

Fuser - IOT Module

Fuser Temperature Control

The three heated surfaces in the Fuser, the Fuser Roll, the Fuser Belt and the External Heat Roll are monitored and controlled by three Over Heat Temperature Thermostats, Three Control Thermistor and three Overheat Temperature Thermistor. A fourth thermistor, the Sub Temperature Control Thermistor is used to control the second (short Heater Lamp) in the Fuser Roll.

1. The three **Control Thermistors** monitor the temperature of the heated rolls and belt materials in the fuser. A change in temperature will vary the output signal from the Control Thermistor. The signal from the sensor is sent to the Heater Control circuit on the IOT PWB where it is compared to a temperature algorithm. The Control logic will signal the SSR that supplies power to the heater lamps it switch on if the temperature is below a preset level. If the temperature rises above the preset the control logic will switch off the heater lamp.
2. The single **Sub Control Thermistor** monitors the temperature of the Fuser Roll when the second (short paper) Heater Lamp is active and operates the same as the other Control Thermistors.
3. The three **Overheat Temperature Thermistors** are used to prevent overheating if a Control Thermistor or Overheat Temperature Thermostat fails to maintain the correct temperature. When the temperature of the roll reaches 200 degrees C, the Over Temperature Thermistor opens and signals the control logic to deenergize the Solid State Relay (SSR) providing power to the Heat lamp. The thermistor remains open until the temperature drops below 200 degrees C.
4. The three **Overheat Temperature Thermostats** will physically open the AC power circuit to the Heater Lamps if the other temperature controls fail and the surface temperature exceeds the pre set level of the thermostat. If the Thermostat opens it will not reset on its own.