

## Which is more sensitive, MCB or MCCB?



Wenzhou, Zhejiang Jul 13, 2026 ([Issuewire.com](https://www.issuewire.com)) - Understanding MCB (Miniature Circuit Breaker)

MCB, or a Miniature Circuit Breaker, is a compact device that disconnects the circuit automatically on detection of a fault condition like overloads and short circuits. MCBs are meant for low amperage as they have a high sensitivity level and trip at lower current values. It is widely used for the protection of both residential and commercial building circuits.

## Understanding MCCB (Moulded Case Circuit Breaker)

An MCCB is a device that has a larger size than an MCB and is used in settings where high voltage and current operations are required. An MCCB provides overcurrent protection to the electrical system, and it can be adjusted according to the current ratings that are supposed to be tripped by the breaker, unlike an MCB, which has a more sensitive tripping feature.

## Comparing MCB and MCCB Sensitivity

Talking about sensitivity, the most noticeable difference between MCBs and MCCBs is that MCBs are faster in response to overloads and short circuits than MCCBs. MCBs switch within milliseconds in case of any fault, which makes them very sensitive and suitable for the protection of sensitive electronic devices and circuits. On the other hand, MCCBs will trip at higher current levels and therefore provide less sensitivity.

This difference in response means that in the case of small devices, MCBs are preferable. However, in heavier situations, MCCBs could be better even if the latter are less sensitive than the former.

## Major Differences between MCB and MCCB

The primary differences between MCB and MCCB can be summarized as follows:

- **Dimensions and Uses:** MCBs are small-sized devices designed for low-voltage uses, and they are primarily used in homes and light industrial applications. MCCBs are bulkier devices used for industrial applications where there is a high voltage and current to be dealt with.
- **The most important property is the sensitivity of the device,** with MCB being more sensitive than MCCB. The time taken for an MCB to react during a fault condition is less than that of an MCCB.
- **Cost:** MCBs are cheaper than MCCBs, usually because the former are less complex mechanically.

## Conclusion

To conclude, while comparing the sensitivity of MCBs and MCCBs, it can be said that MCBs are superior to MCCBs in terms of their speedy reaction towards overload as well as short circuits. MCBs should be used for domestic and lighter commercial uses because of their quick sensing and effectiveness in protecting circuits. However, MCCBs are a suitable option for industrial use where adjustable protection is needed along with heavier loads.

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