seen).

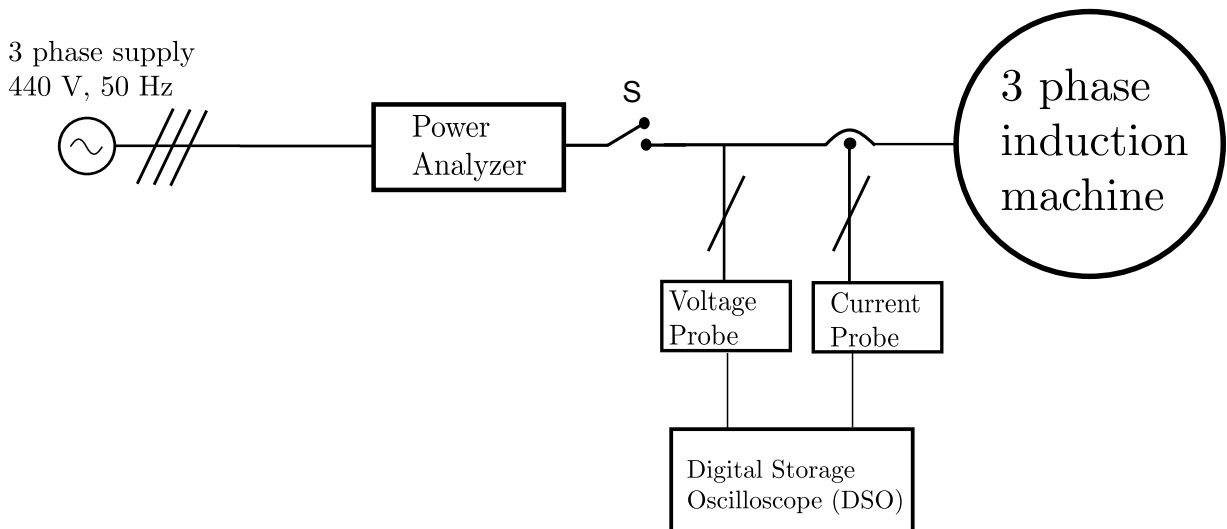


Figure 1: Inrush current in induction motor: schematic connection diagram