ELCUT THERMAL FUSES / CUTOFFS

What is a Thermal Fuse?

A thermal fuse or thermal cutoff is a safety device which opens circuits against overheat. It detects the heat caused by the over-current due to short circuit or component breakdown. Thermal fuses do not reset themselves when the temperature drops like a circuit breaker would. A thermal fuse must be replaced when it fails or is triggered.

Unlike electrical fuses or circuit breakers, thermal fuses only react to excessive temperature, not excessive current, unless the excessive current is sufficient to cause the thermal fuse itself to heat up to the trigger temperature.

Thermal fuses are usually found in heat-producing electrical appliances such as coffee makers and hair dryers. They function as safety devices to disconnect the current to the heating element in case of a malfunction (such as a defective thermostat) that would otherwise allow the temperature to rise to dangerous levels, possibly starting a fire.

The following definitions apply to our range of Elcut thermal fuses:

**Opening Temperature / Cut-off Temperature**
The temperature at which the thermal fuse opens (fuses off) while passing 0.1 amp or less in a controlled oil bath at a rise of 1 °C per minute. The functioning temperature is not the Rated Functioning Temperature.

**Rated Functioning Temperature (Tf)**
Rating of the functioning temperature based on safety standards. Tolerance of rated functioning temperature is +0, -10 °C for IEC 60691. Tolerance for METI is ±7 °C except some types.

**Holding Temperature (Th)**
The highest temperature of the thermal fuse at which it does not open the circuit while passing rated current for 168 hours. (Applicable to UL, cUL and CCC).

**Maximum Temperature Limit (Tm)**
The highest temperature of the thermal fuse at which continuity does not occur for 10 minutes after the function of the thermal fuse.

**Maximum Use Temperature**
The highest temperature of the thermal fuse at which it does not function or the functioning temperature does not become higher remarkably after being exposed for certain amount of time.

**Rated Current (Ir)**
The allowable maximum current which the thermal fuse is able to carry.

**Rated Voltage (Ur or Vr)**
The allowable maximum voltage which can be applied to the thermal fuse.

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The Circuit Protection Specialists.

We stock a range of PCB mount thermal fuses in both axial and radial lead types.