

LA High Magnetic Withstand Circuit Breaker—The Power Solution for Mission Critical Loads

INTRODUCTION

Mission critical loads within power systems are defined as “zero downtime” systems.

Typical facilities requiring 24/7 power availability include:

- Computer Systems
- Banking and Financial Centers
- Data Centers
- Server Farms
- Data Banks
- Network and Telecommunication Systems

These systems require a high level of selective coordination between the main and branch circuit breakers to provide maximum power system availability.

Peak let-through currents of downstream branch circuit breakers are often high enough to engage the magnetic trip of larger main circuit breakers supplying power to additional branch circuits.

The absence of selective coordination between molded case circuit breakers and branch circuit breakers means that the instantaneous trip elements within these circuit breakers overlap. Because of this, facilities can experience widespread disruption, costly downtime and potential business losses.

Although this level of coordination is available today by using electronic trip circuit breakers with adjustable LSI functions, this option is usually cost prohibitive and may require additional space.

MODIFIED LA CIRCUIT BREAKER



The LA High Magnetic Withstand Circuit Breaker is designed to trip at a higher magnetic trip level. Typical Molded Case Circuit Breakers (MCCBs) and Molded Case Switches used in these applications will trip at 5–10x the handle rating.

The LA High Magnetic Withstand Circuit Breaker utilizes higher magnetic trip levels and trips at 18–20x the handle rating.

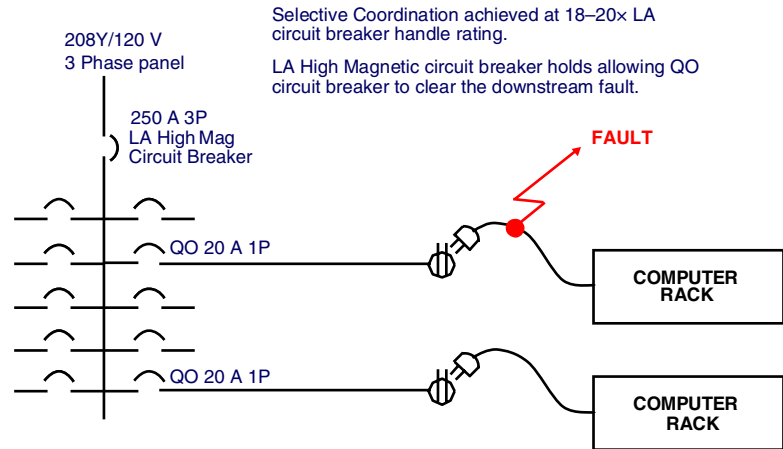
- 400 A = 18x
- 200, 225 and 250 A = 20x

The LA high magnetic withstand circuit breaker allows the downstream branch circuit breaker which is upstream from the fault and nearest to the fault to clear the fault.

Increased Selectivity

Through higher magnetic tripping levels, the LA High Magnetic Withstand Circuit Breaker provides a higher degree of selectivity between itself and downstream branch circuit breakers. This ensures that only the upstream branch circuit breaker closest to the fault will trip.

Figure 1: Simplified One-Line Diagram



Increased Performance Through Withstand Ratings

The withstand rating validates the protection of the main circuit breaker and the cable.

Proven Technology

- Frame Size—The LA High Magnetic Withstand Circuit Breaker uses the same LA frame which has been available for many years with a proven track record for reliability.
- Accessories—The LA High Magnetic Withstand Circuit Breaker uses all standard circuit breaker accessories.
- Connectors and Connections—The LA High Magnetic Withstand Circuit Breaker has been designed to have the same available lug configurations as the current LA molded case circuit breaker family. This means that all connectors and existing catalog connections are available including I-LINE®.

Compliance with Standards

- UL® 489 Listed
- CSA® Certified

Catalog Numbers

Unit Mount Construction	
LAL3440MC	400 A
LAL34250MC	250 A
LAL34225MC	225 A
LAL34200MC	200 A
I-LINE® Construction	
LA34400MC	400 A
LA34250MC	250 A
LA34225MC	225 A
LA34200MC	200 A

TRIP CURVES

NOTE: The trip curves shown in this publication are for general reference only. For application and coordination purposes, contact Square D to obtain trip curves with the EZ-AMP™ overlay feature.

Figure 2: 400 A LA High Magnetic Withstand Circuit Breaker

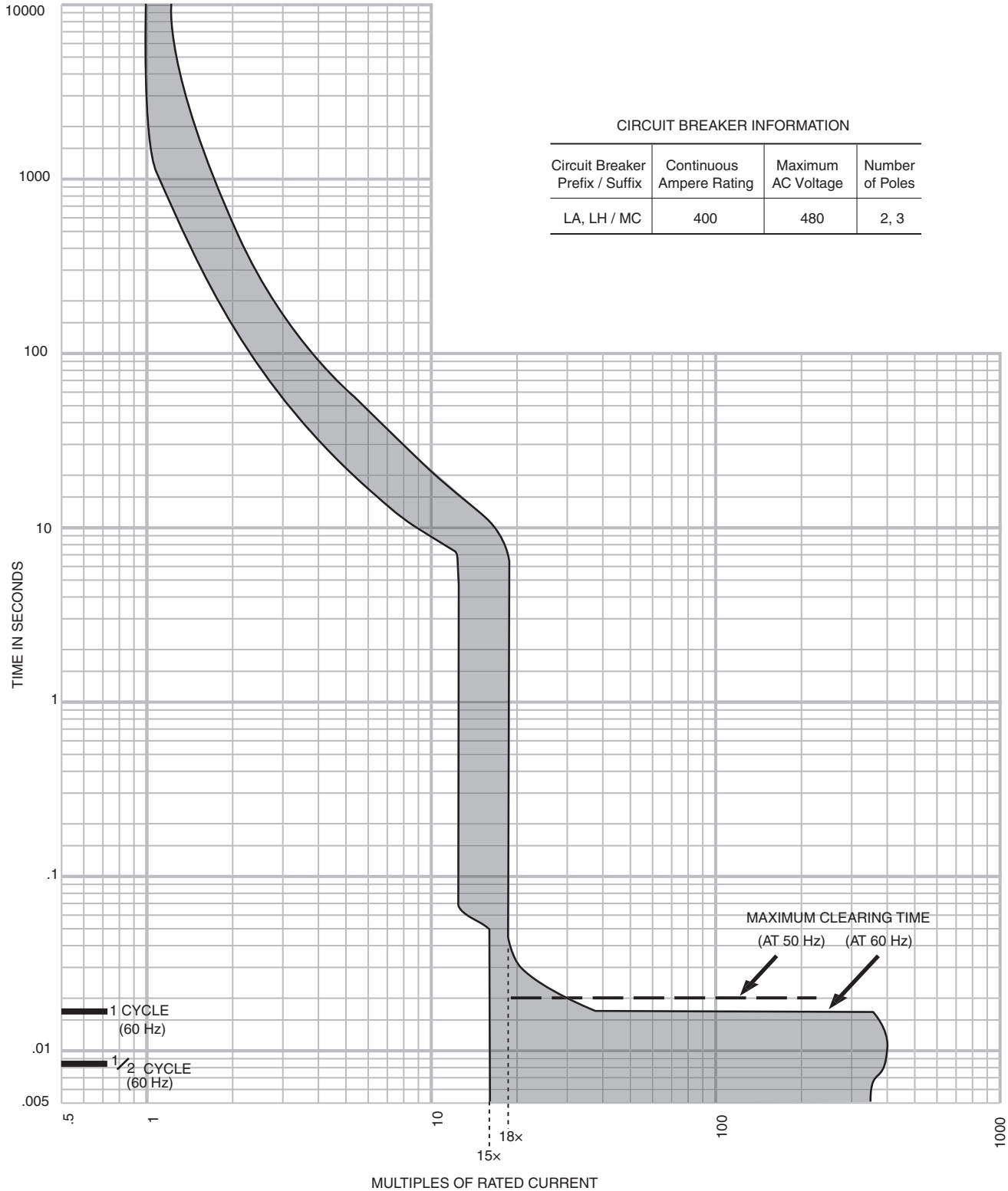


Figure 3: 250 A LA High Magnetic Withstand Circuit Breaker

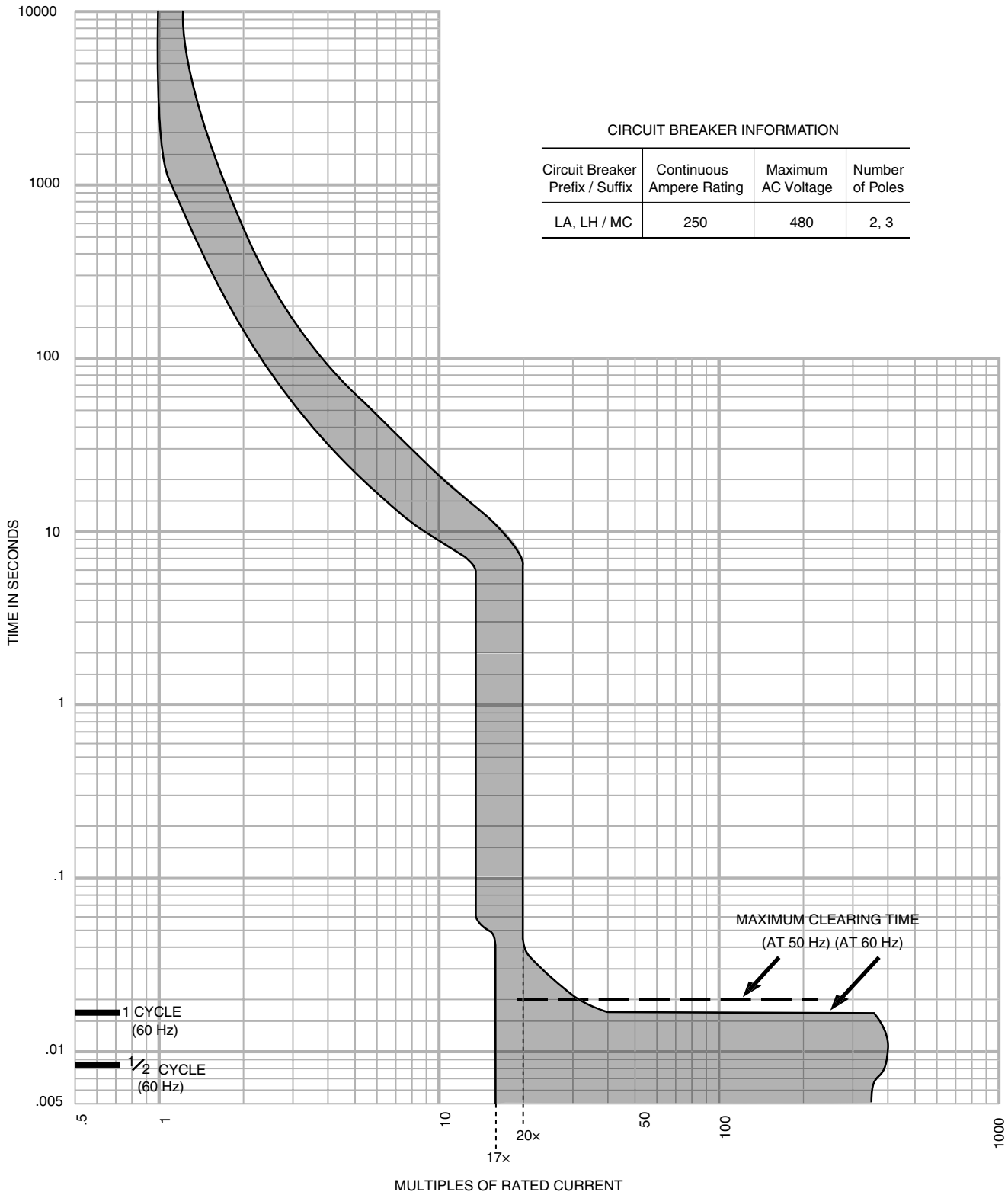
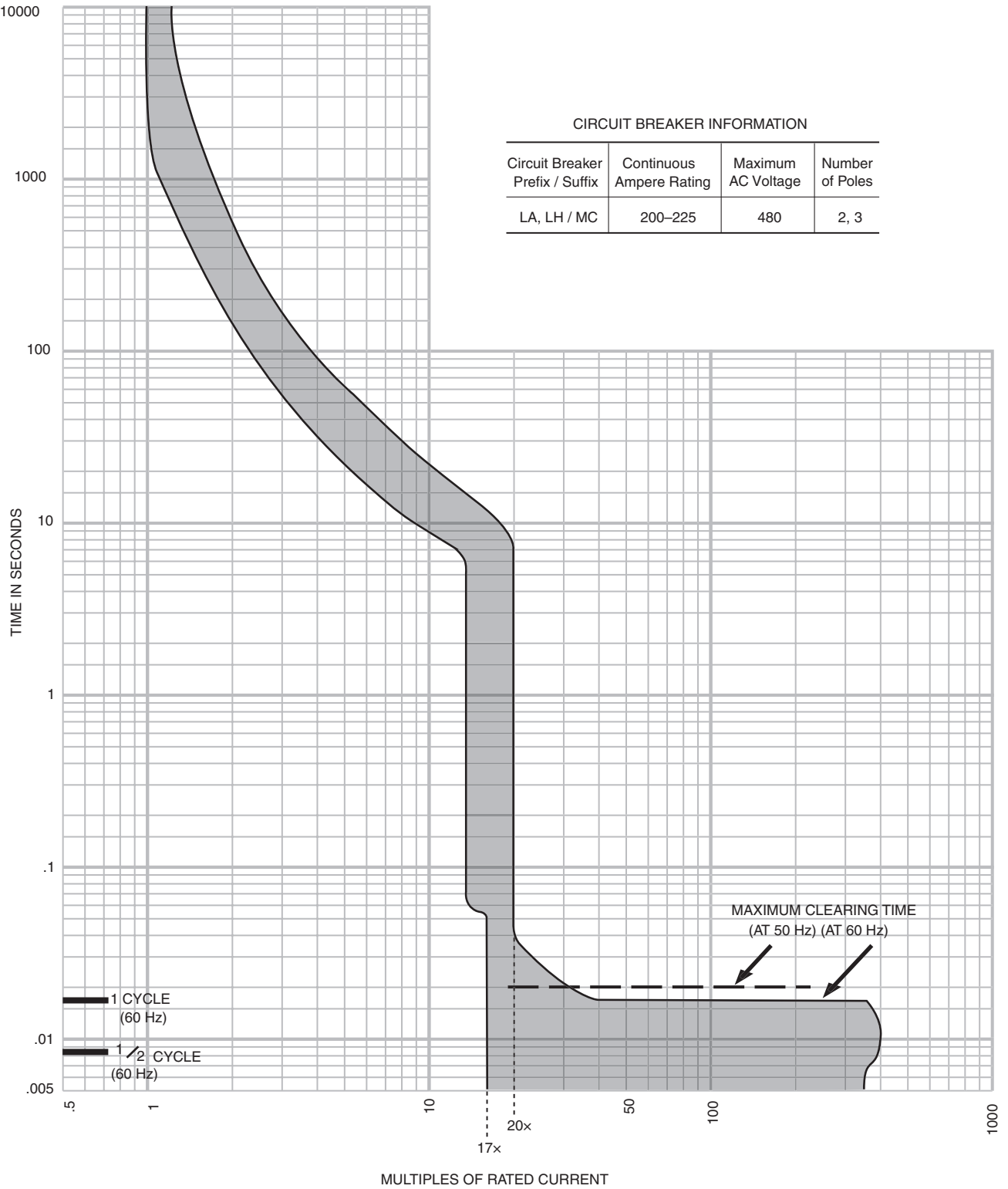


Figure 4: 200/225 A LA High Magnetic Withstand Circuit Breaker



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