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UL DESIGN CONSIDERATIONS

In Offline Transformers

TOP TIPS

UL Design Considerations



Design Tips for Critical UL Considerations

Modern design requires that products not only meet performance needs, but also safety and compliance. Renco and Standex are a reliable partner with the experience needed to develop products that meet those goals.

When designing an offline transformer, there are several critical UL (Underwriters Laboratories) considerations that need to be considered to ensure safety and compliance. It is essential to ensure that the device is designed and tested to meet these UL requirements to ensure that it is safe and compliant for use in its intended application.

- 1. Insulation requirements.** The transformer must be designed with appropriate insulation materials to ensure that the windings and other internal components are adequately insulated from each other and from external surfaces to prevent electrical shock and short circuits.
- 2. Creepage and clearance.** The device must also be designed with appropriate creepage and clearance distances between its internal components to prevent electrical arcing and ensure adequate insulation.
- 3. Temperature rise.** The design must limit the temperature rise of its components to ensure that they do not exceed the maximum operating temperature specified by UL.
- 4. Dielectric strength.** Testing must be done to verify that its insulation materials can withstand the electrical stress to which they will be subjected in normal operation.
- 5. Overcurrent protection.** The magnetic component must be designed with appropriate overcurrent protection to prevent damage from electrical faults and to protect users from electrical shock.
- 6. Mechanical strength.** The transformer must be designed to withstand mechanical stresses, such as vibration, shock, and impact, to ensure that it remains safe and reliable in use.
- 7. Get expert advise.** Renco, a division of Standex Electronics, specializes in custom power magnetics solutions that are tailored to fit your specific power requirements in some of the most demanding operating environments. Consult us on your next design!

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