



## Preventing Condensation in Electrical Enclosures

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When condensation accumulates on the interior surface of an electrical enclosure, the chances of damage or failure become considerably higher. Condensation can result in premature aging, corrosion, and short circuiting - if not complete equipment failure.

While outdoor equipment is particularly in danger of condensation building up inside an enclosure, interior environments such as test labs, temperature-controlled manufacturing or processing plants, and warehouses are susceptible to condensation.

### **Designing Enclosures with Condensation in Mind**

In order to offset the chances of equipment failure, engineers should implement preventative measures in their enclosure designs.

First, a tightly-sealed enclosure will prevent moisture from entering - plain and simple. However, small enclosures won't keep proper airflow, which may lead to overheating. In the case of high-temperature components, airflow is your best bet. Any leaks in the design can help moisture creep in, but maintaining sealed, controlled ventilation will move humid, warm air out of the enclosure and keep components dry.

Keeping worksites well-maintained and controlling relative humidity (below 60%) will help prevent internal build up of condensation, but you can also incorporate hygrometers or hygrometers into your design. Less expensive and arguably more effective than thermometers, these heaters kick in after temperatures fall to a certain point and keep humid air from building up inside your enclosure.

For more information on best-practices for your electrical enclosure, [contact Front Panel Express](#) or [download Front Panel Designer](#) for free today.

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