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*Guide on the Selection of Isolating Switches and Breakers for
Fire Pump Control Circuits for Different Classifications of Motor Efficiencies*

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Foreword

This publication was prepared by a technical committee of the National Electrical Manufacturers Association (NEMA) Industrial Automation Control Products and Systems Section. It was approved in accordance with the bylaws of NEMA.

This guide provides practical information concerning the general technical considerations in the installation of electric fire pump controllers. It was written to assist in the proper selection of breakers used in fire pump circuits to minimize occurrences of nuisance tripping. It is intended to be used by specifiers, purchasers, installers, code authorities, and owners of fire pump controllers.

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Proposed revisions to this installation guide should be submitted to:

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1 Scope

This guide is intended to explain the concepts of how the fire pump controller manufacturer selects breakers so as to avoid unwanted tripping in fire pump circuits.

It addresses fire pump installations outside of North America, where a UL Listed/FM Approved fire pump controller is combined with a fire pump motor that is not UL Listed, and where the locked rotor currents are higher than those specified in UL 1004-5, which can result in unwanted circuit breaker and isolating switch tripping.

2 General

Figure 1 shows a typical plot of the current when starting an induction motor across-the-line, that is, applying the full voltage. This illustrates a DC component that depends on the motor design.

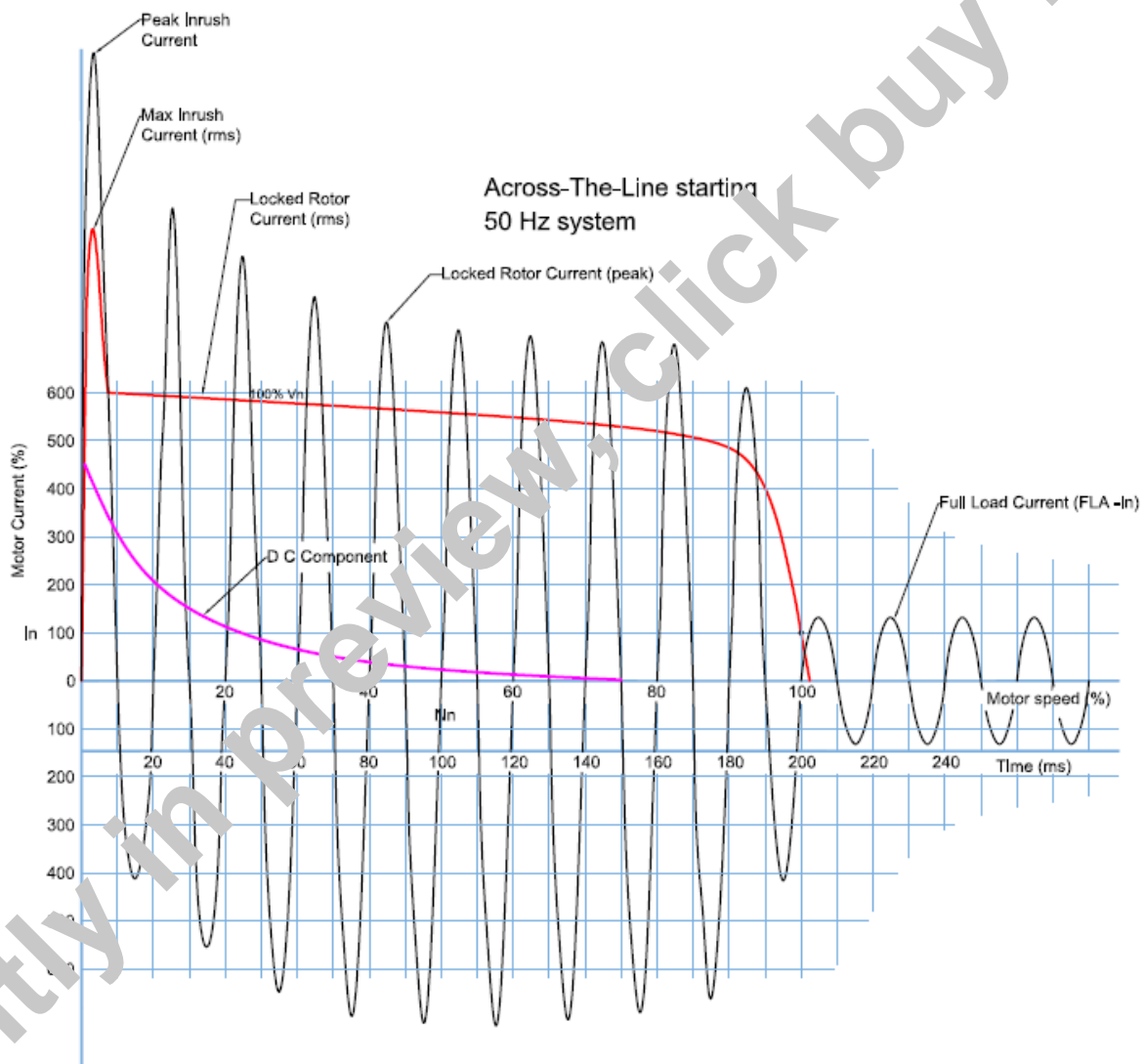


Figure 1 - Across-the-Line Starting Sequence of an Electric Motor