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## Clearing up confusion over 80% vs. 100%-rated circuit breakers

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When building or upgrading a data center, at some point you need to make a decision about which [circuit breakers](#) to use. While on the face of it that may seem to be a simple decision – use the one that’s the best fit for your load – in fact it can become significantly more complicated if you don’t have a thorough understanding of breaker ratings and what they mean.

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## What is a circuit breaker rating?

A circuit breaker rating indicates its maximum amperage capacity, crucial for electrical safety. It specifies the current a breaker can handle without tripping, preventing overloads and fires. Selecting the correct rating ensures reliable protection and avoids electrical hazards.

## What is the difference between 80% vs 100%-rated circuit breakers?

Learning the difference between 80% and 100%-rated circuit breakers begins with a reading of the 2011 National Electric Code. Section 210.20(A) of the code basically says that a circuit breaker for a branch circuit must be rated such that it can handle the noncontinuous load plus 125% of the continuous load. **(A continuous load is one where the maximum current is expected to continue for 3 hours or more.) In other words, the breaker needs an extra 25% capacity of the continuous load for headroom. That, of course, means you need a larger, more expensive breaker.**