Applications

Protection of Motors Circuits

Introduction

For the needs of motor circuit protection, the most popular ranges of **SIBA** fuses are the following;

Product Group	Characteristics	Article Number	Fusing Selection
HH_M-BM	Back-Up - Motor	30xxx**5**y.(Amp)	Preferred
HH_M-BR R - rated	Back-Up - Motor	30xxx**55**.(R-Rating)**R**	Preferred
HHD-B (DIN Standard)	Back-Up	30xxx**1**y.(Amp)	Alternate

It is mandatory to ensure that the correct graph be utilized for the selected "Product Group" for determining the fuses' current rating, otherwise malfunctions may occur. **IEC 60644 defines the "k-factor", which in principle is a safety factor. The SIBA graphs include this safety factor, therefore, the complicated handling of this factor can be avoided without compromising** safety. Whenever possible, fuses with "Back-Up Motor" characteristics are to be used due to their very low power losses. If in doubt, SIBA should be consulted.

Selection

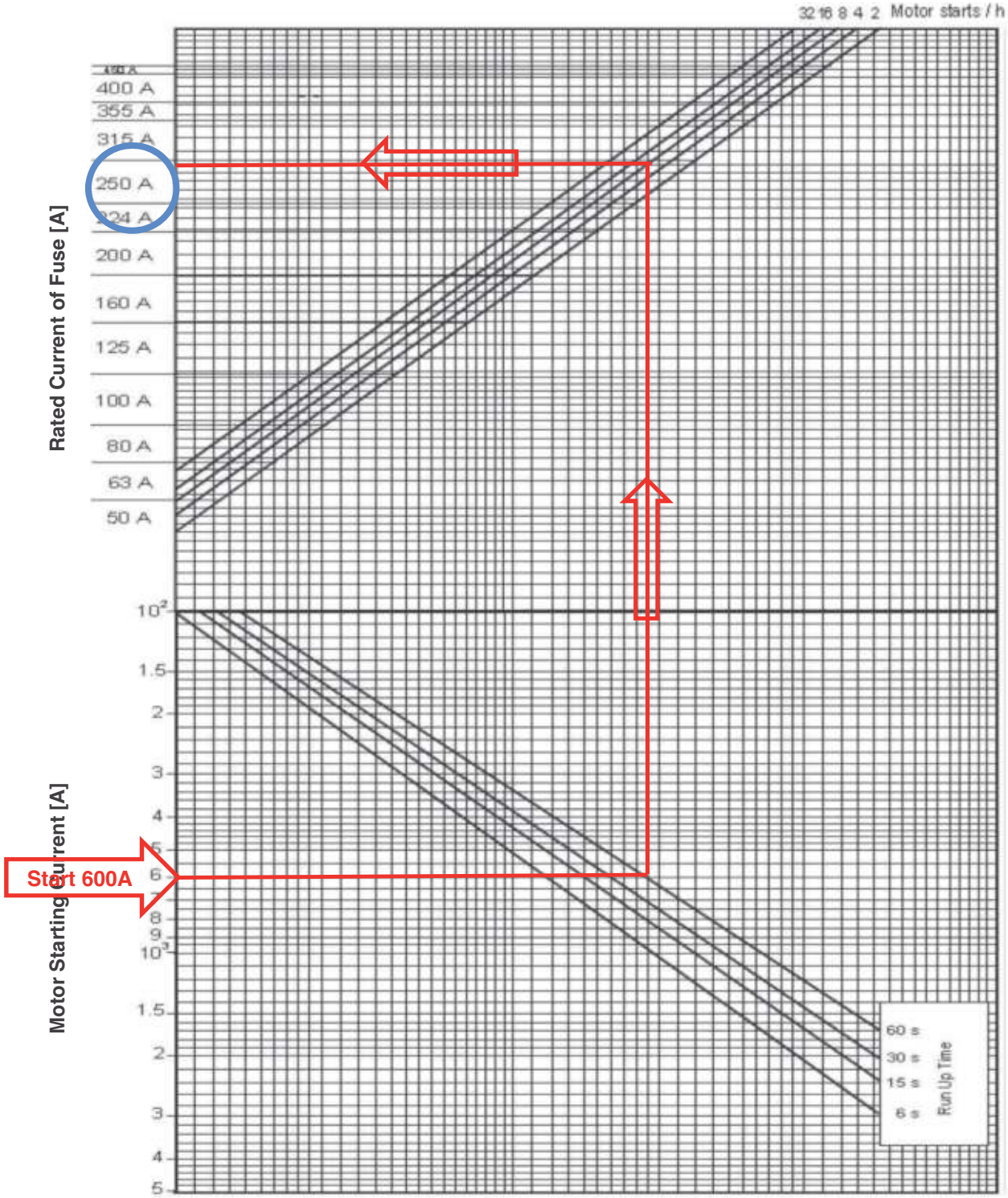
Fuse Selection requires the need to consider the following parameters;

- **Motor Data** - Rated Voltage($U_{M\text{-}Rated}$), Power Factor($\cos\phi_M$), Rated Power($P_{M\text{-}Rated}$) and Efficiency(η_M).
- **System Data** - Run up time, number of starts per hour - Maximum two starts permissible in succession.
- **Fuse Preselection** - Rated voltage and mechanical dimensions according to operating and assembly requirements.
- **Motor Starting Current** - (If not known, typical is $6xI_{M\text{-}FLC}$), **FLC** - **F**ull **L**oad **C**urrent of motor.
- **Check** - that the rated current of motor is < 70% of the fuses current rating, if not use next higher current rating and recheck that proper usage has been achieved.
- **Consult SIBA** in cases of special conditions that are not considered standard such as, maximum temperature > 40°C, run-up times > 60s, number of starts > 32/h, auto transformer or soft start. If in doubt about the application, please contact us to assist for proper fuse performance.

HH - Motor Applications

Protection of Motor Circuits

Example for Fuse Selection

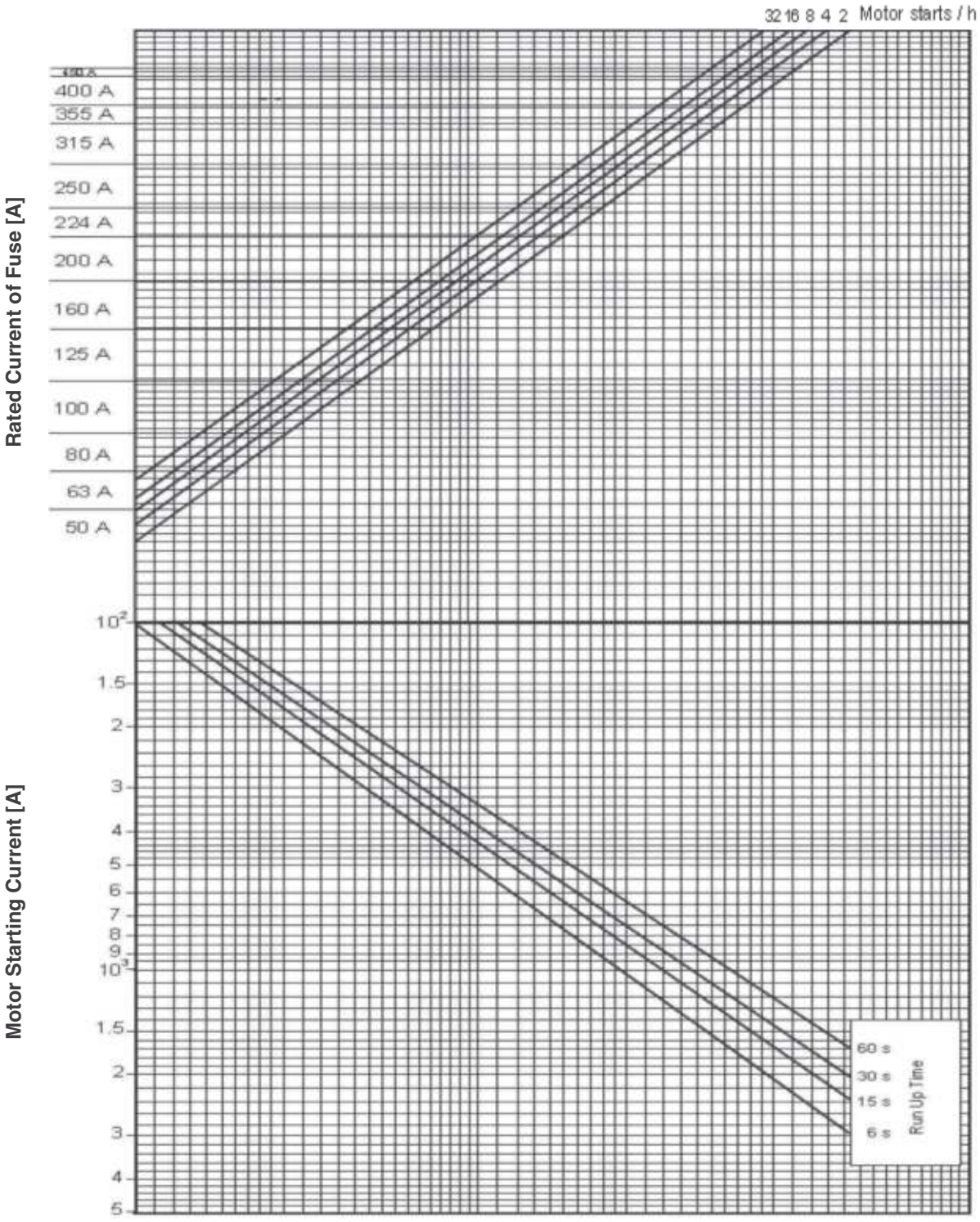


SIBA LLC
Phone 1-973-575-7422
Fax 1-973-575-5858
29 Fairfield Place
West Caldwell, New Jersey 07006
portal: www.siballc.net
e-mail: info@sibafuse.com

HH_M-BM Applications

Protection of Motor Circuits

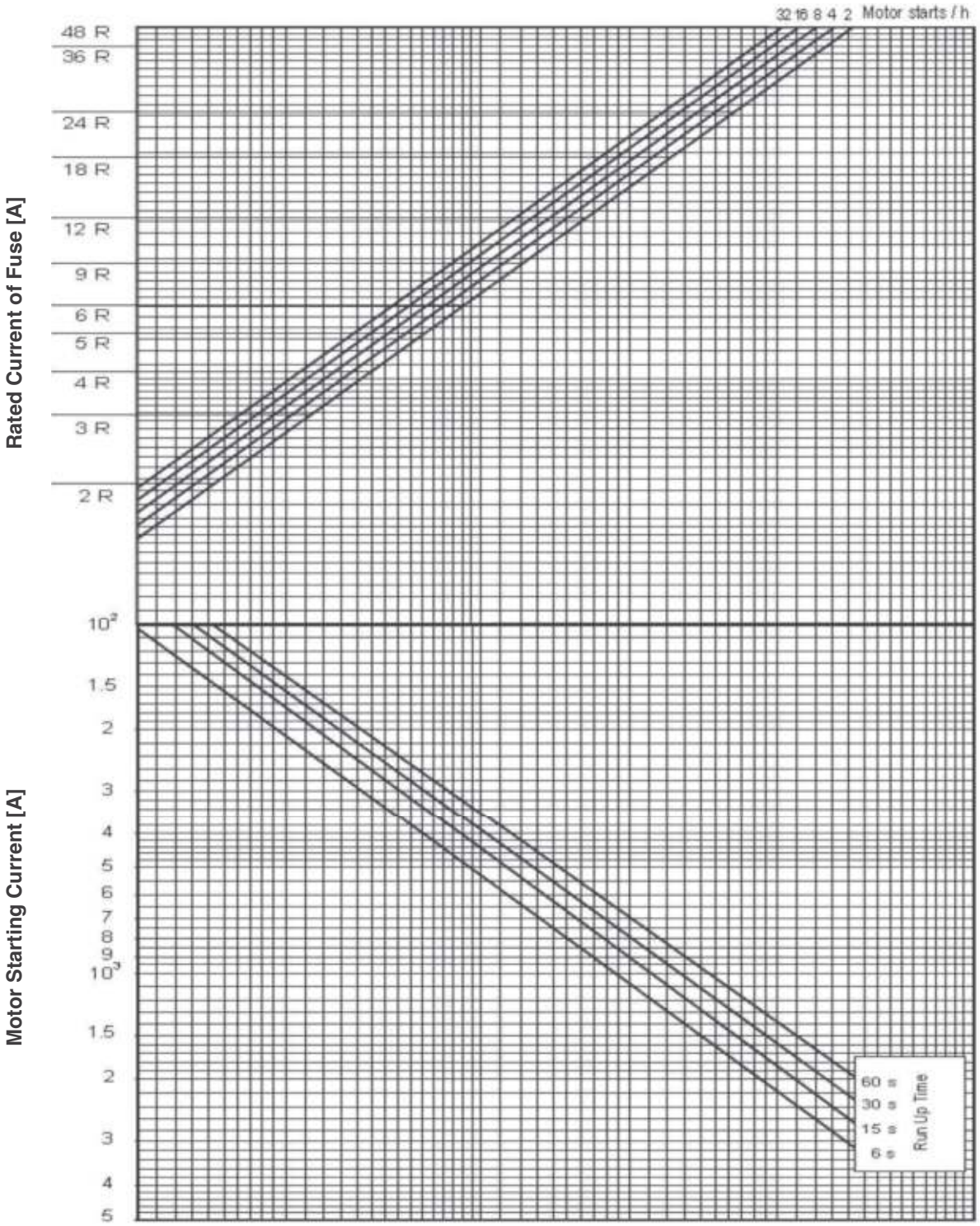
HH_M-BM Fuse Selection Graph for 30xxx5y.(Amp) Series



HH_M-BR Applications

Protection of Motor Circuits

HH_M-BR and Fuse Selection Graph for 30xxx**55**.(**R**-Rated Series)



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Fax 1-973-575-5858

SIBA LLC
29 Fairfield Place
West Caldwell, New Jersey 07006

portal: www.siballc.net
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HHD-B Applications

Protection of Motor Circuits

HHD-B Fuse Selection Graph for 30xxx**1**y.(Amp) Series