STUNTECH
Engineering & Management

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SOFT STARTERS

Introduction

The starting time of a motor refers to the period from when electrical supply is available at the motor terminals to when the motor attains its rated full speed. During this time the motor draws up to six times the rated current. There are many disadvantages of starting the motor in this manner. Soft starters present a safer and better way of starting motors.

What is a soft starter?

A soft starter is a unit found in motor installations and is critical in safely starting and stopping motors.

What is the working principle of the soft starter?

The soft starters employ a voltage reduction technique where the electrical supply voltage is gradually increased to achieve a smooth acceleration of the motor thus preventing inrush currents. The voltage reduction is achieved by use of thyristors.

Advantages of soft starters

1. Reduced electricity costs
2. Precise control of starting currents – makes it safe for the inverter to power the motor
3. Reduced power surge
4. Reduced voltage drop as seen by other loads supplied on the same line as the motor
5. Reduced heating of the motor
6. Increased efficiency of the motor as a result of reduced heating
7. Adjustable acceleration time of the motor
8. Reduced mechanical stress caused by otherwise sudden acceleration of the motor