

OVERHEAT PROTECTION FOR TEMPERATURE SENSITIVE PROCESSES

Add high-limit safety to temperature maintenance applications

Application

Processing of many materials requires tight temperature tolerances. Exceeding temperatures by as little as 5° to 10° may be the difference between a properly processed material and material that must be scrapped. An example of this would be processing of chocolate or other dairy products that may scorch when overheated. Overheating of wax, oil, or other emulsified materials can affect viscosity and mixing.

Equipment may also require protection from excessive temperatures. Surfaces surrounding a heating application may need a temperature monitor to prevent damage. For example, a customer was dissipating heat from a thermal process into the atmosphere. Their building was damaged when the excessive heat radiated up to an unmonitored surface and burned the paint on the ceiling.

As a safety measure, a large chemical manufacturing plant requires all temperature controllers use a secondary High-Temperature Limit Controller. This is required on adjacent surfaces or on the processing equipment itself to monitor temperature uniformity.

Some applications require temperature limit protection as specified by their industries' governing agencies. For example, ovens or kilns may be regulated by the National Fire Protection Agency (NFPA) to reduce the risk of fires or explosions when materials are being processed. These requirements exist to protect employees.

Solutions

High-temperature limit devices provide vital protection during thermal heating processes. These devices can cut power to temperature controllers/heaters in the event the maximum high-limit temperature is exceeded. This ensures product quality, reduces waste from poorly controlled product batches, can prevent damage to equipment, and adds to plant and worker safety.

BriskHeat's HL101-High Temperature Limit Controller can be used with almost any electrical heating product, either with an integrated temperature controller or with a standalone temperature controller. The HL101 does not control the heating temperature, but rather ensures the temperature does not exceed a defined setpoint. It utilizes a separate temperature sensor that is placed on the surface that needs to be monitored. It can also protect an adjacent surface from excessive radiant heat. A materials engineer from the large chemical manufacturing plant using the HL101 states, "The cost is much better than the competitive models, and the nice thing is, it's simple to use."

System Integrations

Some applications require the accuracy and fast response of a PID controller. BriskHeat's SDX Digital PID Controller is a great choice to use with all our heaters including Silicone Blankets, XtremeFLEX® Heating Tapes, Etched Foil, GBH Silicone Rubber Griffin Beaker Heaters, and HM Series Hemispherical Heating Mantles. The SDC and SDCE Benchtop Digital Controllers are also great controller options. These controllers and heaters feature "Plug and Play," design, so simply plug the heater into the controller, the controller into the HL101, and the HL101 into an electrical outlet.



Industries

Analytical Instrumentation/Laboratory
Chemical Processing/Extractions
Cosmetics/Personal Care
Food & Beverage Processing
Life Science/Medical/Pharmaceutical
Manufacturing

Types of Users

Industrial Engineers
Process Engineers
Scientists/Researchers
Chemists
Safety/Compliance Managers