

## FRONT PANEL EXPRESS



### Explaining Electromagnetic Compatibility as it Relates to Enclosures

Electromagnetic compatibility, or EMC, pertains to the unintentional generation or reception of electromagnetic energy that may lead to electromagnetic interference or physical damage to a component or piece of equipment. By striving for EMC in electrical component design, electronics designers can ensure long-term stability and lifespan of multiple electrical components operating within a given space.



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When designing enclosures with offsetting EMI in mind, electrical engineers must account for two sources of interference: internal and external.

Internal sources of electromagnetic interference include artificial sources, such as electromagnetic signals emitted by electrical components, shielding, and power supplies.

External sources include natural sources like lightning, electrical storms, and electrostatic discharges from exterior sources.

When creating component enclosures for use in high-density electromagnetic environments, it's important to factor in a plan to achieve EMC between multiple devices, industrial equipment, and electrical systems in and around the facility or area of operation. Failure to account for electromagnetic compatibility can not only result in physical damage to components, but also unstable electrical interference that may lead to electrical fires and harm to humans.

For tips on creating efficient, effective enclosures for industrial or commercial purposes, [contact Front Panel Express](#) or [download our free design software](#) today to learn more about our process.

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