

Chapter 1

Non-Rectangular Trip Estimation

1.1 Introduction

Sensitivity curves of many industrial equipments are rectangular in nature. Most notably Personal Computers (PC), Programmable Logic controllers (PLC) etc. The trip estimation procedure for rectangular curves is well understood and dealt with in great detail in However, there is a multitude of equipment(s) which doesn't follow this rectangular sag curve nature. The most notable of them are the contactor and adjustable speed drives. The nature of the sag curve for contactor is shown in fig 1.1 The nature further depends on the phase shift at the point of voltage sag initiation.

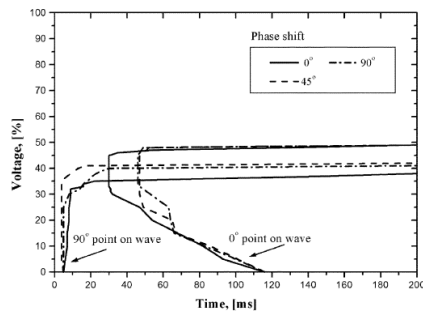


Figure 1.1: Contactor sag curves

1.2 Previous work

An attempt towards estimating trip probability for non-rectangular sensitivity curves have been undertaken in .The sensitivity curve was divided into a set of linear regions , and the trip probability was estimated based on the location of sag points on it.